PRB | Performance review body of the single european sky

PRB Monitoring Report 2019

Annex IV – CAPEX report

The 2019 monitoring consists of five reports:

- PRB Monitoring Report 2019
- Annex I – Union-wide detailed analysis for experts
- Annex II – Member States' detailed analysis for experts
- Annex III – Safety Report
- **Annex IV – CAPEX Report**

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Performance review body of the single european sky

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1 Introduction

1 The PRB Monitoring Report 2019 provides analysis of the performance achieved by Member States of the Single European Sky (SES), covering the fifth year (2019) of the second Reference Period (RP2), which runs for five years from 2015 to 2019.

2 In 2019, the PRB Monitoring Report is supported by four Annexes to provide detailed analysis of performance:

- PRB Monitoring Report 2019
- Annex I – Union-wide detailed Analysis for Experts
- Annex II – Member States' detailed Analysis for Experts
- Annex III – Safety Report
- **Annex IV – CAPEX Report (this document).**

3 This document is the Annex IV – CAPEX report. The main purpose of this report is to provide an in-depth analysis of the capital expenditure (CAPEX) of each air navigation service provider (ANSP) belonging to the Single European Sky (SES) area (EU Member States, Norway and Switzerland) as it is established in Article 3(i) of the Performance Scheme Regulation (EU) No 390/2013. The report presents the analysis of CAPEX both at Union-wide level (chapter 2) and at ANSP level (chapter 3). Moreover, the report presents factsheets per Member States (chapter 4), which are describing the development of the investments as reported in the NSA Monitoring Reports.

4 The investments by the ANSPs aim to continuously improve the Air Traffic Management (ATM) (i.e. air traffic services, airspace management and air traffic flow management) ensuring the safe and efficient movement of the aircraft.

5 ANSPs currently use most of their revenues to cover staff costs (i.e. controllers and other support staff), which is expected to change in the coming years. The investments in technology will have to provide additional capacity in a safe, environmentally optimised and cost-efficient way over and above what would be delivered by an increase in air traffic controllers alone.

6 The current regulatory framework allows ANSPs to charge users for the cost of capital needed to fund investments necessary for the service provision as well as the related depreciation costs. During RP2, ANSPs have collectively charged airlines 5.8B€$_{2009}$ for the cost of capital and depreciation, representing around 16% of the total costs charged. However, ANSPs have not fully materialized the CAPEX related to the amounts collected through the navigation charges.

7 Part of the costs supporting the implementation of the European ATM Master Plan has been funded from public grants, including European Union funds. During RP2, approximately 460M€$_{2009}$, representing 10% of the actual total CAPEX, has been granted to the ANSPs. The amounts received as grants have to be returned to airspace users as a deduction from the charges.[1]

[1] Deduction as "other revenues" defined in Article 2(10) of Commission Implementing Regulation (EU) No 391/2013.

1.1 Background

1.1.1 PRB CAPEX report 2018

9 The PRB, in its 2018 Annual Monitoring Report, published a detailed analysis of investments covering the period 2015 to 2018.[2] The main conclusions and the recommendations of the analysis were the following:

The findings of the PRB CAPEX report 2015 and both reports of the European Court of Auditors (ECA) were confirmed:

i. The Union-wide CAPEX underinvestment calculated for RP2 up to 2018 amounted to 285M€$_{2009}$ (-7% of the total planned investments).

ii. Considering the public funding Union-wide, of the 1,908M€$_{2009}$ of actual investments made in projects linked to Pilot Common Project (PCP), only 233M€$_{2009}$ corresponded to SESAR Deployment Manager (SDM) payments. The majority of the projects supporting the implementation of the European ATM Master Plan were financed without EU support.

iii. Regarding the weaknesses in the implementation described in the 2019 ECA's report, the largest amount of SDM payments (i.e. 141M€$_{2009}$ or 60% of total payments) had been transferred to three Member States: France (64M€$_{2009}$ or 28%), the United Kingdom (47M€$_{2009}$ or 20%), and Italy (30M€$_{2009}$ or 12%). Moreover, the biggest capital expenditures of ANSPs in ATM systems were still maintaining technological fragmentation on the individual design.

iv. It was not possible to quantify the expected benefits of the projects given the information provided by ANSPs. ANSPs should apply standardised Cost-Benefit Analysis (CBA) tools in order to quantify and measure the impact of the investments. In absence of such tools, it is impossible to monitor the effectiveness of CAPEX.

v. ANSPs have charged to the airspace users 4,661M€$_{2009}$ from 2015 to 2018, whereas the actual costs for depreciation and capital amounted to 4,347M€$_{2009}$. This implies that users have financed investments that have not been materialised to date for a total amount of 313M€$_{2009}$.[3]

10 Recommendations:

i. Transparency in reporting the difference between Union-wide public funding and the projects linked to PCP is needed.

ii. To develop an end-to-end CBA methodology that ensures that all public investments are evaluated in terms of impact on the KPAs and KPIs for the performance scheme.

iii. To ensure that the CBA tool is applied in future to both all public funding processes/awards and to ANSP internal major investments.

iv. To develop a methodology based on the RP2 implementation and CBA/RP3 performance plans that enables the corresponding investments/projects to be tracked in RP3 during and after their implementation in the yearly PRB monitoring.

1.2 Data and methodology

11 This report is based on the data and information provided by Member States through the NSA Monitoring Reports and cost-efficiency reporting tables as foreseen by the Regulation. The SESAR Deployment Manager

[2] Please note that the recommendations of the 2018 report did not take into account the updates as described in section 1.2.
[3] This value includes depreciation costs from previous reference periods, therefore an exact one-to-one correlation between depreciation cost and cost of capital and investments materialised in 2015-2018 cannot be established. Despite this, this approximation provides a fair overview of the costs related to investments.

provided the actual payments (bank transfers for the payment of grants according to the specific grant agreements with Innovation & Networks Executive Agency (INEA)) to the ANSPs for those projects in its scope. The novelty for this year report is the inclusion of projects where ANSPs are directly implementing partners, which allows the identification of the entire Connecting Europe Facility (CEF) funds awarded to ANSPs. This report has cross-checked the data, especially the SDM payments, against the CAPEX Dashboard.[4]

12 In the Monitoring Reports submitted by the Member States, each ANSP presents a breakdown of the CAPEX dividing the investment amounts in three different categories:

- "Main CAPEX": investments in new ATM systems and major overhauls of existing ATM systems that contribute to the achievement of the performance targets;[5]
- "Other CAPEX": investments including short-term projects and/or activities under a certain threshold; the definition of "other CAPEX" highly varies between the different ANSPs and sometimes depends on the national accounting rules;
- "Unplanned CAPEX": unforeseen investments not originally included in the RP2 performance plan. In this report, this category has been integrated in "main CAPEX" (in actual terms) keeping the name of the unplanned projects as in the NSA Monitoring Reports.

13 To provide a clear picture of the capital expenditure for en route and terminal, the investments have been detailed in five sections covering different aspects. Chapters 2 and 3 are based on these five sections at Union-wide level and ANSP level, while Chapter 4 provides a detailed CAPEX analysis per ANSP (factsheets). These sections contain:

- Overall CAPEX invested: the section provides a comparison of actual vs planned CAPEX (M€$_{2009}$ values), and "main CAPEX" vs "other CAPEX" for the period 2015-2019 (i.e. RP2). In most cases "main CAPEX" (plan and unplanned) corresponds to specific investments, whereas for the "other CAPEX" the projects are not specified;
- Investments per main project: the section details the actual vs planned investment for each project reported in the RP2 performance plan by the specific ANSP. The section also provides the number of projects and their categories/type;
- Public funding granted to the projects (CEF/TEN-T[6]): the public funding granted to cover the "main CAPEX" has been analysed based on the declared awarded funding reported by Member States in the reporting tables and the actual payment data provided by the SDM. The declared awarded funding includes CEF grants for SESAR and other EU programs (e.g. Horizon 2020). However, SDM payments only belong to CEF grants for SESAR projects.[7]
- Expected benefit per project: this section provides an overview of the implementation status of the reported projects for RP2 (i.e. "completed", "ongoing" or "delayed", as well as secondary categories for outlier projects such as "unknown", "cancelled", "stopped", "replaced" and "not started").[8] An update respect to last year report is the CAPEX associated to the implementation status of the projects. Furthermore, the section reports the claimed impact at KPA level (safety, environment, capacity

[4] The dashboard .pbix file with CAPEX data and the dashboard manual are available to registered users of the SES Performance website upon request. Alternatively, the dashboard can be requested via email to: prb-office@prb.eusinglesky.eu.
[5] These investments are also relevant and coherent with the Pilot Common Project defined in Regulation (EU) No 716/2014 on the establishment of supporting the implementation of the European Air Traffic Management Master Plan.
[6] Trans-European Transport Network.
[7] The two sources are not fully aligned and this poses a challenge due to reporting rules and different payment cycle (advance payments, interim payments and final payments for a given project). Moreover, a small portion of SESAR projects are not financed through SDM but directly by INEA to ANSPs.
[8] The entry into operation (FOC – Full Operational Capability) may differ from the investment expenditure timeline. Completed projects are those that are finished and entered into operation. Ongoing projects are those where no delay in the entry into operation was declared. Delayed projects are those in which the date of entry into operation has been postponed from the one originally planned.

and cost-efficiency). Projects linked to PCP and linked to the European Network Operation Plan (NOP) 2015-2019 with the CAPEX associated are also detailed.

- Correlation between investment and depreciation and cost of capital: depreciation and cost of capital are the two categories of charged costs directly related to the investments. According to Article 7 of Charging Scheme Regulation (EU) No 391/2013, depreciation costs shall include costs related to the total fixed assets in operation for the purpose of providing air navigation services. Cost of capital shall be calculated based on the sum of the average net book value of fixed assets (the net book value, i.e. no adjustments and no net current assets) in operation or under construction for the purpose of providing air navigation services. ANSPs charges airspace users for the determined values of depreciation and cost of capital as presented in the performance plan. This section compares the actual depreciation cost and the actual cost of capital for RP2 against the determined values for RP2, to analyse if the charges to the airspace users have materialised in investments.

14 This report has a few methodological changes with respect to the one published last year:

- In the case of France, to have an accurate overview of the investment costs, DSNA have considered the sum of investments as well as some operating costs which are directly associated to their investments (i.e. "T3 Tech" as reported in the French NSA Monitoring Report). In order to take into account the “T3 Tech” costs, France has used the "unplanned CAPEX" line to include them in the total CAPEX. Actual investments made over RP2 under "T3 Tech” costs added up to a value of 363M€$_{2009}$. This amount is not CAPEX and, contrary to last year, is not included in the analysis in order to provide a consistent comparison across ANSPs;
- The 2015 actual CAPEX of Italy has been updated (+17.6 M€$_{2009}$) following the data validation process;
- Inflation rate for MUAC has been aligned to the inflation rate of the Netherlands as for Eurocontrol approach;
- Inflation rate for Luxembourg has been updated by considering the inflation rate of Luxembourg (last year the inflation rate of Belgium was applied for Luxembourg);
- Actual CAPEX (from the unplanned CAPEX) has been updated for Portugal (in 2017 and 2018) and for Cyprus (2017);
- Projects with an empty FOC date in the NSA Monitoring Reports have been considered as “Unknow” instead of assuming them as “ongoing” until the end of RP3 (i.e. 2024). This methodological change affects mainly Italy.

1.3 Report limitations

15 The analysis has been carried at Union-wide and ANSP level for en route and terminal capital expenditure. The report describes the CAPEX of the ANSPs subject to the Performance and Charging Regulations. CAPEX of regulatory authorities (CAA, Ministries), autonomous meteorological service providers, or only terminal air navigation services are not included. Moreover, the operational expenditure (OPEX) connected to CAPEX investments is not considered and monitored since most of the Member States do not provide details.

16 The information provided in the reporting tables are not fully consistent between Member States. This creates difficulties in monitoring the expenses. As examples, in some Member States the CAPEX reported includes part of the operating costs (OPEX) (e.g. as in the case of DSNA or ANS Finland) or taxation is included not consistently (e.g. ENAIRE as a consequence of the application of Spanish State regulation).

17 There is inconsistency in the granularity level of the investments, with some ANSPs grouping the investments in large projects while others providing more detailed information. The grouping of investments increases the

difficulty in tracking, accounting, and monitoring the activities since the information are either missing or not reconcilable with other sources.

18 In the case of EU-funded projects there is a difficulty in tracing and reconciliating the data gathered from the SESAR Deployment Manager and the information provided by Member States due to the transparency of reporting. Moreover, no indications on the fund declaration or references to the grant agreement are provided by Member States.

19 Member States shall report the EU grants received, and deduct them from the unit rate as "Other revenues". The PRB has analysed the data reported in the reporting tables. However, the payments from SDM to ANSPs are not on an annual basis and follow a different cycle which involves advance payments, interim payments and final payments for a given project. Therefore, despite that this report provides a consolidated evidence of the EU grants, the actual payments done by SDM are not on a year-to-year basis aligned in terms of time. Moreover, due to the fact that CEF grants are allocated following a concept of eligible expenses to be supported, adjustments of grants to be paid may take place over the duration of the project across the different instalments of grants paid for a specific project. Hence, the data reporting resulting from the performance and charging scheme and that of SDM/INEA are not fully aligned. However, the basis of other revenue deductions remains the funds declared in the Member States Monitoring Reports. The transparency of received funding will improve with the reporting tables for RP3, where a specific section will reconciliate the payments received and reimbursed from 2014.

20 Possible mismatches in project naming has been identified. The project names are not consistent within the Monitoring Reports of different Member States and between the Monitoring Reports and other sources (e.g. Network Operational Plan).

21 The Full Operational Capability (FOC) has to be reported to provide an estimate of the timeline of projects. However, in some cases the date is not reported, therefore it is not possible to determine the status of the projects. In other cases the reported FOC date is unclear, leaving open the option of continuing the project during RP3. For these cases, the report classifies the project as still "ongoing" in 2019, with the FOC date assumed to be at the end of RP3, i.e. 2024.

22 A one-to-one and year-on-year relation between actual investments, depreciation cost and cost of capital is missing. The depreciation cost is charged only after the depreciation of an asset starts, normally after the FOC date and accordingly to the asset lifecycle. However, in some cases the assets lifecycle is not reported or only reported as a range. Moreover, the depreciation costs also incorporate assets from previous reference periods. For these reasons, a full reconciliation among investments, depreciation costs and cost of capital is not possible. Therefore, the relations have been made as a total over RP2 and not year-on-year. This limitation has been solved for RP3, since Member States will report the investments in the performance plan in terms of the determined costs of the investments (i.e. depreciation, cost of capital and cost of leasing).

1.4 Main findings

23 Main findings of the PRB based on the detailed analysis presented in the report:

i. The Union-wide CAPEX invested during RP2 amounts to 4.5B€$_{2009}$, 404M€$_{2009}$ less than planned over the same period (-8% of the total planned investments).

ii. ANSPs have charged to the airspace users 5.8B€$_{2009}$ during RP2, whereas the actual costs for depreciation and capital amounted to 5.5B€$_{2009}$. This implies that users have financed investments that have not been materialized in RP2 for a total amount of 371M€$_{2009}$.[9]

iii. Some ANSPs did not implement investments in accordance with their performance plans (e.g. re-organisation of projects/investments and/or changes in the reporting method).

iv. Considering the public funding Union-wide, of the 2.5B€$_{2009}$ of actual investments made in RP2 in projects linked to PCP only 360M€$_{2009}$ correspond to SDM payments. The majority of the projects supporting the implementation of the European ATM Master Plan have been financed without EU support over RP2..

v. The largest amount of SDM payments in RP2 (i.e. 218M€$_{2009}$ or 60% of total payments) has been transferred to three Member States: France (93M€$_{2009}$ or 26%), the United Kingdom (79M€$_{2009}$ or 22%), and Italy (46M€$_{2009}$ or 13%). Moreover, the biggest capital expenditures of ANSPs in ATM systems are still maintaining technological fragmentation on the individual design.

vi. There is a general lack of transparency and heterogeneity in reporting that hinder the evaluation of CAPEX in terms of project/investment implementation and deployment, the analysis of funding per project/investment, and the quantification of benefits. For some ANSPs, the lack of sufficient clear information does not allow a fully transparent monitoring.

vii. The expected benefits of the projects cannot be quantified given the information provided by the ANSPs. In absence of a quantification tool it is impossible to monitor the effectiveness of CAPEX.

[9] This value includes depreciation costs from previous reference periods, therefore an exact one-to-one correlation between depreciation cost and cost of capital and investments materialized in RP2 cannot be established. Despite this, this approximation provides a fair overview of the costs related to investments.

2 Union-wide

2.1 Overall investments

24 Table 1 shows the capital expenditures for the period 2015-2019 (i.e. RP2). In 2019, at Union-wide level, the ANSPs spent 963M€$_{2009}$ in CAPEX, +144M€$_{2009}$ more than the 819M€$_{2009}$ planned. 2019 is the second year when ANSPs spent more than the plans. However, in 2015, 2016 and 2017 the total actual investments were below the determined level. The catching up of the last two years of the reference period did not level out the investment delay accumulated from the previous years. Indeed, the CAPEX is still lagging behind, with -404M€$_{2009}$ unspent compared to the plans (i.e. 4.5B€$_{2009}$ actual vs 4.9B€$_{2009}$ planned).

Union-wide capital expenditure 2015-2019						
M€2009	2015	2016	2017	2018	2019	RP2
Total determined CAPEX	1,018	1,064	1,033	957	819	4,891
Total actual CAPEX	754	851	954	964	963	4,487
Actual vs Determined CAPEX	-264	-213	-79	7	144	-404
Δ% CAPEX	-26%	-20%	-8%	1%	18%	-8%

Table 1 – Union-wide actual vs determined CAPEX.

25 ANSPs report the investments as "main CAPEX" and "other CAPEX". As shown in Figure 1, "main CAPEX" represents 71% (3.5B€$_{2009}$) of the total planned CAPEX for RP2 and 75% (3.3B€$_{2009}$) of the total actual CAPEX. 551M€$_{2009}$ of the "main CAPEX" corresponds to unplanned investments (16% of the actual "main CAPEX", 12% of the actual total CAPEX).[10]

26 "Other CAPEX" represents 29% (1.4B€$_{2009}$) of the total planned CAPEX for RP2 and 25% (1.1B€$_{2009}$) of the total actual CAPEX. At aggregate levels, ANSPs can be considered in line with the performance plans with actual "other CAPEX" being lower than plan and no major shifts between "main" and "other CAPEX". However, when analysing the situation at an ANSP level, the situation differs with several ANSPs having significantly modified the destination of the investments compared to the plans.[11]

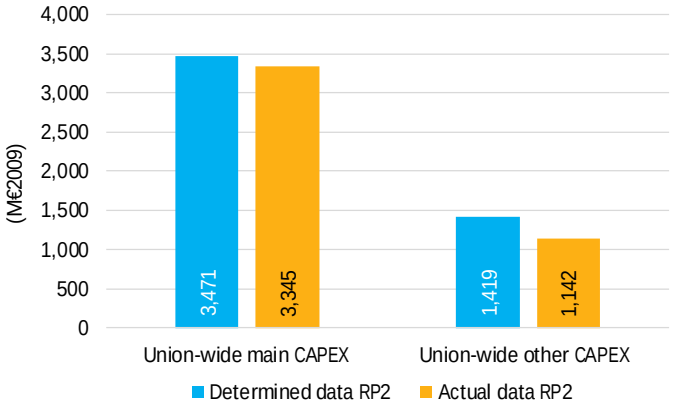


Figure 1 – Union-wide "main CAPEX" vs "other CAPEX" and actuals vs determined RP2.

[10] France is the exception, reporting the unplanned investments both in determined and actual terms which correspond to OPEX related to CAPEX.
[11] Details at ANSP level are provided in Paragraphs 48 and 69 of this report.

2.2 Investments per main project

27 Table 2 shows the breakdown of the types of major investments included in the RP2 performance plans. The categorisation is divided between systems, buildings and other types of investments. As a result of the limited information provided by some of the Member States in the Monitoring Reports, some of the investments were not included in any specific category and have therefore been marked as "unknown".

Category	Investment type	Determined CAPEX (M€$_{2009}$)	Actual CAPEX (M€$_{2009}$)	Actual vs planned (M€$_{2009}$)
Systems	ATM - Other ATM System	709	627	-82
	ATM - iCAS, iTEC	508	605	97
	ATM - 4-Flight, Co-Flight	509	541	33
	ATM - COOPANS, TopSky	177	180	3
	CNS / Datalink systems	955	741	-214
	Tower support systems, ASMGCS, AMAN, DMAN, ACDM, Remote towers	204	148	-56
	Information services - AIM/AIS, MET	56	47	-8
Buildings	Administrative/operational buildings, infrastructure and systems	220	227	8
	Infrastructure for simulation	11	7	-4
Other	Data Centres, Maintenance and Monitoring, SAR	35	24	-11
Unknown	No details, cannot be assigned to any category	89	196	108
Total		3471	3344	-127

Table 2 – Breakdown of investments by category in RP2.

28 Throughout the period, the largest share, 2,889M€$_{2009}$ (86%) of actual main CAPEX, has been invested in Systems. In the category of Systems, 1,953M€$_{2009}$ (58%) of actual main CAPEX have been invested in ATM Systems. Generally, the biggest capital expenditures of ANSPs in ATM systems maintained technological fragmentation on the individual design. It is, however, not observed that CAPEX is responding to the aims agreed by the stakeholders, ensuring timely industrialisation and implementation of interoperable technological solutions. At Union-wide level, the systems used belong to several ATM joint initiatives:

- iCAS, (Germany, Lithuania, Spain, the United Kingdom), iTEC (Germany, Netherlands) – Actual CAPEX 605M€$_{2009}$ (97M€$_{2009}$ more than determined). Member States, especially the United Kingdom, overinvested in these systems over the period;

- 4Flight, CoFlight (France, Italy) – Actual CAPEX 541M€$_{2009}$ (33M€$_{2009}$ more than determined). The overspending over the period is due to France overspending, despite Italy underspending in the related investments;
- COOPANS (Austria, Croatia, Denmark, Ireland, Sweden), TopSky (Cyprus, the Czech Republic, Finland, Portugal) – Actual CAPEX 180-M€$_{2009}$ (3M€$_{2009}$ more than planned). The level of investments over the period is similar to the planned one, as the evolution of the projects is on track;
- A large portion of actual CAPEX (627M€$_{2009}$, -82M€$_{2009}$ less than planned) has been invested in ATM Systems which do not fit in any of the previously mentioned joint initiatives. These systems are typically provided by one of the major European manufacturers (e.g. Thales, Indra, Selex – now Leonardo) and further developed based on customised needs of the ANSPs.

29 At Union-wide level, the ANSPs also invested 937M€$_{2009}$ (28% of Actual main CAPEX) in other types of systems, namely:

- CNS (Communication, Navigation and Surveillance) and Datalink systems – Actual CAPEX 741M€$_{2009}$ (-214M€$_{2009}$ less than planned). The difference is due to underinvesting in CNS systems, while investments in Datalink systems are on track;
- Tower support systems, ASMGCS (Advanced Surface Movement Guidance and Control System), AMAN (Arrival Manager), DMAN (Departure Manager), A-CDM (Airport Collaborative Decision Making) – Actual CAPEX 148M€$_{2009}$ (-56M€$_{2009}$ less than planned). The difference from the planned level is mostly due to underinvesting in tower support systems. Member States which invested in remote tower systems are Germany, Italy and especially Sweden, which is considered an "early mover" in the remote towers technology
- Information services – AIS/AIM (Aeronautical Information Service / Aeronautical Information Management), Meteorological services, SWIM (System-Wide Information Management) – Actual CAPEX 47M€$_{2009}$ (-8M€$_{2009}$ less than planned). The difference is mostly due to underinvesting in AIS/AIM and Meteorological services.

30 The ANSPs also made substantial investments in buildings and infrastructure for simulation which amount to an actual CAPEX of 235M€$_{2009}$, 7% of the actual main CAPEX (4M€$_{2009}$ more than planned). The investments in buildings are on track, however the investments in infrastructure for simulation lack behind the planned amounts for the period and amount to only 7M€$_{2009}$.

31 Investments in Data Centres, Maintenance and Monitoring represent 24M€$_{2009}$, 1% of the actual main CAPEX (-11M€$_{2009}$ less than planned). The difference is due to Member States underinvesting in Maintenance and Monitoring.

32 The investments that could not be attributed to any of the previously mentioned categories due to the lack of details provided by Member States in the monitoring data represent 196M€$_{2009}$, 6% of the actual main CAPEX (108M€$_{2009}$ more than planned).

2.3 Public funding granted (CEF/TEN-T)

33 The EU budget supports coordinated investments in line with the European ATM Master Plan. As mentioned in section 1.2, in order to analyse the public funding granted, this report has used two sources: the declared awarded funding reported in the NSA Monitoring Reports and the SDM payments data (which provides actual payments of EU grants to ANSPs for SESAR projects and the project funding overview where ANSPs are implementing partners). The two sources are not fully aligned due to a different payment cycle posing a challenge in fully reconciliate the amounts (e.g. advance payments, interim payments and final payments for a given project). Finally, the data have been validated against the CAPEX Dashboard.

34 Figure 2 shows the funding declared and the SDM payments compared to the actual total CAPEX at Union-wide level for each year and as a sum for the whole RP2. The total funding declared amounts to 460M€$_{2009}$. The largest portions of funding have been declared in 2019 (122M€$_{2009}$, 27% of the total). The lowest amount of funding was declared in 2015, 41M€$_{2009}$ (this may be due by the fact that most of the grants decisions still had to be made at that point of time).

35 The declared funding over RP2 covered 10% of the RP2 actual CAPEX. However, this is an average and it should be stressed that not all ANSPs declared this percentage of funding.

36 The total SDM payments amounts to 360M€$_{2009}$, covering 8% of the actual total CAPEX invested during RP2. At Union-wide level, looking at the entire period, the declared funds exceed the SDM payment. In 2018, SDM payments have been almost null, this is due to the fact that the Call 2018 was not published and no first pre-financing was distributed at that time.

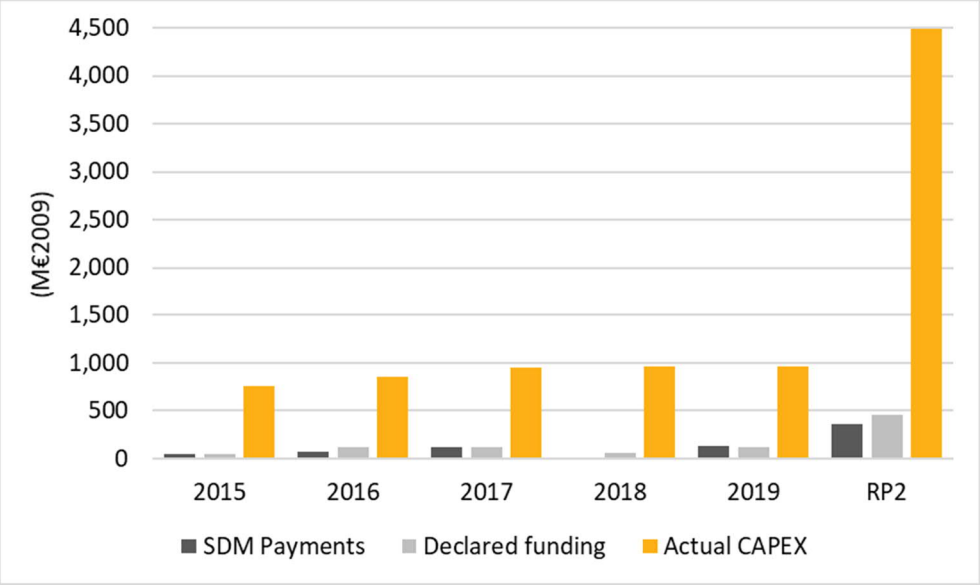


Figure 2 – Union-wide declared funding vs SDM payments and actual total CAPEX per year.

2.4 Expected benefit per project

37 Figure 3 presents the implementation status of projects and the percentage of actual CAPEX associated at Union-wide level for RP2.[12] Actual "main CAPEX" amounts to 3.3B€$_{2009}$ for RP2, distributed in 470 projects/investments.

38 The CAPEX related to completed projects amounts to 1.4B€$_{2009}$ (or 43%), mainly driven by the increase of completed projects in 2019 (+45) leading to a total of 213 (or 45%) completed projects in RP2 (considerably better than the 128 completed during 2015-2018). The CAPEX related to ongoing projects amounts to 1.5B€$_{2009}$ (or 45%), 23% to be completed in RP3 (119 projects) and 21% after RP3 (eight projects). Compared to 2018, 73 ongoing projects have been completed. The CAPEX related to the 21 delayed projects amounts to 64M€$_{2009}$ (or 2%), which represents an improvement compared to the 38 delayed in 2018.

39 Finally, some CAPEX has not been classified according to the status due to lack of information, i.e. status unknown (356M€$_{2009}$, 97 projects), cancelled (no actual CAPEX associated, one project), stopped (3M€$_{2009}$, two

[12] Implementation status and declared benefits can only be analysed for the "main CAPEX", for which the list of investments/projects is reported. Other CAPEX is reported by the ANSPs only as aggregated number, therefore the destination of the CAPEX is unclear.

projects), not started (no actual CAPEX associated, seven projects), replaced (no actual CAPEX associated, two projects).

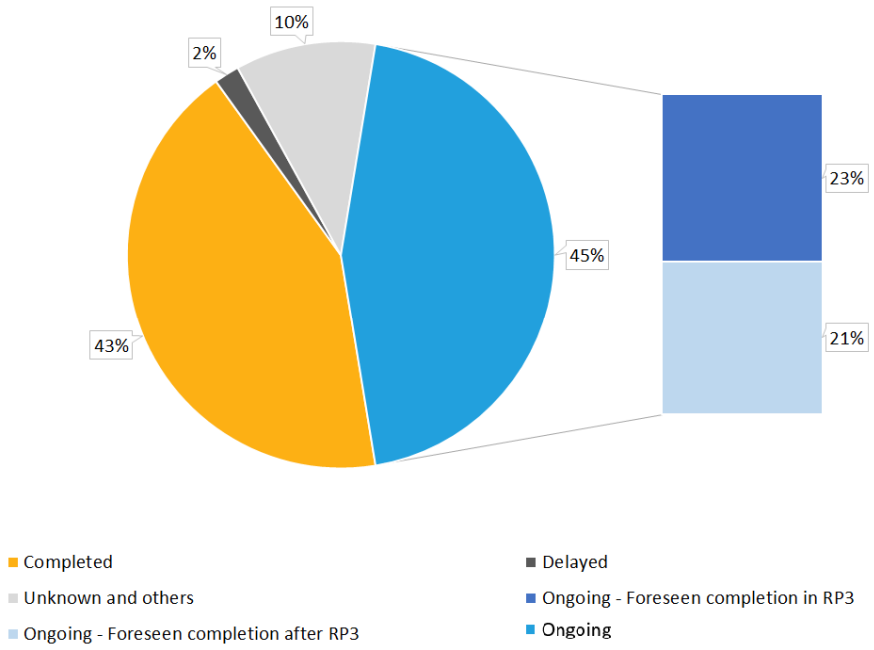


Figure 3 – Union-wide status of the projects and the CAPEX associated in RP2.

40 Several ANSPs reported delays in procurement procedures as a reason for the slow start in projects at the beginning of RP2. Other main reasons are the shift in the priorities of some projects and changes and/or consolidation into new projects since the performance plan adoption.

41 Figure 4 presents the timeline of all projects at Union-wide level and the CAPEX associated to it. A project completed is included in the graph following the FOC date or, in other words, the date of entry into operation. For projects ongoing, the graph shows the FOC date planned. Finally, when projects are delayed both the originally planned FOC and the rescheduled FOC date are presented.[13]

42 Figure 4 shows that from 2015 to 2018 the completion rate of CAPEX and projects is quite low, while increasing considerably in 2019 (+976M€$_{2009}$ and +45 projects). The CAPEX related to projects completed in 2019 accounts for approximately the 72% of RP2.

[13] In the computation of the number of main projects, the planned FOC date prior to delays (pattern grey) is not included. This is additional information provided only to show the timeline of delayed projects, analyse the deployment of projects and understand the decisions taken by the ANSPs in terms of CAPEX. The categories “unknown”, “cancelled”, “stopped”, “not started” and “replaced” are not represented in the timeline due to lack of information.

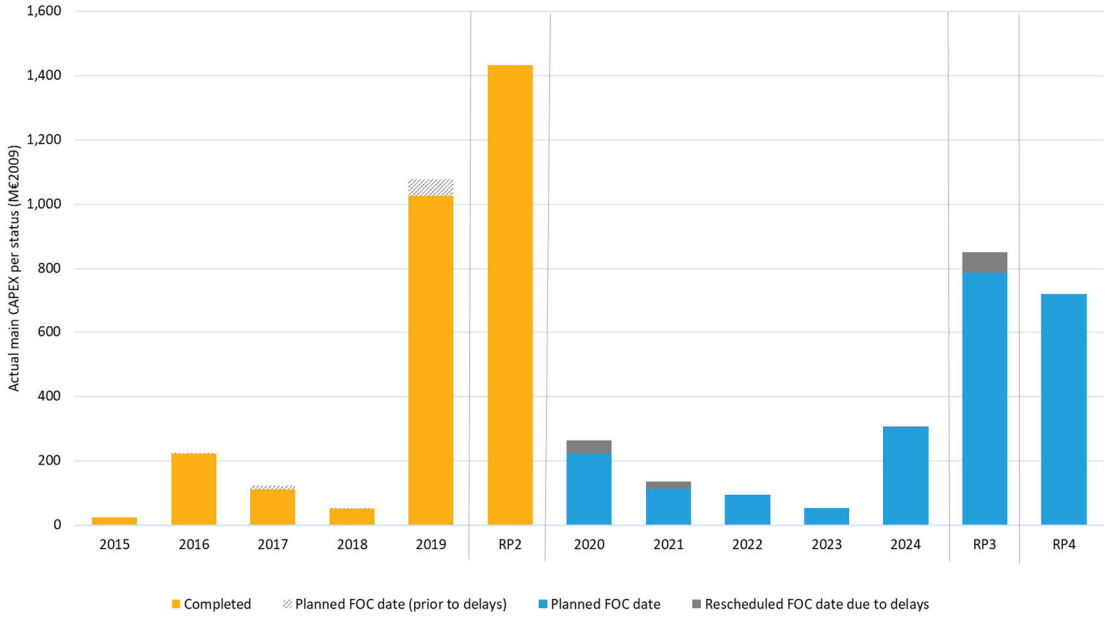


Figure 4 – Union-wide timeline for projects and the CAPEX associated.

43 When analysing the investments declared benefits, Figure 5 shows that 62% of the investments have a declared impact on the safety KPA, 31% on environment, 50% on capacity and 47% will improve cost-efficiency. Some projects have declared impacts on more than one KPA, reporting benefits in safety, environment and capacity that have negative impact on cost-efficiency (mainly in Germany). The data provided herein only represent the number of investments and do not quantify the expected effects on the KPAs. As already highlighted, ANSPs should quantify and measure the impact of the investments. In the absence of this, it is impossible to monitor the effectiveness of CAPEX investments.

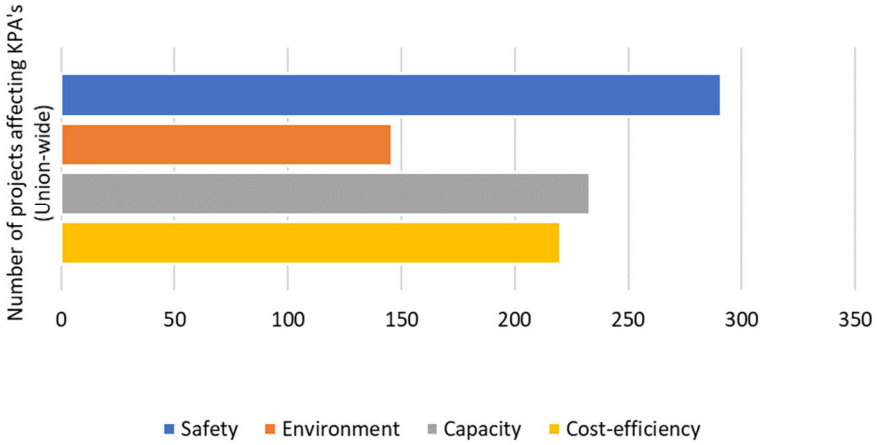


Figure 5 – Union-wide expected benefit per KPA (as number of investments/projects).

44 When analysing the investment connected to the Pilot Common Project, the actual amount invested equals 2.5B€$_{2009}$ for the whole RP2. This amount represents 56% of the actual total CAPEX. This indicates that at least half of the actual investments in RP2 supports the implementation of the European ATM Master Plan. The actual amount invested in PCP projects in RP2 (2.5B€$_{2009}$) is significantly higher than the funding declared (460M€$_{2009}$) and the SDM payments (360M€$_{2009}$) for the same period, indicating the most of the financing has been sustained by the ANSPs.

45 The Network Operations Plan (NOP) provides a short to medium-term outlook of how the ATM Network will operate including expected performance at network and local level. Annex 4 of the NOP consists of tables in which ATS system changes, special events and major projects are included per each ANSP. Due to mismatches between the names of the projects provided by Member States in their Monitoring Reports and the names of the projects included in the NOP, a completely accurate picture of CAPEX projects included in the NOP cannot be provided. Using the available data, at Union-wide level, 45 out of 470 projects (10%) have been included in the NOP.

2.5 *Investments versus depreciation and cost of capital*

46 ANSPs charge to the airspace users the depreciation costs and the cost of capital related to the investments as approved in the performance plans.[14] Thus, in case of CAPEX under spending or delays in the investments timeline, the charged depreciation and cost of capital are not in line with the actual costs (i.e. airspace users may finance non-existing investments). Despite not being part of the Regulation, Member States must ensure that only the remaining amounts are charged in RP3 thus avoiding double charging.

47 Table 3 shows the comparison of the costs related to the investments (i.e. depreciation and cost of capital related to the fixed assets) originally planned and the actual amounts for both en route and terminal (the split between en route and terminal is around 85%/15%). Depreciation represents 73% of these two cost categories, while the cost of capital related to fixed assets the remaining 27% (both in determined and actual terms).

48 Over RP2, ANSPs have charged to the airspace users 5.8B€$_{2009}$ whereas the actual costs for depreciation and capital amounted 5.5B€$_{2009}$. This implies that users have financed 371M€$_{2009}$ for investments that have not materialised. The value may be underestimated, since the OPEX related to the CAPEX is not reported (i.e. ANSPs may have included part of the OPEX related to CAPEX not materialised in other determined costs categories). Moreover, the value includes the depreciation costs from previous reference periods, therefore an exact one-to-one correlation between depreciation cost and cost of capital and investments materialised in RP2 cannot be established. Despite the data constraints, the aforementioned approximation provides a fair overview of the costs related to investments.

Union-wide costs related to investments 2015-2019						
M€2009	2015	2016	2017	2018	2019	RP2
Determined costs	1,149	1,172	1,198	1,179	1,136	5,834
Actual costs	1,092	1,091	1,098	1,108	1,075	5,464
Actual vs Determined	-57	-81	-101	-71	-61	-371
Δ% Costs	-5%	-7%	-8%	-6%	-5%	-6%

Table 3 – Union-wide actual vs determined costs related to investments (depreciation and cost of capital).

[14] The cost of capital reported is computed on the fixed assets (i.e. the net book value). Approximately, 80% of the total cost of capital relates to investments.

3 ANSP analysis

3.1 Overall investments

49 Figure 6 provides a graphical overview of CAPEX per ANSP both for 2019 and for the entire RP2. In 2019, 13 ANSPs underspent meaning that they invested less than as planned in their performance plan. The ANSPs which underspent most were: Greece (-20M€$_{2009}$, -93%), Ireland (-8M€$_{2009}$, -53%), and MUAC (-7M€$_{2009}$, -54%).

50 On the opposite, the ANSPs with the greatest overspending in absolute value for 2019 were: the Netherlands, that spent 49M€$_{2009}$ (+474%) more than originally planned, the UK, which spent 39M€$_{2009}$ (+44%) more, and Spain which overspent 25M€$_{2009}$ (+38%). The ANSPs with the greatest overspending in percentage in 2019 were: the Netherlands (+474%), Luxembourg (+235%) and the Czech Republic (+225%). The significant overspending of the Netherlands in 2019 is mainly due to the expansion of facilities, spending 24M€$_{2009}$ in actual terms not initially planned for2019 (exceeding also the planned amount for the whole period). Similarly, the replacement of AAA (Flight Data Processing, which is essential to deploy ATM functionalities) received 12M€$_{2009}$ in actual terms instead of 0.6M€$_{2009}$ as initially planned to compensate for the underspending in previous years.

51 Considering the entire RP2, 17 ANSPs have shown CAPEX underspending. The highest amounts underspent are from Germany (-175M€$_{2009}$, -29%), Italy (-143M€$_{2009}$, -22%) and Greece (-100M€$_{2009}$, -87%). When considering percentages, Greece (-87%), MUAC (-64%) and Ireland (-62%) are the ANSPs with the biggest portion of underspending.

52 On the opposite, the ANSPs with the greatest overspending in absolute value for RP2 are: the United Kingdom, that spent 151M€$_{2009}$ (+27%) more than originally planned, Sweden, which spent 42M€$_{2009}$ (+82%) more, and the Czech Republic, which overspent 35M€$_{2009}$ (+33%). The ANSPs with the greatest overspending in percentage for RP2 are Sweden (+82%), Estonia (+68%) and Lithuania (+56%).

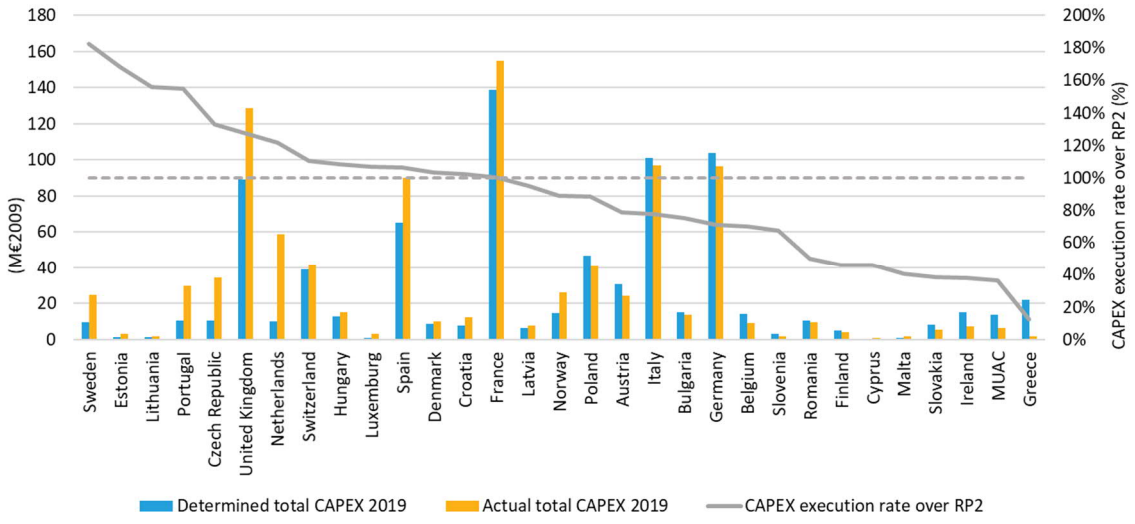


Figure 6 – Actual total CAPEX vs planned per ANSP in 2019 and for the entire RP2.

53 At Union-wide level there was no significant variation from "main CAPEX" to "other CAPEX" in actual terms during the period. Differently, at ANSP level it is possible to observe several modifications between actual and planned "other CAPEX". Figure 7 shows the differences in actual and determined value for "other CAPEX" for RP2, as well as the share of actual compared to determined "other CAPEX". An increase in "other CAPEX" cannot be detailed since ANSPs report only the total amount and not the list investments included in the "other CAPEX".

54 Six ANSPs didn't report "other CAPEX" with all the investments detailed in the "main CAPEX". This is the case for Cyprus, Estonia, Greece, Luxembourg, Malta and Norway.[15] Contrary, "other CAPEX" represented a considerable proportion out of total CAPEX for some ANSPs in planned and actual values for RP2, such us for Switzerland (71% planned and 59% actual), Latvia (74% planned and 59% actual), Italy (59% planned and 49% actual) and Romania (57% planned and 56% actual).

55 Considering the whole RP2, the greatest overspending in "other CAPEX" in absolute value for RP2 against the determined values are: the Czech Republic with +26M€$_{2009}$ (or +266%), Sweden with +17M€$_{2009}$ (or +100%) and the United Kingdom with +16M€$_{2009}$ (or +29%). The ANSPs with the greatest overspending in percentage for RP2 are Portugal (+2824%, as a result of investing 13M€$_{2009}$ in actual terms compared to 0.45M€$_{2009}$ planned), the Czech Republic (+266%) and Sweden (+100%).

56 On the opposite, the ANSPs with the greatest underspending in absolute value for RP2 against the determined values are: Italy, -137M€$_{2009}$ (-36%) less than originally planned, France, -103M€$_{2009}$ (-41%) less, and Germany, which underspent -88M€$_{2009}$ (-47%). The ANSPs with the greatest underspending in percentage for RP2 are Finland (-79%), MUAC (-74%) and Romania (-50%).

57 Differently from the Union-wide, at ANSP level it is possible to observe several shifts between the two categories, i.e. from "main CAPEX" to "other CAPEX", that might represent underinvesting in major investments in favour of some other undefined investments. Slovakia shifted the planned "main CAPEX" to "other CAPEX" in actual terms, which passed from representing the 24% of the total CAPEX to 47%; Ireland, with planned "other CAPEX" passing from 15% to 33%, Bulgaria, passing from 27% to 44%, and Portugal passing from 1% to 17%.

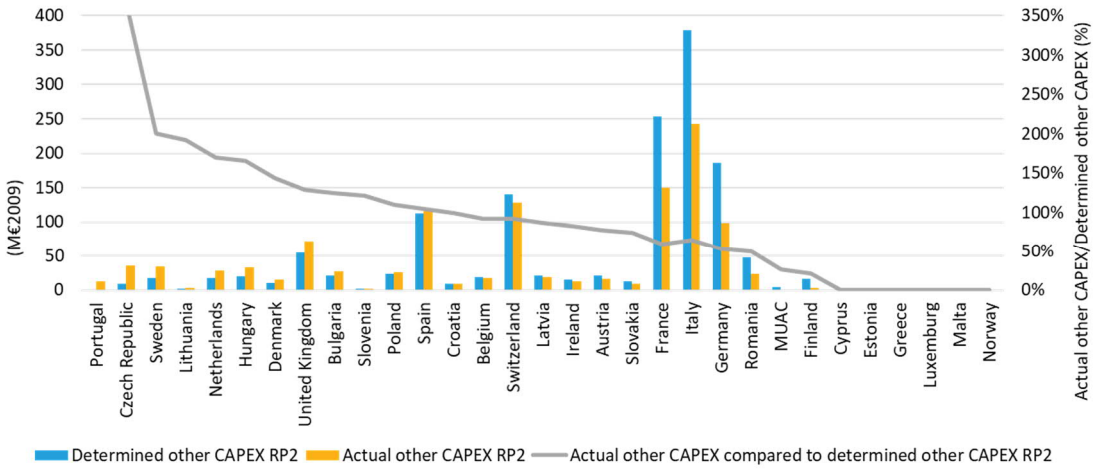


Figure 7 – Actual vs determined "other CAPEX" per ANSP over RP2.

[15] Malta reported 0.17M€$_{2009}$ for other CAPEX in 2015 in actual terms.

3.2 Investments per main project

58 Figure 8 shows the "main CAPEX" compared to the number of reported projects per ANSPs over the whole RP2. Actual "main CAPEX" amounts to 3.3B€$_{2009}$ and the main contributors are France (688M€$_{2009}$, 14 projects), the United Kingdom (630M€$_{2009}$, seven projects) and Germany (335M€$_{2009}$, 44 projects). On the contrary, the ANSP with the lowest actual "main CAPEX" are Slovenia (4M€$_{2009}$, seven projects), Cyprus (5M€$_{2009}$, seven projects), and Latvia (9M€$_{2009}$, five projects). The total number of projects at Union-wide level in RP2 is 470 and the average is 15 projects per ANSP (Italy with 75, Malta with 48, Germany with 44, Greece with 25, Bulgaria with 24, and Belgium with 17 have more than the average number of projects). The number of projects is highly affected by the heterogeneity of the reporting, with for example some Member States detailing each specific sub-investment.

59 In general, the ANSPs have invested in the main projects planned in their performance plan, although some exceptions are present (e.g. the main project for Malta in the performance plan was "New Control Tower", but almost no investments were made over RP2).

60 However, for almost half of the Member States, additional projects ("unplanned CAPEX") arose during the course of RP2.[16] The greatest expenditure in unplanned CAPEX for RP2 were Switzerland with 44M€$_{2009}$ (one unplanned investment grouping several projects)[17], Italy with 40M€$_{2009}$ (40 unplanned investments), Germany with 31M€$_{2009}$ (18 unplanned investments), and the Netherlands with 31M€$_{2009}$ (five unplanned investments). The greatest number of unplanned investments in RP2 is Italy (+40) by far, followed by Germany (+18).

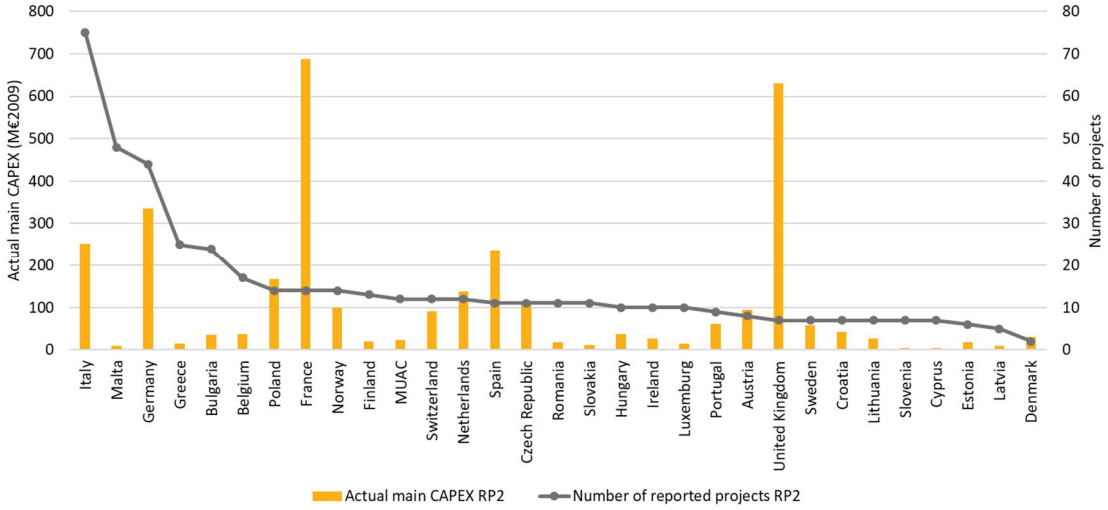


Figure 8 – Actual vs determined "main CAPEX" and number of projects per ANSP over RP2.

61 Table 4 shows the ten planned largest investments in RP2 at ANSP level. Six investments received less than the planned amounts, however for two of them (i.e. 4-Flight - France, and Centre Systems Software Development – UK) the missing CAPEX is less than 20% of the total planned. This situation has not improved compared to 2018, when six investments were lower than planned, three out of which with a considerable amount of CAPEX lagging behind.

[16] Bulgaria, Cyprus, Finland, France (the unplanned investments for France correspond to OPEX related to CAPEX, both in determined and actual terms), Germany, Greece, Italy, Latvia, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovenia and Switzerland.
[17] Switzerland re-organised the investments planning during the reference period, therefore the Monitoring Report presents several discrepancies between actual and planned values.

10 largest ANSPs planned investments in RP2	Planned RP2	Actual RP2	Actual vs Planned
	(M€2009)	(M€2009)	(M€2009)
4-Flight (France)	343	327	-16
iCAS programme (Germany)	190	140	-50
Centre Systems Software Development (UK)	181	157	-25
iTEC FDP/NCW (UK)	153	337	184
4-Flight (Italy)	108	76	-31
CNS Infrastructure (UK)	94	101	7
MCO & Evol NAV/COM/ATM (France)	89	139	50
Project Facilitators (Spain)	81	155	74
Replacement AAA (Netherlands)	68	40	-28
FS 108 New ATM infrastructure (Norway)	55	33	-22

Table 4 – Ten largest planned investments at ANSP level in RP2.

3.3 Public funding granted (CEF/TEN-T)

62 Figure 9 shows the funding declared compared to the RP2 actual total CAPEX per ANSP. The largest amount of funding has been declared by France (104M€2009), Germany (99M€2009) and the United Kingdom (75M€2009). However, in terms of share of funding compared to actual total CAPEX, Poland (30%), Greece (26%) and Germany (23%) reported the highest percentage of funding.

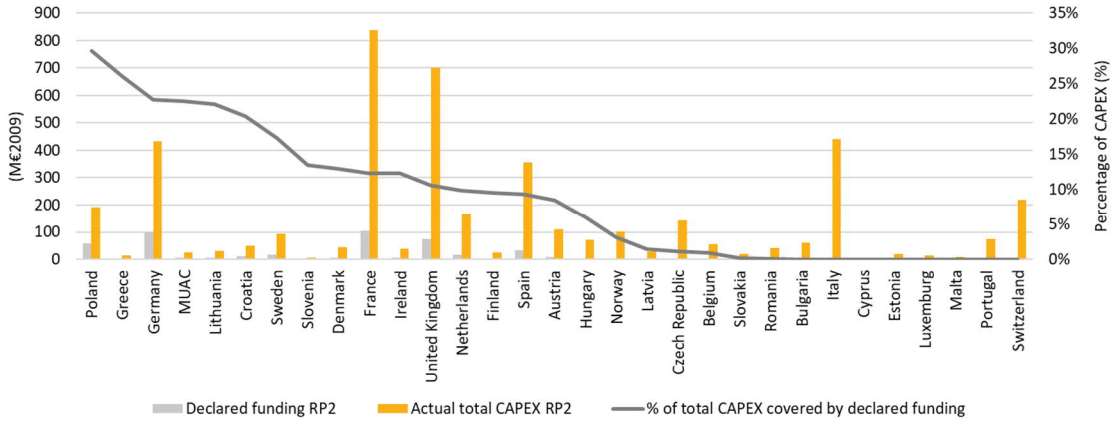


Figure 9 – Actual total CAPEX vs funding declared per ANSP over RP2.

63 The total EU funding (which might include both CAPEX and OPEX) corresponds to a duration associated to the lifetime of the projects that can be equal or longer than RP2. Therefore, the EU funding should be higher than the self-declared funding reported by the ANSPs, that only refers to CAPEX expenditure in RP2. However, this is not the case for Hungary, Lithuania, MUAC, and Poland.

64 Figure 10 shows the SDM payments received by the ANSPs during RP2. France (93M€2009), the United Kingdom (79M€2009) and Italy (46M€2009) registered the highest amounts. In terms of share of SDM payments compared to actual total CAPEX, Greece (43%), Croatia (14%) and Denmark (14%) show the highest percentage.

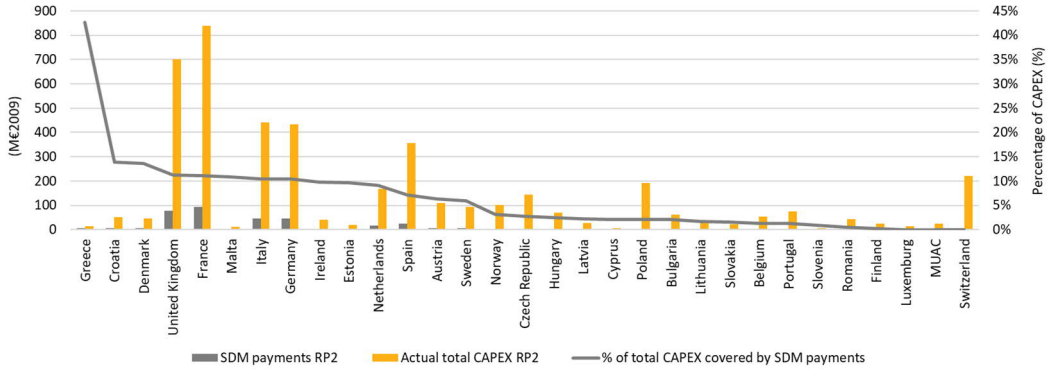


Figure 10 – Actual total CAPEX vs SDM payments per ANSP over RP2.

3.4 Expected benefit per project

65 Figure 11 shows the "main CAPEX" per status for each ANSP (bar) and the number of projects per ANSP (dots).[18] The greatest actual "main CAPEX" related to completed projects can be observed in the United Kingdom (630M€$_{2009}$, seven projects completed), Spain (181M€$_{2009}$, five projects completed out of 11), and the Czech Republic (107M€$_{2009}$, 11 projects completed). On the contrary, the lowest actual "main CAPEX" related to completed projects corresponds to Latvia (no completed CAPEX or projects; 9M€$_{2009}$ in five ongoing projects), Austria (no completed CAPEX or projects; 94M€$_{2009}$ in seven ongoing projects and one unknown), and Italy (75 unknow projects). The greatest actual "main CAPEX" related to ongoing projects can be observed in France (656M€$_{2009}$ in nine ongoing projects), Germany (266M€$_{2009}$ in 28 ongoing projects), and Poland (157M€$_{2009}$ in nine ongoing projects). The ANSPs with the greatest actual "main CAPEX" related to delayed projects are Ireland (25M€$_{2009}$ in nine delayed projects) and Sweden (22M€$_{2009}$ in one delayed project).

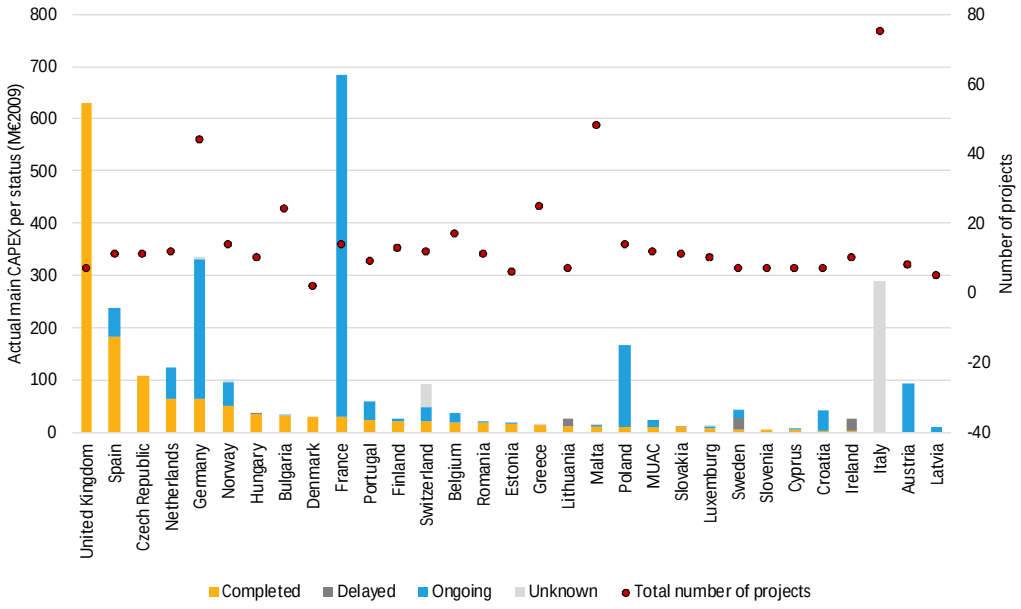


Figure 11 – Actual "main CAPEX" per project status and number of projects per ANSP in RP2.[19]

[18] Completion status and declared benefits at investment levels can only be analysed for the "main CAPEX". Other CAPEX is reported by the ANSPs only as aggregated number.

[19] There are 11 projects that cannot be categorised as "completed", "delayed", "ongoing" and "unknown". Lithuania has one "not started" project. Greece has two "replaced" and one "cancelled" projects. Romania has five "not started" projects. Belgium has one "not started" project. Germany has one "stopped" project. These 11 projects are included in the analysis of the factsheets per ANSP.

66 Figure 12 shows the actual investments made during RP2 per ANSP in projects linked to the PCP in absolute terms and in comparison to the actual total CAPEX. 26 ANSPs invested in PCP projects, while five ANSPs did not report any investments in PCPs during RP2 (Cyprus, Greece, Luxembourg, Malta, and Slovakia). This represents an improvement compared to last year for Estonia and Sweden. In general, all ANSPs invested more than last year in PCP except for Germany and Finland. The greatest contributors to PCP related CAPEX are France, that invested 685M€$_{2009}$ (82% of its actual total CAPEX), followed by the United Kingdom with 629M€$_{2009}$ (90% of its actual total CAPEX), and Italy with 228M€$_{2009}$ (46% of its actual total CAPEX).

67 Out of the total of 470 projects included in the performance plans by the ANSPs, only 131 (28%) of them were indicated to being linked to the PCP. However, at Union-wide level, the total investments in projects linked to the PCP amount to 2,494M€$_{2009}$ (or 56%) of the total actual CAPEX. This indicates that the largest projects in terms of amounts invested were linked to the PCP.

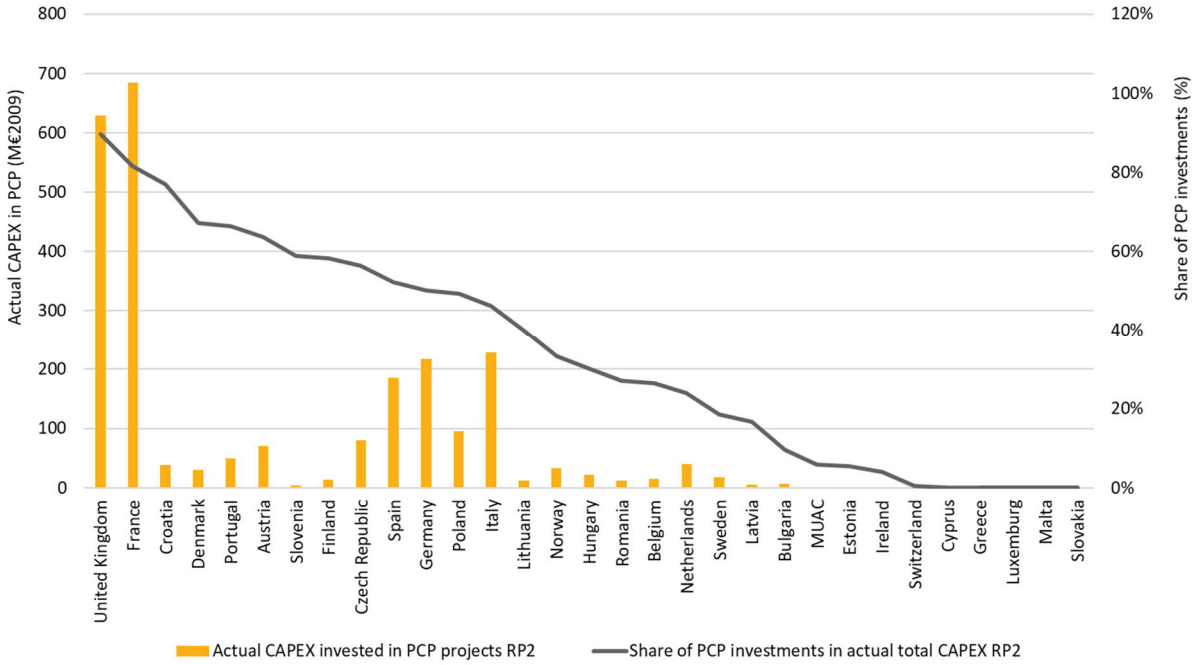


Figure 12 – Actual investments in projects linked to PCP per ANSP in RP2.

68 Concerning the projects listed in the NOP, due to mismatches between the names of the projects provided by Member States in the Monitoring Reports and the names of the projects included in the NOP, a completely accurate picture of CAPEX projects cannot be provided. Using the available data, at ANSP level, Greece is the ANSP with more projects included in the NOP (six projects). There are 11 ANSPs for which no project could be identified as being included in the NOP.

3.5 *Investments versus depreciation and cost of capital*

69 ANSPs charge to the airspace users the determined depreciation costs and the determined cost of capital related to the investments. Figure 13 shows the comparison between the determined depreciation and cost of capital and the actual values for each ANSP.[20] The line shows the total CAPEX execution rate during RP2. Figure 13 includes depreciation costs from previous reference periods, therefore an exact one-to-one correlation between depreciation cost and cost of capital and investments materialised in RP2 cannot be established. Despite this, this approximation provides a fair overview of the costs related to investments.

[20] The cost of capital reported is computed on the fixed assets (i.e. the net book value). Approximately, 80% of the total cost of capital relates to investments.

70 When considering the 17 ANSPs underspending in RP2, 15 of them show actual cost of capital and depreciation lower than planned for the period (Latvia, Norway, Austria, Bulgaria, Germany, Belgium, Italy, Romania, Finland, Cyprus, Malta, Slovakia, Ireland, MUAC and Greece).

71 Out of the 14 ANSPs overspending in RP2 (actual CAPEX larger than planned), Switzerland, the United Kingdom and Luxembourg reported higher actual depreciation and cost of capital than planned when considering the whole RP2. The remaining eleven ANSPs overspending (Sweden, Estonia, Lithuania, France, the Netherlands, Portugal, the Czech Republic, Spain, Croatia, Denmark and Hungary) reported lower actual costs of depreciation and capital compared to the determined values.

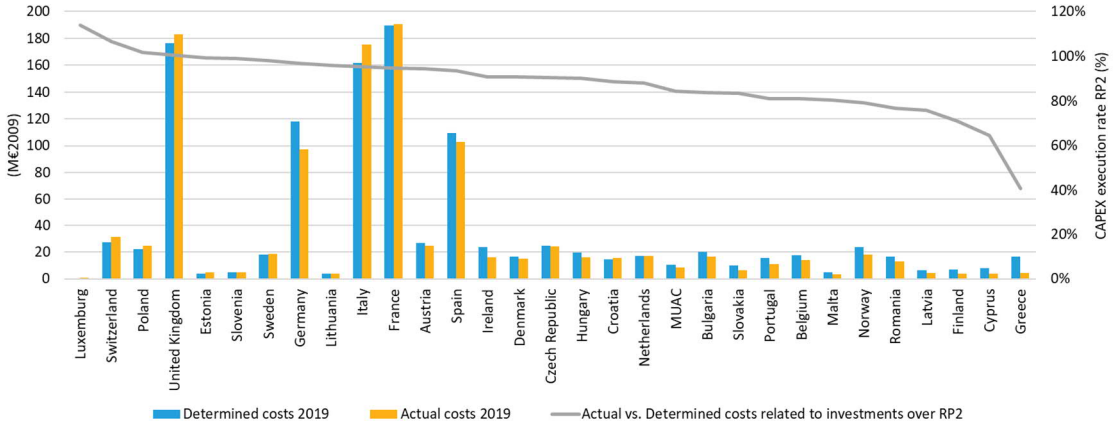


Figure 13 – Actual vs Determined costs related to investments and CAPEX execution rate over RP2.

4 FAB and ANSP Factsheets

72 This chapter contains a detailed analysis of the investments analysed per Member State and FAB. Specifically:

- Analysis of total determined and actual CAPEX, highlighting also the breakdown between main and other CAPEX;
- Breakdown per year of determined and actual CAPEX per investment;
- Analysis per year of declared funding and SDM payments;
- Analysis of the status of the investments, the FOC date, and the expected benefit per KPA;
- Analysis per year of the determined and actual depreciation and cost of capital related to the investments.

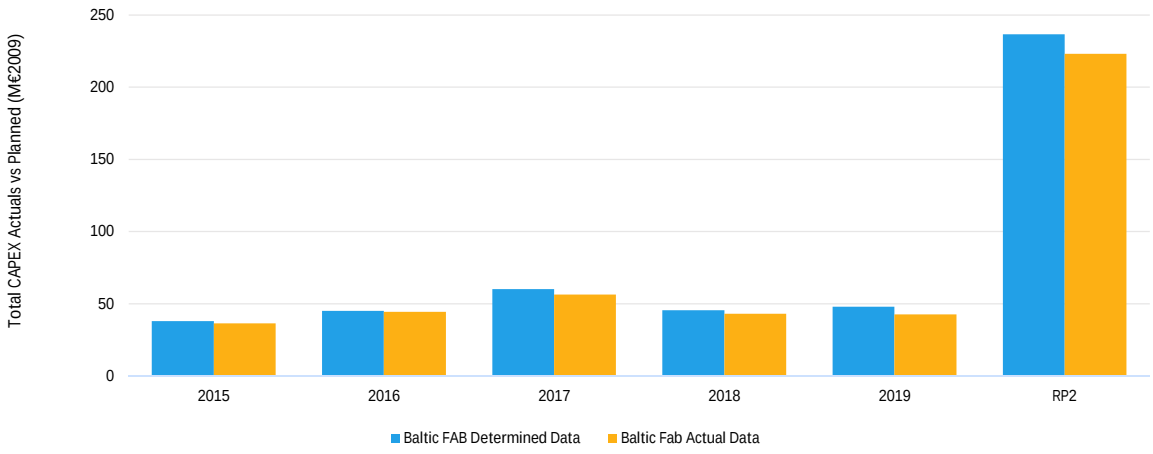
4.1 Baltic FAB

OVERALL INVESTMENTS

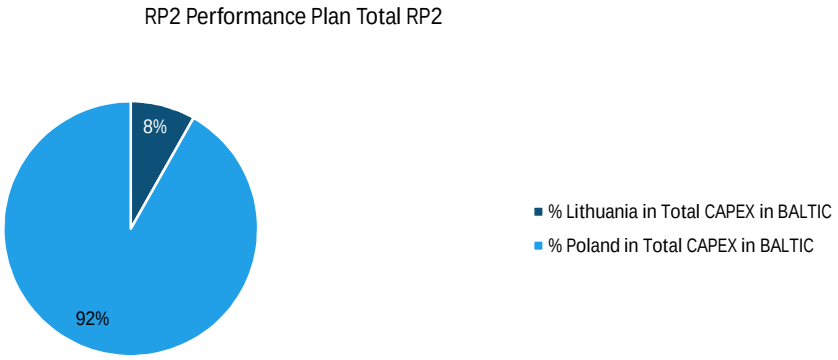
Determined Data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**37.90**	**45.16**	**60.22**	**45.52**	**47.91**	**236.70**
- *Main CAPEX*	33.56	37.61	54.11	39.66	46.40	211.34
- *% Main into Total CAPEX*	*89%*	*83%*	*90%*	*87%*	*97%*	*89%*
- Other CAPEX	4.34	7.55	6.11	5.86	1.51	25.36
- *% Other into Total CAPEX*	*11%*	*17%*	*10%*	*13%*	*3%*	*11%*
- Lithuania in Total CAPEX in BALTIC	4.27	7.68	5.87	0.32	1.26	19.40
- *% Lithuania in Total CAPEX in BALTIC*	*11%*	*17%*	*10%*	*1%*	*3%*	*8%*
- Poland in Total CAPEX in BALTIC	33.64	37.48	54.35	45.19	46.65	217.30
- *% Poland in Total CAPEX in BALTIC*	*89%*	*83%*	*90%*	*99%*	*97%*	*92%*

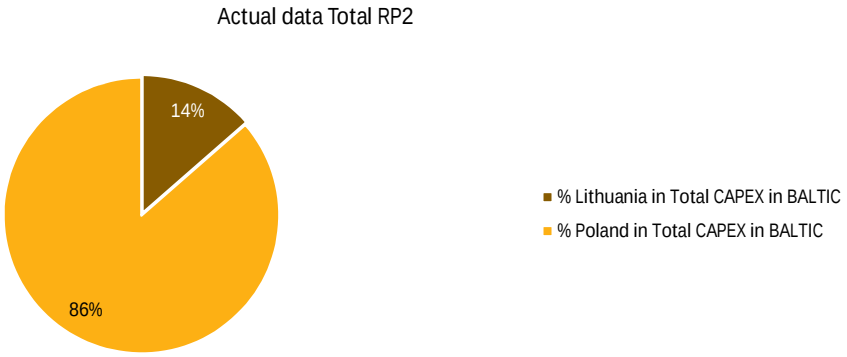
Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**36.55**	**44.40**	**56.45**	**43.04**	**42.67**	**223.11**
- Main CAPEX	31.86	38.87	49.37	37.15	36.69	193.94
- *% Main into Total CAPEX*	*87%*	*88%*	*87%*	*86%*	*86%*	*87%*
- Other CAPEX	4.69	5.53	7.07	5.89	5.98	29.16
- *% Other into Total CAPEX*	*13%*	*12%*	*13%*	*14%*	*14%*	*13%*
- Lithuania in Total CAPEX in BALTIC	1.40	7.96	9.24	9.72	1.95	30.27
- *% Lithuania in Total CAPEX in BALTIC*	*4%*	*18%*	*16%*	*23%*	*5%*	*14%*
- Poland in Total CAPEX in BALTIC	35.15	36.43	47.21	33.33	40.72	192.84
- *% Poland in Total CAPEX in BALTIC*	*96%*	*82%*	*84%*	*77%*	*95%*	*86%*

Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(1.35)**	**(0.76)**	**(3.77)**	**(2.47)**	**(5.24)**	**(13.60)**
- Main CAPEX	(1.70)	1.26	(4.74)	(2.51)	(9.71)	(17.40)
- Other CAPEX	0.35	(2.02)	0.97	0.04	4.47	3.80
Total CAPEX (%)	***-4%***	***-2%***	***-6%***	***-5%***	***-11%***	***-6%***
- *Main CAPEX (%)*	*-5%*	*3%*	*-9%*	*-6%*	*-21%*	*-8%*
- *Other CAPEX (%)*	*8%*	*-27%*	*16%*	*1%*	*296%*	*15%*



OVERALL INVESTMENTS Baltic FAB





The total actual CAPEX over RP2 in the Baltic FAB is 223.11M€$_{2009}$, 6% lower than planned, mainly because of Poland, which underspent more than Lithuania overspent. In 2015, the actual CAPEX was 1.35M€$_{2009}$, 4% lower than planned. For 2016, the actual CAPEX was 0.76M€$_{2009}$, 2% lower than planned. 2017 also saw an actual CAPEX of 3.77M€$_{2009}$, 6% lower than planned. The trend continued through 2018, when the total actual CAPEX was 2.47M€$_{2009}$, 5% lower than planned and 2019, with the actual total CAPEX being 5.24M€$_{2009}$, 11% lower than planned.

In terms of planned expenses, Lithuania represented 8%, with Poland accounting for 92% of the planned expenses. However, with Poland underspending and with Lithuania overspending with respect to the performance plan, the percentages of the actual expenses became 14% for Lithuania, with Poland representing the remaining 86%.

4.1.1 Lithuania - Oro Navigacija

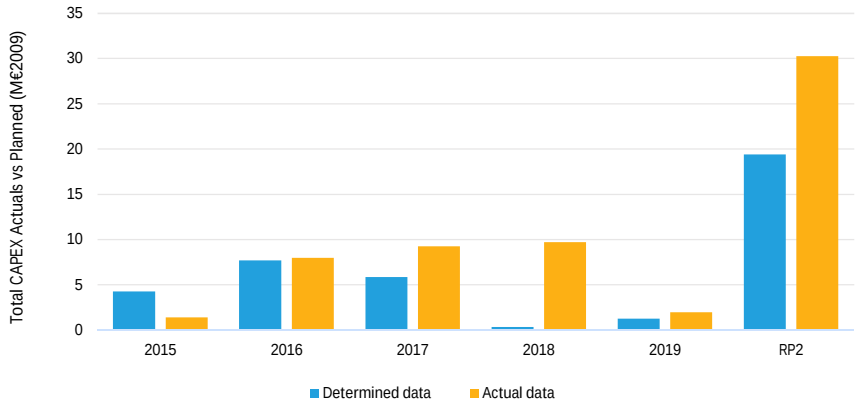
Over RP2, Lithuania overspent 11M€$_{2009}$ (+56%) with respect to the performance plan. Despite higher actual than planned capital expenditure, the actual total depreciation and cost of capital were lower than determined (-0.8M€$_{2009}$). Lithuania planned seven main projects for RP2: three projects have been completed, representing 12.81M€$_{2009}$, the completion of three projects has been delayed from 2017-2018 to 2020, representing 12.52M€$_{2009}$, and one project has not started yet, however is expected to be completed in 2021.

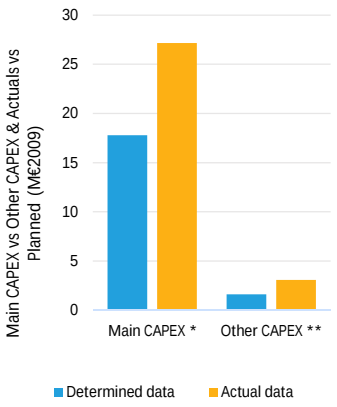
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**4.27**	**7.68**	**5.87**	**0.32**	**1.26**	**19.40**
- Main CAPEX *	3.75	7.55	5.43	0.05	1.01	17.79
- % Main into Total CAPEX	*88%*	*98%*	*92%*	*15%*	*80%*	*92%*
- Other CAPEX **	0.51	0.13	0.44	0.27	0.25	1.61
- % Other into Total CAPEX	*12%*	*2%*	*8%*	*85%*	*20%*	*8%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**1.40**	**7.96**	**9.24**	**9.72**	**1.95**	**30.27**
- Main CAPEX	0.71	7.60	8.90	8.57	1.39	27.17
- % Main into Total CAPEX	*51%*	*95%*	*96%*	*88%*	*71%*	*90%*
- Other CAPEX	0.69	0.37	0.33	1.14	0.56	3.10
- % Other into Total CAPEX	*49%*	*5%*	*4%*	*12%*	*29%*	*10%*

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(2.87)**	**0.28**	**3.36**	**9.39**	**0.70**	**10.87**
- Main CAPEX	(3.04)	0.05	3.47	8.52	0.38	9.39
- Other CAPEX	0.18	0.23	(0.11)	0.87	0.31	1.48
Total CAPEX (%)	***-67%***	***4%***	***57%***	***2896%***	***55%***	***56%***
- Main CAPEX (%)	*-81%*	*1%*	*64%*	*16952%*	*38%*	*53%*
- Other CAPEX (%)	*34%*	*177%*	*-25%*	*318%*	*127%*	*92%*





The total actual capital expenditure for RP2 is 30.27M€$_{2009}$. Throughout RP2, Lithuania spent 10,87M€$_{2009}$ (+56%) more CAPEX than originally determined. For RP2, the main CAPEX is 53% higher than determined, while other CAPEX is 92% higher.

In 2015, Lithuania spent 2.87M€$_{2009}$ less than determined, while for 2016 and 2017, Lithuania overspent 0.28M€$_{2009}$ and 3.36M€$_{2009}$, respectively. In 2018, actual CAPEX is 9.39M€$_{2009}$ higher than determined (+2896%). In 2019, Lithuania overspend 0.70M€$_{2009}$ in CAPEX.

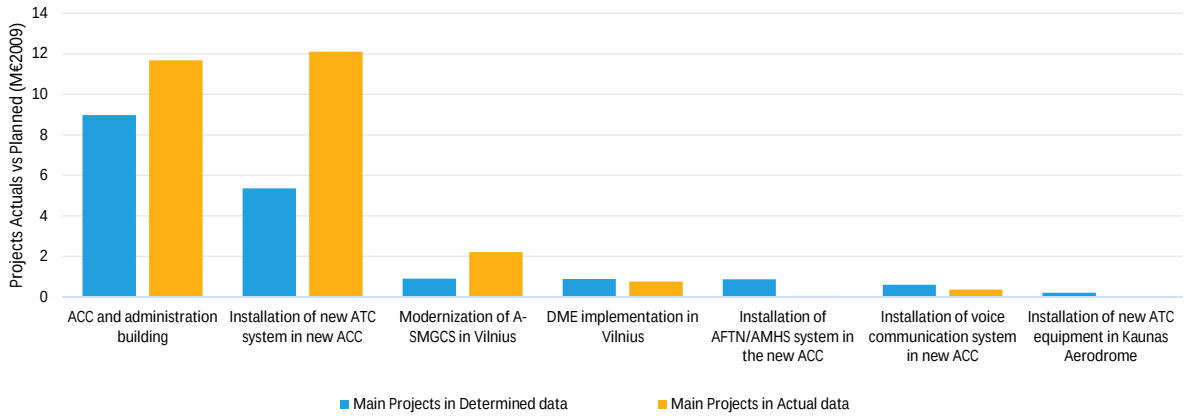
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Lithuania - Oro Navigacija

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	ACC and administration building	2.04	4.46	2.48	-	-	8.98
2	Installation of new ATC system in new ACC	1.30	1.87	1.67	0.02	0.49	5.36
3	Modernization of A-SMGCS in Vilnius	0.33	0.23	-	0.03	0.31	0.90
4	DME implementation in Vilnius	0.08	0.54	0.27	-	-	0.89
5	Installation of AFTN/AMHS system in the new ACC	-	0.26	0.60	-	-	0.86
6	Installation of voice communication system in new ACC	-	0.18	0.41	-	-	0.59
7	Installation of new ATC equipment in Kaunas Aerodrome	-	-	-	-	0.21	0.21

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	ACC and administration building	0.60	0.11	5.24	5.54	0.19	11.68
2	Installation of new ATC system in new ACC	-	5.87	2.97	2.41	0.85	12.11
3	Modernization of A-SMGCS in Vilnius	-	0.97	0.69	0.51	0.04	2.21
4	DME implementation in Vilnius	0.11	0.64	-	-	-	0.76
5	Installation of AFTN/AMHS system in the new ACC	-	-	-	-	0.04	0.04
6	Installation of voice communication system in new ACC	-	-	-	0.11	0.26	0.37
7	Installation of new ATC equipment in Kaunas Aerodrome	-	-	-	-	-	-

#	Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	ACC and administration building	(1.44)	(4.35)	2.76	5.54	0.19	2.70
2	Installation of new ATC system in new ACC	(1.30)	4.00	1.30	2.38	0.36	6.75
3	Modernization of A-SMGCS in Vilnius	(0.33)	0.74	0.69	0.49	(0.26)	1.32
4	DME implementation in Vilnius	0.03	0.10	(0.27)	-	-	(0.13)
5	Installation of AFTN/AMHS system in the new ACC	-	(0.26)	(0.60)	-	0.04	(0.82)
6	Installation of voice communication system in new ACC	-	(0.18)	(0.41)	0.11	0.26	(0.22)
7	Installation of new ATC equipment in Kaunas Aerodrome	-	-	-	-	(0.21)	(0.21)

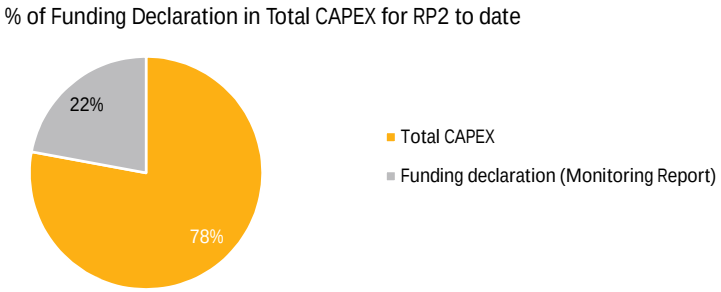


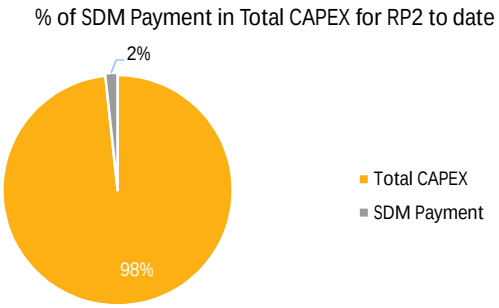
In RP2, the project "Installation of new ATC System in new ACC", receiving allocations from 2016, is the flagship project in terms of actual CAPEX. The second largest project, in terms of actual CAPEX, is the "ACC and administration building", with a steady flow of investment throughout the period. This project was underestimated in terms of determined investments. Lithuania has also planned investments regarding the project "Installation of new ATC equipment in Kaunas Aerodrome", however, no actual investment was put in place in RP2.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Lithuania - Oro Navigacija

#	Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
2	Installation of new ATC system in new ACC	-	1.90	-	2.83	1.05	5.78
3	Modernization of A-SMGCS in Vilnius	-	0.46	-	-	0.45	0.91

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	2.35	-	2.83	1.51	6.69
SDM Payment	-	-	0.50	-	0.02	0.52





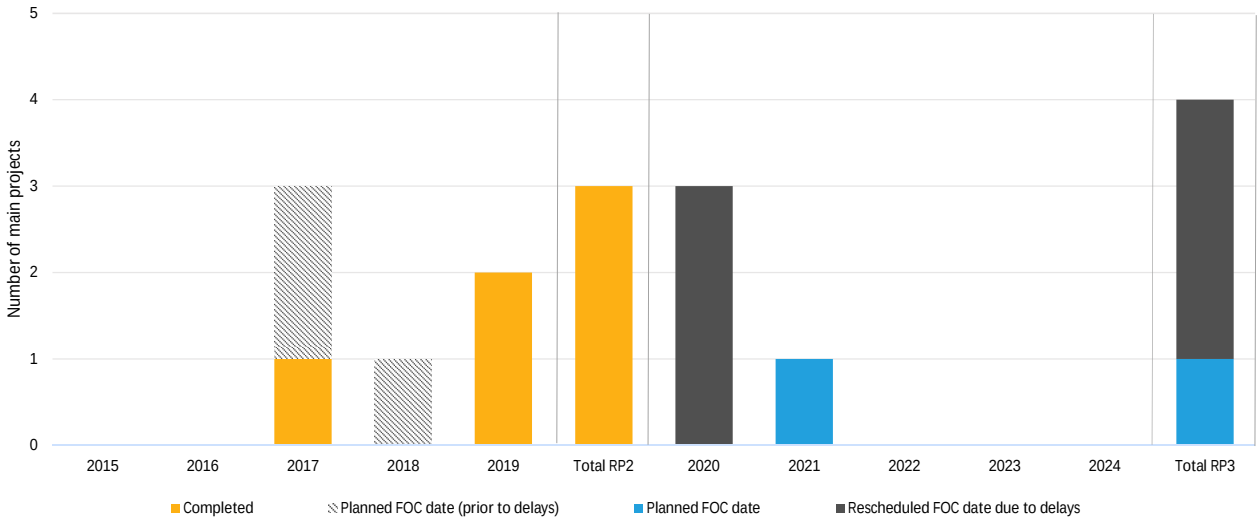
Two projects were granted through the CEF 2015 call: the “Installation of new ATC system in new ACC (Agreement No INEA / CEF/TRAN/M2015/1127304)” and the “Modernization of A-SMGCS (Agreement No INEA / CEF/TRAN/M2015/1127457)” in Vilnius. The application for voice communication/AFTN/AMHS systems funding through CEF 2016 call was unsuccessful.

The total amount of EU funding declared by Lithuania for RP2 is 6.69M€$_{2009}$, which represents 22% of the actual total CAPEX.
The total SDM payments amount to 0.52M€$_{2009}$, which cover 2% of the actual total CAPEX invested during RP2.

Lithuania received 1.92M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "DLS Implementation Project - Path 1 "Ground" stakeholders (GND)" (1.31M€), "DLS Implementation Project - Path 2" (0.20M€) and "Local traffic complexity management" (0.20M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Lithuania - Oro Navigacija

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	ACC and administration building	Completed	2019	x	x	x	x		x
2	Installation of new ATC system in new ACC	Delayed	2020	x	x	x	x	x	x
3	Modernization of A-SMGCS in Vilnius	Delayed	2020	x	x	x	x		
4	DME implementation in Vilnius	Completed	2017	x	x	x	x		
5	Installation of AFTN/AMHS system in the new ACC	Delayed	2020	x			x		
6	Installation of voice communication system in new ACC	Completed	2019	x			x		
7	Installation of new ATC equipment in Kaunas Aerodrome	Not started	2021	x	x	x	x		



Lithuania planned seven main projects for RP2: three projects have been completed, representing 12.81M€$_{2009}$, the completion of three projects has been delayed from 2017-2018 to 2020, representing 12.52M€$_{2009}$, and one project has not started yet, however is expected to be completed in 2021. The delayed projects did receive investments over the period.

All projects are expected to improve safety and cost-efficiency. Five of these projects are also expected to have a positive impact on environment and capacity.

The actual investment in RP2 for the project linked to the Pilot Common Project is 12.11M€$_{2009}$, representing 40% of the actual total CAPEX. Two projects were included in the Network Operations Plan.

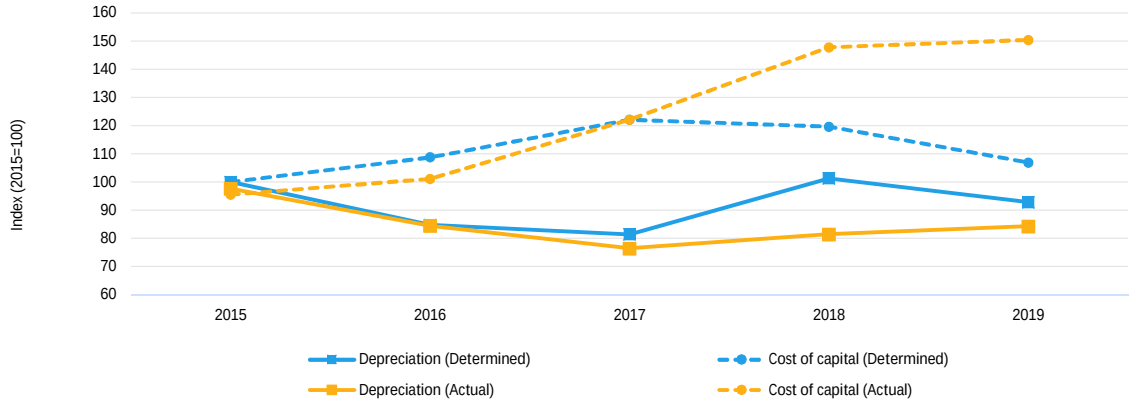
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Lithuania - Oro Navigacija

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**3.37**	**2.86**	**2.74**	**3.41**	**3.13**	**15.50**
- En route	2.37	1.94	1.94	2.49	2.26	11.00
- Terminal	0.99	0.92	0.80	0.93	0.86	4.50
Cost of Capital	**0.73**	**0.79**	**0.89**	**0.87**	**0.78**	**4.06**
- En route	0.51	0.54	0.63	0.63	0.56	2.88
- Terminal	0.21	0.25	0.26	0.24	0.22	1.18
Total	**4.10**	**3.65**	**3.63**	**4.28**	**3.90**	**19.56**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**3.29**	**2.85**	**2.58**	**2.74**	**2.84**	**14.30**
- En route	2.34	1.95	1.88	2.02	2.13	10.33
- Terminal	0.95	0.89	0.70	0.72	0.70	3.97
Cost of Capital	**0.70**	**0.74**	**0.89**	**1.08**	**1.10**	**4.49**
- En route	0.51	0.56	0.72	0.91	0.94	3.65
- Terminal	0.18	0.17	0.16	0.16	0.16	0.84
Total	**3.99**	**3.58**	**3.47**	**3.82**	**3.93**	**18.79**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.08)**	**(0.01)**	**(0.17)**	**(0.67)**	**(0.29)**	**(1.21)**
- En route	(0.04)	0.01	(0.06)	(0.46)	(0.13)	(0.68)
- Terminal	(0.04)	(0.02)	(0.10)	(0.20)	(0.16)	(0.53)
Cost of Capital	**(0.03)**	**(0.06)**	**0.00**	**0.20**	**0.32**	**0.43**
- En route	(0.00)	0.03	0.10	0.28	0.38	0.77
- Terminal	(0.03)	(0.08)	(0.10)	(0.07)	(0.06)	(0.34)
Total	**(0.11)**	**(0.07)**	**(0.16)**	**(0.46)**	**0.03**	**(0.77)**



Over RP2, the actual CAPEX is 56% higher than determined (overspent). Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 0.77M€$_{2009}$ for investments that have been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 1.21M€$_{2009}$. This was due to delays in project implementation and shifts in investments allocation; as some investments that were initially planned as long-term assets were reported under a different code (e.g. cost items).

Throughout RP2, the actual cost of capital was 0.43M€$_{2009}$ higher than determined. This was due to the higher than foreseen book value of the fixed en-route asset base compared to performance plan (as a result of completed projects at the end of 2015-2016 and a revaluation of property, plant and equipment at the end of 2017).

4.1.2 Poland - PANSA

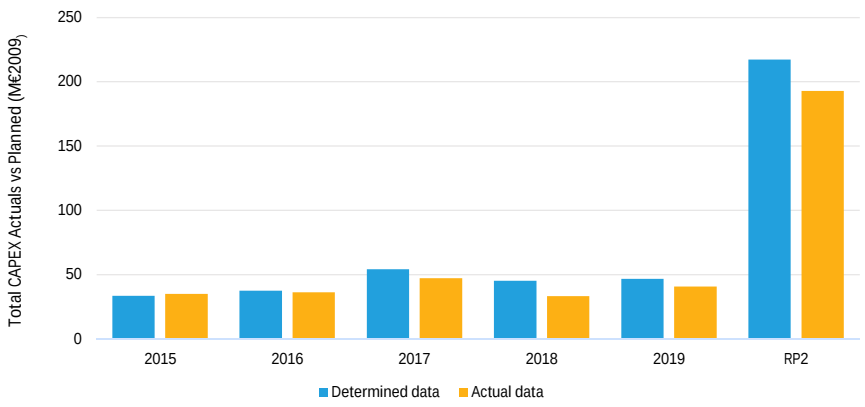
Over RP2, Poland underspent 24M€$_{2009}$ (-11%) with respect to the performance plan. Despite this, the actual total depreciation and cost of capital were higher than determined (+2M€$_{2009}$). Poland planned 13 main projects for RP2: three projects have been completed, representing 10M€$_{2009}$; one has been delayed until 2023 (initially delayed until 2021) without actual CAPEX associated; and nine have been started, being expected to continue through RP3 and representing 157M€$_{2009}$.

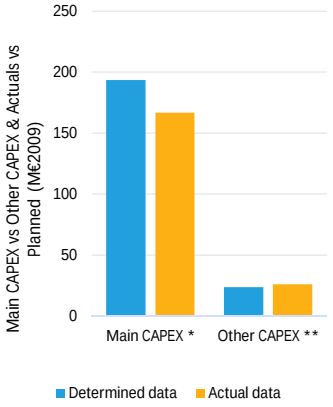
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**33.64**	**37.48**	**54.35**	**45.19**	**46.65**	**217.30**
- Main CAPEX *	29.81	30.06	48.69	39.61	45.39	193.56
- *% Main into Total CAPEX*	*89%*	*80%*	*90%*	*88%*	*97%*	*89%*
- Other CAPEX **	3.83	7.42	5.66	5.58	1.26	23.75
- *% Other into Total CAPEX*	*11%*	*20%*	*10%*	*12%*	*3%*	*11%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**35.15**	**36.43**	**47.21**	**33.33**	**40.72**	**192.84**
- Main CAPEX	31.15	31.27	40.47	28.58	35.30	166.77
- *% Main into Total CAPEX*	*89%*	*86%*	*86%*	*86%*	*87%*	*86%*
- Other CAPEX	4.00	5.17	6.74	4.75	5.42	26.07
- *% Other into Total CAPEX*	*11%*	*14%*	*14%*	*14%*	*13%*	*14%*

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**1.51**	**(1.04)**	**(7.14)**	**(11.86)**	**(5.94)**	**(24.46)**
- Main CAPEX	1.34	1.21	(8.21)	(11.03)	(10.09)	(26.78)
- Other CAPEX	0.17	(2.25)	1.08	(0.83)	4.16	2.32
Total CAPEX (%)	***4%***	***-3%***	***-13%***	***-26%***	***-13%***	***-11%***
- *Main CAPEX (%)*	*4%*	*4%*	*-17%*	*-28%*	*-22%*	*-14%*
- *Other CAPEX (%)*	*4%*	*-30%*	*19%*	*-15%*	*330%*	*10%*





The total actual capital expenditure is 192.84M€$_{2009}$. During RP2, Poland spent 24.46M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 14% lower than determined, while other CAPEX is 10% higher.

In 2015, Poland spent 1.51M€$_{2009}$ more than initially determined. For 2016, 2017, 2018 and 2019, Poland underspent 1.04M€$_{2009}$, 7.14M€$_{2009}$, 11.86M€$_{2009}$, 5.94M€$_{2009}$ respectively.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

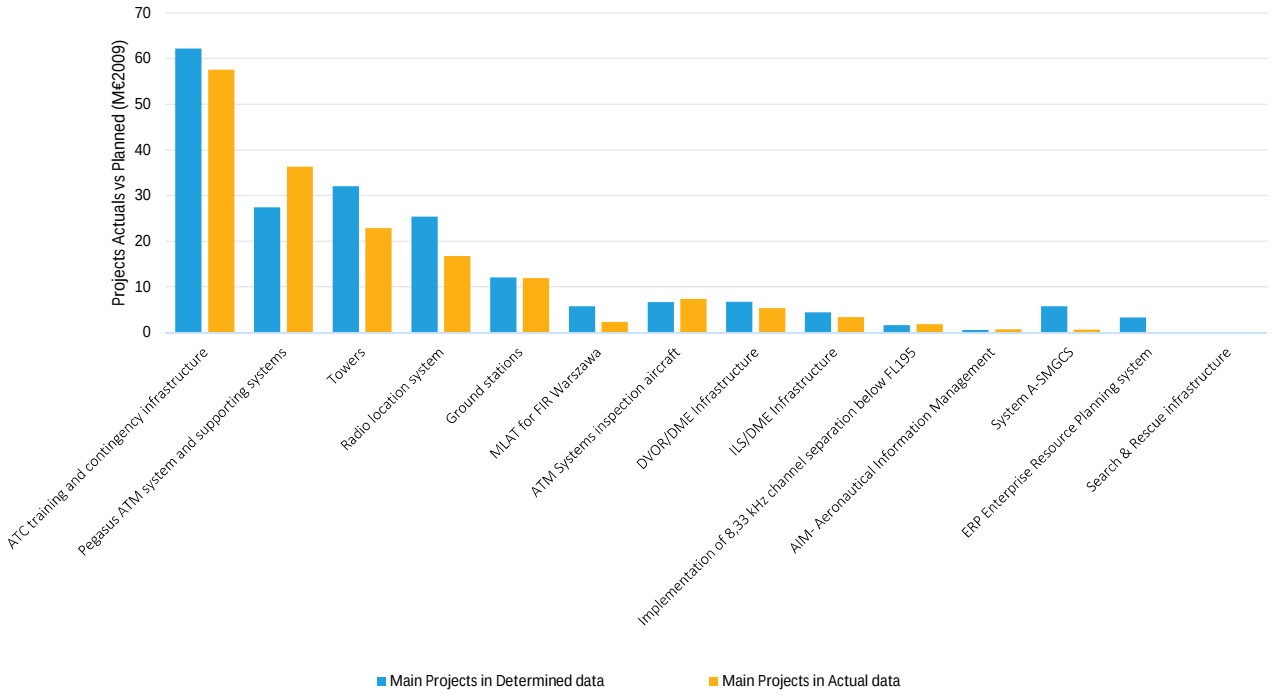
INVESTMENTS PER MAIN PROJECT Poland - PANSA

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	ATC training and contingency infrastructure	4.94	12.53	2.53	15.24	26.96	62.20
2	Pegasus ATM system and supporting systems	7.21	2.91	14.14	3.12	-	27.38
3	Towers	1.59	5.18	12.68	7.34	5.22	32.02
4	Radio location system	4.85	3.52	9.39	0.10	7.51	25.38
5	Ground stations	2.47	0.09	4.28	4.07	1.11	12.02
6	MLAT for FIR Warszawa	-	0.71	1.45	2.04	1.49	5.70
7	ATM Systems inspection aircraft	6.61	-	-	-	-	6.61
8	DVOR/DME Infrastructure	1.07	1.46	1.19	0.99	1.98	6.69
9	ILS/DME Infrastructure	1.04	0.88	0.98	1.49	-	4.38
10	Implementation of 8,33 kHz channel separation below FL195	-	1.62	-	-	-	1.62
11	AIM- Aeronautical Information Management	0.02	0.52	-	-	-	0.53
12	System A-SMGCS	-	0.64	1.04	4.08	-	5.76
13	ERP Enterprise Resource Planning system	-	-	1.00	1.14	1.11	3.25
14	Search & Rescue infrastructure	-	-	-	-	-	-

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	ATC training and contingency infrastructure	5.16	13.29	8.52	9.81	20.80	57.58
2	Pegasus ATM system and supporting systems	7.54	3.04	15.23	7.22	3.26	36.30
3	Towers	1.66	6.49	9.74	1.30	3.65	22.84
4	Radio location system	5.07	3.01	1.32	6.28	1.10	16.77
5	Ground stations	2.58	0.03	3.54	2.11	3.63	11.89
6	MLAT for FIR Warszawa	-	0.77	0.02	0.37	1.14	2.29
7	ATM Systems inspection aircraft	6.91	0.00	0.02	-	0.40	7.33
8	DVOR/DME Infrastructure	1.12	1.50	0.91	0.72	1.05	5.31
9	ILS/DME Infrastructure	1.08	0.86	0.43	0.76	0.20	3.34
10	Implementation of 8,33 kHz channel separation below FL195	-	1.78	-	-	-	1.78
11	AIM- Aeronautical Information Management	0.02	0.19	0.43	0.01	0.06	0.70
12	System A-SMGCS	-	0.32	0.32	-	-	0.65
13	ERP Enterprise Resource Planning system	-	-	-	-	-	-
14	Search & Rescue infrastructure	-	-	-	-	-	-

INVESTMENTS PER MAIN PROJECT Poland - PANSA

#	Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	ATC training and contingency infrastructure	0.22	0.76	5.98	(5.42)	(6.16)	(4.62)
2	Pegasus ATM system and supporting systems	0.32	0.14	1.10	4.10	3.26	8.92
3	Towers	0.07	1.31	(2.95)	(6.05)	(1.57)	(9.18)
4	Radio location system	0.22	(0.51)	(8.07)	6.17	(6.41)	(8.61)
5	Ground stations	0.11	(0.07)	(0.73)	(1.97)	2.52	(0.13)
6	MLAT for FIR Warszawa	-	0.06	(1.44)	(1.67)	(0.35)	(3.41)
7	ATM Systems inspection aircraft	0.30	0.00	0.02	-	0.40	0.71
8	DVOR/DME Infrastructure	0.05	0.04	(0.28)	(0.26)	(0.93)	(1.39)
9	ILS/DME Infrastructure	0.05	(0.02)	(0.55)	(0.72)	0.20	(1.04)
10	Implementation of 8,33 kHz channel separation below FL195	-	0.15	-	-	-	0.15
11	AIM- Aeronautical Information Management	0.00	(0.32)	0.43	0.01	0.06	0.17
12	System A-SMGCS	-	(0.32)	(0.71)	(4.08)	-	(5.11)
13	ERP Enterprise Resource Planning system	-	-	(1.00)	(1.14)	(1.11)	(3.25)
14	Search & Rescue infrastructure	-	-	-	-	-	-



For RP2, Poland's main project is the "ATC training and contingency infrastructure" with a total actual investment of 57.58M€$_{2009}$. Compared to the initial estimations, Poland underspent 4.62M€$_{2009}$ for this project.

The second major project in terms of CAPEX is the "Pegasus ATM system and supporting system", it received a total actual investment of 36.30M€$_{2009}$, exceeding the initial estimations by 8.92M€$_{2009}$.

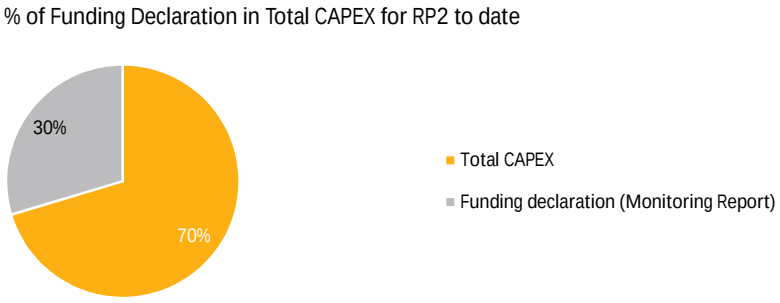
Poland has planned investments for the project "ERP Enterprise Resource Planning system", however no investments were put in place in RP2.

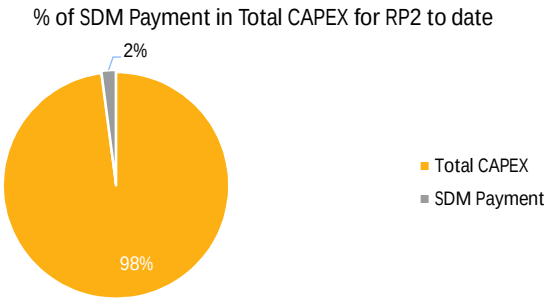
The unplanned CAPEX for Poland amounts to 21.73M€$_{2009}$ (or 11% of total CAPEX) over RP2, from 2015 to 2019, distributed in the following projects "Radio location system", "Ground stations", "ATC training and contingency infrastructure", "DVOR/DME Infrastructure", "Towers", "ILS/DME Infrastructure", "MLAT for FIR Warszawa", "Pegasus ATM system and supporting systems", "ATM Systems inspection aircraft", "AIM-Aeronautical Information Management" and "Other CAPEX (2)".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Poland - PANSA

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	13.79	13.61	6.56	10.68	12.49	57.12

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	13.79	13.61	6.56	10.68	12.49	57.12
SDM Payment	-	-	2.67	-	1.33	4.00





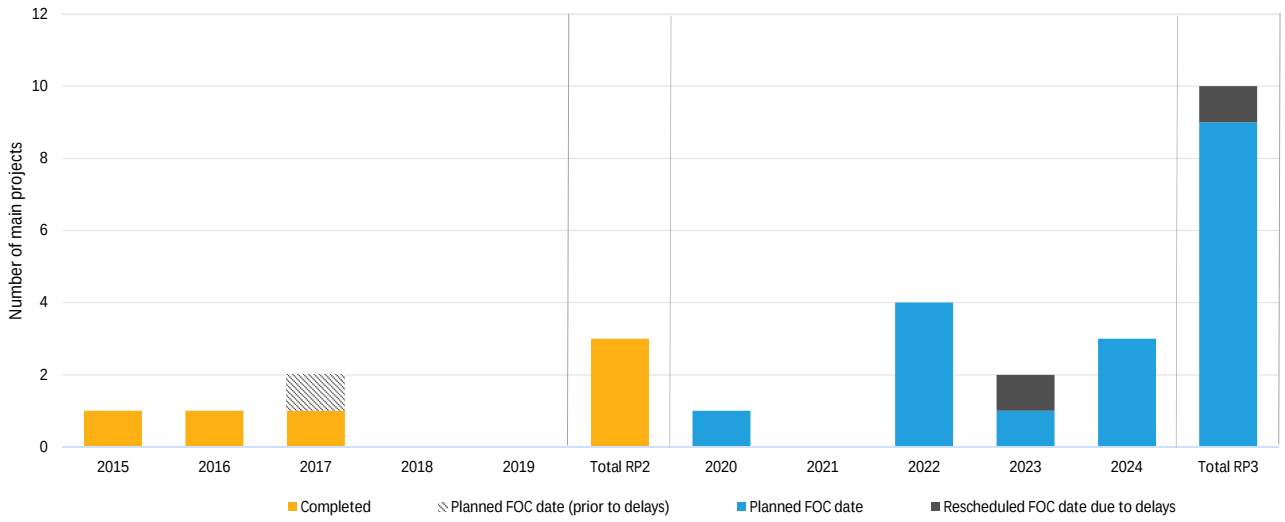
Poland received funds from CEF for the years 2014-2016, and from the Operational Programme Infrastructure & Environment for the periods 2007-2013 and 2014-2020. In addition to these funds, Poland was granted funds under the Regional Operational Programme for Lubuskie Voivodeship. Limited information in the Monitoring Report do not allow the link between the 14 projects and the respective investments.

The total amount of EU funding declared by Poland for RP2 is 57.12M€$_{2009}$, which represents 30% of the actual total CAPEX.
The total SDM payments amount to 4M€$_{2009}$, which cover 2% of the actual total CAPEX invested during RP2.

Poland received 13.09M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects awarded most funds are "1st part of the upgrade of the P_21 PEGASUS system to SESAR functionalities - Test and Validation Platform" (3.30M€), "ATM System Upgrade Towards Free Route Airspace" (2.52M€) and "LAN network upgrade" (1.71M€). One of these projects corresponds to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Poland - PANSA

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	ATC training and contingency infrastructure	Ongoing	2024		x			x	
2	Pegasus ATM system and supporting systems	Ongoing	2022	x	x	x	x	x	
3	Towers	Ongoing	2022	x		x	x		
4	Radio location system	Ongoing	2024	x	x	x	x		
5	Ground stations	Ongoing	2022	x	x	x	x		
6	MLAT for FIR Warszawa	Ongoing	2024	x	x	x	x		
7	ATM Systems inspection aircraft	Completed	2015	x		x	x		
8	DVOR/DME Infrastructure	Ongoing	2020		x				
9	ILS/DME Infrastructure	Ongoing	2022	x	x	x	x		
10	Implementation of 8,33 kHz channel separation below FL195	Completed	2016	x		x			x
11	AIM- Aeronautical Information Management	Completed	2017	x	x	x	x	x	
12	System A-SMGCS	Ongoing	2023	x	x	x	x	x	
13	ERP Enterprise Resource Planning system	Delayed	2023						
14	Search & Rescue infrastructure	Unknown	Unknown	x					



Poland planned 14 main projects for RP2: three projects have been completed, representing 9.81M€$_{2009}$; one has been delayed until 2023 (initially delayed until 2021) without actual CAPEX associated; and nine have been started, being expected to continue through RP3 and representing 156.96M€$_{2009}$. The FOC date and status of project "Search & Rescue infrastructure" are both unknown.

Poland set safety as a priority with 11 projects expected to bring benefits; followed by environment and cost-efficiency where eight projects are expected to bring benefits.

The actual investment made in RP2 for the four projects that were linked to the Pilot Common Project is 95.23M€$_{2009}$. This amount represents 49% of the actual total CAPEX. One project was included in the Network Operations Plan.

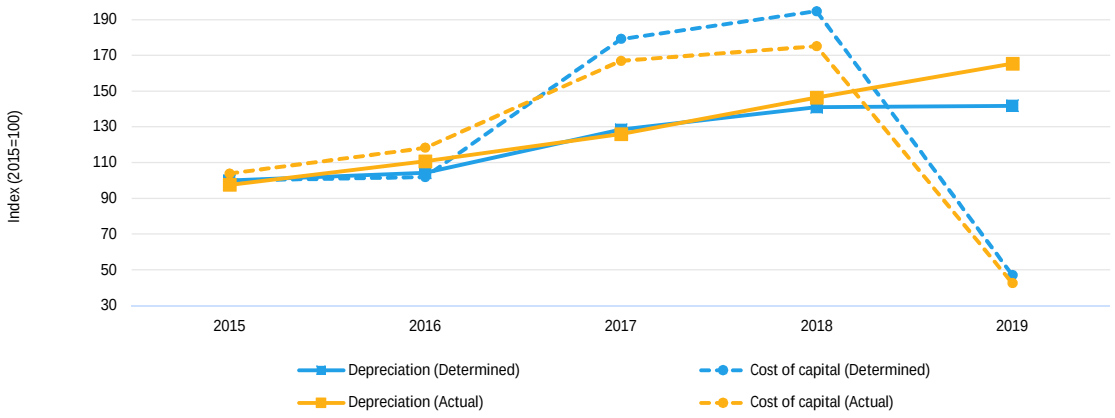
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Poland - PANSA

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**12.64**	**13.19**	**16.24**	**17.82**	**17.93**	**77.82**
- En route	10.66	11.05	13.42	14.92	14.85	64.90
- Terminal	1.98	2.13	2.82	2.90	3.08	12.93
Cost of Capital	**9.31**	**9.48**	**16.68**	**18.13**	**4.39**	**57.99**
- En route	7.92	8.03	15.15	17.06	3.23	51.40
- Terminal	1.38	1.46	1.53	1.07	1.15	6.59
Total	**21.95**	**22.67**	**32.92**	**35.95**	**22.32**	**135.81**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**12.34**	**13.99**	**15.93**	**18.51**	**20.91**	**81.68**
- En route	10.44	11.88	13.93	16.09	17.86	70.20
- Terminal	1.90	2.11	2.00	2.42	3.05	11.48
Cost of Capital	**9.67**	**11.01**	**15.54**	**16.30**	**3.97**	**56.49**
- En route	8.28	9.39	14.16	15.20	2.84	49.87
- Terminal	1.39	1.62	1.38	1.11	1.13	6.62
Total	**22.01**	**25.00**	**31.47**	**34.81**	**24.88**	**138.18**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.31)**	**0.80**	**(0.31)**	**0.69**	**2.98**	**3.86**
- En route	(0.22)	0.83	0.51	1.17	3.02	5.30
- Terminal	(0.09)	(0.02)	(0.82)	(0.48)	(0.04)	(1.44)
Cost of Capital	**0.37**	**1.53**	**(1.14)**	**(1.83)**	**(0.42)**	**(1.49)**
- En route	0.35	1.37	(0.99)	(1.87)	(0.39)	(1.52)
- Terminal	0.01	0.16	(0.15)	0.04	(0.03)	0.03
Total	**0.06**	**2.33**	**(1.45)**	**(1.13)**	**2.56**	**2.37**



Over RP2, 11% of planned CAPEX has not been materialised. Despite that, the related actual costs (depreciation and cost of capital) exceeded the determined costs and therefore the difference of costs have been borne by the ANSP. The difference between these costs amounts to 2.37M€$_{2009}$.

Throughout RP2, the actual depreciation was higher than the determined one by 3.86M€$_{2009}$. This was due to the application of new depreciation methods that consider the actual periods in which the assets are expected to be used.

Throughout RP2, the actual cost of capital was 1.49M€$_{2009}$ lower than determined. This was mainly due to a lower fixed assets base, caused by alterations in the Investment Plan and the updated depreciation periods.

4.2 BLUE MED FAB

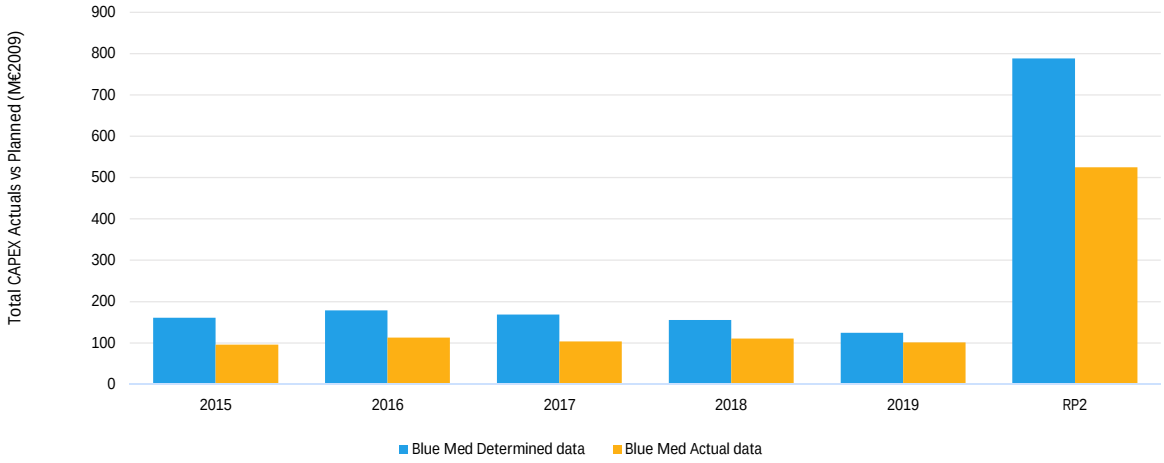
OVERALL INVESTMENTS

Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**161.16**	**178.77**	**168.62**	**155.66**	**124.26**	**788.47**
- *Main CAPEX*	60.97	104.68	101.88	84.22	57.52	409.28
- *% Main into Total CAPEX*	*38%*	*59%*	*60%*	*54%*	*46%*	*52%*
- Other CAPEX	100.18	74.10	66.74	71.44	66.74	379.19
- *% Other into Total CAPEX*	*62%*	*41%*	*40%*	*46%*	*54%*	*48%*
- Cyprus in Total CAPEX in BLUE MED	6.18	3.43	2.06	-	-	11.67
- *% Cyprus in Total CAPEX in BLUE MED*	*4%*	*2%*	*1%*	*0%*	*0%*	*1%*
- Greece in Total CAPEX in BLUE MED	15.81	26.55	24.77	25.85	22.04	115.02
- *% Greece in Total CAPEX in BLUE MED*	*10%*	*15%*	*15%*	*17%*	*18%*	*15%*
- Italy in Total CAPEX in BLUE MED	137.75	141.41	133.46	123.67	101.19	637.49
- *% Italy in Total CAPEX in BLUE MED*	*85%*	*79%*	*79%*	*79%*	*81%*	*81%*
- Malta in Total CAPEX in BLUE MED	1.41	7.38	8.33	6.14	1.03	23.27
- *% Malta in Total CAPEX in BLUE MED*	*1%*	*4%*	*5%*	*4%*	*1%*	*3%*

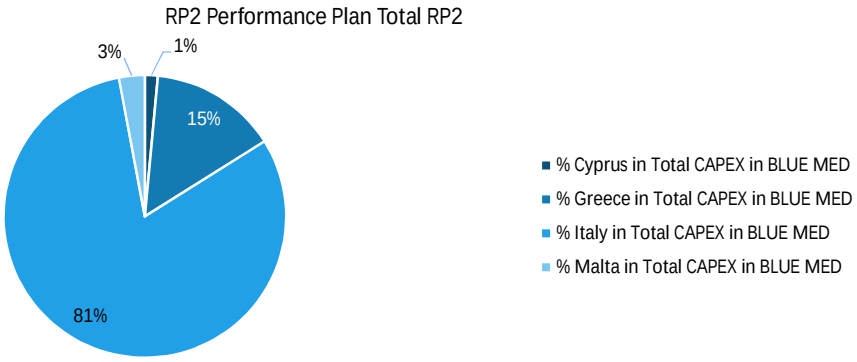
Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**96.23**	**113.09**	**103.53**	**110.23**	**101.48**	**524.56**
- Main CAPEX	38.53	63.22	50.10	63.48	65.98	281.31
- *% Main into Total CAPEX*	*40%*	*56%*	*48%*	*58%*	*65%*	*54%*
- Other CAPEX	57.69	49.87	53.43	46.74	35.50	243.25
- *% Other into Total CAPEX*	*60%*	*44%*	*52%*	*42%*	*35%*	*46%*
- Cyprus in Total CAPEX in BLUE MED	0.66	1.78	0.80	1.12	1.02	5.37
- *% Cyprus in Total CAPEX in BLUE MED*	*1%*	*2%*	*1%*	*1%*	*1%*	*1%*
- Greece in Total CAPEX in BLUE MED	-	7.52	0.40	5.05	1.62	14.58
- *% Greece in Total CAPEX in BLUE MED*	*0%*	*7%*	*0%*	*5%*	*2%*	*3%*
- Italy in Total CAPEX in BLUE MED	93.67	103.10	100.30	100.73	96.97	494.77
- *% Italy in Total CAPEX in BLUE MED*	*97%*	*91%*	*97%*	*91%*	*96%*	*94%*
- Malta in Total CAPEX in BLUE MED	1.90	0.70	2.03	3.33	1.87	9.84
- *% Malta in Total CAPEX in BLUE MED*	*2%*	*1%*	*2%*	*3%*	*2%*	*2%*

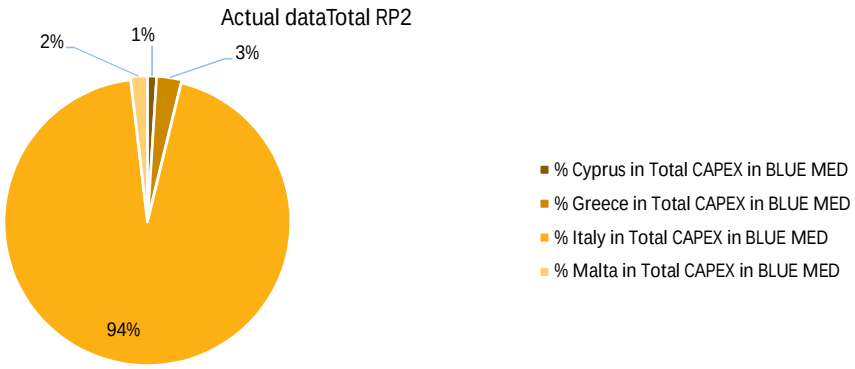
OVERALL INVESTMENTS Blue MED FAB

Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(64.93)**	**(65.68)**	**(65.09)**	**(45.44)**	**(22.78)**	**(263.91)**
- Main CAPEX	(22.44)	(41.46)	(51.78)	(20.74)	8.46	(127.96)
- Other CAPEX	(42.49)	(24.22)	(13.30)	(24.70)	(31.24)	(135.95)
Total CAPEX (%)	***-40%***	***-37%***	***-39%***	***-29%***	***-18%***	***-33%***
- *Main CAPEX (%)*	*-37%*	*-40%*	*-51%*	*-25%*	*15%*	*-31%*
- *Other CAPEX (%)*	*-42%*	*-33%*	*-20%*	*-35%*	*-47%*	*-36%*



OVERALL INVESTMENTS Blue MED FAB





RP2 to date, the total actual investments in CAPEX for the BLUE MED FAB have been lower than determined in the performance plan. Actual investments were made for a total amount of 524.56M€$_{2009}$, while in the performance plan they were set out to be worth 788.47M€$_{2009}$, a difference of 263.91M€$_{2009}$ (or 33%). The underinvestment has been the case throughout RP2, with the biggest difference to occur in 2015 by 40% (or 64.93M€$_{2009}$) and the smallest in 2018 by 18% (or 22.78M€$_{2009}$).

Cyprus and Malta have a minimal share in the total investments made with respectively 1% and 2% of the actual investments. These shares are only slightly lower than initially determined in the performance plan. The share of Greece in actual investments is lower than planned with an average of only 3%, while the expected was at 15%. This is because in 2015 no investments were made, while in 2017 and 2018 Greece invested approximately only 28% of the expected investment. The biggest share corresponds to Italy, who is responsible for 94% of the total actual investments, while only 81% was planned.

4.2.1 Cyprus - DCAC Cyprus

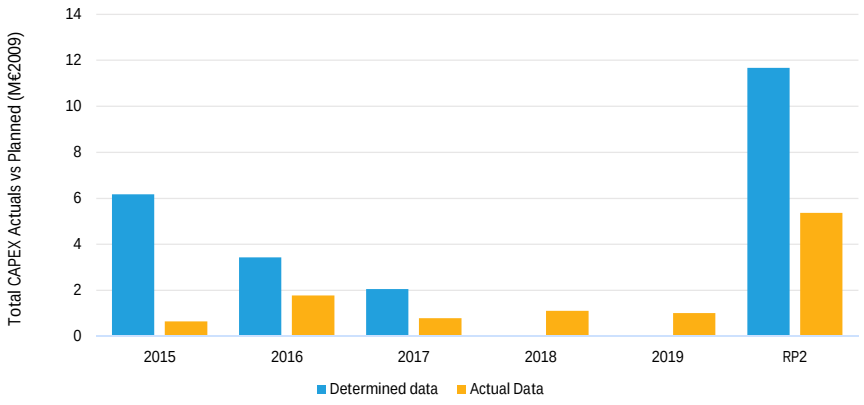
Over RP2, Cyprus underspent 6M€$_{2009}$ (-54%) with respect to the performance plan. As a result of the underinvestment, Cyprus overcharged +14.4M €$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Cyprus planned seven main projects for RP2: four projects have been completed, representing 3.75M€$_{2009}$, and three have been started and expected to be completed in 2021, representing 0.3M€$_{2009}$.

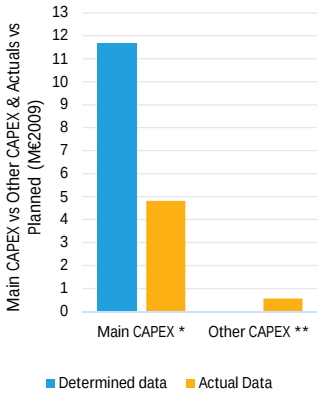
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**6.18**	**3.43**	**2.06**	**-**	**-**	**11.67**
- Main CAPEX *	6.18	3.43	2.06	-	-	11.67
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	-	-	*100%*
- Other CAPEX **	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	-	-	-

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**0.66**	**1.78**	**0.80**	**1.12**	**1.02**	**5.37**
- Main CAPEX	0.56	1.34	0.79	1.10	1.02	4.81
- *% Main into Total CAPEX*	*85%*	*76%*	*98%*	*98%*	*100%*	*89%*
- Other CAPEX	0.10	0.43	0.01	0.02	-	0.57
- *% Other into Total CAPEX*	*15%*	*24%*	*2%*	*2%*	*0%*	*11%*

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(5.52)**	**(1.65)**	**(1.26)**	**1.12**	**1.02**	**(6.29)**
- Main CAPEX	(5.62)	(2.09)	(1.27)	1.10	1.02	(6.86)
- Other CAPEX	0.10	0.43	0.01	0.02	-	0.57
Total CAPEX (%)	***-89%***	***-48%***	***-61%***	**-**	**-**	***-54%***
- *Main CAPEX (%)*	*-91%*	*-61%*	*-62%*	-	-	*-59%*
- *Other CAPEX (%)*	**-**	**-**	**-**	**-**	**-**	**-**





The total actual capital expenditure for RP2 is 5.37M€$_{2009}$. For RP2, Cyprus spent 6.29M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 59% lower than determined and other CAPEX was introduced, though it was not planned.

In 2015, Cyprus spent 5.52M€$_{2009}$ less (-89%) than determined. For 2016 and 2017, Cyprus underspent 1.65M€$_{2009}$ and 1.26M€$_{2009}$, respectively. In 2018 and 2019, actual CAPEX were 1.12M€$_{2009}$ and 1.02M€$_{2009}$ higher than determined, as there were no investments determined for these years.

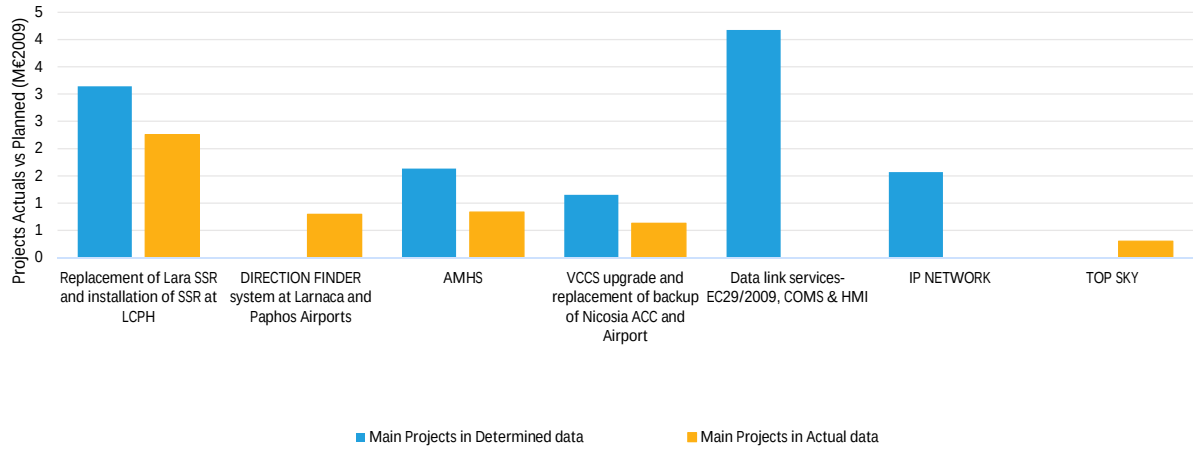
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Cyprus - DCAC Cyprus

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	Replacement of Lara SSR and installation of SSR at LCPH	2.11	1.04	-	-	-	3.14
2	DIRECTION FINDER system at Larnaca and Paphos Airports	-	-	-	-	-	-
3	AMHS	1.37	0.26	-	-	-	1.63
4	VCCS upgrade and replacement of backup of Nicosia ACC and Airport	1.11	0.04	-	-	-	1.15
5	Data link services- EC29/2009, COMS & HMI	1.06	1.57	1.54	-	-	4.17
6	IP NETWORK	0.53	0.52	0.51	-	-	1.57
7	TOP SKY	-	-	-	-	-	-

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	Replacement of Lara SSR and installation of SSR at LCPH	-	0.61	0.80	0.74	0.10	2.26
2	DIRECTION FINDER system at Larnaca and Paphos Airports	0.52	0.12	-	0.16	-	0.80
3	AMHS	0.04	0.61	-	0.11	0.07	0.84
4	VCCS upgrade and replacement of backup of Nicosia ACC and Airport	-	-	-	0.09	0.54	0.63
5	Data link services- EC29/2009, COMS & HMI	-	-	-	-	-	-
6	IP NETWORK	-	-	-	-	-	-
7	TOP SKY	-	-	-	-	0.30	0.30

#	Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	Replacement of Lara SSR and installation of SSR at LCPH	(2.11)	(0.42)	0.80	0.74	0.10	(0.89)
2	DIRECTION FINDER system at Larnaca and Paphos Airports	0.52	0.12	-	0.16	-	0.80
3	AMHS	(1.33)	0.35	-	0.11	0.07	(0.80)
4	VCCS upgrade and replacement of backup of Nicosia ACC and Airport	(1.11)	(0.04)	-	0.09	0.54	(0.52)
5	Data link services- EC29/2009, COMS & HMI	(1.06)	(1.57)	(1.54)	-	-	(4.17)
6	IP NETWORK	(0.53)	(0.52)	(0.51)	-	-	(1.57)
7	TOP SKY	-	-	-	-	0.30	0.30



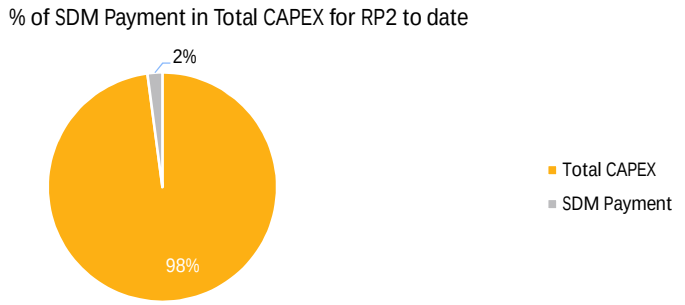
For RP2, although the main project in the performance plan is “Data link services – EC29/2009, COMS & HMI”, with 4.17M€$_{2009}$ (or 36%) of the determined CAPEX, no actual investments have been put in place. In fact, half of the actual investments in RP2 (2.26M€$_{2009}$) were made for the project “Replacement of Lara SSR and installation of SSR at LCPH”.

The unplanned CAPEX for Cyprus amounts to 1.10M€$_{2009}$ (or 20% of total CAPEX) over RP2, from 2015 to 2019, distributed in the following existing projects "Top Sky" and "Direction finder system at Larnaca and Paphos Airports".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Cyprus - DCAC Cyprus

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
	-	-	-	-	-	-

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	-	-	-	-	-
SDM Payment	-	-	0.11	-	-	0.11

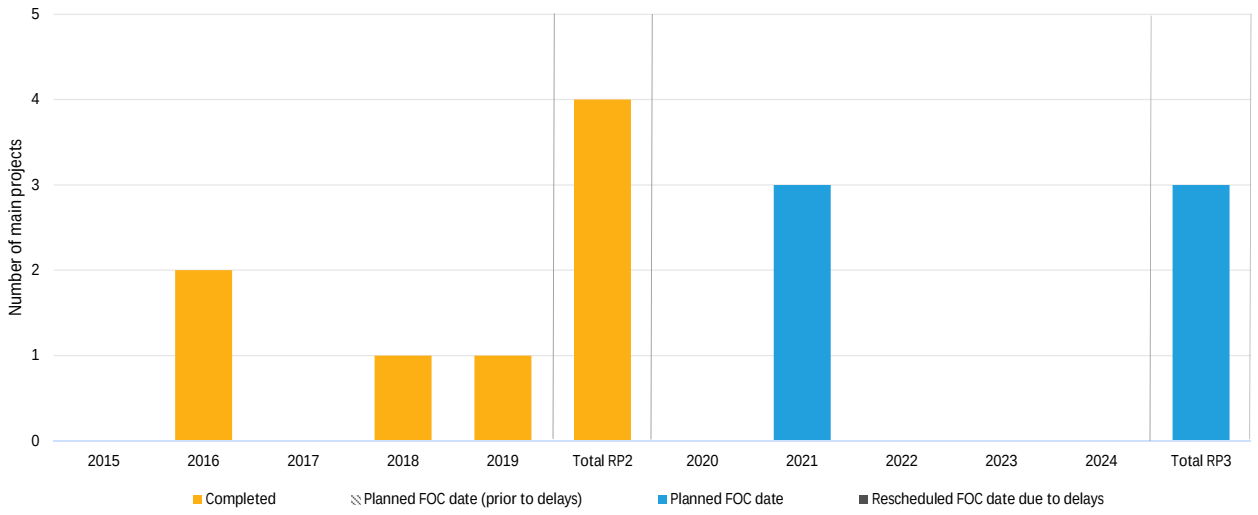


Although Cyprus did not report any funding granted during RP2 in their monitoring report, the total SDM payments amount to 0.11M€$_{2009}$, which cover 2% of the actual total CAPEX invested during RP2.

Cyprus received 0.43M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The two projects that were awarded funds are "BLUE MED FAB IP Network deployment" (0.41M€) and "DLS Implementation Project - Path 2" (0.02M€).

EXPECTED BENEFIT PER PROJECT Cyprus - DCAC Cyprus

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	Replacement of Lara SSR and installation of SSR at LCPH	Completed	2018	x		x			
2	DIRECTION FINDER system at Larnaca and Paphos Airports	Completed	2016	x					
3	AMHS	Completed	2016	x					
4	VCCS upgrade and replacement of backup of Nicosia ACC and Airport	Completed	2019	x		x			
5	Data link services- EC29/2009, COMS & HMI	Ongoing	2021	x		x		x	x
6	IP NETWORK	Ongoing	2021				x	x	
7	TOP SKY	Ongoing	2021	x		x	(x)		



Cyprus planned seven main projects for RP2: four projects have been completed, representing 3.75M€$_{2009}$, and three have been started and expected to be completed in 2021, representing 0.3M€$_{2009}$.

Five out of six projects are expected to improve safety, while three of them are expected to have positive impact on capacity. One project is expected to enhance cost-efficiency, while no project is expected to benefit the environment.

No actual CAPEX investments have been made in RP2 for the two projects linked to the Pilot Common Project. One project was included in the Network Operations Plan.

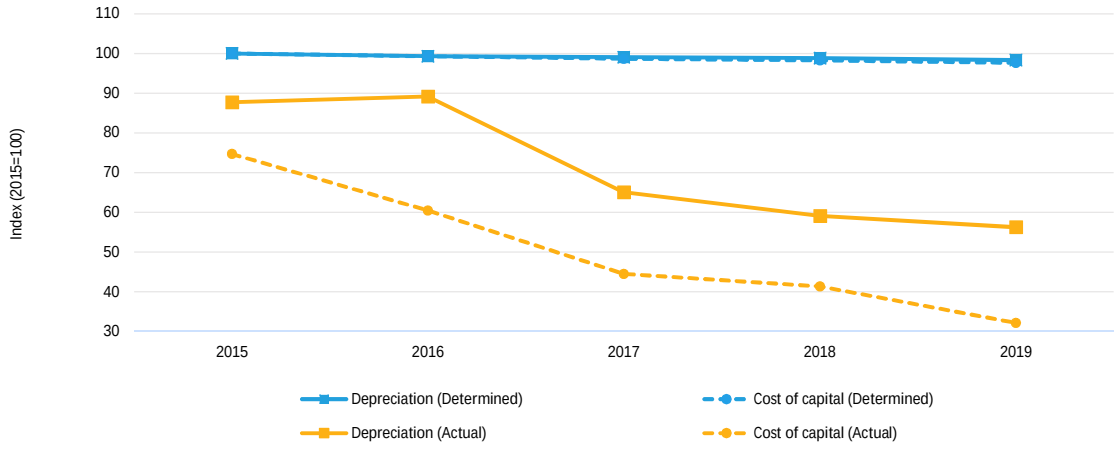
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Cyprus - DCAC Cyprus

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**5.18**	**5.15**	**5.14**	**5.12**	**5.10**	**25.68**
- En route	4.48	4.45	4.44	4.43	4.41	22.22
- Terminal	0.70	0.69	0.69	0.69	0.69	3.45
Cost of Capital	**3.01**	**2.99**	**2.97**	**2.96**	**2.94**	**14.89**
- En route	2.75	2.73	2.71	2.70	2.68	13.56
- Terminal	0.26	0.26	0.27	0.27	0.27	1.32
Total	**8.20**	**8.14**	**8.11**	**8.08**	**8.04**	**40.57**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**4.55**	**4.62**	**3.37**	**3.06**	**2.92**	**18.51**
- En route	4.03	4.08	2.86	2.59	2.44	16.00
- Terminal	0.52	0.54	0.51	0.47	0.47	2.51
Cost of Capital	**2.25**	**1.82**	**1.34**	**1.25**	**0.97**	**7.63**
- En route	2.06	1.66	1.23	1.17	0.92	7.03
- Terminal	0.19	0.16	0.11	0.08	0.05	0.60
Total	**6.80**	**6.44**	**4.71**	**4.31**	**3.88**	**26.14**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.64)**	**(0.53)**	**(1.77)**	**(2.06)**	**(2.18)**	**(7.17)**
- En route	(0.46)	(0.37)	(1.59)	(1.84)	(1.97)	(6.22)
- Terminal	(0.18)	(0.16)	(0.18)	(0.22)	(0.21)	(0.95)
Cost of Capital	**(0.76)**	**(1.17)**	**(1.63)**	**(1.71)**	**(1.97)**	**(7.26)**
- En route	(0.69)	(1.07)	(1.48)	(1.53)	(1.76)	(6.53)
- Terminal	(0.07)	(0.10)	(0.15)	(0.19)	(0.21)	(0.72)
Total	**(1.40)**	**(1.70)**	**(3.40)**	**(3.78)**	**(4.15)**	**(14.42)**



Over RP2, 54% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 14.42M€$_{2009}$ (or 36%) for investments that have not been materialised RP2 to date.

Throughout RP2, actual depreciation was lower than the determined one by 7.17M€$_{2009}$. This was mainly due to delayed investments during RP2.

Throughout RP2, Cyprus' cost of capital was 7.26M€$_{2009}$ lower than determined. The actual fixed asset base was lower than planned, causing a reduction in the cost of capital.

4.2.2 Greece - HCAA

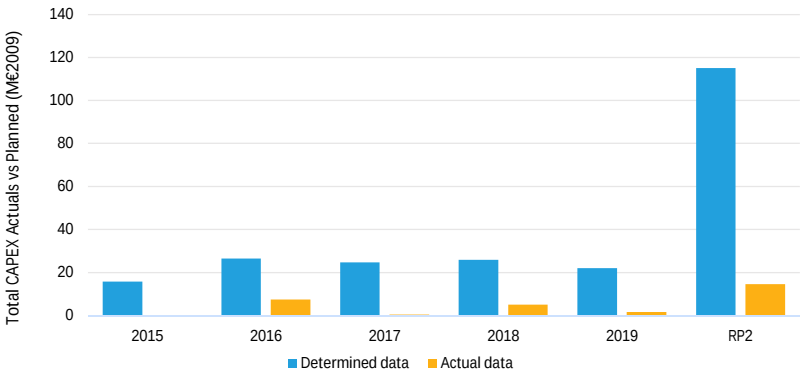
Over RP2, Greece underspent 100M€$_{2009}$ (-87%) with respect to the performance plan, not respecting the CAPEX planning. As a result of the underinvestment, Greece overcharged +29M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Greece planned 24 main projects for RP2: 15 projects have been completed, representing 13M€$_{2009}$, six have been started and expected to continue through RP3, without actual CAPEX associated, two have been replaced, one has been cancelled and one has not sufficient information to determine the FOC date.

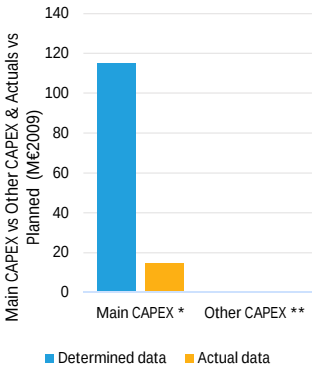
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**15.81**	**26.55**	**24.77**	**25.85**	**22.04**	**115.02**
- Main CAPEX *	15.81	26.55	24.77	25.85	22.04	115.02
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX **	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**-**	**7.52**	**0.40**	**5.05**	**1.62**	**14.58**
- Main CAPEX	-	7.52	0.40	5.05	1.62	14.58
- *% Main into Total CAPEX*	*0%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX	**-**	**-**	**-**	**-**	**-**	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(15.81)**	**(19.03)**	**(24.38)**	**(20.80)**	**(20.42)**	**(100.43)**
- Main CAPEX	(15.81)	(19.03)	(24.38)	(20.80)	(20.42)	(100.43)
- Other CAPEX	-	-	-	-	-	-
Total CAPEX (%)	***-100%***	***-72%***	***-98%***	***-80%***	***-93%***	***-87%***
- *Main CAPEX (%)*	*-100%*	*-72%*	*-98%*	*-80%*	*-93%*	*-87%*
- *Other CAPEX (%)*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*





The total actual capital expenditure for RP2 is 14.58M€$_{2009}$. For RP2, Greece spent 100.43M€$_{2009}$ (-87%) less CAPEX than originally determined. For RP2, there was no other CAPEX determined or invested.

Throughout the period, actual investments have been much lower than initially determined, in every year, 15.81M€$_{2009}$ less than planned in 2015, 19.03M€$_{2009}$ less than determined in 2016, 24.38M€$_{2009}$ less than determined in 2017, 20.80M€$_{2009}$ less than planned in 2018 and 20.42M€$_{2009}$ less than determined in 2019.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Greece - HCAA

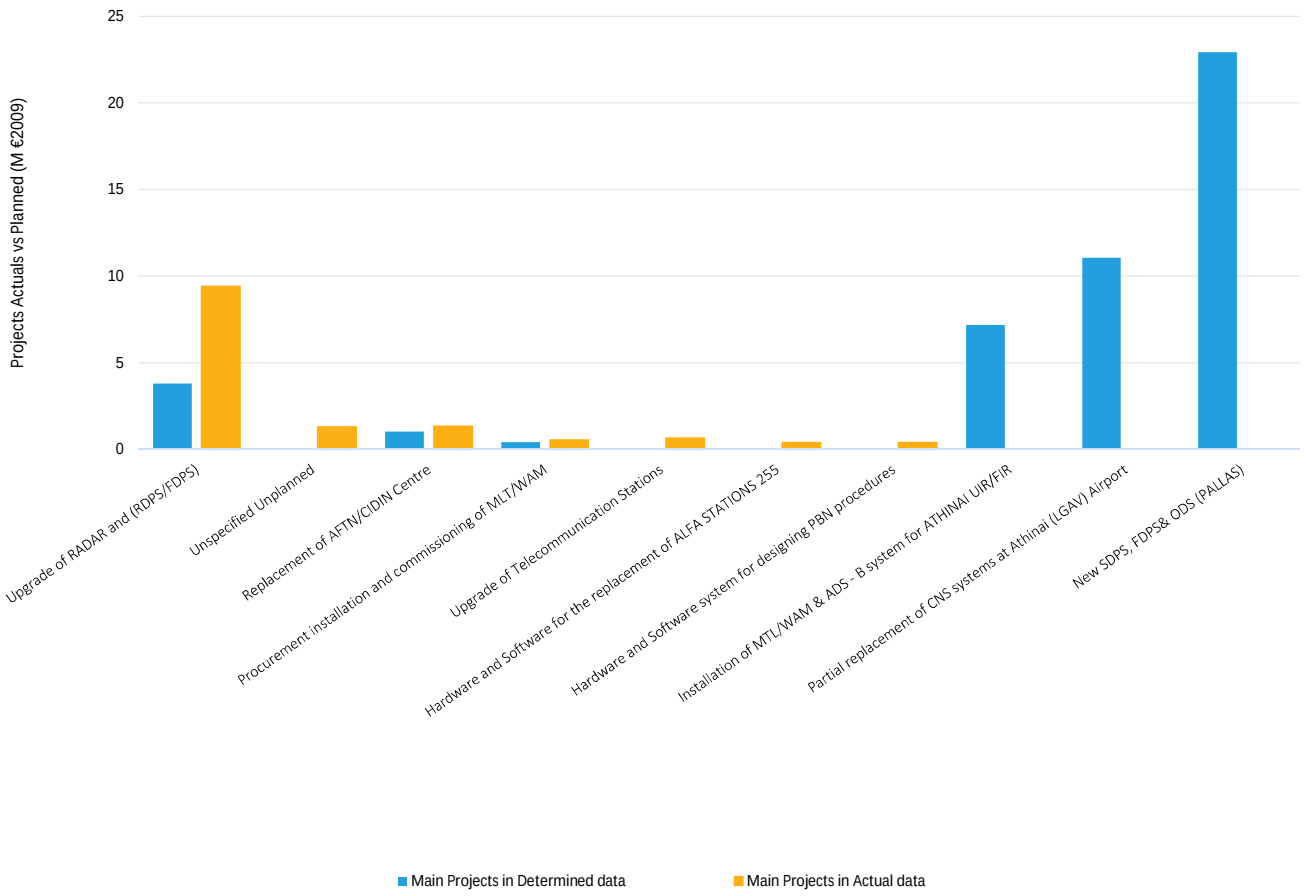
#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	Upgrade of RADAR and (RDPS/FDPS)	3.79	-	-	-	-	3.79
2	Unspecified Unplanned	-	-	-	-	-	-
3	Replacement of AFTN/CIDIN Centre	1.01	-	-	-	-	1.01
4	Procurement installation and commissioning of MLT/WAM	0.41	-	-	-	-	0.41
5	Upgrade of Telecommunication Stations	-	-	-	-	-	-
6	Hardware and Software for the replacement of ALFA STATIONS 255	-	-	-	-	-	-
7	Hardware and Software system for designing PBN procedures	-	-	-	-	-	-
8	Installation of MTL/WAM & ADS - B system for ATHINAI UIR/FIR	-	1.19	2.17	2.14	1.67	7.18
9	Partial replacement of CNS systems at Athinai (LGAV) Airport	-	1.83	3.34	3.30	2.57	11.05
10	New SDPS, FDPS& ODS (PALLAS)	-	-	-	11.55	11.37	22.92
11	Procurement of 350 VHF transceivers	0.78	1.89	2.05	-	-	4.72
12	Procurement of 40 UHF 100W transceivers	0.37	0.90	0.97	-	-	2.25
13	Procurement of ATIS - VOLMET systems	0.18	0.26	-	-	-	0.44
14	Procurement of MLT system for Athinai (LGAV) Airport	0.61	1.49	1.61	-	-	3.71
15	MLT/WAM and VCS systems for Andravida (LGAD) Airport	-	0.23	0.56	0.60	-	1.39
16	Procurement of MLT/WAM and VCS systems for Chania Airport	0.23	0.56	0.61	-	-	1.40
17	New Tower Simulator	0.34	-	-	-	-	0.34
18	Elementary Mode S Sensor (MSSR/EMS) at Himittos Mountain	0.86	1.24	-	-	-	2.09
19	Replacement of 4 En-route Secondary Surveillance RADAR	-	1.65	3.01	2.97	2.31	9.94
20	Replacement of 4 RADAR (PSR/EMS) for LGTS, LGIR, LGRP and LGKR	-	2.93	5.35	5.28	4.11	17.67
21	Replacement of 6 DVOR, 4 CVOR, 9 DME and 1 ILS	1.26	3.07	3.31	-	-	7.64
22	Replacement of Data and Voice Recorders	0.46	1.13	1.22	-	-	2.81
23	Replacement of five VCS/RCS at LGTS, LGIR, LGRP, LGKR, LGKO	1.34	1.94	-	-	-	3.28
24	Replacement of main VCS/RCS sys of Athinai and Makedonia ACCs	3.94	5.69	-	-	-	9.63
25	Upgrade of AIS system	0.22	0.54	0.58	-	-	1.35

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	Upgrade of RADAR and (RDPS/FDPS)	-	5.67	-	3.73	-	9.40
2	Unspecified Unplanned	-	1.30	-	-	-	1.30
3	Replacement of AFTN/CIDIN Centre	-	0.54	-	-	0.79	1.33
4	Procurement installation and commissioning of MLT/WAM	-	-	-	0.54	-	0.54
5	Upgrade of Telecommunication Stations	-	-	0.40	-	0.26	0.66
6	Hardware and Software for the replacement of ALFA STATIONS 255	-	-	-	0.39	-	0.39
7	Hardware and Software system for designing PBN procedures	-	-	-	0.39	-	0.39
8	Installation of MTL/WAM & ADS - B system for ATHINAI UIR/FIR	-	-	-	-	-	-
9	Partial replacement of CNS systems at Athinai (LGAV) Airport	-	-	-	-	-	-
10	New SDPS, FDPS& ODS (PALLAS)	-	-	-	-	-	-
11	Procurement of 350 VHF transceivers	-	-	-	-	-	-
12	Procurement of 40 UHF 100W transceivers	-	-	-	-	-	-
13	Procurement of ATIS - VOLMET systems	-	-	-	-	-	-
14	Procurement of MLT system for Athinai (LGAV) Airport	-	-	-	-	-	-
15	MLT/WAM and VCS systems for Andravida (LGAD) Airport	-	-	-	-	-	-
16	Procurement of MLT/WAM and VCS systems for Chania Airport	-	-	-	-	-	-
17	New Tower Simulator	-	-	-	-	0.57	0.57
18	Elementary Mode S Sensor (MSSR/EMS) at Himittos Mountain	-	-	-	-	-	-
19	Replacement of 4 En-route Secondary Surveillance RADAR	-	-	-	-	-	-
20	Replacement of 4 RADAR (PSR/EMS) for LGTS, LGIR, LGRP and LGKR	-	-	-	-	-	-
21	Replacement of 6 DVOR, 4 CVOR, 9 DME and 1 ILS	-	-	-	-	-	-
22	Replacement of Data and Voice Recorders	-	-	-	-	-	-
23	Replacement of five VCS/RCS at LGTS, LGIR, LGRP, LGKR, LGKO	-	-	-	-	-	-
24	Replacement of main VCS/RCS sys of Athinai and Makedonia ACCs	-	-	-	-	-	-
25	Upgrade of AIS system	-	-	-	-	-	-

INVESTMENTS PER MAIN PROJECT Greece - HCAA

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	Upgrade of RADAR and (RDPS/FDPS)	(3.79)	5.67	-	3.73	-	5.61
2	Unspecified Unplanned	-	1.30	-	-	-	1.30
3	Replacement of AFTN/CIDIN Centre	(1.01)	0.54	-	-	0.79	0.32
4	Procurement installation and commissioning of MLT/WAM	(0.41)	-	-	0.54	-	0.13
5	Upgrade of Telecommunication Stations	-	-	0.40	-	0.26	0.66
6	Hardware and Software for the replacement of ALFA STATIONS 255	-	-	-	0.39	-	0.39
7	Hardware and Software system for designing PBN procedures	-	-	-	0.39	-	0.39
8	Installation of MTL/WAM & ADS - B system for ATHINAI UIR/FIR	-	(1.19)	(2.17)	(2.14)	(1.67)	(7.18)
9	Partial replacement of CNS systems at Athinai (LGAV) Airport	-	(1.83)	(3.34)	(3.30)	(2.57)	(11.05)
10	New SDPS, FDPS& ODS (PALLAS)	-	-	-	(11.55)	(11.37)	(22.92)
11	Procurement of 350 VHF transceivers	(0.78)	(1.89)	(2.05)	-	-	(4.72)
12	Procurement of 40 UHF 100W transceivers	(0.37)	(0.90)	(0.97)	-	-	(2.25)
13	Procurement of ATIS - VOLMET systems	(0.18)	(0.26)	-	-	-	(0.44)
14	Procurement of MLT system for Athinai (LGAV) Airport	(0.61)	(1.49)	(1.61)	-	-	(3.71)
15	MLT/WAM and VCS systems for Andravida (LGAD) Airport	-	(0.23)	(0.56)	(0.60)	-	(1.39)
16	Procurement of MLT/WAM and VCS systems for Chania Airport	(0.23)	(0.56)	(0.61)	-	-	(1.40)
17	New Tower Simulator	(0.34)	-	-	-	0.57	0.23
18	Elementary Mode S Sensor (MSSR/EMS) at Himittos Mountain	(0.86)	(1.24)	-	-	-	(2.09)
19	Replacement of 4 En-route Secondary Surveillance RADAR	-	(1.65)	(3.01)	(2.97)	(2.31)	(9.94)
20	Replacement of 4 RADAR (PSR/EMS) for LGTS, LGIR, LGRP and LGKR	-	(2.93)	(5.35)	(5.28)	(4.11)	(17.67)
21	Replacement of 6 DVOR, 4 CVOR, 9 DME and 1 ILS	(1.26)	(3.07)	(3.31)	-	-	(7.64)
22	Replacement of Data and Voice Recorders	(0.46)	(1.13)	(1.22)	-	-	(2.81)
23	Replacement of five VCS/RCS at LGTS, LGIR, LGRP, LGKR, LGKO	(1.34)	(1.94)	-	-	-	(3.28)
24	Replacement of main VCS/RCS sys of Athinai and Makedonia ACCs	(3.94)	(5.69)	-	-	-	(9.63)
25	Upgrade of AIS system	(0.22)	(0.54)	(0.58)	-	-	(1.35)

INVESTMENTS PER MAIN PROJECT Greece - HCAA



Greece had planned investments for 25 new main projects: only eight received investments during RP2 with four of these not originally determined in the performance plan.

During RP2, Greece was set to invest an amount of 17.67M€$_{2009}$ (15% of the planned budget) in the project "Replacement of 4 RADAR system". However, Greece reported major shifts and mergers of projects. In fact, a significant share of the investments, 9.40M€$_{2009}$ was allocated to "Upgrade of RADAR and Flight Plans Data Processing System". Another major determined project of 22.92M€$_{2009}$ is "Procurement installation and commissioning of a new SDPS, FDPS& ODS (PALLAS)", received no investments over RP2. However, Greece reported that the projects "SDPS/FDPS/ODS", the "VCS/RCS for Athinai and Makedonia ACCs" and the "Replacement of Data and Voice Recorders" will be merged into a single procurement. No investments have been placed in RP2.

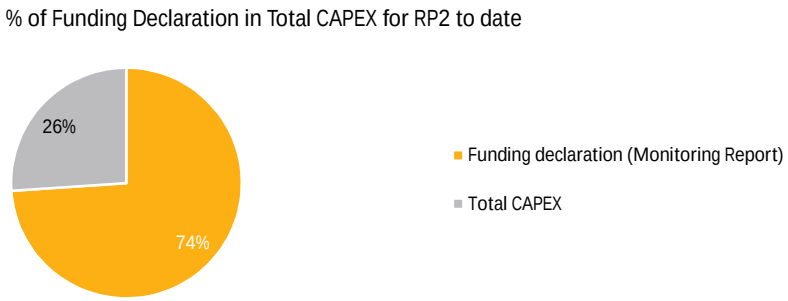
The unplanned CAPEX for Greece amounts to 1.30M€$_{2009}$ (or 9% of total CAPEX) over RP2, in 2016, the name of the projects has not been reported.

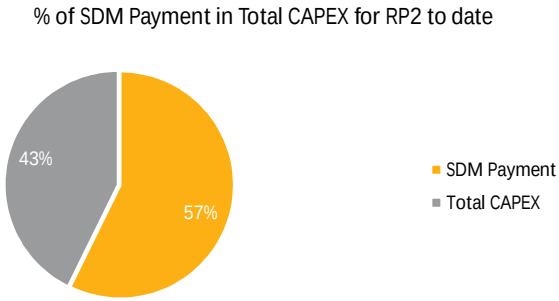
Note that the graph above presents only ten projects with the most significant actual investments.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Greece - HCAA

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	-	1.35	-	-	2.45	3.80

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	1.35	-	-	2.45	3.80
SDM Payment	0.82	0.71	1.90	-	2.80	6.23





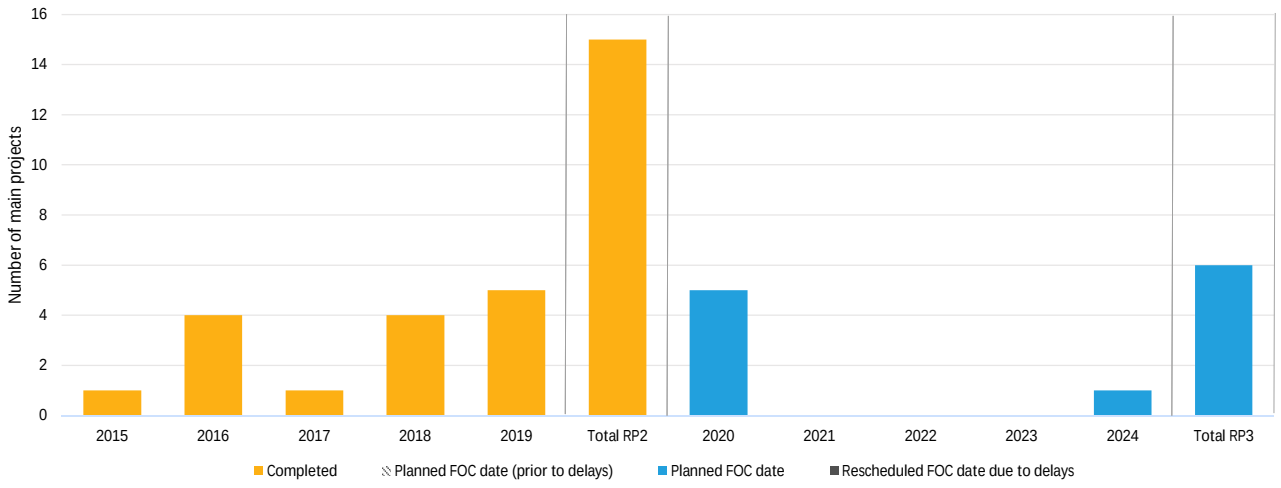
During RP2, Greece received funds through several calls, however no clear information with regards to the source of the funding has been provided and the funds could not be linked to specific projects.

The total amount of EU funding declared by Greece for RP2 is 3.80M€$_{2009}$, which represents 26% of the actual total CAPEX.
The total SDM payments amount to 6.23M€$_{2009}$, which is higher than the funding declaration and cover 43% of the actual total CAPEX invested during RP2.

Greece received 20.21M€ in EU funding for projects/solutions, which were awarded in accordance with their duration. The projects which were awarded most funds are "Procurement of new DPS/ATM and VCRS systems to support DCTs and FRA" (10.50M€), "Implementation of FRA in Greece" (5.79M€) and "DLS Implementation Project - Path 1 "Ground" stakeholders (GND)" (3.91M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Greece - HCAA

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	Upgrade of RADAR and (RDPS/FDPS)	Completed	2016	x	x	x	x		x
2	Unspecified Unplanned	Unknown	Unknown	-	-	-	-	-	-
3	Replacement of AFTN/CIDIN Centre	Completed	2018	x			x		
4	Procurement installation and commissioning of MLT/WAM	Completed	2016	x	x	x			
5	Upgrade of Telecommunication Stations	Completed	2018	x	x	x	x		
6	Hardware and Software for the replacement of ALFA STATIONS 255	Completed	2015	x			x		
7	Hardware and Software system for designing PBN procedures	Completed	2018	x	x	x	x		x
8	Installation of MTL/WAM & ADS - B system for ATHINAI UIR/FIR	Ongoing	2020	x	x	x			
9	Partial replacement of CNS systems at Athinai (LGAV) Airport	Ongoing	2020	x	x	x	x		
10	New SDPS, FDPS& ODS (PALLAS)	Ongoing	2024	x	x	x	x		
11	Procurement of 350 VHF transceivers	Completed	2017	x	x	x	x		
12	Procurement of 40 UHF 100W transceivers	Completed	2019	x		x	x		
13	Procurement of ATIS - VOLMET systems	Completed	2016	x			x		
14	Procurement of MLT system for Athinai (LGAV) Airport	Ongoing	2020	x	x	x	x		
15	MLT/WAM and VCS systems for Andravida (LGAD) Airport	Replaced	Unknown	x	x	x			x
16	Procurement of MLT/WAM and VCS systems for Chania Airport	Replaced	Unknown	x	x	x	x		x
17	New Tower Simulator	Completed	2018	x					
18	Elementary Mode S Sensor (MSSR/EMS) at Himittos Mountain	Completed	2019	x	x	x	x		
19	Replacement of 4 En-route Secondary Surveillance RADAR	Completed	2019	x	x		x		
20	Replacement of 4 RADAR (PSR/EMS) for LGTS, LGIR, LGRP and LGKR	Completed	2019	x	x	x	x		
21	Replacement of 6 DVOR, 4 CVOR, 9 DME and 1 ILS	Ongoing	2020	x	x	x	x		
22	Replacement of Data and Voice Recorders	Cancelled	Unknown						
23	Replacement of five VCS/RCS at LGTS, LGIR, LGRP, LGKR, LGKO	Ongoing	2020	x	x	x	x		x
24	Replacement of main VCS/RCS sys of Athinai and Makedonia ACCs	Completed	2016				x		x
25	Upgrade of AIS system	Completed	2019	x					



Greece planned 25 main projects for RP2: 15 projects have been completed, representing 13.28M€$_{2009}$, six have been started and expected to continue through RP3, without actual CAPEX associated, two have been replaced, one has been cancelled and one has not sufficient information to determine the FOC date.

The reported projects are expected to enhance all four performance areas, with safety (22 out of 25) and cost efficiency (19 out of 25) as the priorities.

None of the projects are reported to be linked to the Pilot Common Project. Six projects were included in the Network Operations Plan.

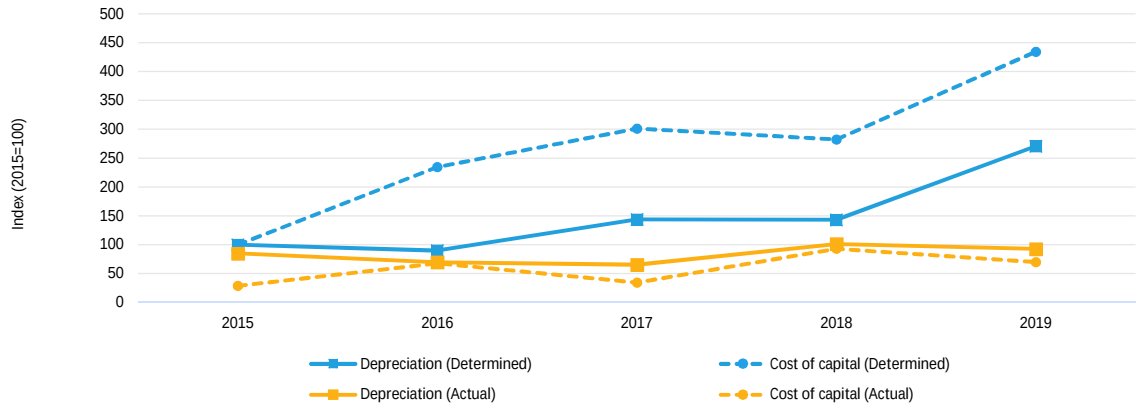
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Greece - HCAA

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**3.72**	**3.34**	**5.34**	**5.32**	**10.07**	**27.79**
- En route	3.65	3.27	4.81	4.80	8.31	24.84
- Terminal	0.07	0.07	0.53	0.52	1.76	2.95
Cost of Capital	**1.54**	**3.62**	**4.65**	**4.36**	**6.70**	**20.86**
- En route	1.41	3.28	3.89	3.80	5.48	17.86
- Terminal	0.13	0.33	0.76	0.56	1.22	3.00
Total	**5.26**	**6.96**	**9.99**	**9.68**	**16.77**	**48.65**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**3.15**	**2.59**	**2.43**	**3.77**	**3.45**	**15.39**
- En route	3.15	2.59	2.43	3.70	3.38	15.25
- Terminal	-	-	-	0.07	0.07	0.14
Cost of Capital	**0.44**	**1.05**	**0.53**	**1.43**	**1.08**	**4.53**
- En route	0.44	1.05	0.53	1.39	1.04	4.45
- Terminal	-	-	-	0.04	0.04	0.08
Total	**3.59**	**3.64**	**2.96**	**5.20**	**4.53**	**19.92**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.57)**	**(0.75)**	**(2.91)**	**(1.55)**	**(6.62)**	**(12.40)**
- En route	(0.50)	(0.68)	(2.38)	(1.10)	(4.93)	(9.59)
- Terminal	(0.07)	(0.07)	(0.53)	(0.45)	(1.69)	(2.81)
Cost of Capital	**(1.10)**	**(2.57)**	**(4.12)**	**(2.92)**	**(5.62)**	**(16.33)**
- En route	(0.97)	(2.24)	(3.36)	(2.41)	(4.44)	(13.41)
- Terminal	(0.13)	(0.33)	(0.76)	(0.52)	(1.18)	(2.92)
Total	**(1.67)**	**(3.32)**	**(7.03)**	**(4.47)**	**(12.24)**	**(28.73)**



Over RP2, 87% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 28.73M€$_{2009}$ (or 59%) for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 12.40M€$_{2009}$. This was due to reallocation of investments and the downtrend in project implementation. In fact, the determined depreciation was planned to increase from 2016 to 2019, as the projects starting at the beginning of RP2 (or even in RP1) should have already been completed by the end of the period. However, the low completion rate of six projects resulted in lower than anticipated depreciation, which only increased as of 2017.

Throughout RP2, the actual cost of capital was lower than the determined one by 16.33M€$_{2009}$. This was caused by lower than expected investments during RP2, resulting in lower assets. In fact, the determined cost of capital was planned to significantly increase from 2015 to 2017. As above, the low completion rate caused the decrease in actual cost of capital in 2017.

4.2.3 Italy - ENAV

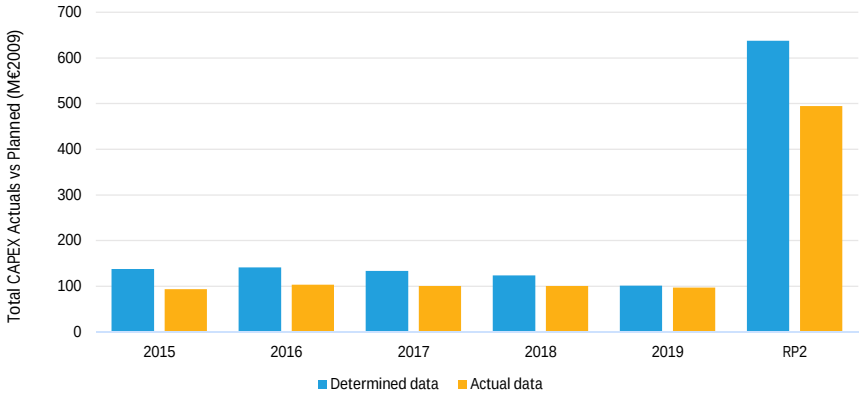
Over RP2, Italy underspent 196M€$_{2009}$ (-31%) with respect to the performance plan. As a result of the underinvestment, Italy overcharged +39M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Italy planned 75 main projects for RP2, however it is unclear the source of variation in the asset base reported, since Italy is not reporting the fully operational capability date of the investments.

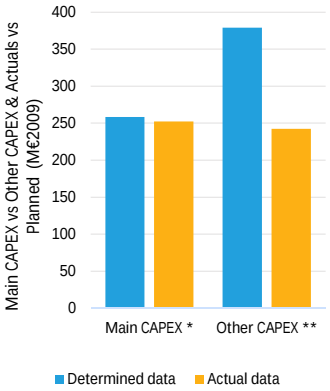
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**137.75**	**141.41**	**133.46**	**123.67**	**101.19**	**637.49**
- Main CAPEX *	37.57	67.31	66.72	52.23	34.46	258.30
- *% Main into Total CAPEX*	*27%*	*48%*	*50%*	*42%*	*34%*	*41%*
- Other CAPEX **	100.18	74.10	66.74	71.44	66.74	379.19
- *% Other into Total CAPEX*	*73%*	*52%*	*50%*	*58%*	*66%*	*59%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**93.67**	**103.10**	**100.30**	**100.73**	**96.97**	**494.77**
- Main CAPEX	36.25	53.65	46.88	54.01	61.47	252.26
- *% Main into Total CAPEX*	*39%*	*52%*	*47%*	*54%*	*63%*	*51%*
- Other CAPEX	57.42	49.44	53.42	46.73	35.50	242.51
- *% Other into Total CAPEX*	*61%*	*48%*	*53%*	*46%*	-	*49%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(44.09)**	**(38.31)**	**(33.16)**	**(22.94)**	**(4.22)**	**(142.72)**
- Main CAPEX	(1.33)	(13.66)	(19.85)	1.78	27.02	(6.04)
- Other CAPEX	(42.76)	(24.65)	(13.32)	(24.71)	(31.24)	(136.69)
Total CAPEX (%)	***-32%***	***-27%***	***-25%***	***-19%***	***-4%***	***-22%***
- *Main CAPEX (%)*	*-4%*	*-20%*	*-30%*	*3%*	*78%*	*-2%*
- *Other CAPEX (%)*	*-44%*	*-52%*	*-50%*	*-32%*	*-6%*	*-38%*





The total actual capital expenditure for RP2 is 494.77M€$_{2009}$. For RP2, Italy spent 142.72M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 2% lower than determined and the other CAPEX is 38% lower than determined.

Italy invested less than initially determined, in every year of RP2, 44.09M€$_{2009}$ less in 2015, 38.31M€$_{2009}$ less in 2016, 33.16M€$_{2009}$ less in 2017, 22.94M€$_{2009}$ less in 2018 and 4.22M€$_{2009}$ less in 2019.

No information was provided in the monitoring report provided by Italy regarding the reasons for underspending.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Italy - ENAV

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	4Flight	2.71	17.97	40.99	28.28	17.68	107.63
2	COFLIGHT	3.58	8.20	7.00	7.53	0.76	27.08
3	Datalink 2000+ implementation (phase 2)	11.50	14.44	0.01	-	-	25.95
4	Deconflicting Tools	5.19	4.54	1.32	-	-	11.06
5	ENET	4.19	7.24	1.49	0.64	0.71	14.27
6	Ground-ground and air-ground phone comm. Adapt. to VoIP	0.61	1.21	1.40	1.20	1.51	5.93
7	New TWR system architecture	1.81	0.89	1.70	1.78	1.05	7.24
8	TBT 8.33 KH completion below FL195	0.80	1.23	1.73	1.91	2.94	8.60
9	New SMR and new data fusion system at Milano Linate	1.26	1.03	0.40	-	-	2.70
10	BT Genova	-	-	-	-	-	-
11	Oracle license upgrade	-	-	-	-	-	-
12	ENET Completion	0.04	1.51	3.21	2.51	1.21	8.49
13	AIDA	1.26	1.61	0.97	0.26	-	4.10
14	Free Route	-	-	-	-	-	-
15	ASMGCS Level 2	0.74	1.96	2.50	2.83	2.08	10.10
16	Allestimento TWR/BT Treviso	-	-	-	-	-	-
17	NOAS (New Operational Area System)	0.48	0.48	0.24	0.05	-	1.24
18	New SMR at Milano Malpensa	0.10	0.72	0.69	0.36	0.16	2.03
19	New SMR at Roma Fiumicino	0.19	0.72	0.80	1.12	1.10	3.93
20	Mode S Radar Plan	0.42	0.62	0.62	0.96	1.43	4.05
21	A-CDM	0.39	0.02	-	-	-	0.41
22	Radioassistenze APT	-	-	-	-	-	-
23	Nuovi sistemi di supervisione	-	-	-	-	-	-
24	ADS-B completion	0.12	0.47	0.41	0.23	0.09	1.32
25	Accesso WEB alle informazioni aeronautiche (Self Briefing)	0.73	0.64	0.07	0.03	-	1.47
26	Nuove dotazioni informatiche utente	-	-	-	-	-	-
27	Consolidamenti APP/ACC	-	-	-	-	-	-
28	Sistema di configurazione logistica	-	-	-	-	-	-
29	Automated ENV data interchange	-	-	-	-	-	-
30	ADQ	0.36	0.32	0.13	-	-	0.81
31	Revisione Radar ERR	-	-	-	-	-	-
32	Radioassistenze Rotta	-	-	-	-	-	-
33	Prodotti publishing	-	-	-	-	-	-
34	Software analisi safety	-	-	-	-	-	-
35	eTOD	0.65	0.50	0.28	0.07	-	1.50
36	Remote tower	-	-	-	-	-	-
37	OOCC TWR Rimini	-	-	-	-	-	-
38	Evoluzione rete ENET	-	-	-	-	-	-
39	Applicazioni SIO	-	-	-	-	-	-
40	Interventi di adeguamento ed ottimizzazione energetica edifici	-	-	-	-	-	-
41	Adeguamenti TBT 8,33 KHz	-	-	-	-	-	-
42	Multilateration System (Venezia)	0.08	0.43	0.40	0.19	0.09	1.19
43	Nuova Sala apparati TWR Linate	-	-	-	-	-	-
44	AMHS	-	-	-	-	-	-
45	Completamenti Data Link	-	-	-	-	-	-
46	Mezzi mobili di controllo Navaids	-	-	-	-	-	-
47	Adeguamento infrastrutturale ACC Linate	-	-	-	-	-	-
48	ENET 2 site preparation	-	-	-	-	-	-
49	TWR e BT Pantelleria	-	-	-	-	-	-
50	Ammodernamento AWOS	-	-	-	-	-	-
51	Nuovo ACC Milano	-	-	-	-	-	-
52	Ristrutturazione Garage SDC	-	-	-	-	-	-
53	Traffic complexity tool	-	-	-	-	-	-
54	Airport Safety Nets/A-SMGCS Integration	-	-	-	1.22	1.79	3.01
55	DMAN	-	-	0.09	1.07	1.85	3.01
56	P-RNAV navigation support tools	0.36	0.55	0.27	-	-	1.18
57	PENS	-	-	-	-	-	-
58	Automatic Flight Planning	-	-	-	-	-	-
59	OLDI Migration from X.25 to IP	-	-	-	-	-	-

INVESTMENTS PER MAIN PROJECT Italy - ENAV

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
60	Man. evolutiva sw Technosky	-	-	-	-	-	-
61	Nuovi Sistemi Supervisione	-	-	-	-	-	-
62	VCS APT VOIP	-	-	-	-	-	-
63	Migrazione VoIP fonia	-	-	-	-	-	-
64	Nuovo SMR Torino	-	-	-	-	-	-
65	Impianto trigenerazione	-	-	-	-	-	-
66	Gestione certificazioni	-	-	-	-	-	-
67	Sistema monitoraggio GNSS	-	-	-	-	-	-
68	Adeg. hangar radiomisure	-	-	-	-	-	-
69	Completamento TWR Parma	-	-	-	-	-	-
70	Ristrutturazione Ronchi	-	-	-	-	-	-
71	Alimentazione Sede Centrale	-	-	-	-	-	-
72	Infrastruttura ACC Padova	-	-	-	-	-	-
73	Infrastrutture CA Perugia	-	-	-	-	-	-
74	Ristrutturazione CED SIG	-	-	-	-	-	-
75	Adeguamento CE ACC Milano	-	-	-	-	-	-

INVESTMENTS PER MAIN PROJECT Italy - ENAV

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	4Flight	6.20	17.77	21.42	16.21	14.65	76.25
2	COFLIGHT	4.73	11.43	9.05	9.91	6.01	41.13
3	Datalink 2000+ implementation (phase 2)	6.13	7.33	4.48	6.42	1.37	25.74
4	Deconflicting Tools	0.08	2.41	2.20	2.18	4.58	11.46
5	ENET	4.99	3.16	2.34	1.10	0.83	12.43
6	Ground-ground and air-ground phone comm. Adapt. to VoIP	5.46	0.84	0.24	0.07	1.72	8.33
7	New TWR system architecture	0.19	0.41	0.69	3.16	2.01	6.46
8	TBT 8.33 KH completion below FL195	0.12	1.73	0.24	1.72	0.36	4.18
9	New SMR and new data fusion system at Milano Linate	0.06	0.39	1.01	0.31	0.59	2.35
10	BT Genova	-	0.29	1.02	2.57	0.41	4.30
11	Oracle license upgrade	-	1.97	0.04	0.84	0.52	3.37
12	ENET Completion	0.03	0.06	0.47	0.98	3.62	5.16
13	AIDA	1.12	0.60	0.35	-	0.20	2.27
14	Free Route	-	1.19	0.17	0.87	0.44	2.68
15	ASMGCS Level 2	0.15	0.08	0.40	0.67	1.48	2.79
16	Allestimento TWR/BT Treviso	0.77	0.78	0.23	0.82	1.37	3.97
17	NOAS (New Operational Area System)	0.11	0.89	-	-	-	1.00
18	New SMR at Milano Malpensa	-	0.07	1.28	0.12	0.01	1.48
19	New SMR at Roma Fiumicino	-	0.00	0.06	1.19	0.11	1.36
20	Mode S Radar Plan	1.81	0.63	0.25	0.15	0.09	2.94
21	A-CDM	0.62	0.22	0.21	0.23	0.23	1.51
22	Radioassistenze APT	-	-	-	0.65	1.13	1.78
23	Nuovi sistemi di supervisione	-	0.04	0.02	0.51	-	0.57
24	ADS-B completion	0.07	0.17	0.19	0.10	0.25	0.78
25	Accesso WEB alle informazioni aeronautiche (Self Briefing)	1.42	0.21	-	0.01	0.04	1.68
26	Nuove dotazioni informatiche utente	-	0.12	0.10	0.23	0.40	0.86
27	Consolidamenti APP/ACC	-	-	-	0.45	1.32	1.77
28	Sistema di configurazione logistica	-	-	0.06	0.39	1.48	1.93
29	Automated ENV data interchange	-	-	0.07	0.33	0.11	0.51
30	ADQ	0.92	0.31	0.04	0.04	0.14	1.45
31	Revisione Radar ERR	-	-	0.03	0.35	0.57	0.96
32	Radioassistenze Rotta	-	-	-	0.33	2.16	2.50
33	Prodotti publishing	-	-	-	0.32	0.13	0.45
34	Software analisi safety	-	0.21	0.05	-	-	0.26
35	eTOD	0.65	0.22	-	-	-	0.87
36	Remote tower	-	-	-	0.20	0.29	0.49
37	OOCC TWR Rimini	-	0.09	0.01	0.03	0.07	0.19
38	Evoluzione rete ENET	-	-	-	0.11	0.38	0.50
39	Applicazioni SIO	-	-	-	0.11	0.21	0.32
40	Interventi di adeguamento ed ottimizzazione energetica edifici	-	-	0.03	0.08	0.24	0.35
41	Adeguamenti TBT 8,33 KHz	-	-	-	0.09	0.71	0.81
42	Multilateration System (Venezia)	0.23	-	0.01	-	0.04	0.27
43	Nuova Sala apparati TWR Linate	-	0.03	0.02	0.01	0.01	0.06
44	AMHS	0.38	0.00	0.05	-	0.02	0.45
45	Completamenti Data Link	-	-	-	0.04	2.43	2.48
46	Mezzi mobili di controllo Navaids	-	-	0.03	0.00	0.23	0.27
47	Adeguamento infrastrutturale ACC Linate	-	-	0.00	0.02	0.03	0.05
48	ENET 2 site preparation	-	-	-	0.02	-	0.02
49	TWR e BT Pantelleria	-	-	-	0.01	0.08	0.10
50	Ammodernamento AWOS	-	-	-	0.00	0.01	0.01
51	Nuovo ACC Milano	-	-	-	0.00	0.00	0.01
52	Ristrutturazione Garage SDC	-	-	-	0.00	0.02	0.03
53	Traffic complexity tool	-	-	-	0.00	0.02	0.02
54	Airport Safety Nets/A-SMGCS Integration	-	-	-	-	-	-
55	DMAN	-	-	-	-	-	-
56	P-RNAV navigation support tools	-	-	-	-	-	-
57	PENS	-	-	-	-	-	-
58	Automatic Flight Planning	0.02		-	-	-	0.02
59	OLDI Migration from X.25 to IP	-	-	-	-	-	-

INVESTMENTS PER MAIN PROJECT Italy - ENAV

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
60	Man. evolutiva sw Technosky	-	-	-	-	5.06	5.06
61	Nuovi Sistemi Supervisione	-	-	-	-	0.86	0.86
62	VCS APT VOIP	-	-	-	-	0.73	0.73
63	Migrazione VoIP fonia	-	-	-	-	0.73	0.73
64	Nuovo SMR Torino	-	-	-	-	0.40	0.40
65	Impianto trigenerazione	-	-	-	-	0.19	0.19
66	Gestione certificazioni	-	-	-	-	0.12	0.12
67	Sistema monitoraggio GNSS	-	-	-	-	0.04	0.04
68	Adeg. hangar radiomisure	-	-	-	-	0.04	0.04
69	Completamento TWR Parma	-	-	-	-	0.04	0.04
70	Ristrutturazione Ronchi	-	-	-	-	0.03	0.03
71	Alimentazione Sede Centrale	-	-	-	-	0.02	0.02
72	Infrastruttura ACC Padova	-	-	-	-	0.02	0.02
73	Infrastrutture CA Perugia	-	-	-	-	0.02	0.02
74	Ristrutturazione CED SIG	-	-	-	-	0.00	0.00
75	Adeguamento CE ACC Milano	-	-	-	-	0.00	0.00

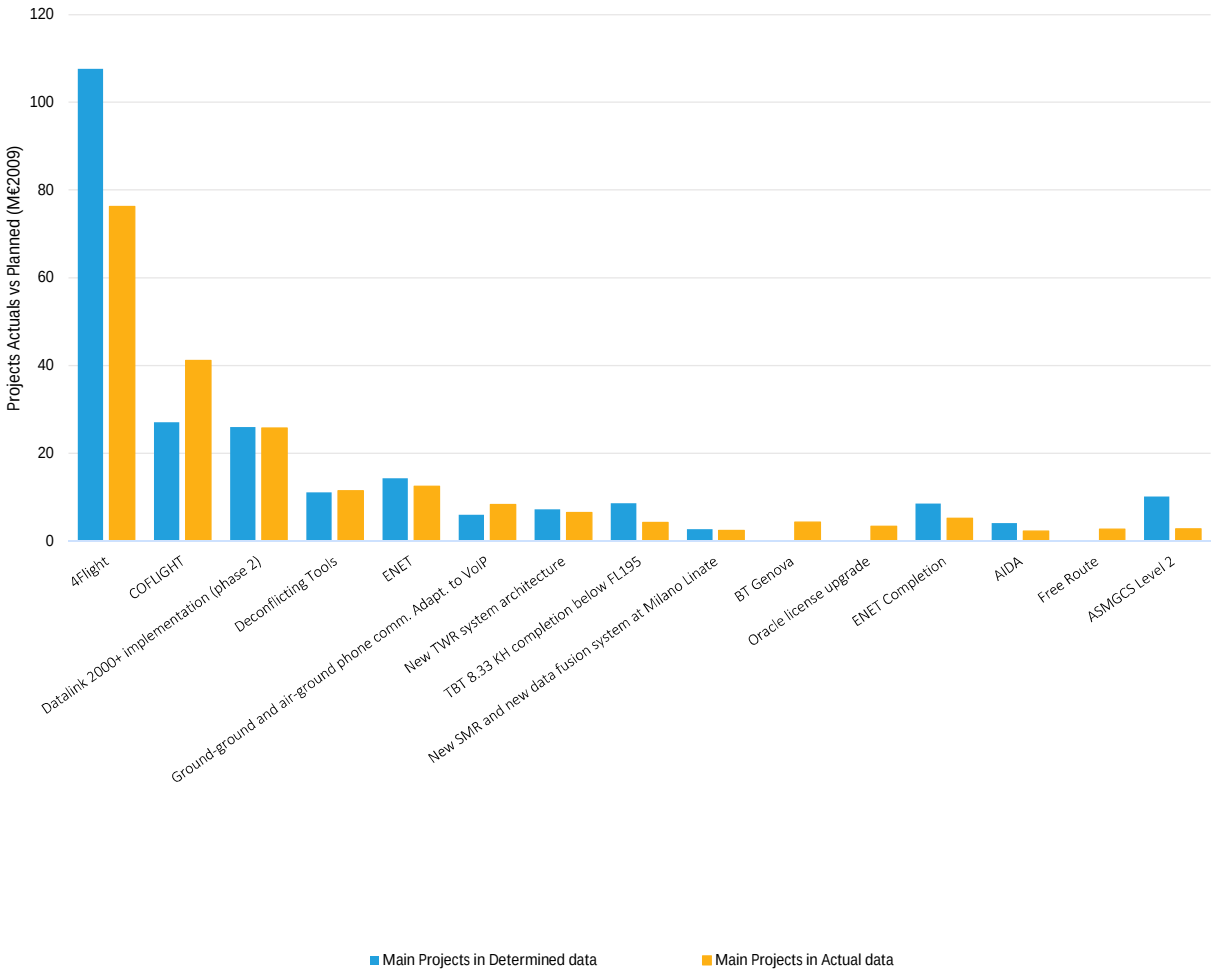
INVESTMENTS PER MAIN PROJECT Italy - ENAV

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	4Flight	3.49	(0.20)	(19.58)	(12.06)	(3.03)	(31.38)
2	COFLIGHT	1.14	3.23	2.05	2.38	5.25	14.05
3	Datalink 2000+ implementation (phase 2)	(5.37)	(7.11)	4.47	6.42	1.37	(0.21)
4	Deconflicting Tools	(5.12)	(2.13)	0.88	2.18	4.58	0.40
5	ENET	0.80	(4.08)	0.86	0.46	0.13	(1.84)
6	Ground-ground and air-ground phone comm. Adapt. to VoIP	4.85	(0.37)	(1.16)	(1.13)	0.21	2.40
7	New TWR system architecture	(1.63)	(0.48)	(1.01)	1.38	0.96	(0.78)
8	TBT 8.33 KH completion below FL195	(0.67)	0.51	(1.48)	(0.19)	(2.58)	(4.42)
9	New SMR and new data fusion system at Milano Linate	(1.20)	(0.64)	0.60	0.31	0.59	(0.34)
10	BT Genova	-	0.29	1.02	2.57	0.41	4.30
11	Oracle license upgrade	-	1.97	0.04	0.84	0.52	3.37
12	ENET Completion	(0.02)	(1.45)	(2.74)	(1.53)	2.40	(3.33)
13	AIDA	(0.14)	(1.01)	(0.62)	(0.26)	0.20	(1.83)
14	Free Route	-	1.19	0.17	0.87	0.44	2.68
15	ASMGCS Level 2	(0.59)	(1.88)	(2.10)	(2.16)	(0.59)	(7.31)
16	Allestimento TWR/BT Treviso	0.77	0.78	0.23	0.82	1.37	3.97
17	NOAS (New Operational Area System)	(0.37)	0.41	(0.24)	(0.05)	-	(0.24)
18	New SMR at Milano Malpensa	(0.10)	(0.65)	0.59	(0.24)	(0.14)	(0.54)
19	New SMR at Roma Fiumicino	(0.19)	(0.72)	(0.74)	0.06	(0.99)	(2.57)
20	Mode S Radar Plan	1.39	0.00	(0.36)	(0.81)	(1.34)	(1.12)
21	A-CDM	0.22	0.20	0.21	0.23	0.23	1.10
22	Radioassistenze APT	-	-	-	0.65	1.13	1.78
23	Nuovi sistemi di supervisione	-	0.04	0.02	0.51	-	0.57
24	ADS-B completion	(0.05)	(0.30)	(0.22)	(0.14)	0.16	(0.54)
25	Accesso WEB alle informazioni aeronautiche (Self Briefing)	0.69	(0.44)	(0.07)	(0.01)	0.04	0.21
26	Nuove dotazioni informatiche utente	-	0.12	0.10	0.23	0.40	0.86
27	Consolidamenti APP/ACC	-	-	-	0.45	1.32	1.77
28	Sistema di configurazione logistica	-	-	0.06	0.39	1.48	1.93
29	Automated ENV data interchange	-	-	0.07	0.33	0.11	0.51
30	ADQ	0.56	(0.01)	(0.10)	0.04	0.14	0.63
31	Revisione Radar ERR	-	-	0.03	0.35	0.57	0.96
32	Radioassistenze Rotta	-	-	-	0.33	2.16	2.50
33	Prodotti publishing	-	-	-	0.32	0.13	0.45
34	Software analisi safety	-	0.21	0.05	-	-	0.26
35	eTOD	0.01	(0.28)	(0.28)	(0.07)	-	(0.62)
36	Remote tower	-	-	-	0.20	0.29	0.49
37	OOCC TWR Rimini	-	0.09	0.01	0.03	0.07	0.19
38	Evoluzione rete ENET	-	-	-	0.11	0.38	0.50
39	Applicazioni SIO	-	-	-	0.11	0.21	0.32
40	Interventi di adeguamento ed ottimizzazione energetica edifici	-	-	0.03	0.08	0.24	0.35
41	Adeguamenti TBT 8,33 KHz	-	-	-	0.09	0.71	0.81
42	Multilateration System (Venezia)	0.15	(0.43)	(0.40)	(0.19)	(0.06)	(0.92)
43	Nuova Sala apparati TWR Linate	-	0.03	0.02	0.01	0.01	0.06
44	AMHS	0.38	0.00	0.05	-	0.02	0.45
45	Completamenti Data Link	-	-	-	0.04	2.43	2.48
46	Mezzi mobili di controllo Navaids	-	-	0.03	0.00	0.23	0.27
47	Adeguamento infrastrutturale ACC Linate	-	-	0.00	0.02	0.03	0.05
48	ENET 2 site preparation	-	-	-	0.02	-	0.02
49	TWR e BT Pantelleria	-	-	-	0.01	0.08	0.10
50	Ammodernamento AWOS	-	-	-	0.00	0.01	0.01
51	Nuovo ACC Milano	-	-	-	0.00	0.00	0.01
52	Ristrutturazione Garage SDC	-	-	-	0.00	0.02	0.03
53	Traffic complexity tool	-	-	-	0.00	0.02	0.02
54	Airport Safety Nets/A-SMGCS Integration	-	-	-	(1.22)	(1.79)	(3.01)
55	DMAN	-	-	(0.09)	(1.07)	(1.85)	(3.01)
56	P-RNAV navigation support tools	(0.36)	(0.55)	(0.27)	-	-	(1.18)
57	PENS	-	-	-	-	-	-
58	Automatic Flight Planning	0.02	-	-	-	-	0.02
59	OLDI Migration from X.25 to IP	-	-	-	-	-	-

INVESTMENTS PER MAIN PROJECT Italy - ENAV

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
60	Man. evolutiva sw Technosky	-	-	-	-	5.06	5.06
61	Nuovi Sistemi Supervisione	-	-	-	-	0.86	0.86
62	VCS APT VOIP	-	-	-	-	0.73	0.73
63	Migrazione VoIP fonia	-	-	-	-	0.73	0.73
64	Nuovo SMR Torino	-	-	-	-	0.40	0.40
65	Impianto trigenerazione	-	-	-	-	0.19	0.19
66	Gestione certificazioni	-	-	-	-	0.12	0.12
67	Sistema monitoraggio GNSS	-	-	-	-	0.04	0.04
68	Adeg. hangar radiomisure	-	-	-	-	0.04	0.04
69	Completamento TWR Parma	-	-	-	-	0.04	0.04
70	Ristrutturazione Ronchi	-	-	-	-	0.03	0.03
71	Alimentazione Sede Centrale	-	-	-	-	0.02	0.02
72	Infrastruttura ACC Padova	-	-	-	-	0.02	0.02
73	Infrastrutture CA Perugia	-	-	-	-	0.02	0.02
74	Ristrutturazione CED SIG	-	-	-	-	0.00	0.00
75	Adeguamento CE ACC Milano	-	-	-	-	0.00	0.00

INVESTMENTS PER MAIN PROJECT Italy - ENAV



For RP2, the major project "4flight" received 31.38M€$_{2009}$ less than originally determined in the performance plan. The project "COFLIGHT" received 14.05M€$_{2009}$ more than originally determined, while "Datalink 2000+ implementation(phase 2)" received the amount that was originally determined.

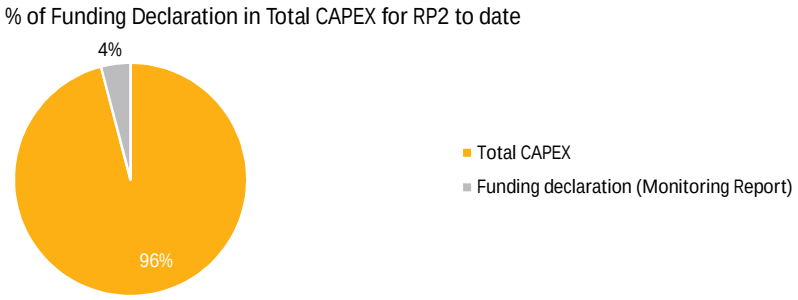
The unplanned CAPEX for Italy amounts to 39.90M€$_{2009}$ (or 8% of total CAPEX) over RP2, distributed over 40 different projects.

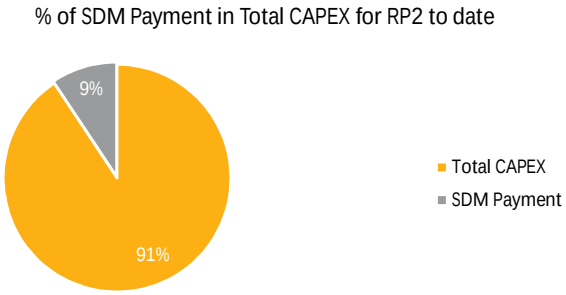
Note that the graph above presents only 15 projects with the most significant actual investments.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Italy - ENAV

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	-	9.83	10.42	-	-	20.24

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	9.83	10.42	-	-	20.24
SDM Payment	7.18	2.47	19.88	-	16.73	46.25





Italy received funding for several projects during RP2. However, with the information provided, the funds received could not be linked to specific projects.

The total amount of EU funding declared by Italy for RP2 amounts to 20.24M€$_{2009}$, which represents 5% of the actual total CAPEX.
The total SDM payments amount to 46.25M€$_{2009}$, which is more than the funding declaration and cover 10% of the actual total CAPEX invested during RP2.

Italy received 107.76M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "ENAV 4-Flight Deployment in Italy - Third Stage 2017-2018" (16.75M€), "ENAV implementation of Free Route" (14.35M€) and "4-Flight deployment in Italy 2016-2017" (13.58M€). These projects correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Italy - ENAV

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	4Flight	Unknown	Unknown	x	x	x	x	x	x
2	COFLIGHT	Unknown	Unknown	x	x	x	x	x	
3	Datalink 2000+ implementation (phase 2)	Unknown	Unknown	x			x	x	
4	Deconflicting Tools	Unknown	Unknown	x		x		x	
5	ENET	Unknown	Unknown			x	x	x	
6	Ground-ground and air-ground phone communication adaptation to VoIP	Unknown	Unknown	x			x		
7	New TWR system architecture	Unknown	Unknown	x			x	x	
8	TBT 8.33 KH completion below FL195	Unknown	Unknown			x			
9	New SMR and new data fusion system at Milano Linate	Unknown	Unknown	x	x	x			
10	BT Genova	Unknown	Unknown						
11	Oracle license upgrade	Unknown	Unknown						
12	ENET Completion	Unknown	Unknown			x	x	x	
13	AIDA	Unknown	Unknown	x	x				
14	Free Route	Unknown	Unknown						x
15	ASMGCS Level 2	Unknown	Unknown	x		x			
16	Allestimento TWR/BT Treviso	Unknown	Unknown						
17	NOAS (New Operational Area System)	Unknown	Unknown	x					
18	New SMR at Milano Malpensa	Unknown	Unknown	x	x	x		x	
19	New SMR at Roma Fiumicino	Unknown	Unknown	x	x	x		x	
20	Mode S Radar Plan	Unknown	Unknown	x		x			
21	A-CDM	Unknown	Unknown		x	x		x	
22	Radioassistenze APT	Unknown	Unknown						
23	Nuovi sistemi di supervisione	Unknown	Unknown						
24	ADS-B completion	Unknown	Unknown	x		x			x
25	Accesso WEB alle informazioni aeronautiche (Self Briefing)	Unknown	Unknown	x			x	x	
26	Nuove dotazioni informatiche utente	Unknown	Unknown						
27	Consolidamenti APP/ACC	Unknown	Unknown						
28	Sistema di configurazione logistica	Unknown	Unknown						
29	Automated ENV data interchange	Unknown	Unknown						
30	ADQ	Unknown	Unknown	x				x	
31	Revisione Radar ERR	Unknown	Unknown						
32	Radioassistenze Rotta	Unknown	Unknown						
33	Prodotti publishing	Unknown	Unknown						
34	Software analisi safety	Unknown	Unknown						
35	eTOD	Unknown	Unknown	x					
36	Remote tower	Unknown	Unknown						
37	OOCC TWR Rimini	Unknown	Unknown						
38	Evoluzione rete ENET	Unknown	Unknown						
39	Applicazioni SIO	Unknown	Unknown						
40	Interventi di adeguamento ed ottimizzazione energetica edifici	Unknown	Unknown						
41	Adeguamenti TBT 8,33 KHz	Unknown	Unknown						
42	Multilateration System (Venezia)	Unknown	Unknown	x	x	x		x	
43	Nuova Sala apparati TWR Linate	Unknown	Unknown						
44	AMHS	Unknown	Unknown	x			x		
45	Completamenti Data Link	Unknown	Unknown						
46	Mezzi mobili di controllo Navaids	Unknown	Unknown						
47	Adeguamento infrastrutturale ACC Linate	Unknown	Unknown						
48	ENET 2 site preparation	Unknown	Unknown						
49	TWR e BT Pantelleria	Unknown	Unknown						
50	Ammodernamento AWOS	Unknown	Unknown						
51	Nuovo ACC Milano	Unknown	Unknown						
52	Ristrutturazione Garage SDC	Unknown	Unknown						
53	Traffic complexity tool	Unknown	Unknown						
54	Airport Safety Nets/A-SMGCS Integration	Unknown	Unknown	x	x	x	x	x	
55	DMAN	Unknown	Unknown	x	x	x	x	x	
56	P-RNAV navigation support tools	Unknown	Unknown	x	x				
57	PENS	Unknown	Unknown			x	x	x	
58	Automatic Flight Planning	Unknown	Unknown						
59	OLDI Migration from X.25 to IP	Unknown	Unknown						

EXPECTED BENEFIT PER PROJECT Italy - ENAV

#	Main Projects	Status in 2019	FOC date*	I benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
60	Man. evolutiva sw Technosky	Unknown	Unknown						
61	Nuovi Sistemi Supervisione	Unknown	Unknown						
62	VCS APT VOIP	Unknown	Unknown						
63	Migrazione VoIP fonia	Unknown	Unknown						
64	Nuovo SMR Torino	Unknown	Unknown						
65	Impianto trigenerazione	Unknown	Unknown						
66	Gestione certificazioni	Unknown	Unknown						
67	Sistema monitoraggio GNSS	Unknown	Unknown						
68	Adeg. hangar radiomisure	Unknown	Unknown						
69	Completamento TWR Parma	Unknown	Unknown						
70	Ristrutturazione Ronchi	Unknown	Unknown						
71	Alimentazione Sede Centrale	Unknown	Unknown						
72	Infrastruttura ACC Padova	Unknown	Unknown						
73	Infrastrutture CA Perugia	Unknown	Unknown						
74	Ristrutturazione CED SIG	Unknown	Unknown						
75	Adeguamento CE ACC Milano	Unknown	Unknown						

Italy originally included 29 investments in the RP2 performance plan. However, monitoring report data submitted by Italy shows a total of 75 projects over the period, 46 of these being marked as "unplanned investments" and added over the years.

The FOC data is unknown for every project, therefore an accurate analysis on the status of the projects and their expected completion is not possible. Projects with data available are expected to have a positive impact on “safety”, however, most of the information regarding other performance areas is missing.

The actual investment in RP2 for the 16 projects linked to the Pilot Common Project amounts to 186.37M€$_{2009}$. This amount represents 50% of the actual total CAPEX. Three projects were included in the Network Operations Plan.

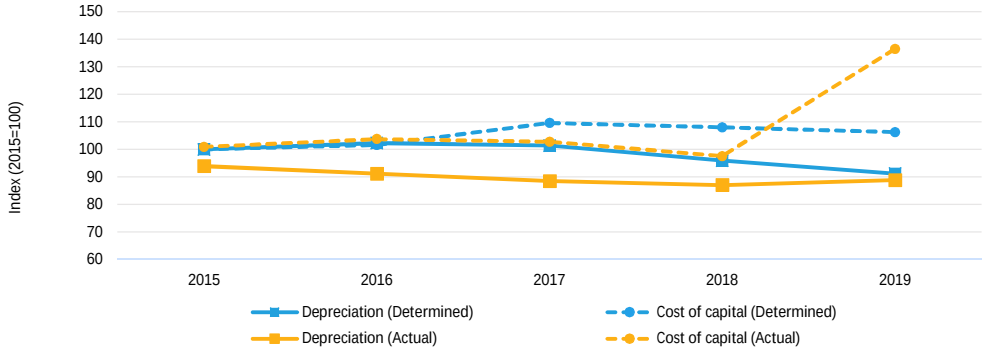
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Italy - ENAV

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**114.75**	**117.34**	**116.33**	**109.99**	**104.63**	**563.02**
- En route	95.61	98.15	97.42	90.96	85.57	467.71
- Terminal	19.13	19.19	18.91	19.03	19.05	95.31
Cost of Capital	**53.79**	**54.62**	**58.93**	**58.06**	**57.15**	**282.55**
- En route	45.48	44.99	48.76	48.04	47.29	234.56
- Terminal	8.30	9.63	10.17	10.02	9.86	47.99
Total	**168.53**	**171.96**	**175.26**	**168.05**	**161.77**	**845.57**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**107.74**	**104.52**	**101.54**	**99.83**	**101.90**	**515.53**
- En route	89.27	86.74	84.43	83.70	83.47	427.60
- Terminal	18.47	17.78	17.12	16.13	18.43	87.93
Cost of Capital	**54.29**	**55.79**	**55.24**	**52.47**	**73.42**	**291.21**
- En route	45.91	45.95	43.69	42.23	59.56	237.35
- Terminal	8.38	9.84	11.55	10.24	13.86	53.87
Total	**162.03**	**160.32**	**156.78**	**152.30**	**175.32**	**806.74**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(7.01)**	**(12.82)**	**(14.78)**	**(10.15)**	**(2.73)**	**(47.50)**
- En route	(6.34)	(11.41)	(12.99)	(7.26)	(2.10)	(40.11)
- Terminal	(0.66)	(1.40)	(1.79)	(2.90)	(0.63)	(7.39)
Cost of Capital	**0.50**	**1.17**	**(3.69)**	**(5.59)**	**16.27**	**8.66**
- En route	0.42	0.96	(5.07)	(5.81)	12.27	2.78
- Terminal	0.08	0.21	1.38	0.22	4.00	5.88
Total	**(6.51)**	**(11.65)**	**(18.47)**	**(15.74)**	**13.54**	**(38.83)**



Over RP2, 22% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 38.83M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 47.50M€$_{2009}$. This was due to the negative evolution of traffic (reduction in service units), which forced the rationalisation of the spending pattern. Italy requested and obtained a reduction in costs of supplies and equipment for air traffic control. This cost reduction had a ripple effect throughout RP2 leading to a substantial decrease in the depreciation. Furthermore, changes in management structure in 2015 caused delays in project implementation, resulting in a lower depreciation.

Throughout RP2, the actual cost of capital was 8.66M€$_{2009}$ higher than determined. This was due to a significant increase in 2019. It is due to a different way of computation for the WACC (Weighted Average Cost of Capital) in 2019, where the RoE is not representative of real financial position.

4.2.4 Malta - MATS

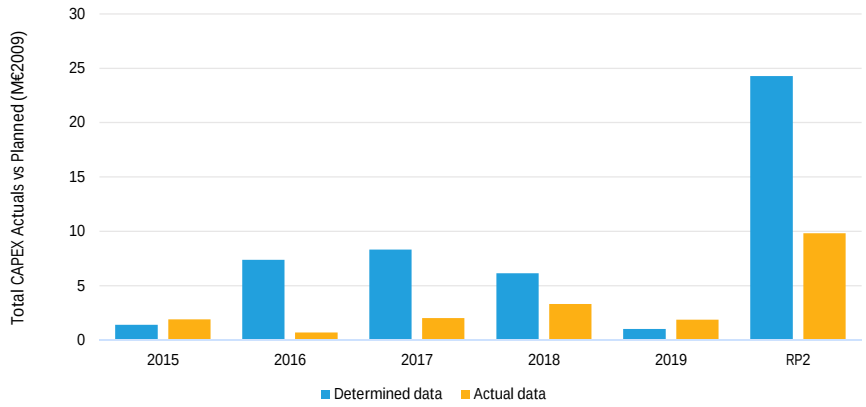
Over RP2, Malta underspent 14M€$_{2009}$ (-60%) with respect to the performance plan, mostly related to the new control tower. As a result of the under-investment, Malta overcharged +4M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Malta planned 48 main projects for RP2: 34 projects have been completed, representing 10.89M€$_{2009}$; one has been delayed from 2019 to 2024, representing 0.13M€2$_{009}$; one has started and is expected to be completed in 2020, representing 2.34M€$_{2009,}$ and one being delayed till 2024. Despite being included in the performance plan, 12 projects were planned to not receive any amount and this has indeed been the case.

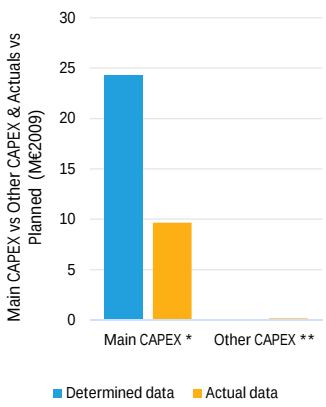
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**1.41**	**7.38**	**8.33**	**6.14**	**1.03**	**24.29**
- Main CAPEX *	1.41	7.38	8.33	6.14	1.03	24.29
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX **	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**1.90**	**0.70**	**2.03**	**3.33**	**1.87**	**9.84**
- Main CAPEX	1.73	0.70	2.03	3.33	1.87	9.66
- *% Main into Total CAPEX*	*91%*	*100%*	*100%*	*100%*	*100%*	*98%*
- Other CAPEX	0.17	-	-	-	-	0.17
- *% Other into Total CAPEX*	*9%*	*0%*	*0%*	*0%*	*0%*	*2%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**0.49**	**(6.68)**	**(6.29)**	**(2.82)**	**0.84**	**(14.46)**
- Main CAPEX	0.32	(6.68)	(6.29)	(2.82)	0.84	(14.63)
- Other CAPEX	0.17	-	-	-	-	0.17
Total CAPEX (%)	***35%***	***-90%***	***-76%***	***-46%***	***82%***	***-60%***
- *Main CAPEX (%)*	*22%*	*-90%*	*-76%*	*-46%*	*82%*	*-60%*
- *Other CAPEX (%)*	-	-	-	-	-	-





The total actual capital expenditure for RP2 is 9.84M€$_{2009}$. For RP2, Malta spent 14.46M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 60% lower than determined; other CAPEX is 0.17M€$_{2009}$ higher, as no other CAPEX was originally determined.

In 2015, Malta spent 0.49M€$_{2009}$ more than determined. For 2016, 2017 and 2018 , Malta underspent 6.68M€$_{2009}$, 6.29M€$_{2009}$ and 2.82M€$_{2009,}$ respectively. In 2019, Malta overspend 0.84M€$_{2009}$ than originally determined.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Malta - MATS

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	Enroute PSR + WCL	-	0.88	1.73	-	-	2.60
2	Integrated datalink system	-	-	-	-	-	-
3	MNET	0.09	0.18	0.09	-	-	0.35
4	Redesign of Tower backup power system	0.22	0.22	-	-	-	0.44
5	IT Hardware & Software Upgrades	0.11	0.06	-	0.03	0.03	0.24
6	AMHS	-	0.26	-	-	-	0.26
7	NCSS - Ground Movement	0.09	0.09	0.09	-	-	0.26
8	DME	0.18	-	-	-	-	0.18
9	Backup VCS	-	-	-	0.21	-	0.21
10	Microwave Comms link	0.09	-	-	-	-	0.09
11	New Control Tower / ACC	-	5.27	5.18	5.09	-	15.53
12	PCs - new and replacement	0.02	-	-	-	0.01	0.03
13	ADS-B	0.04	-	0.43	0.21	-	0.69
14	Radar Simulator	0.13	-	-	-	0.58	0.72
15	TAR MSSR antenna	0.09	-	-	-	-	0.09
16	A/C ops room / equip room	0.06	0.04	-	-	-	0.11
17	PBN Tool	0.04	0.01	0.01	0.01	0.01	0.08
18	Replacement of vehicles	0.02	0.20	0.02	0.05	0.02	0.30
19	FPL2012 Translator	0.04	-	-	-	-	0.04
20	Dual DER UPS	-	0.02	-	-	-	0.02
21	New PABX	0.04	-	-	-	-	0.04
22	AFTN / Server room Airconditioning	-	0.04	-	-	-	0.04
23	Remote system monitoring	-	-	0.04	-	-	0.04
24	Integrated security system	-	-	-	0.03	-	0.03
25	Radar Performance Tools	0.03	-	-	-	-	0.03
26	DER - UPS room airconditioning	0.01	-	-	-	-	0.01
27	OLDI recording	0.01	-	-	-	-	0.01
28	Automatic Safety Monitoring Tool (ASMT)	-	-	-	-	-	-
29	CPDLC	-	-	-	0.34	-	0.34
30	DER dual genset	-	-	-	0.08	-	0.08
31	Dual TAR UPS	-	-	-	-	-	-
32	Electronic logging software	-	-	-	-	-	-
33	FMTP	-	0.06	-	-	-	0.06
34	Garage and storage	-	-	-	-	0.13	0.13
35	ICT office efficiency software	-	-	-	-	-	-
36	ICT remote services	-	-	-	-	-	-
37	Installation of PV panels	-	-	-	-	0.25	0.25
38	New Tx/Rx	0.07	-	0.09	0.08	-	0.24
39	Project Management software	-	-	-	-	-	-
40	Safety Software Tools	0.01	0.01	0.02	-	-	0.04
41	SBS UPS	-	0.04	-	-	-	0.04
42	VOR & DME	-	-	0.65	-	-	0.65
43	Team software	-	-	-	-	-	-
44	Test equipment	-	-	-	-	-	-
45	TAR - Second generator	-	-	-	-	-	-
46	TAR - new Airconditioning system	-	-	-	-	-	-
47	Tower Simulator	-	-	-	-	-	-
48	New Functions ATM	-	-	-	-	-	-

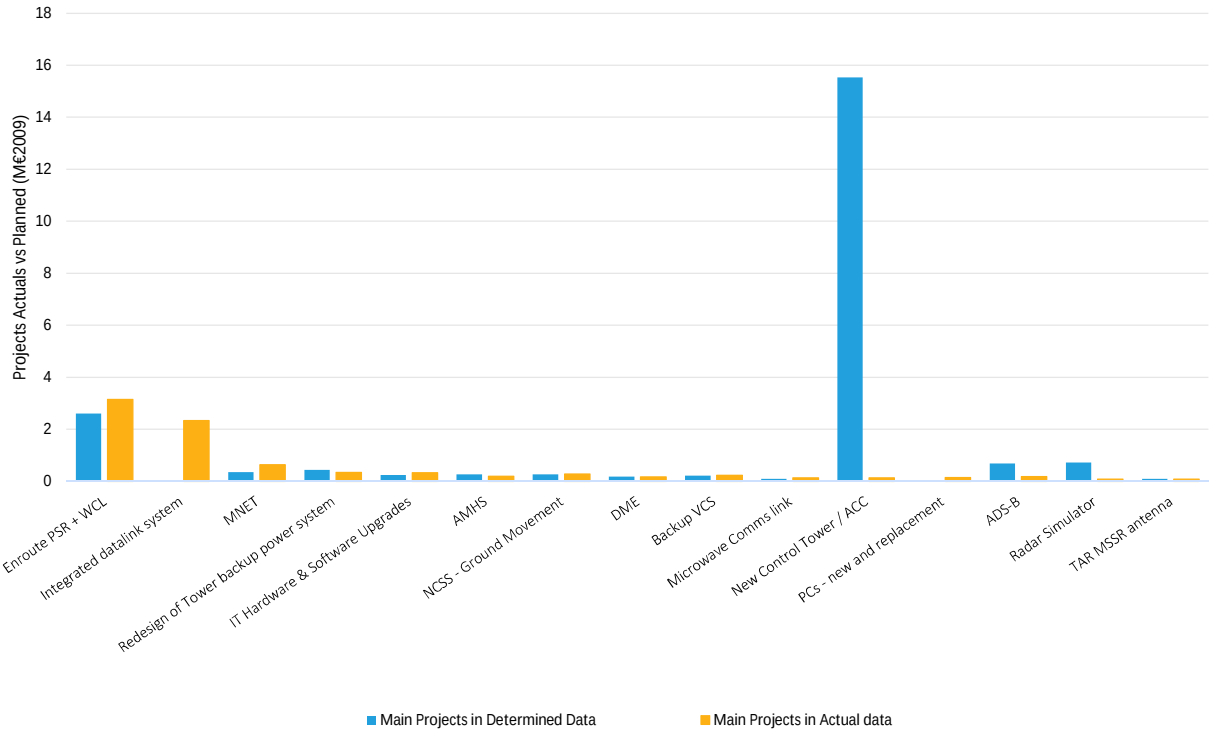
INVESTMENTS PER MAIN PROJECT Malta - MATS

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	Enroute PSR + WCL	0.86	0.15	1.39	0.26	0.48	3.14
2	Integrated datalink system	-	-	-	2.34	-	2.34
3	MNET	0.06	0.29	0.12	0.06	0.10	0.63
4	Redesign of Tower backup power system	0.07	0.08	0.11	-	0.07	0.33
5	IT Hardware & Software Upgrades	0.08	-	0.05	0.07	0.13	0.32
6	AMHS	-	-	-	0.19	-	0.19
7	NCSS - Ground Movement	0.09	-	0.04	0.05	0.10	0.28
8	DME	0.16	0.00	-	-	-	0.17
9	Backup VCS	-	-	0.04	0.10	0.08	0.23
10	Microwave Comms link	0.07	0.06	-	-	-	0.13
11	New Control Tower / ACC	-	-	0.02	0.10	0.01	0.13
12	PCs - new and replacement	0.03	0.04	0.02	0.02	0.04	0.15
13	ADS-B	-	-	0.09	-	0.09	0.18
14	Radar Simulator	-	-	0.08	-	-	0.08
15	TAR MSSR antenna	0.08	-	-	-	-	0.08
16	A/C ops room / equip room	0.06	0.02	-	-	-	0.08
17	PBN Tool	0.04	0.01	-	0.02	0.02	0.08
18	Replacement of vehicles	0.04	0.02	0.01	-	0.01	0.07
19	FPL2012 Translator	0.02	0.04	-	-	-	0.06
20	Dual DER UPS	-	-	0.05	-	-	0.05
21	New PABX	0.04	-	-	-	-	0.04
22	AFTN / Server room Airconditioning	-	-	-	0.04	-	0.04
23	Remote system monitoring	-	-	-	0.04	-	0.04
24	Integrated security system	-	-	-	0.03	-	0.03
25	Radar Performance Tools	0.02	-	-	-	-	0.02
26	DER - UPS room airconditioning	0.01	-	-	-	-	0.01
27	OLDI recording	0.01	-	-	-	-	0.01
28	Automatic Safety Monitoring Tool (ASMT)	-	-	-	-	-	-
29	CPDLC	-	-	-	-	0.33	0.33
30	DER dual genset	-	-	-	-	-	-
31	Dual TAR UPS	-	-	-	-	-	-
32	Electronic logging software	-	-	-	-	-	-
33	FMTP	-	-	-	-	0.04	0.04
34	Garage and storage	-	-	-	-	-	-
35	ICT office efficiency software	-	-	-	-	-	-
36	ICT remote services	-	-	-	-	-	-
37	Installation of PV panels	-	-	-	-	-	-
38	New Tx/Rx	-	-	-	-	0.25	0.25
39	Project Management software	-	-	-	-	-	-
40	Safety Software Tools	-	-	-	-	-	-
41	SBS UPS	-	-	-	-	0.14	0.14
42	VOR & DME	-	-	-	-	-	-
43	Team software	-	-	-	-	-	-
44	Test equipment	-	-	-	-	-	-
45	TAR - Second generator	-	-	-	-	-	-
46	TAR - new Airconditioning system	-	-	-	-	-	-
47	Tower Simulator	-	-	-	-	-	-
48	New Functions ATM	-	-	-	-	0.00	0.00

INVESTMENTS PER MAIN PROJECT Malta - MATS

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	Enroute PSR + WCL	0.86	(0.72)	(0.33)	0.26	0.48	0.54
2	Integrated datalink system	-	-	-	2.34	-	2.34
3	MNET	(0.03)	0.12	0.04	0.06	0.10	0.28
4	Redesign of Tower backup power system	(0.15)	(0.14)	0.11	-	0.07	(0.11)
5	IT Hardware & Software Upgrades	(0.03)	(0.06)	0.05	0.04	0.09	0.09
6	AMHS	-	(0.26)	-	0.19	-	(0.07)
7	NCSS - Ground Movement	(0.00)	(0.09)	(0.05)	0.05	0.10	0.01
8	DME	(0.01)	0.00	-	-	-	(0.01)
9	Backup VCS	-	-	0.04	(0.11)	0.08	0.01
10	Microwave Comms link	(0.02)	0.06	-	-	-	0.04
11	New Control Tower / ACC	-	(5.27)	(5.15)	(4.99)	0.01	(15.40)
12	PCs - new and replacement	0.01	0.04	0.02	0.02	0.03	0.12
13	ADS-B	(0.04)	-	(0.34)	(0.21)	0.09	(0.51)
14	Radar Simulator	(0.13)	-	0.08	-	(0.58)	(0.64)
15	TAR MSSR antenna	(0.01)	-	-	-	-	(0.01)
16	A/C ops room / equip room	(0.00)	(0.03)	-	-	-	(0.03)
17	PBN Tool	(0.01)	(0.00)	(0.01)	0.01	0.01	0.00
18	Replacement of vehicles	0.02	(0.19)	(0.01)	(0.05)	(0.01)	(0.23)
19	FPL2012 Translator	(0.03)	0.04	-	-	-	0.01
20	Dual DER UPS	-	(0.02)	0.05	-	-	0.03
21	New PABX	(0.00)	-	-	-	-	(0.00)
22	AFTN / Server room Airconditioning	-	(0.04)	-	0.04	-	(0.00)
23	Remote system monitoring	-	-	(0.04)	0.04	-	(0.00)
24	Integrated security system	-	-	-	0.00	-	0.00
25	Radar Performance Tools	(0.00)	-	-	-	-	(0.00)
26	DER - UPS room airconditioning	(0.00)	-	-	-	-	(0.00)
27	OLDI recording	(0.00)	-	-	-	-	(0.00)
28	Automatic Safety Monitoring Tool (ASMT)	-	-	-	-	-	-
29	CPDLC	-	-	-	(0.34)	0.33	(0.01)
30	DER dual genset	-	-	-	(0.08)	-	(0.08)
31	Dual TAR UPS	-	-	-	-	-	-
32	Electronic logging software	-	-	-	-	-	-
33	FMTP	-	(0.06)	-	-	0.04	(0.02)
34	Garage and storage	-	-	-	-	(0.13)	(0.13)
35	ICT office efficiency software	-	-	-	-	-	-
36	ICT remote services	-	-	-	-	-	-
37	Installation of PV panels	-	-	-	-	(0.25)	(0.25)
38	New Tx/Rx	(0.07)	-	(0.09)	(0.08)	0.25	0.00
39	Project Management software	-	-	-	-	-	-
40	Safety Software Tools	(0.01)	(0.01)	(0.02)	-	-	(0.04)
41	SBS UPS	-	(0.04)	-	-	0.14	0.10
42	VOR & DME	-	-	(0.65)	-	-	(0.65)
43	Team software	-	-	-	-	-	-
44	Test equipment	-	-	-	-	-	-
45	TAR - Second generator	-	-	-	-	-	-
46	TAR - new Airconditioning system	-	-	-	-	-	-
47	Tower Simulator	-	-	-	-	-	-
48	New Functions ATM	-	-	-	-	0.00	0.00

INVESTMENTS PER MAIN PROJECT Malta - MATS



In the performance plan, Malta planned 47 main projects, out of which 33 were planned to be started. However, actual data shows that investments were made in 31 projects, while 16 projects received no investments. Despite being included in the performance plan, 11 projects were not planned to receive and received no investments.

For RP2, the main project planned is "New Control Tower/ACC" with a budget of 15.53M€$_{2009}$ (66% of the total planned CAPEX RP2 to date). However, the actual investment is significantly low, adding up to only 0.13M€$_{2009}$ with significant changes in the start date.

The biggest project, with regard to actual investments is "Enroute PSR + WCL", with a total actual investment of 3.14M€$_{2009}$ (33% of the actual investments). The second major project in terms of actual CAPEX is the "Integrated datalink system", even if not originally included in the performance plan. The project received investments of 2.30M€$_{2009}$.

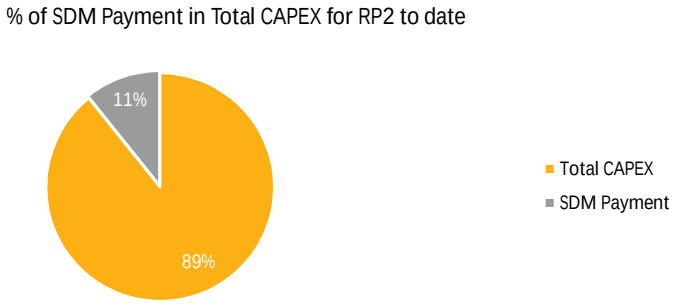
The unplanned CAPEX for Malta amounts to 2.34M€$_{2009}$ (or 24% of total CAPEX) over RP2, in 2018, distributed in the following existing project "Integrated datalink system".

Note that the graph above presents only 15 projects with the most significant actual investments.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Malta - MATS

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	-	-	-	-	-	-

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	-	-	-	-	-
SDM Payment	-	-	1.06	-	-	1.06



In the monitoring report submitted, Malta did not declare any funding received during RP2. However, the total SDM payments amount to 1.06M€$_{2009}$ in 2017, which cover 11% of the actual total CAPEX invested during RP2.

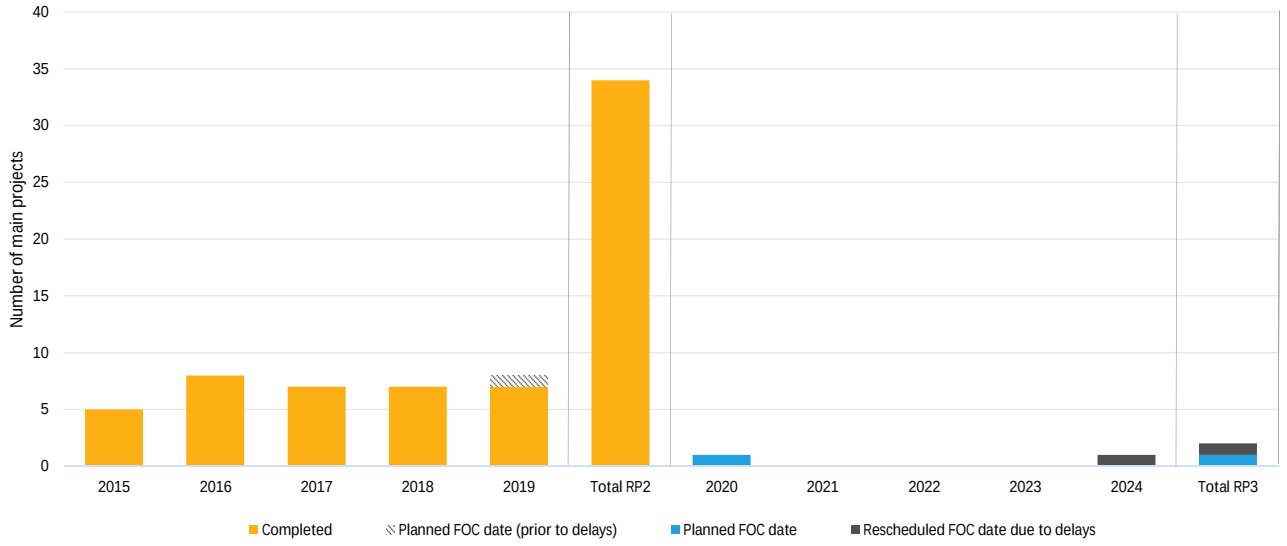
The mismatch between the monitoring report and SDM payments could be due to the difference in reporting periods.

Malta received 3.21M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The three projects which were awarded funds are "DLS Implementation Project - Path 1 "Ground" stakeholders (GND)" (2.82M€), "BLUEMED FAB IP Network deployment" (0.36M€) and "DLS Implementation Project - Path 2" (0.03M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Malta - MATS

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	Enroute PSR + WCL	Completed	2017	x					
2	Integrated datalink system	Ongoing	2020						
3	MNET	Completed	2017						
4	Redesign of Tower backup power system	Completed	2016	x			x		
5	IT Hardware & Software Upgrades	Completed	2019						
6	AMHS	Completed	2018	x			x		
7	NCSS - Ground Movement	Completed	2017	x		x			
8	DME	Completed	2015	x			x		
9	Backup VCS	Completed	2018	x			x		
10	Microwave Comms link	Completed	2016	x					
11	New Control Tower / ACC	Delayed	2024	x			x		
12	PCs - new and replacement	Completed	2019				x		
13	ADS-B	Completed	2018	x			x		
14	Radar Simulator	Completed	2019				x		
15	TAR MSSR antenna	Completed	2016	x					
16	A/C ops room / equip room	Completed	2016	x	x		x		
17	PBN Tool	Completed	2019			x	x		
18	Replacement of vehicles	Completed	2019	x			(-)x		
19	FPL2012 Translator	Completed	2015	x					
20	Dual DER UPS	Completed	2016	x			x		
21	New PABX	Completed	2015						
22	AFTN / Server room Airconditioning	Completed	2017				x		
23	Remote system monitoring	Completed	2017	x			x		
24	Integrated security system	Completed	2018	x			x		
25	Radar Performance Tools	Completed	2015	x			x		
26	DER - UPS room airconditioning	Completed	2016	x					
27	OLDI recording	Completed	2015	x			x		
28	Automatic Safety Monitoring Tool (ASMT)	Unknown	Unknown	x			x		
29	CPDLC	Completed	2018	x	x				
30	DER dual genset	Completed	2018	x			x		
31	Dual TAR UPS	Unknown	Unknown	x			x		
32	Electronic logging software	Unknown	Unknown				x		
33	FMTP	Completed	2016	x					
34	Garage and storage	Completed	2019				x		
35	ICT office efficiency software	Unknown	Unknown						
36	ICT remote services	Unknown	Unknown				x		
37	Installation of PV panels	Completed	2019		x		x		
38	New Tx/Rx	Completed	2018	x			x		
39	Project Management software	Unknown	Unknown				x		
40	Safety Software Tools	Completed	2017	x			x		
41	SBS UPS	Completed	2016	x			x		
42	VOR & DME	Completed	2017	x					
43	Team software	Unknown	Unknown						
44	Test equipment	Unknown	Unknown						
45	TAR - Second generator	Unknown	Unknown						
46	TAR - new Airconditioning system	Unknown	Unknown						
47	Tower Simulator	Unknown	Unknown				x		
48	New Functions ATM	Unknown	Unknown				x		

EXPECTED BENEFIT PER PROJECT Malta - MATS



Malta planned 48 main projects for RP2: 34 projects have been completed, representing 10.89M€$_{2009}$; one has been delayed from 2019 to 2024, representing 0.13M€$_{2009}$; one has started and is expected to be completed in 2020, representing 2.34M€$_{2009}$ and one being delayed with no FOC indicated, therefore 2024 was used as default. Despite being included in the performance plan, 12 projects were planned to not receive any amount and this has indeed been the case, with their FOC date not being indicated.
The majority of the projects are expected to improve safety (28 out of 47) and cost-efficiency (26 out of 47), while only a few projects are expected to improve environment and capacity.

No project is linked to the Pilot Common Project or included in the Network Operations Plan.

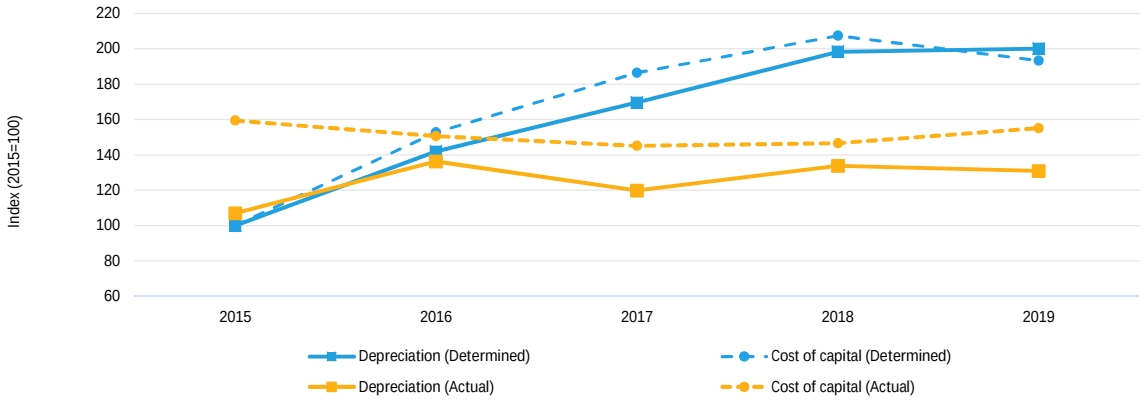
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Malta - MATS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**1.97**	**2.79**	**3.34**	**3.90**	**3.94**	**15.95**
- En route	1.30	1.85	2.21	2.58	2.60	10.54
- Terminal	0.67	0.95	1.13	1.33	1.34	5.41
Cost of Capital	**0.50**	**0.76**	**0.93**	**1.03**	**0.96**	**4.18**
- En route	0.44	0.66	0.80	0.89	0.83	3.61
- Terminal	0.06	0.10	0.13	0.15	0.14	0.58
Total	**2.47**	**3.55**	**4.27**	**4.94**	**4.90**	**20.13**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**2.11**	**2.68**	**2.36**	**2.64**	**2.58**	**12.36**
- En route	1.69	2.15	1.89	2.06	2.01	9.79
- Terminal	0.42	0.54	0.47	0.58	0.57	2.58
Cost of Capital	**0.79**	**0.75**	**0.72**	**0.73**	**0.77**	**3.77**
- En route	0.62	0.61	0.58	0.60	0.64	3.05
- Terminal	0.17	0.14	0.14	0.13	0.13	0.72
Total	**2.90**	**3.43**	**3.08**	**3.37**	**3.35**	**16.13**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**0.14**	**(0.11)**	**(0.98)**	**(1.27)**	**(1.36)**	**(3.58)**
- En route	0.38	0.30	(0.32)	(0.52)	(0.59)	(0.75)
- Terminal	(0.25)	(0.41)	(0.66)	(0.75)	(0.77)	(2.83)
Cost of Capital	**0.30**	**(0.01)**	**(0.21)**	**(0.30)**	**(0.19)**	**(0.41)**
- En route	0.18	(0.05)	(0.22)	(0.28)	(0.18)	(0.56)
- Terminal	0.12	0.04	0.01	(0.02)	(0.01)	0.14
Total	**0.43**	**(0.12)**	**(1.19)**	**(1.57)**	**(1.55)**	**(4.00)**



Over RP2, 60% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 4.00M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 3.58M€$_{2009}$. This was largely due to the low execution rate of the investments as well as delays in their implementation (particularly a delay in commissioning the new ATM system).

Throughout RP2, the actual cost of capital was 0.41M€$_{2009}$ lower than determined. This was due to the lower fixed asset base compared to the performance plan.

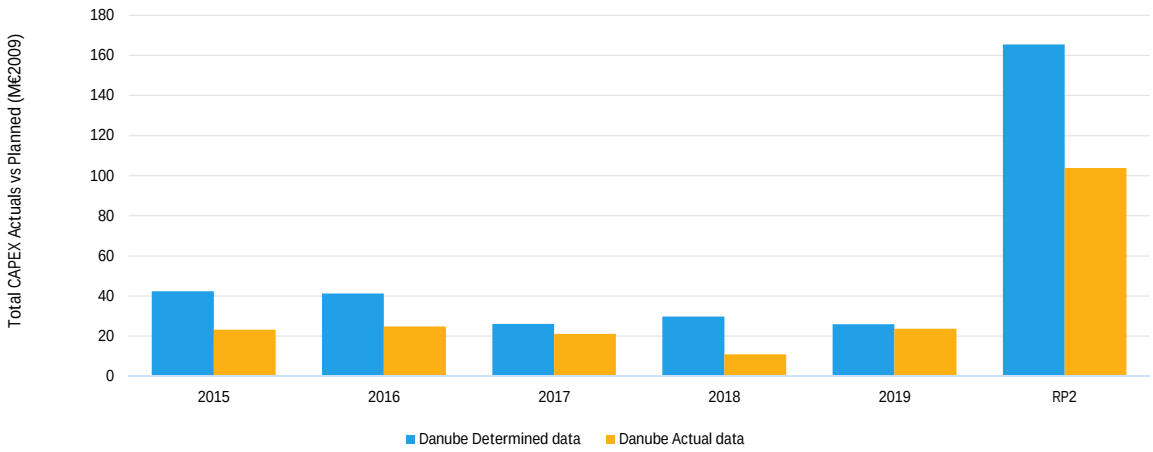
4.3 DANUBE FAB

OVERALL INVESTMENTS

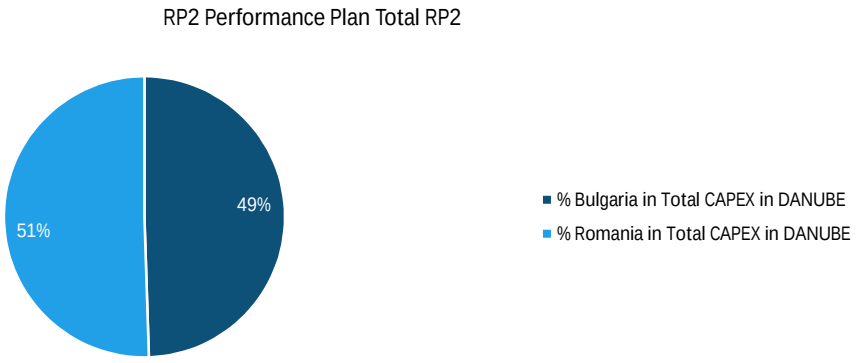
Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**42.37**	**41.31**	**26.09**	**29.69**	**25.92**	**165.39**
- *Main CAPEX*	32.08	24.49	12.73	15.44	11.52	96.26
- *% Main into Total CAPEX*	*76%*	*59%*	*49%*	*52%*	*44%*	*58%*
- Other CAPEX	10.29	16.82	13.36	14.25	14.40	69.13
- *% Other into Total CAPEX*	*24%*	*41%*	*51%*	*48%*	*56%*	*42%*
- Bulgaria in Total CAPEX in DANUBE	12.65	23.29	11.90	18.73	15.29	81.86
- *% Bulgaria in Total CAPEX in DANUBE*	*30%*	*56%*	*46%*	*63%*	*59%*	*49%*
- Romania in Total CAPEX in DANUBE	29.73	18.02	14.19	10.96	10.63	83.53
- *% Romania in Total CAPEX in DANUBE*	*70%*	*44%*	*54%*	*37%*	*41%*	*51%*

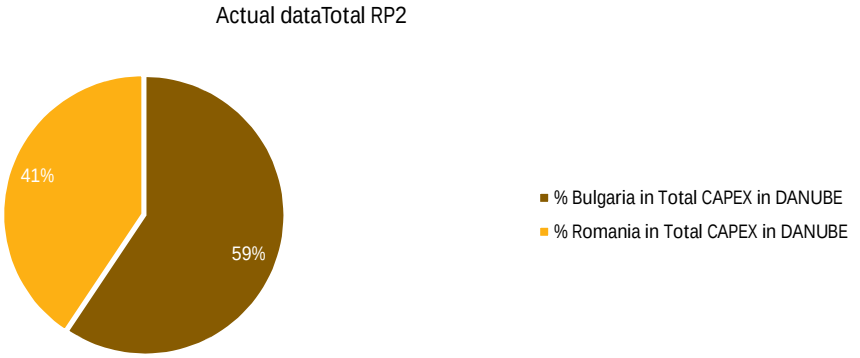
Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**23.21**	**24.76**	**21.19**	**11.01**	**23.73**	**103.90**
- Main CAPEX	13.86	14.60	14.85	2.49	**7.33**	53.14
- *% Main into Total CAPEX*	*60%*	*59%*	*70%*	*23%*	*31%*	*51%*
- Other CAPEX	9.35	10.17	6.33	8.51	16.40	50.76
- *% Other into Total CAPEX*	*40%*	*41%*	*30%*	*77%*	*69%*	*49%*
- Bulgaria in Total CAPEX in DANUBE	13.22	15.77	11.41	7.37	13.94	61.70
- *% Bulgaria in Total CAPEX in DANUBE*	*57%*	*64%*	*54%*	*67%*	*59%*	*59%*
- Romania in Total CAPEX in DANUBE	9.99	9.00	9.78	3.64	9.79	42.20
- *% Romania in Total CAPEX in DANUBE*	*43%*	*36%*	*46%*	*33%*	*41%*	*41%*

Difference between Actuals and Planned (M€2009)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(19.16)**	**(16.55)**	**(4.90)**	**(18.69)**	**(2.19)**	**(61.49)**
- Main CAPEX	(18.22)	(9.89)	2.13	(12.95)	(4.19)	(43.12)
- Other CAPEX	(0.94)	(6.65)	(7.03)	(5.74)	2.00	(18.37)
Total CAPEX (%)	***-45%***	***-40%***	***-19%***	***-63%***	***-8%***	***-37%***
- *Main CAPEX (%)*	*-57%*	*-40%*	*17%*	*-84%*	*-36%*	*-45%*
- *Other CAPEX (%)*	*-9%*	*-40%*	*-53%*	*-40%*	*14%*	*-27%*



OVERALL INVESTMENTS DANUBE FAB





During RP2, the total actual investments for the Danube FAB have been lower than determined in the performance plan. Actual investments were 103.90M€$_{2009}$, 37% lower than planned, since both Romania and Bulgaria underspent with respect to the performance plan. In 2015, the actual CAPEX was 23.21M€$_{2009}$, 45% lower than planned. In 2016 and 2017, the actual CAPEX was 40% and 20% lower than planned, respectively. The trend continued through the last two years of the period, when the total actual CAPEX was 11.01M€$_{2009}$, 63% lower than planned in 2018 and 2.19M€$_{2009}$, 8% lower than planned in 2019.

Bulgaria represents 49% of planned expenses and Romania 51%. However, when considering the actual values, expenses represent 59% for Bulgaria and 41% for Romania.

4.3.1 Bulgaria - BULATSA

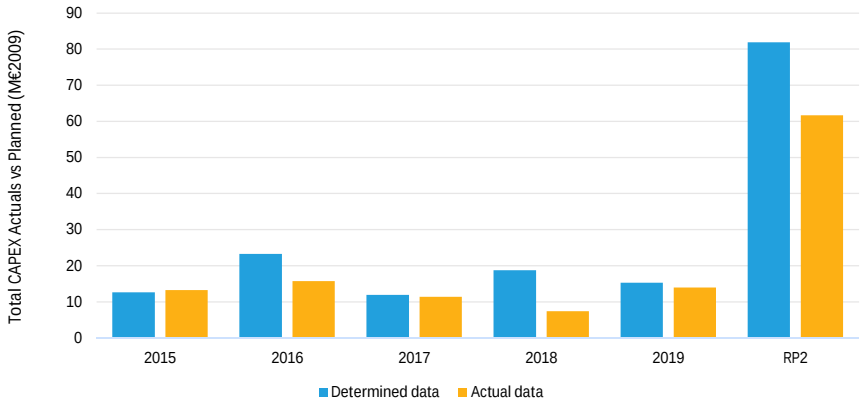
Over RP2, Bulgaria underspent 20M€$_{2009\ (-25\%)}$ with respect to the performance plan. As a result of the underinvestment, Bulgaria overcharged +14.9M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Bulgaria planned 23 main projects for RP2: 19 projects have been completed, representing 31.89M€$_{2009}$, and four have been started, being expected to continue in RP3 and representing 1.42M€$_{2009}$.

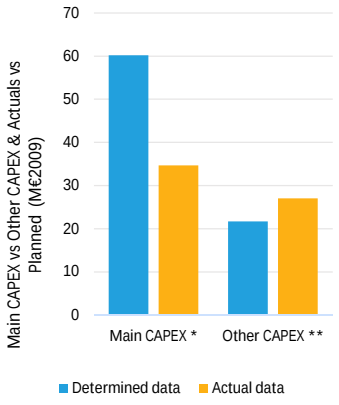
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**12.65**	**23.29**	**11.90**	**18.73**	**15.29**	**81.86**
- Main CAPEX *	11.92	18.13	5.99	12.61	11.52	60.16
- *% Main into Total CAPEX*	*94%*	*78%*	*50%*	*67%*	*75%*	*73%*
- Other CAPEX **	0.73	5.17	5.91	6.12	3.77	21.70
- *% Other into Total CAPEX*	*6%*	*22%*	*50%*	*33%*	*25%*	*27%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**13.22**	**15.77**	**11.41**	**7.37**	**13.94**	**61.70**
- Main CAPEX	10.27	11.13	7.03	1.57	4.65	34.64
- *% Main into Total CAPEX*	*78%*	*71%*	*62%*	*21%*	*33%*	*56%*
- Other CAPEX	2.95	4.64	4.38	5.79	9.30	27.06
- *% Other into Total CAPEX*	*22%*	*29%*	*38%*	*79%*	*67%*	*44%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**0.57**	**(7.53)**	**(0.49)**	**(11.37)**	**(1.35)**	**(20.16)**
- Main CAPEX	(1.65)	(7.00)	1.05	(11.04)	(6.87)	(25.52)
- Other CAPEX	2.223	(0.526)	(1.53)	(0.33)	5.52	5.36
Total CAPEX (%)	***5%***	***-32%***	***-4%***	***-61%***	***-9%***	***-25%***
- *Main CAPEX (%)*	*-14%*	*-39%*	*17%*	*-88%*	*-60%*	*-42%*
- *Other CAPEX (%)*	*305%*	*-10%*	*-26%*	*-5%*	*146%*	*25%*





The total actual capital expenditure for RP2 is 61.70M€$_{2009}$. For RP2, Bulgaria spent 20.16M€$_{2009}$ (-25%) less CAPEX than originally determined. For RP2, the main CAPEX is 42% lower than determined and the other CAPEX is 25% higher than determined.

In 2015 Bulgaria spent 0.57M€$_{2009}$ more than originally determined, while for the remaining years, Bulgaria underspent 7.53M€$_{2009}$ in 2016, 0.49M€$_{2009}$ in 2017, 11.37M€$_{2009}$ in 2018 and 1.35M€$_{2009}$ in 2019.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

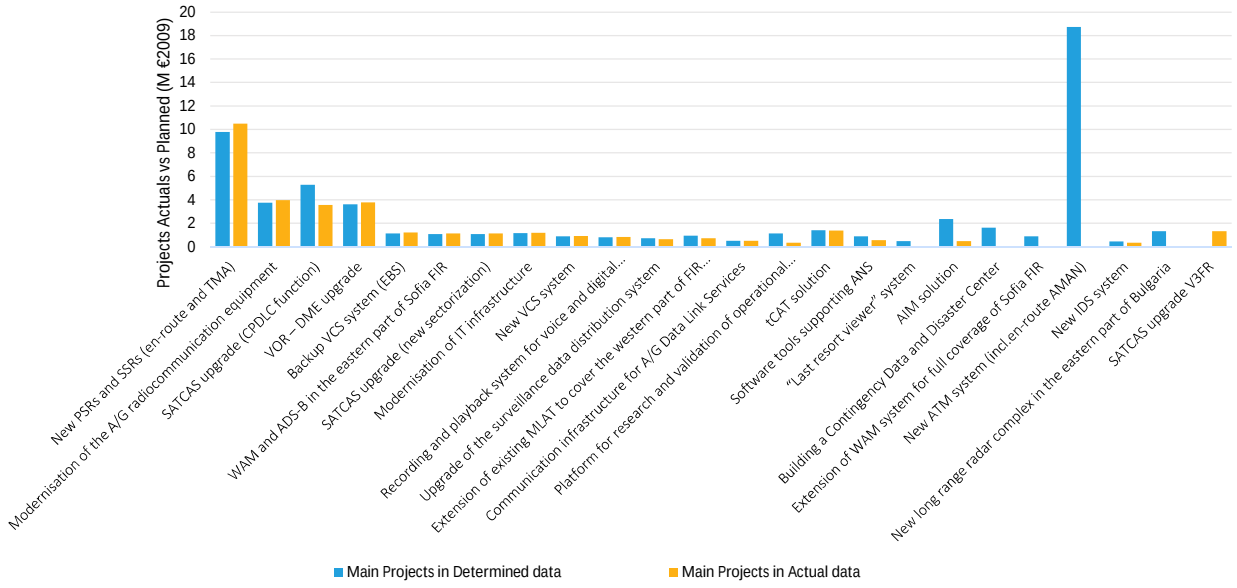
INVESTMENTS PER MAIN PROJECT Bulgaria - BULATSA

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	New PSRs and SSRs (en-route and TMA)	3.84	5.94	-	-	-	9.77
2	Modernisation of the A/G radiocommunication equipment	1.10	2.65	-	-	-	3.76
3	SATCAS upgrade (CPDLC function)	3.82	1.46	-	-	-	5.27
4	VOR – DME upgrade	1.58	2.05	-	-	-	3.62
5	Backup VCS system (EBS)	-	1.14	-	-	-	1.14
6	WAM and ADS-B in the eastern part of Sofia FIR	0.18	0.91	-	-	-	1.09
7	SATCAS upgrade (new sectorization)	-	1.10	-	-	-	1.10
8	Modernisation of IT infrastructure	-	0.57	0.60	-	-	1.17
9	New VCS system	0.88	-	-	-	-	0.88
10	Recording and playback system for voice and digital information	-	0.82	-	-	-	0.82
11	Upgrade of the surveillance data distribution system	-	-	0.72	-	-	0.72
12	Extension of existing MLAT to cover the western part of FIR Sofia	-	0.37	0.57	-	-	0.94
13	Communication infrastructure for A/G Data Link Services	0.52	-	-	-	-	0.52
14	Platform for research and validation of operational functionalities	-	-	0.68	0.45	-	1.13
15	tCAT solution	-	-	0.43	0.99	-	1.42
16	Software tools supporting ANS	-	0.22	0.23	0.22	0.22	0.89
17	“Last resort viewer” system	-	-	0.48	-	-	0.48
18	AIM solution	-	0.68	1.67	-	-	2.36
19	Building a Contingency Data and Disaster Center	-	-	-	0.97	0.66	1.63
20	Extension of WAM system for full coverage of Sofia FIR	-	-	0.36	0.54	-	0.90
21	New ATM system (incl.en-route AMAN)	-	-	-	9.43	9.30	18.74
22	New IDS system	-	0.23	0.24	-	-	0.47
23	New long range radar complex in the eastern part of Bulgaria	-	-	-	-	1.33	1.33
24	SATCAS upgrade V3FR	-	-	-	-	-	-

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	New PSRs and SSRs (en-route and TMA)	3.99	2.33	4.17	-	-	10.49
2	Modernisation of the A/G radiocommunication equipment	1.14	2.78	0.05	-	-	3.97
3	SATCAS upgrade (CPDLC function)	2.07	1.50	-	-	-	3.57
4	VOR – DME upgrade	1.46	1.53	0.38	-	0.41	3.78
5	Backup VCS system (EBS)	-	1.22	-	-	-	1.22
6	WAM and ADS-B in the eastern part of Sofia FIR	0.19	0.40	0.57	-	-	1.15
7	SATCAS upgrade (new sectorization)	-	1.14	-	-	-	1.14
8	Modernisation of IT infrastructure	-	-	0.75	0.23	0.20	1.18
9	New VCS system	0.91	-	-	-	-	0.91
10	Recording and playback system for voice and digital information	-	0.23	0.59	-	-	0.83
11	Upgrade of the surveillance data distribution system	-	-	0.28	0.36	-	0.64
12	Extension of existing MLAT to cover the western part of FIR Sofia	-	-	0.20	0.37	0.16	0.73
13	Communication infrastructure for A/G Data Link Services	0.51	-	-	-	-	0.51
14	Platform for research and validation of operational functionalities	-	-	-	0.35	-	0.35
15	tCAT solution	-	-	-	0.15	1.24	1.39
16	Software tools supporting ANS	-	-	0.03	0.11	0.43	0.58
17	“Last resort viewer” system	-	-	-	-	-	-
18	AIM solution	-	-	-	-	0.49	0.49
19	Building a Contingency Data and Disaster Center	-	-	-	-	-	-
20	Extension of WAM system for full coverage of Sofia FIR	-	-	-	-	-	-
21	New ATM system (incl.en-route AMAN)	-	-	-	-	-	-
22	New IDS system	-	-	-	-	0.35	0.35
23	New long range radar complex in the eastern part of Bulgaria	-	-	-	-	0.03	0.03
24	SATCAS upgrade V3FR	-	-	-	-	1.33	1.33

INVESTMENTS PER MAIN PROJECT Bulgaria - BULATSA

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	New PSRs and SSRs (en-route and TMA)	0.15	(3.60)	4.17	-	-	0.72
2	Modernisation of the A/G radiocommunication equipment	0.04	0.13	0.05	-	-	0.21
3	SATCAS upgrade (CPDLC function)	(1.74)	0.04	-	-	-	(1.70)
4	VOR – DME upgrade	(0.12)	(0.52)	0.38	-	0.41	0.16
5	Backup VCS system (EBS)	-	0.07	-	-	-	0.07
6	WAM and ADS-B in the eastern part of Sofia FIR	0.01	(0.51)	0.57	-	-	0.06
7	SATCAS upgrade (new sectorization)	-	0.05	-	-	-	0.05
8	Modernisation of IT infrastructure	-	(0.57)	0.15	0.23	0.20	0.01
9	New VCS system	0.03	-	-	-	-	0.03
10	Recording and playback system for voice and digital information	-	(0.59)	0.59	-	-	0.01
11	Upgrade of the surveillance data distribution system	-	-	(0.43)	0.36	-	(0.08)
12	Extension of existing MLAT to cover the western part of FIR Sofia	-	(0.37)	(0.37)	0.37	0.16	(0.21)
13	Communication infrastructure for A/G Data Link Services	(0.01)	-	-	-	-	(0.01)
14	Platform for research and validation of operational functionalities	-	-	(0.68)	(0.10)	-	(0.78)
15	tCAT solution	-	-	(0.43)	(0.84)	1.24	(0.03)
16	Software tools supporting ANS	-	(0.22)	(0.20)	(0.11)	0.21	(0.32)
17	"Last resort viewer" system	-	-	(0.48)	-	-	(0.48)
18	AIM solution	-	(0.68)	(1.67)	-	0.49	(1.86)
19	Building a Contingency Data and Disaster Center	-	-	-	(0.97)	(0.66)	(1.63)
20	Extension of WAM system for full coverage of Sofia FIR	-	-	(0.36)	(0.54)	-	(0.90)
21	New ATM system (incl.en-route AMAN)	-	-	-	(9.43)	(9.30)	(18.74)
22	New IDS system	-	(0.23)	(0.24)	-	0.35	(0.12)
23	New long range radar complex in the eastern part of Bulgaria	-	-	-	-	(1.30)	(1.30)
24	SATCAS upgrade V3FR	-	-	-	-	1.33	1.33



For RP2, the major project is "New PSRs and SSRs (en route and TMA)", which was completed in 2017 and received funding of 10.49M€$_{2009}$. The project exceeded the determined amounts by 0.72M€$_{2009}$. The second largest investment made is the "Modernisation of the A/G radiocommunication equipment" project which was also completed in 2017. The project received a total amount of 3.97M€$_{2009}$, exceeding the initial plan by 0.21M€$_{2009}$.

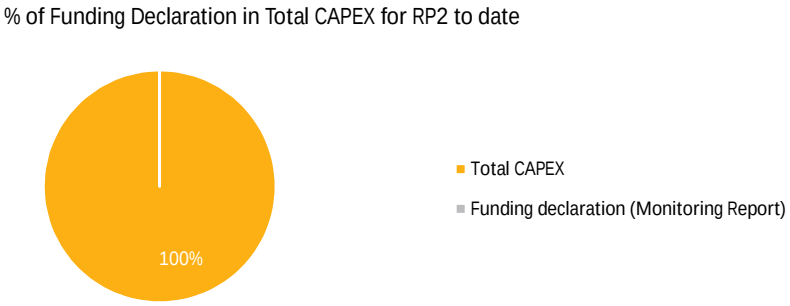
Bulgaria has planned investments for the projects "New ATM system (incl. en route AMAN)", "Building a Contingency Data and Disaster Center", "Extension of WAM system for full coverage of Sofia FIR" and "Last resort viewer system", however no investments were put in place in RP2.

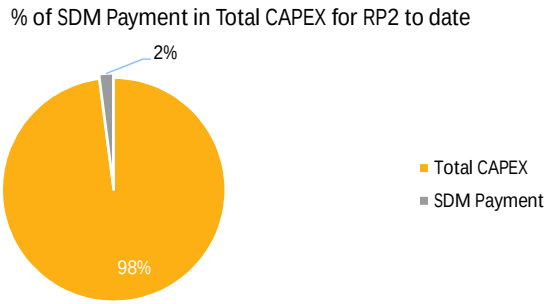
The unplanned CAPEX for Bulgaria amounts to 1.33M€$_{2009}$ (or 2% of total CAPEX) over RP2, in 2019, distributed in the following project "SATCAS upgrade V3FR".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Bulgaria - BULATSA

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
15 tCAT solution	-	-	0.00	-	(0.00)	0.00

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	-	0.00	-	(0.00)	0.00
SDM Payment	-	0.69	0.33	-	0.26	1.27





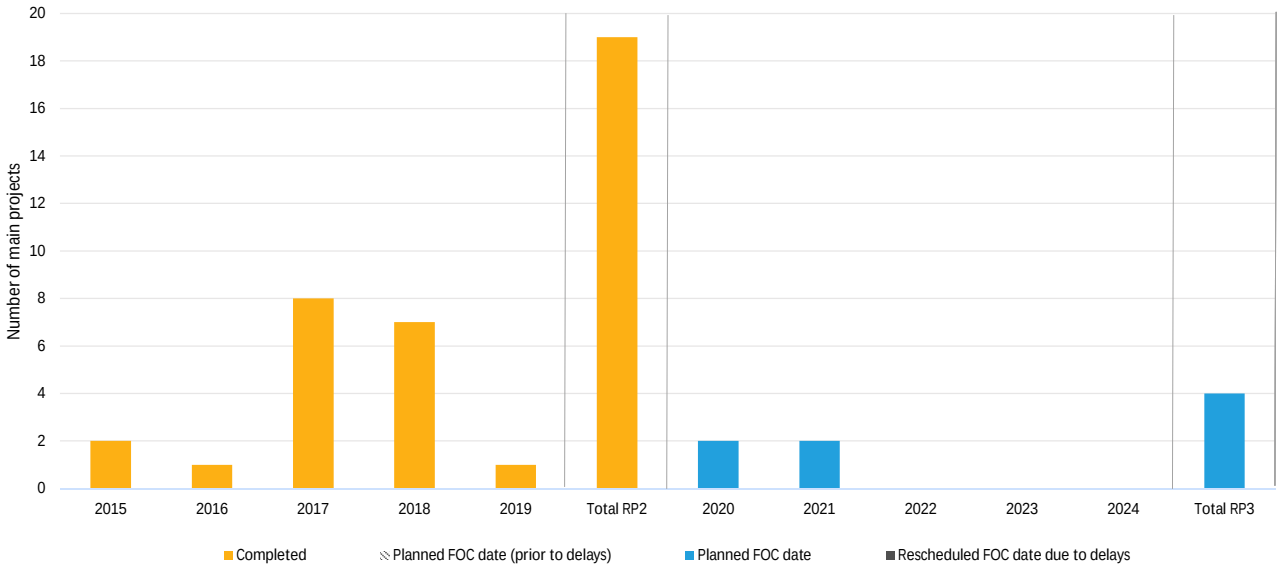
The implementation of "tCAT solution" was funded by CEF/TEN-T, receiving 647€$_{2009}$ in 2017. No clear information with regard to the source of the funding has been provided.

The total amount of EU funding declared by Bulgaria for RP2 is 614€$_{2009}$.
The total SDM payments amount to 1.27M€$_{2009}$, which is higher than the funding declaration and cover 2% of the actual total CAPEX invested during RP2.

Bulgaria received 3.15M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "tCAT implementation in Sofia ACC" (1.98M€), "Creating Local Security Operation Center" (0.91M€) and "NewPENS Stakeholders contribution for the procurement and deployment of NewPENS - Part B: Cohesion Call" (0.17M€). One of these projects corresponds to one project in the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Bulgaria - BULATSA

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	New PSRs and SSRs (en-route and TMA)	Completed	2017	x	x	x	x		
2	Modernisation of the A/G radiocommunication equipment	Completed	2017	x		x			
3	SATCAS upgrade (CPDLC function)	Completed	2017	x		x	x	x	
4	VOR – DME upgrade	Completed	2017	x			x		x
5	Backup VCS system (EBS)	Completed	2017	x	x	x			
6	WAM and ADS-B in the eastern part of Sofia FIR	Completed	2017	x		x			
7	SATCAS upgrade (new sectorization)	Completed	2016	x		x			x
8	Modernisation of IT infrastructure	Completed	2018	x		x		x	x
9	New VCS system	Completed	2015	x	x	x	x		
10	Recording and playback system for voice and digital information	Completed	2017	x					
11	Upgrade of the surveillance data distribution system	Completed	2018	x					
12	Extension of existing MLAT to cover the western part of FIR Sofia	Completed	2018	x		x			
13	Communication infrastructure for A/G Data Link Services	Completed	2015	x		x	x	x	
14	Platform for research and validation of operational functionalities	Completed	2018	x		x			
15	tCAT solution	Ongoing	2020	x		x		x	
16	Software tools supporting ANS	Completed	2019	x		x			
17	"Last resort viewer" system	Completed	2017	x		x			
18	AIM solution	Completed	2018	x				x	
19	Building a Contingency Data and Disaster Center	Ongoing	2021	x					
20	Extension of WAM system for full coverage of Sofia FIR	Completed	2018	x		x			
21	New ATM system (incl.en-route AMAN)	Ongoing	2021		x	x	x	x	x
22	New IDS system	Completed	2018	x					
23	New long range radar complex in the eastern part of Bulgaria	Ongoing	2020	x	x	x			
24	SATCAS upgrade V3FR	Unknown	Unknown						



Bulgaria planned 23 main projects for RP2: 19 projects have been completed, representing 31.89M€$_{2009}$, and four have been started, being expected to continue in RP3 and representing 1.42M€$_{2009}$. The FOC date and status of project "SSATCAS upgrade V3FR" are both unknown.

The reported projects are expected to enhance mainly two performance areas: safety (22 projects) and capacity (17 projects).

The actual investment made RP2 for the six projects linked to the Pilot Common Project amounts to 5.97M€$_{2009}$. This amount represents 10% of the actual total CAPEX. Four projects were included in the Network Operations Plan.

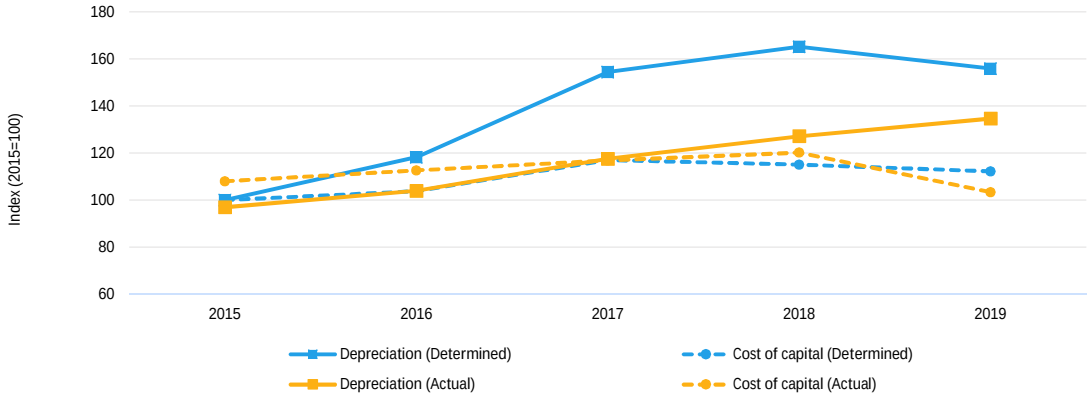
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Bulgaria - BULATSA

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**7.86**	**9.20**	**12.05**	**12.89**	**12.16**	**54.16**
- En route	7.15	8.50	11.30	12.17	11.46	50.57
- Terminal	0.71	0.71	0.74	0.73	0.71	3.59
Cost of Capital	**6.88**	**7.23**	**8.33**	**8.18**	**7.97**	**38.60**
- En route	6.23	6.58	7.65	7.52	7.32	35.29
- Terminal	0.65	0.65	0.69	0.67	0.65	3.31
Total	**14.74**	**16.44**	**20.38**	**21.08**	**20.13**	**92.76**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**7.63**	**8.18**	**9.24**	**10.00**	**10.27**	**45.31**
- En route	7.01	7.55	8.61	9.37	9.64	42.18
- Terminal	0.61	0.63	0.63	0.63	0.63	3.13
Cost of Capital	**6.11**	**6.79**	**6.83**	**6.47**	**6.32**	**32.52**
- En route	5.47	6.16	6.29	6.06	5.90	29.88
- Terminal	0.65	0.63	0.53	0.42	0.42	2.64
Total	**13.74**	**14.97**	**16.07**	**16.47**	**16.59**	**77.84**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.23)**	**(1.03)**	**(2.80)**	**(2.90)**	**(1.89)**	**(8.85)**
- En route	(0.13)	(0.95)	(2.69)	(2.80)	(1.81)	(8.39)
- Terminal	(0.10)	(0.07)	(0.11)	(0.10)	(0.08)	(0.46)
Cost of Capital	**(0.77)**	**(0.44)**	**(1.50)**	**(1.71)**	**(1.65)**	**(6.08)**
- En route	(0.76)	(0.42)	(1.35)	(1.46)	(1.42)	(5.41)
- Terminal	(0.00)	(0.02)	(0.15)	(0.25)	(0.24)	(0.67)
Total	**(1.00)**	**(1.47)**	**(4.31)**	**(4.61)**	**(3.55)**	**(14.92)**



Over RP2, 25% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 14.92M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 8.85M€$_{2009}$. This was mainly due to some delays in RP1 in respect of the CAPEX execution. However, some measures have been undertaken to complete CAPEX in line with the performance plan as these have already started to provide the desired output. As a result, actual depreciation has increased every year from 2015 to 2019.

Throughout RP2, the actual cost of capital was 6.08M€$_{2009}$ lower than determined. This was largely due to decrease in the fixed asset base due to a delay in the implementation of investments (the WACC did not change when comaparing determined to actual terms).

4.3.2 Romania - ROMATSA

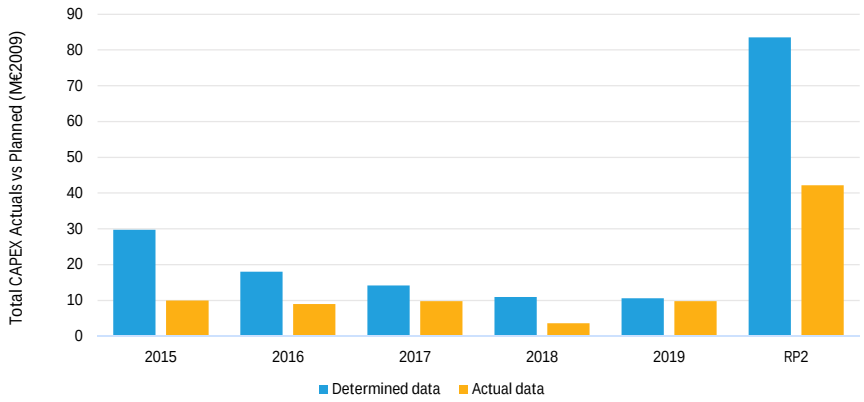
Over RP2, Romania underspent 41M€$_{2009}$ (-49%) with respect to the performance plan, not respecting the CAPEX planning, with all the projects not following the expected timeline. As a result of the incorrect planning, Romania overcharged +22M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Romania planned 11 main projects for RP2: five projects have been completed,representing 18M€$_{2009}$, and one has started, being expected to continue in RP3 with a CAPEX associated of 0.65M€$_{2009}$. Following Romania's revision of the RP2 performance plan in 2017, five projects that have been initially planned for RP2 have been moved to RP3, therefore they have not started nor received actual CAPEX.

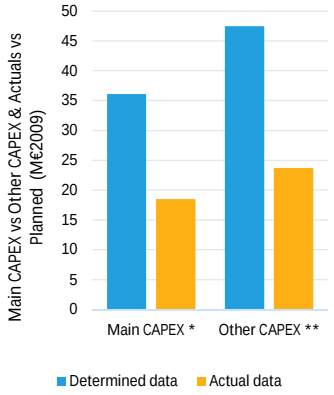
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**29.73**	**18.02**	**14.19**	**10.96**	**10.63**	**83.53**
- Main CAPEX *	20.16	6.37	6.74	2.83	-	36.10
- *% Main into Total CAPEX*	*68%*	*35%*	*48%*	*26%*	*0%*	*43%*
- Other CAPEX **	9.56	11.65	7.45	8.13	10.63	47.43
- *% Other into Total CAPEX*	*32%*	*65%*	*52%*	*74%*	*100%*	*57%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**9.99**	**9.00**	**9.78**	**3.64**	**9.79**	**42.20**
- Main CAPEX	3.60	3.47	7.82	0.92	2.68	18.49
- *% Main into Total CAPEX*	*36%*	*39%*	*80%*	*25%*	*27%*	*44%*
- Other CAPEX	6.40	5.53	1.96	2.72	7.11	23.71
- *% Other into Total CAPEX*	*64%*	*61%*	*20%*	*75%*	*73%*	*56%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(19.73)**	**(9.02)**	**(4.41)**	**(7.32)**	**(0.84)**	**(41.33)**
- Main CAPEX	(16.57)	(2.89)	1.08	(1.91)	2.68	(17.60)
- Other CAPEX	(3.167)	(6.129)	(5.49)	(5.41)	(3.53)	(23.73)
Total CAPEX (%)	***-66%***	***-50%***	***-31%***	***-67%***	***-8%***	***-49%***
- *Main CAPEX (%)*	*-82%*	*-45%*	*16%*	*-67%*	-	*-49%*
- *Other CAPEX (%)*	*-33%*	*-53%*	*-74%*	*-67%*	*-33%*	*-50%*





The total actual capital expenditure for RP2 is 42.20M€$_{2009}$. For RP2, Romania spent 41.33M€$_{2009}$ (-49%) less CAPEX than originally determined. For RP2, the main CAPEX is 49% lower than determined, while other CAPEX is 50% lower.

Romania invested less than initially determined, in every year of RP2, 19.73M€$_{2009}$ less in 2015, 9.02M€$_{2009}$ less in 2016, 4.41M€$_{2009}$ less in 2017, 7.32M€$_{2009}$ less in 2018 and 0.84M€$_{2009}$ less in 2019.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

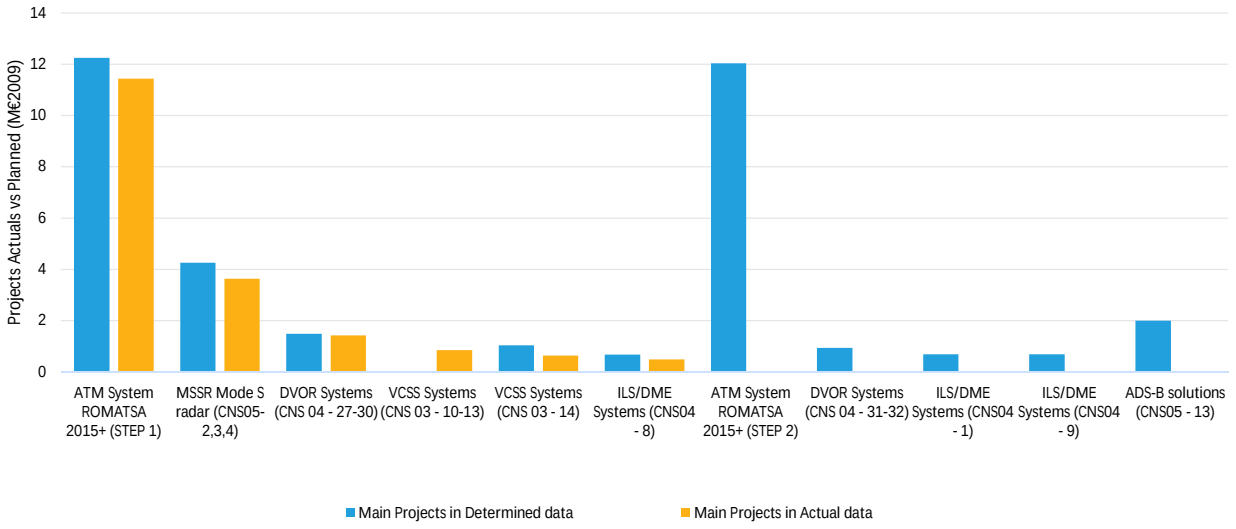
INVESTMENTS PER MAIN PROJECT Romania - ROMATSA

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	ATM System ROMATSA 2015+ (STEP 1)	12.25	-	-	-	-	12.25
2	MSSR Mode S radar (CNS05-2,3,4)	4.26	-	-	-	-	4.26
3	DVOR Systems (CNS 04 - 27-30)	1.49	-	-	-	-	1.49
4	VCSS Systems (CNS 03 - 10-13)	-	-	-	-	-	-
5	VCSS Systems (CNS 03 - 14)	1.05	-	-	-	-	1.05
6	ILS/DME Systems (CNS04 - 8)	-	0.68	-	-	-	0.68
7	ATM System ROMATSA 2015+ (STEP 2)	-	4.83	4.70	2.50	-	12.03
8	DVOR Systems (CNS 04 - 31-32)	-	-	0.94	-	-	0.94
9	ILS/DME Systems (CNS04 - 1)	0.69	-	-	-	-	0.69
10	ILS/DME Systems (CNS04 - 9)	-	0.04	0.31	0.33	-	0.69
11	ADS-B solutions (CNS05 - 13)	0.41	0.81	0.78	-	-	2.00

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	ATM System ROMATSA 2015+ (STEP 1)	1.04	0.10	7.38	0.23	2.68	11.44
2	MSSR Mode S radar (CNS05-2,3,4)	1.00	2.64	-	-	-	3.64
3	DVOR Systems (CNS 04 - 27-30)	1.43	-	-	-	-	1.43
4	VCSS Systems (CNS 03 - 10-13)	0.13	0.73	-	-	-	0.86
5	VCSS Systems (CNS 03 - 14)	-	-	-	0.65	-	0.65
6	ILS/DME Systems (CNS04 - 8)	-	-	0.44	0.04	-	0.49
7	ATM System ROMATSA 2015+ (STEP 2)	-	-	-	-	-	-
8	DVOR Systems (CNS 04 - 31-32)	-	-	-	-	-	-
9	ILS/DME Systems (CNS04 - 1)	-	-	-	-	-	-
10	ILS/DME Systems (CNS04 - 9)	-	-	-	-	-	-
11	ADS-B solutions (CNS05 - 13)	-	-	-	-	-	-

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	ATM System ROMATSA 2015+ (STEP 1)	(11.21)	0.10	7.38	0.23	2.68	(0.81)
2	MSSR Mode S radar (CNS05-2,3,4)	(3.27)	2.64	-	-	-	(0.63)
3	DVOR Systems (CNS 04 - 27-30)	(0.06)	-	-	-	-	(0.06)
4	VCSS Systems (CNS 03 - 10-13)	0.13	0.73	-	-	-	0.86
5	VCSS Systems (CNS 03 - 14)	(1.05)	-	-	0.65	-	(0.40)
6	ILS/DME Systems (CNS04 - 8)	-	(0.68)	0.44	0.04	-	(0.20)
7	ATM System ROMATSA 2015+ (STEP 2)	-	(4.83)	(4.70)	(2.50)	-	(12.03)
8	DVOR Systems (CNS 04 - 31-32)	-	-	(0.94)	-	-	(0.94)
9	ILS/DME Systems (CNS04 - 1)	(0.69)	-	-	-	-	(0.69)
10	ILS/DME Systems (CNS04 - 9)	-	(0.04)	(0.31)	(0.33)	-	(0.69)
11	ADS-B solutions (CNS05 - 13)	(0.41)	(0.81)	(0.78)	-	-	(2.00)

INVESTMENTS PER MAIN PROJECT Romania - ROMATSA



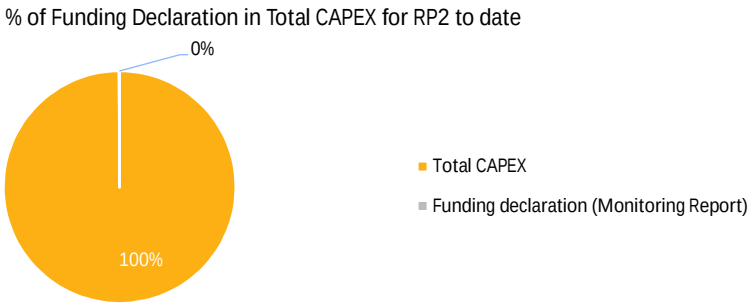
For RP2, the largest determined and actual investment is the "ATM System ROMATSA 2015+ (STEP 1)" project. STEP 2 of this project was planned to receive 12.03M€$_{2009}$, however it has not received any funding in RP2.

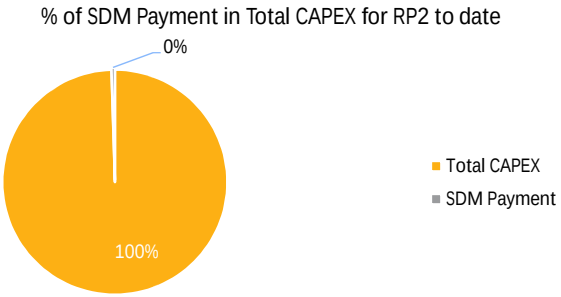
The second largest investment is the "MSSR Mode S radar (CNS05-2,3,4)" project, which received an actual investment of 3.64M€$_{2009}$.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Romania - ROMATSA

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Pilot Platform WXXM	-	0.03	-	-	-	0.03

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	0.03	-	-	-	0.03
SDM Payment	0.03	0.06	0.01	-	0.11	0.21





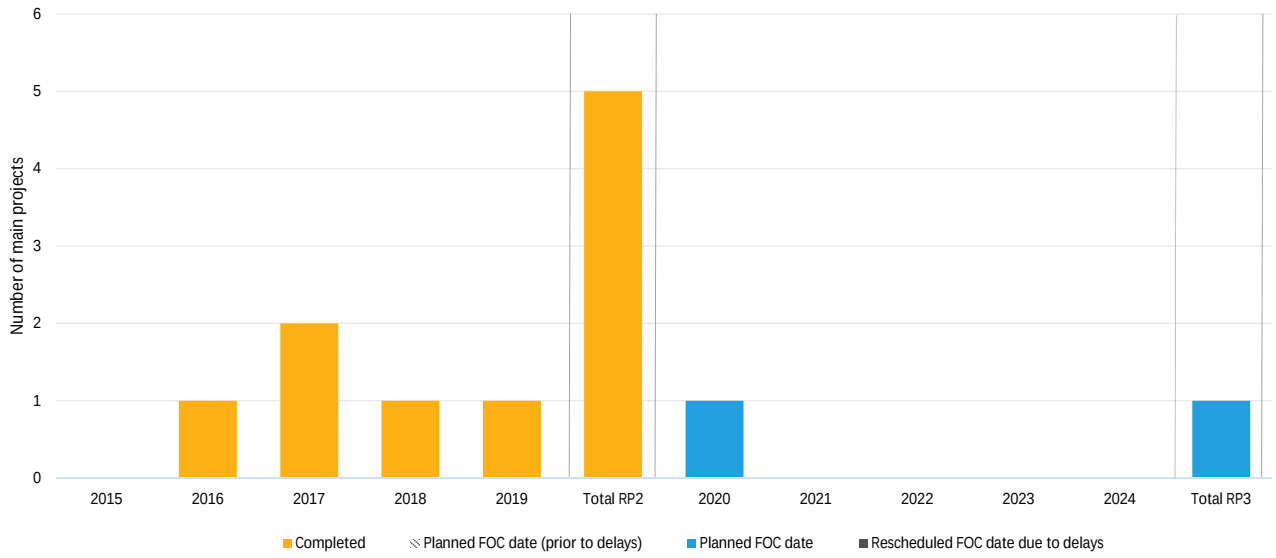
"Pilot platform WXXM" is the only project funded through CEF/TEN-T (co-financed by INEA), receiving 0.03M€$_{2009}$ in 2016. No clear information with regard to the source of the funding has been provided.

The total amount of EU funding declared by Romania for RP2 is 0.03M€$_{2009}$, which represents 0.08% of the actual total CAPEX.
The SDM payments amount to 0.21M€$_{2009}$, which is higher than the funding declaration and cover 0.49% of the actual total CAPEX.

Romania received 0.63M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "PILOT PLATFORM for access services to OPMET (worldwide/ECAC) data (METAR, TAF, SIGMET) in WXXM format" (0.20M€), "NewPENS Stakeholders contribution for the procurement and deployment of NewPENS - Part B: Cohesion Call" (0.19M€) and "SWIM Common PKI and policies & procedures for establishing a Trust framework" (0.14M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Romania - ROMATSA

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	ATM System ROMATSA 2015+ (STEP 1)	Completed	2019	x	x	x	x	x	x
2	MSSR Mode S radar	Completed	2017	x	x	x	x		
3	DVOR Systems	Completed	2016	x	x	x	x		
4	VCSS Systems (CNS 03 - 10-13)	Completed	2017	x		x	x		
5	VCSS Systems (CNS 03 - 14)	Ongoing	2020	x		x	x		
6	ILS/DME Systems	Completed	2018	x	x	x	x		
7	ATM System ROMATSA 2015+ (STEP 2)	Not Started	2023	x	x	x	x	x	x
8	DVOR Systems	Not Started	2022	x	x	x	x		
9	ILS/DME Systems (CNS04 - 1)	Not Started	2024	x	x	x	x		
10	ILS/DME Systems (CNS04 - 9)	Not Started	2022	x	x	x	x		
11	ADS-B solutions	Not Started	2021	x	x	x	x		



Romania planned 11 main projects for RP2: five projects have been completed,representing 17.85M€$_{2009}$, and one has started, being expected to continue in RP3 with a CAPEX associated of 0.65M€$_{2009}$. Following Romania's resubmission of the RP2 performance plan, five projects that have been initially planned for RP2 have been moved to RP3, therefore they have not started nor received actual CAPEX.

All the projects are expected to improve safety, capacity and cost-efficiency. Nine of these projects are also expected to benefits in environment.

The actual investment made in RP2 for the two projects linked to the Pilot Common Project is 11.44M€$_{2009}$. This amount represents 27% of the actual total CAPEX. Two projects were included in the Network Operations Plan.

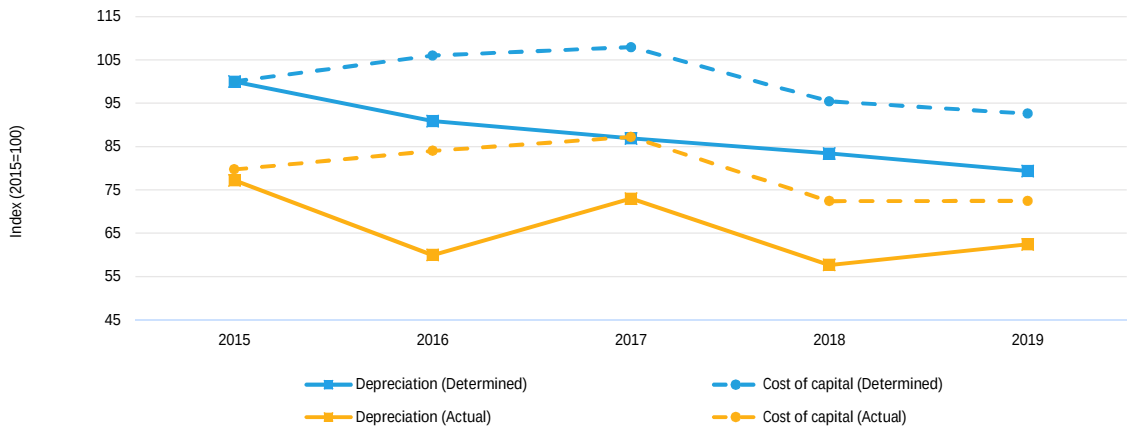
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Romania - ROMATSA

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**11.77**	**10.70**	**10.23**	**9.82**	**9.34**	**51.86**
- En route	11.01	9.78	9.14	9.15	8.88	47.96
- Terminal	0.76	0.92	1.09	0.67	0.47	3.90
Cost of Capital	**8.09**	**8.57**	**8.73**	**7.72**	**7.49**	**40.59**
- En route	7.62	7.86	7.78	6.92	6.71	36.89
- Terminal	0.47	0.71	0.95	0.80	0.77	3.70
Total	**19.86**	**19.27**	**18.96**	**17.54**	**16.83**	**92.45**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**9.09**	**7.06**	**8.59**	**6.79**	**7.35**	**38.88**
- En route	8.64	6.39	7.72	5.95	6.53	35.22
- Terminal	0.46	0.67	0.87	0.84	0.82	3.66
Cost of Capital	**6.45**	**6.79**	**7.05**	**5.86**	**5.86**	**32.01**
- En route	6.11	6.11	6.29	5.12	5.20	28.83
- Terminal	0.33	0.68	0.77	0.73	0.66	3.19
Total	**15.54**	**13.85**	**15.65**	**12.65**	**13.21**	**70.90**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(2.68)**	**(3.64)**	**(1.64)**	**(3.03)**	**(2.00)**	**(12.98)**
- En route	(2.38)	(3.39)	(1.42)	(3.20)	(2.35)	(12.74)
- Terminal	(0.31)	(0.25)	(0.22)	0.18	0.36	(0.24)
Cost of Capital	**(1.64)**	**(1.78)**	**(1.67)**	**(1.86)**	**(1.63)**	**(8.58)**
- En route	(1.51)	(1.75)	(1.49)	(1.80)	(1.52)	(8.06)
- Terminal	(0.13)	(0.03)	(0.18)	(0.06)	(0.11)	(0.52)
Total	**(4.32)**	**(5.41)**	**(3.31)**	**(4.89)**	**(3.62)**	**(21.56)**



Over RP2, 49% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 21.56M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 12.98M€$_{2009}$. This was due to the lower level of investments, resulting in a lower asset base and therefore lower depreciation.

Throughout RP2, the actual cost of capital was 8.58M€$_{2009}$ lower than determined. This was because of both a lower than determined fixed asset base due to the lower level of investments and a lower than determined WACC.

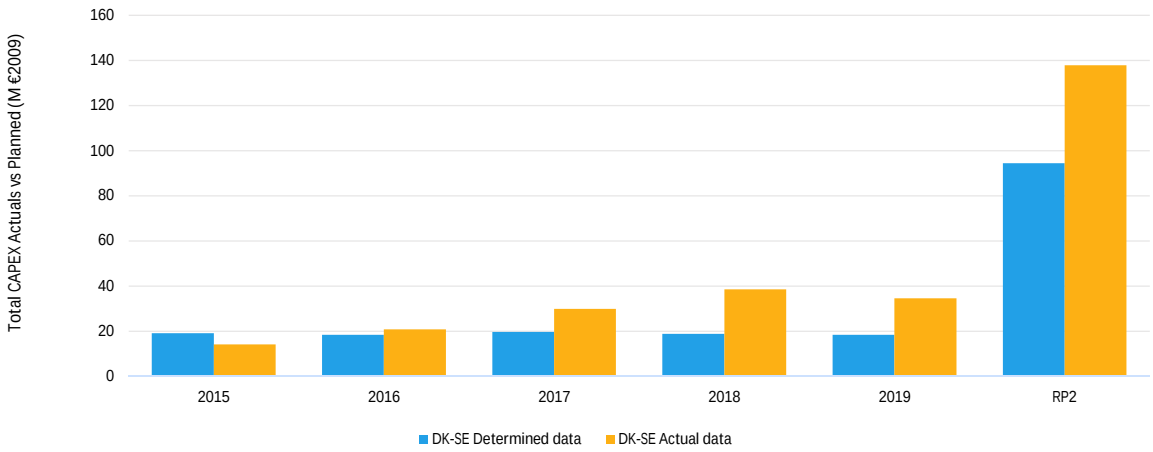
4.4 DK-SE FAB

OVERALL INVESTMENTS

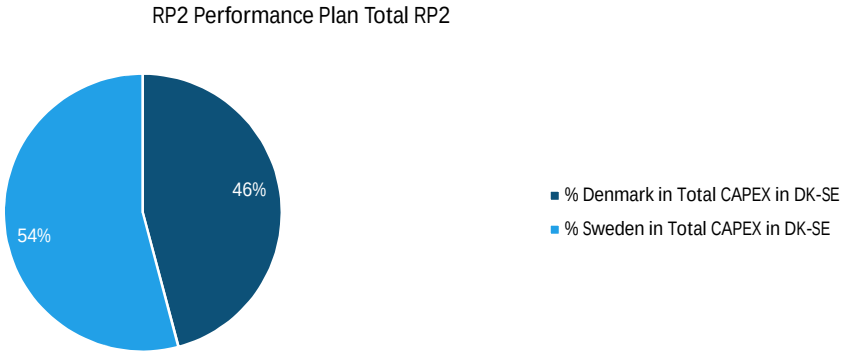
Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**19.09**	**18.42**	**19.65**	**18.80**	**18.41**	**94.37**
- *Main CAPEX*	8.80	1.60	6.29	4.54	4.01	25.24
- *% Main into Total CAPEX*	*46%*	*9%*	*32%*	*24%*	*22%*	*27%*
- Other CAPEX	10.29	16.82	13.36	14.25	14.40	69.13
- *% Other into Total CAPEX*	*54%*	*91%*	*68%*	*76%*	*78%*	*73%*
- Denmark in Total CAPEX in DK-SE	8.43	8.01	9.45	8.80	8.61	43.29
- *% Denmark in Total CAPEX in DK-SE*	*44%*	*43%*	*48%*	*47%*	*47%*	*46%*
- Sweden in Total CAPEX in DK-SE	10.66	10.41	10.20	10.00	9.80	51.08
- *% Sweden in Total CAPEX in DK-SE*	*56%*	*57%*	*52%*	*53%*	*53%*	*54%*

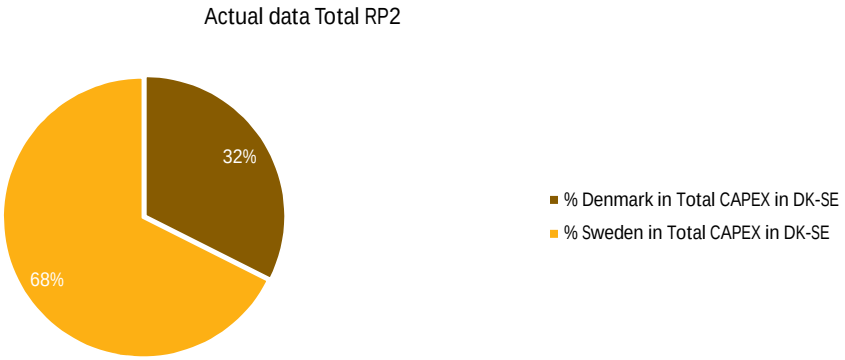
Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**14.07**	**20.84**	**29.83**	**38.49**	**34.56**	**137.79**
- Main CAPEX	4.72	10.68	23.50	29.97	20.10	88.97
- *% Main into Total CAPEX*	*34%*	*51%*	*79%*	*78%*	*58%*	*65%*
- Other CAPEX	9.35	10.17	6.33	8.51	14.46	48.82
- *% Other into Total CAPEX*	*66%*	*49%*	*21%*	*22%*	*42%*	*35%*
- Denmark in Total CAPEX in DK-SE	4.70	8.74	10.06	11.17	10.00	44.67
- *% Denmark in Total CAPEX in DK-SE*	*33%*	*42%*	*34%*	*29%*	*29%*	*32%*
- Sweden in Total CAPEX in DK-SE	9.37	12.10	19.77	27.31	24.56	93.12
- *% Sweden in Total CAPEX in DK-SE*	*67%*	*58%*	*66%*	*71%*	*71%*	*68%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(5.02)**	**2.42**	**10.18**	**19.69**	**16.15**	**43.42**
- Main CAPEX	(4.07)	9.07	17.21	25.43	16.09	63.73
- Other CAPEX	(0.94)	(6.65)	(7.03)	(5.74)	0.06	(20.31)
Total CAPEX (%)	***-26%***	***13%***	***52%***	***105%***	***88%***	***46%***
- *Main CAPEX (%)*	*-46%*	*565%*	*274%*	*560%*	*402%*	*252%*
- *Other CAPEX (%)*	*-9%*	*-40%*	*-53%*	*-40%*	*0%*	*-29%*



OVERALL INVESTMENTS DK-SE FAB





The total actual CAPEX over RP2 in the DK-SE FAB is 137.79M€$_{2009}$, 46% higher than planned, mostly due to Sweden spending more than initially planned. In 2015, the actual CAPEX was 5.02M€$_{2009}$, 26% lower than planned. For 2016, the actual CAPEX was 2.42M€$_{2009}$, 13% more than planned. 2017 also saw an actual CAPEX of 10.18M€$_{2009}$, 52% more than planned. The trend continued through 2018, when the total actual CAPEX was 19.69M€$_{2009}$, 105% more than planned and 2019, when the actual total CAPEX was 16.15M€$_{2009}$, 88% more than planned.

In terms of planned expenses, Denmark represented 46%, while Sweden amounting for 54%. The percentages of actual expenses for Denmark and Sweden were 32% and 68%, respectively. This shift in prercentages was due to Sweden, as Denmark's actual CAPEX was similar to the planned one.

4.4.1 Denmark - Naviair

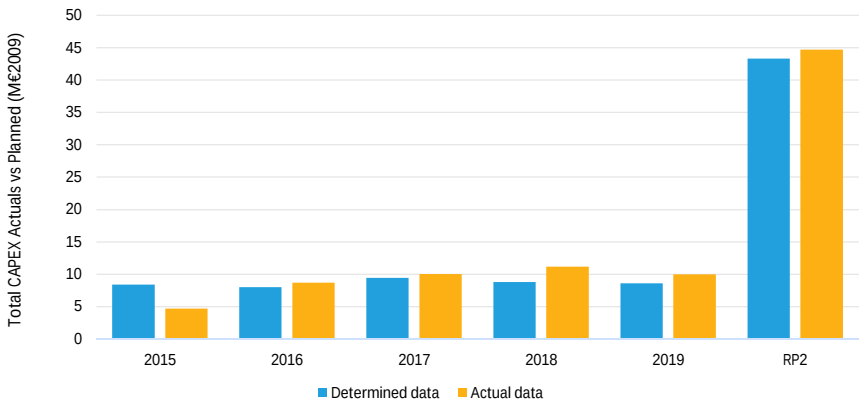
Over RP2, Denmark overspent 1M€$_{2009}$ (+3%) with respect to the performance plan, closing the gap generated in the first year of the period. As a result of investments catching up, Denmark overcharged +8M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Denmark planned two main projects for RP2, both have started.

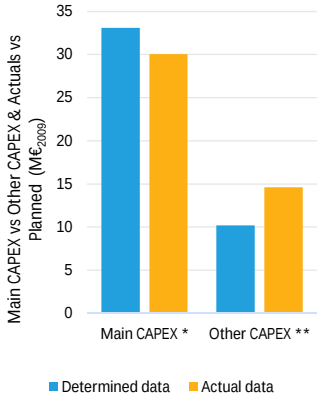
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**8.43**	**8.01**	**9.45**	**8.80**	**8.61**	**43.29**
- Main CAPEX *	5.66	5.77	7.61	7.10	6.95	33.09
- *% Main into Total CAPEX*	*67%*	*72%*	*80%*	*81%*	*81%*	*76%*
- Other CAPEX **	2.77	2.24	1.84	1.69	1.66	10.20
- *% Other into Total CAPEX*	*33%*	*28%*	*20%*	*19%*	*19%*	*24%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**4.70**	**8.74**	**10.06**	**11.17**	**10.00**	**44.67**
- Main CAPEX	2.60	6.30	6.62	8.83	5.70	30.04
- *% Main into Total CAPEX*	*55%*	*72%*	*66%*	*79%*	*57%*	*67%*
- Other CAPEX	2.10	2.44	3.44	2.35	4.30	14.63
- *% Other into Total CAPEX*	*45%*	*28%*	*34%*	*21%*	*43%*	*33%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(3.72)**	**0.73**	**0.61**	**2.38**	**1.39**	**1.38**
- Main CAPEX	(3.06)	0.53	(0.98)	1.72	(1.25)	(3.05)
- Other CAPEX	(0.66)	0.20	1.60	0.65	2.64	4.43
Total CAPEX (%)	***-44%***	***9%***	***6%***	***27%***	***16%***	***3%***
- *Main CAPEX (%)*	*-54%*	*9%*	*-13%*	*24%*	*-18%*	*-9%*
- *Other CAPEX (%)*	*-24%*	*9%*	*87%*	*39%*	*160%*	*43%*





The total actual capital expenditure for RP2 is 44.67M€$_{2009}$. For RP2, Denmark spent 1.38M€$_{2009}$ more than determined. For RP2, the main CAPEX is 9% lower than determined, while other CAPEX is 43% higher.

In the performance plan, an investment named "Other" was listed as main CAPEX. For the purpose of this report, "Other" was considered as other CAPEX.

In 2015, Denmark spent 3.72M€$_{2009}$ less than determined, while for 2016 and 2017, Denmark overspent 0.73M€$_{2009}$ and 0.61M€$_{2009,}$ respectively. In 2018, the total CAPEX was 2.38M€$_{2009}$ higher than determined and 1.39M€$_{2009}$ higher than determined for 2019.

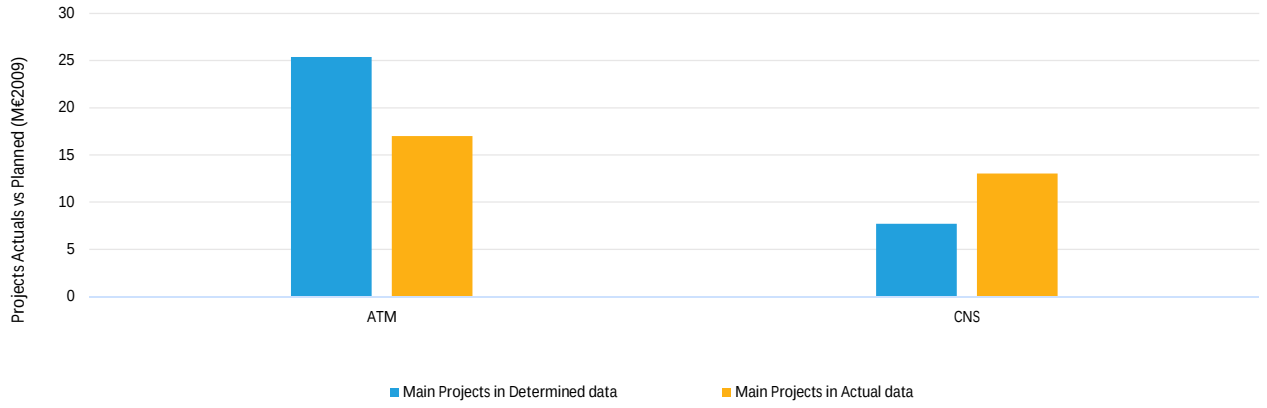
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Denmark - Naviair

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	ATM	4.33	4.24	5.65	5.64	5.52	25.38
2	CNS	1.32	1.53	1.96	1.47	1.43	7.71

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	ATM	1.49	4.13	3.92	4.01	3.45	17.00
2	CNS	1.11	2.17	2.71	4.81	2.25	13.04

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	ATM	(2.85)	(0.11)	(1.73)	(1.63)	(2.06)	(8.38)
2	CNS	(0.21)	0.63	0.75	3.35	0.81	5.33



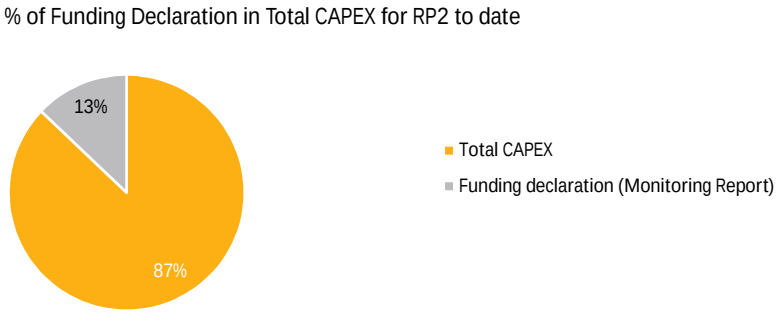
For RP2, the largest determined and actual investment is “ATM”. Project “ATM” received 8.38M€$_{2009}$ less than initially planned. On the other hand, “CNS” received 5.33M€$_{2009}$ more than initially determined.

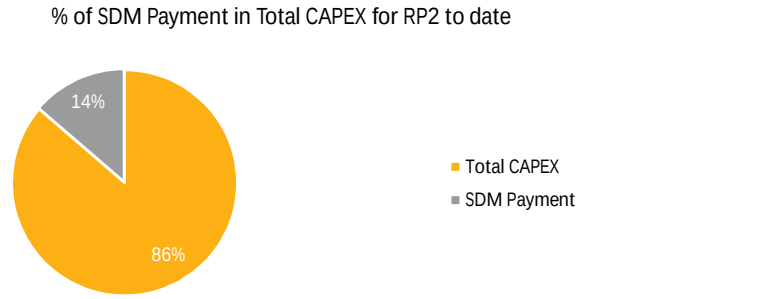
The difference between determined and actual expenses is due to various shifts in the start date of sub-projects. Another reason for difference is the reallocation of expenses from CAPEX to OPEX.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Denmark - Naviair

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total	0.76	5.00	-	-	0.00	5.76

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.76	5.00	-	-	0.00	5.76
SDM Payment	0.09	2.49	1.50	-	2.04	6.11





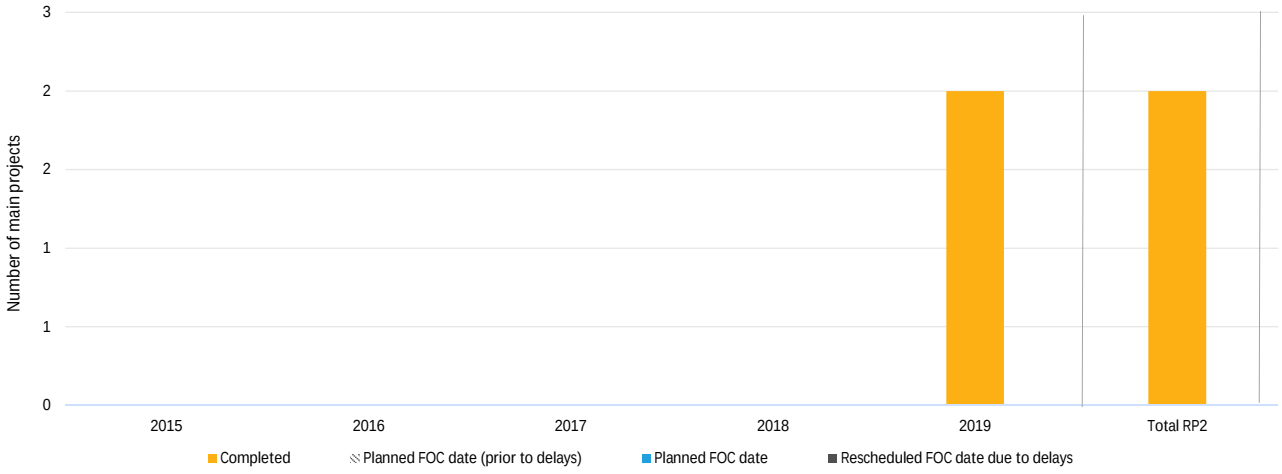
Denmark received funds through seven different funding schemes . However, with the information provided, the funds granted could not be linked to specific projects.

The total amount of EU funding declared by Denmark for RP2 is 5.76M€$_{2009}$, which represents 13% of the actual total CAPEX.
The total SDM payments amount to 6.11M€$_{2009}$, which is higher than the funding declaration and cover 14% of the actual total CAPEX invested during RP2.

Denmark received 21.4€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Implementing harmonised SWIM (Y) solution in COOPANS ANSPs and general PCP compliance" (5.85M€), "AF3A Harmonisation of Tech ATM Platform in 5 ANSP inc suprt of FRA and prep of PCP program.(COOPANS B3.3, B3.4 and B3.5)" (4.83M€) and "2015_227_AF3_A Borealis - FRA Implementation (Part 2)" (3.82M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Denmark - Naviair

#	Main Projects	Status in 2019	FOC* date	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	ATM	Completed	2019	x	x	x	x	x	
2	CNS	Completed	2019			x		x	



Denmark planned two main projects for RP2, both have been completed.

There is no clear indication on the completion date of the projects. Therefore, 2019 has been used as a default.
Project "ATM" is expected to benefit all four performance areas, "CNS" is expected to improve capacity.

The actual investment made in RP2 for the two projects that were linked to the Pilot Common Project was 30.04M€$_{2009}$. This amount represents 67% of the actual total CAPEX. No project was included in the Network Operations Plan.

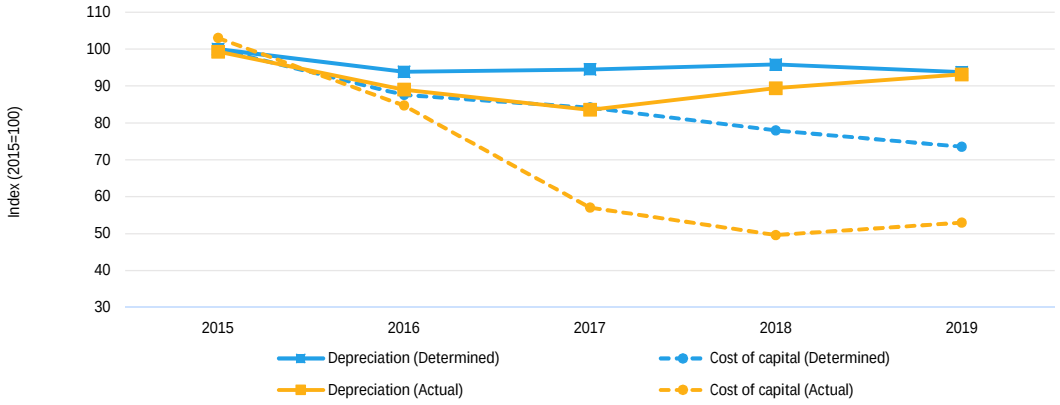
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Denmark - Naviair

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**12.11**	**11.37**	**11.45**	**11.61**	**11.36**	**57.89**
- En route	10.47	9.83	9.90	10.04	9.82	50.05
- Terminal	1.64	1.54	1.55	1.57	1.54	7.84
Cost of Capital	**7.12**	**6.24**	**6.00**	**5.56**	**5.24**	**30.15**
- En route	5.14	4.46	4.28	3.95	3.74	21.56
- Terminal	1.99	1.78	1.72	1.61	1.50	8.59
Total	**19.23**	**17.61**	**17.44**	**17.16**	**16.60**	**88.05**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**12.03**	**10.78**	**10.12**	**10.83**	**11.28**	**55.05**
- En route	10.25	9.38	8.82	9.43	9.70	47.58
- Terminal	1.78	1.40	1.31	1.41	1.59	7.48
Cost of Capital	**7.34**	**6.03**	**4.06**	**3.54**	**3.78**	**24.75**
- En route	5.29	4.18	2.52	2.10	2.36	16.45
- Terminal	2.05	1.86	1.54	1.44	1.41	8.29
Total	**19.37**	**16.82**	**14.19**	**14.37**	**15.06**	**79.80**

Difference between Actuas and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.08)**	**(0.59)**	**(1.32)**	**(0.77)**	**(0.08)**	**(2.84)**
- En route	(0.22)	(0.45)	(1.08)	(0.61)	(0.12)	(2.47)
- Terminal	0.13	(0.14)	(0.24)	(0.17)	0.05	(0.37)
Cost of Capital	**0.22**	**(0.20)**	**(1.93)**	**(2.02)**	**(1.46)**	**(5.40)**
- En route	0.15	(0.28)	(1.75)	(1.85)	(1.38)	(5.11)
- Terminal	0.06	0.07	(0.18)	(0.17)	(0.09)	(0.29)
Total	**0.13**	**(0.79)**	**(3.25)**	**(2.79)**	**(1.54)**	**(8.25)**



Over RP2, the actual CAPEX is 3% higher than determined (overspent), closing the gap generated in the first year of the period. Despite this fact, the related planned costs were included in the determined costs and therefore charged (or are being charged) to airspace users. This implies that users have financed 8.25M€$_{2009}$ for investments that have been not materialised in RP2.

Throughout RP2, the actual depreciation was lower than determined by 2.84M€$_{2009}$. This was mainly due to a lower level of investments than expected at the start of RP2.

Throughout RP2, the actual cost of capital was 5.40M€$_{2009}$ lower than determined. This was due to a combination of a lower than planned fixed asset base and a lower than expected WACC (the actual debt interest rate to the State was lower than in the performance plan).

4.4.2 Sweden - LFV

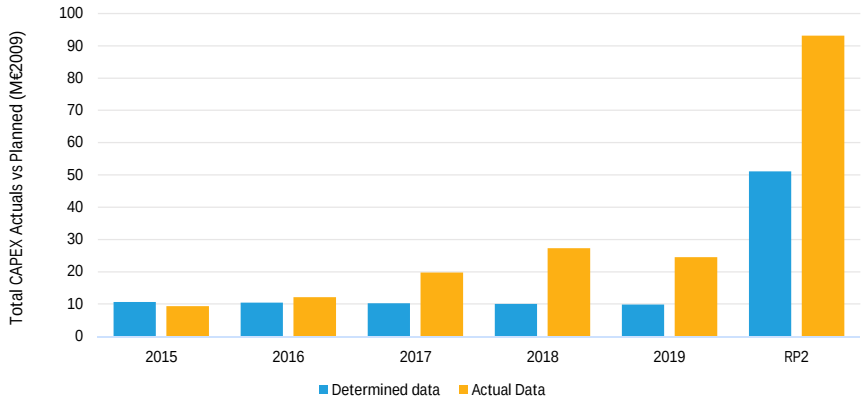
Over RP2, Sweden overspent 42M€$_{2009}$ (+82%) with respect to the performance plan. However, the overspending is partly due to "other CAPEX" (+17.41M€$_{2009}$), without specifying the destinations of the amounts. Despite higher actual than planned capital expenditure, the actual total depreciation and cost of capital were lower than determined (-2M€$_{2009}$). Sweden planned seven main projects for RP2: three projects have been completed, representing 4M€$_{2009}$; three are ongoing and expected to continue in RP3, representing 17M€$_{2009}$; and one has been delayed from 2019 to 2021, representing 22M€$_{2009}$.

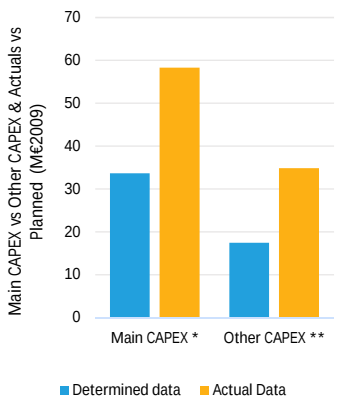
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**10.66**	**10.41**	**10.20**	**10.00**	**9.80**	**51.08**
- Main CAPEX *	9.78	8.77	5.61	5.00	4.49	33.65
- *% Main into Total CAPEX*	*92%*	*84%*	*55%*	*50%*	*46%*	*66%*
- Other CAPEX **	0.89	1.65	4.59	5.00	5.31	17.44
- *% Other into Total CAPEX*	*8%*	*16%*	*45%*	*50%*	*54%*	*34%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**9.37**	**12.10**	**19.77**	**27.31**	**24.56**	**93.12**
- Main CAPEX	4.30	7.94	11.74	19.89	14.40	58.27
- *% Main into Total CAPEX*	*46%*	*66%*	*59%*	*73%*	*59%*	*63%*
- Other CAPEX	5.07	4.16	8.03	7.43	10.16	34.85
- *% Other into Total CAPEX*	*54%*	*34%*	*41%*	*27%*	*41%*	*37%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(1.29)**	**1.69**	**9.57**	**17.31**	**14.76**	**42.04**
- Main CAPEX	(5.47)	(0.82)	6.13	14.89	9.91	24.63
- Other CAPEX	4.18	2.51	3.44	2.43	4.85	17.41
Total CAPEX (%)	***-12%***	***16%***	***94%***	***173%***	***151%***	***82%***
- *Main CAPEX (%)*	*-56%*	*-9%*	*109%*	*298%*	*220%*	*73%*
- *Other CAPEX (%)*	*470%*	*152%*	*75%*	*49%*	*91%*	*200%*





The total actual capital expenditure for RP2 is 93.12M€$_{2009}$. For RP2, Sweden spent 42.04M€$_{2009}$ (+82%) more CAPEX than originally planned. For RP2, the main CAPEX is 73% higher and other CAPEX was doubled, 200% higher.

In 2015, Sweden spent 1.29M€$_{2009}$ less than planned, while for 2016 and 2017, Sweden overspent 1.69M€$_{2009}$ and 9.57M€$_{2009}$, respectively. In 2018, actual CAPEX was 17.31M€$_{2009}$ higher than planned (+173%), and 14.76M€$_{2009}$ higher than planned for 2019.

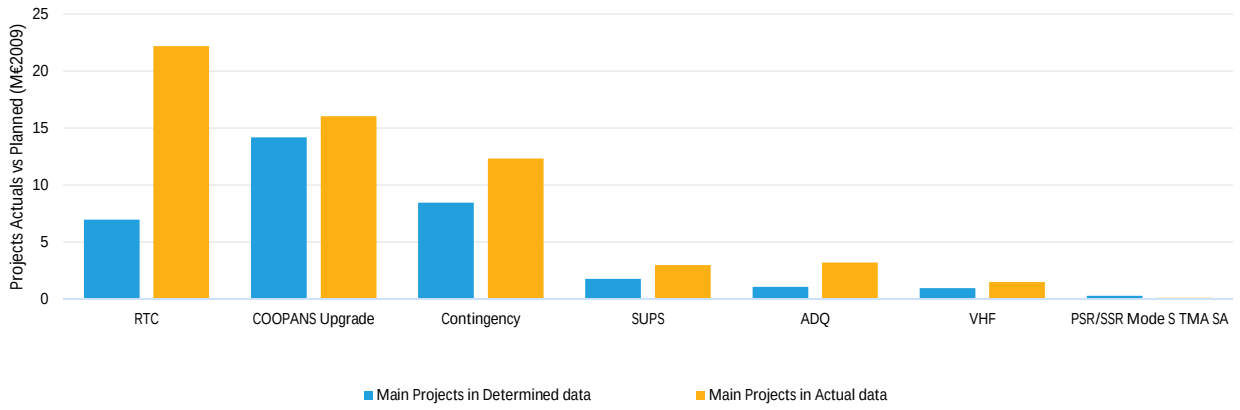
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Sweden - LFV

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	RTC	4.18	2.78	-	-	-	6.95
2	COOPANS Upgrade	2.40	3.04	2.98	2.92	2.86	14.19
3	Contingency	0.44	2.17	2.13	2.08	1.63	8.46
4	SUPS	1.42	0.17	0.17	-	-	1.77
5	ADQ	1.07	-	-	-	-	1.07
6	VHF	0.27	0.35	0.34	-	-	0.95
7	PSR/SSR Mode S TMA SA	-	0.26	-	-	-	0.26

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	RTC	1.03	3.13	3.23	8.90	5.90	22.19
2	COOPANS Upgrade	1.90	1.87	2.45	4.97	4.84	16.04
3	Contingency	0.03	1.73	4.12	4.25	2.21	12.33
4	SUPS	0.90	0.37	0.96	0.61	0.13	2.96
5	ADQ	0.02	0.25	0.73	1.02	1.16	3.18
6	VHF	0.35	0.57	0.26	0.13	0.16	1.47
7	PSR/SSR Mode S TMA SA	0.07	0.03	-	-	-	0.10

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	RTC	(3.15)	0.35	3.23	8.90	5.90	15.23
2	COOPANS Upgrade	(0.50)	(1.16)	(0.52)	2.06	1.98	1.85
3	Contingency	(0.42)	(0.44)	1.99	2.17	0.58	3.88
4	SUPS	(0.52)	0.19	0.79	0.61	0.13	1.20
5	ADQ	(1.05)	0.25	0.73	1.02	1.16	2.12
6	VHF	0.09	0.22	(0.08)	0.13	0.16	0.52
7	PSR/SSR Mode S TMA SA	0.07	(0.23)	-	-	-	(0.16)



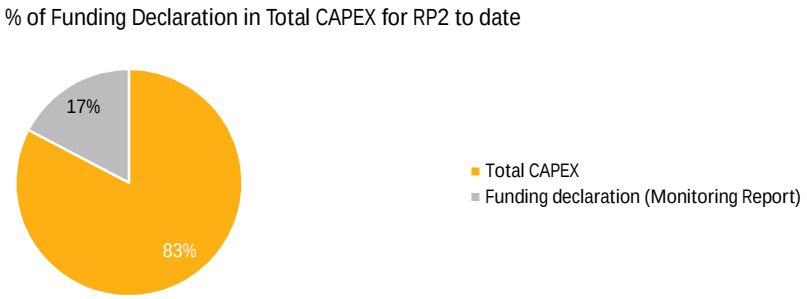
For RP2, the largest actual investment was "RTC", which received more than triple of what was initially determined.

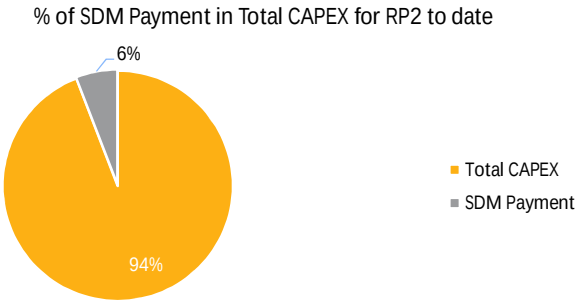
The actual amount was higher than determined for all the investments, with the exception of “PSR/SSR Mode S TMA SA” where the actual investment was lower than determined.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Sweden - LFV

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	1.88	7.70	0.60	2.70	3.24	16.12

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	1.88	7.70	0.60	2.70	3.24	16.12
SDM Payment	0.11	2.05	0.51	-	2.80	5.47





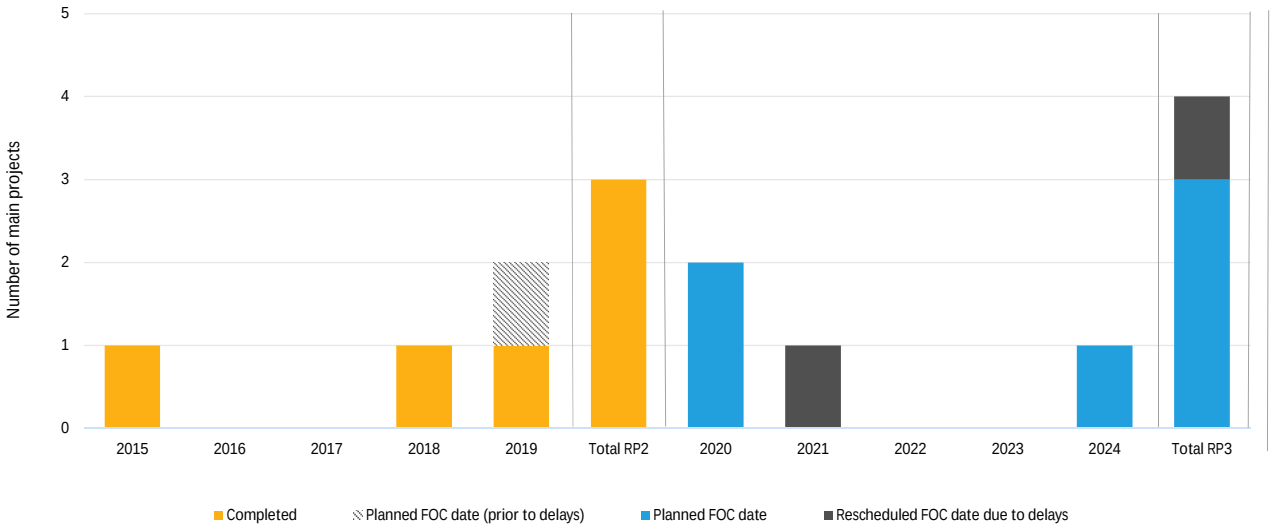
Sweden received funds through 12 different funding schemes. However, with the information provided, the funds granted could not be linked to specific projects.

The total amount of EU funding declared by Sweden for RP2 is 16.12M€$_{2009}$, which reresents 17% of the actual total CAPEX.
The total SDM payments amount to 5.47M€$_{2009}$, which cover 6% of the actual total CAPEX invested during RP2.

Sweden received 19.03M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Implementing harmonised SWIM (Y) solution in COOPANS ANSPs and general PCP compliance" (5.49M€), "AF3A Harmonisation of Tech ATM Platform in 5 ANSP inc suprt of FRA and prep of PCP program.(COOPANS B3.3, B3.4 and B3.5)" (4.68M€) and "DK-SE FAB Aeronautical Data Quality (ADQ)" (1.98M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Sweden - LFV

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	RTC	Delayed	2021						
2	COOPANS Upgrade	Ongoing	2024	x	x	x	x	x	
3	Contingency	Ongoing	2020	x	x	x	x		
4	SUPS	Completed	2019		x		x		
5	ADQ	Ongoing	2020	x	x	x		x	
6	VHF	Completed	2018	x		x	x		
7	PSR/SSR Mode S TMA SA	Completed	2015	x	x	x	x		



Sweden planned seven main projects for RP2: three projects have been completed, representing 4.53M€$_{2009}$; four are ongoing and expected to continue in RP3, representing 17.29M€$_{2009}$; and one has been delayed from 2019 to 2021, representing 22.19M€$_{2009}$.

Five projects are expected to benefit each of the four KPAs. The project "RTC" is not expected to benefit any KPA.

The actual investment made in RP2 for the two projects that were linked to the Pilot Common Project was 17.29M€$_{2009}$. This amount represents 29% of the actual total CAPEX. No project was included in the Network Operations Plan.

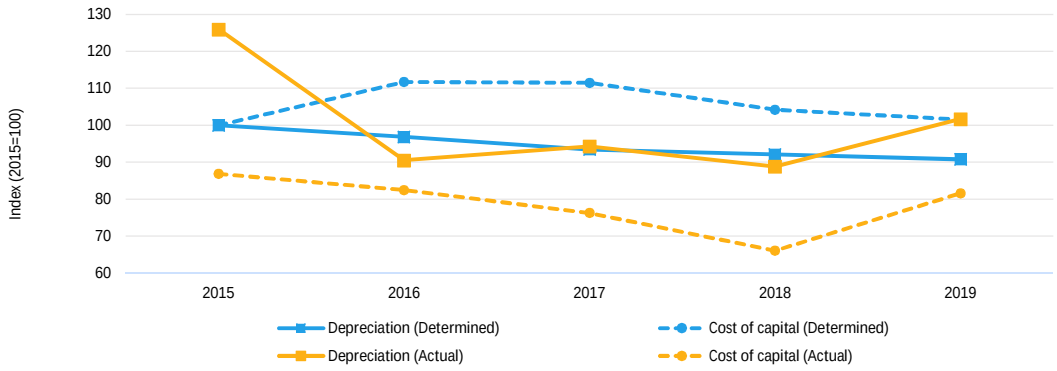
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Sweden - LFV

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**14.89**	**14.42**	**13.91**	**13.71**	**13.51**	**70.44**
- En route	14.26	13.82	13.46	13.24	13.13	67.91
- Terminal	0.63	0.61	0.45	0.46	0.38	2.53
Cost of Capital	**4.42**	**4.94**	**4.93**	**4.61**	**4.49**	**23.38**
- En route	4.16	4.66	4.62	4.29	4.20	21.93
- Terminal	0.26	0.28	0.30	0.31	0.29	1.45
Total	**19.31**	**19.36**	**18.84**	**18.31**	**18.00**	**93.82**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**18.75**	**13.48**	**14.04**	**13.23**	**15.14**	**74.64**
- En route	17.68	12.64	13.63	12.82	14.65	71.43
- Terminal	1.07	0.84	0.41	0.40	0.49	3.21
Cost of Capital	**3.84**	**3.65**	**3.37**	**2.92**	**3.61**	**17.38**
- En route	3.50	3.34	3.05	2.74	3.35	15.98
- Terminal	0.34	0.31	0.32	0.18	0.25	1.40
Total	**22.59**	**17.13**	**17.41**	**16.15**	**18.74**	**92.02**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**3.87**	**(0.94)**	**0.13**	**(0.48)**	**1.62**	**4.20**
- En route	3.43	(1.18)	0.17	(0.42)	1.52	3.52
- Terminal	0.44	0.24	(0.03)	(0.06)	0.10	0.68
Cost of Capital	**(0.58)**	**(1.29)**	**(1.56)**	**(1.69)**	**(0.88)**	**(6.00)**
- En route	(0.66)	(1.32)	(1.58)	(1.55)	(0.85)	(5.95)
- Terminal	0.08	0.03	0.02	(0.14)	(0.04)	(0.05)
Total	**3.29**	**(2.23)**	**(1.43)**	**(2.16)**	**0.74**	**(1.80)**



Over RP2, the actual CAPEX was 82% higher than determined (overspent). Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 1.80M€$_{2009}$ for investments that have been materialised in RP2.

Throughout RP2, the actual depreciation was higher than the determined one by 4.20M€$_{2009}$. In 2015, higher depreciation was mainly due to scrapping, write-downs in conjunction with stocktaking and review of fixed assets and their book value. In 2016, the depreciation was 0.98M€$_{2009}$ lower than determined, mainly as a result of the extra depreciation made in 2015. The depreciation in 2017 was 0.14M€$_{2009}$ lower than determined, mainly due to a change in the depreciation periods after an inventory. In 2018, the trend of depreciation continued, being 0.93M€$_{2009}$ less than determined, as a result of some assets entering into operation slightly later than planned. In 2019, depreciation was higher than determined, due to higher investments than planned and assets being taken into operation.

Throughout RP2, the actual cost of capital was 6M€$_{2009}$ lower than determined. This was mainly due to a lower than planned fixed asset base (as a result of the reasons described above) and also due to an actual Weighted Average Cost of Capital (WACC) lower than planned.

4.5 FAB CE

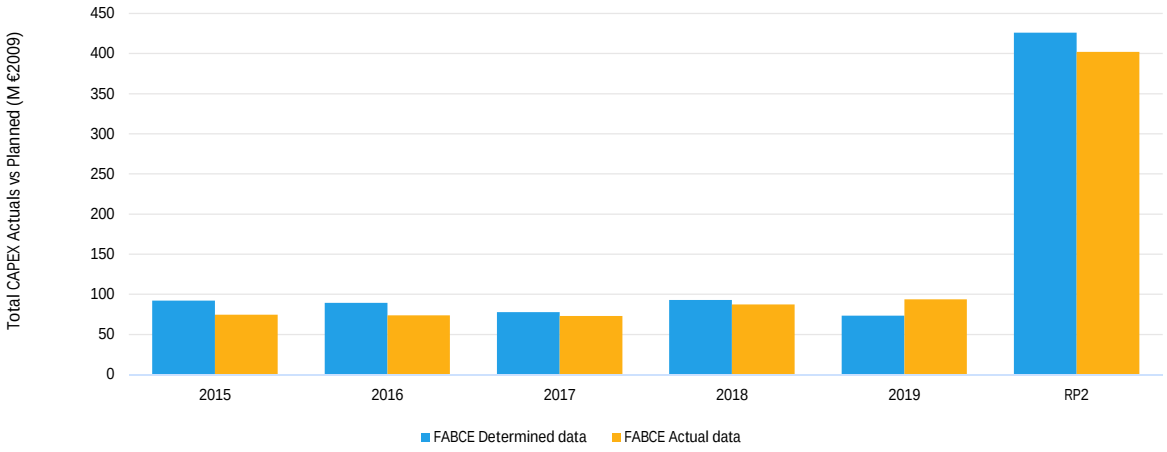
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**92.32**	**89.37**	**77.63**	**93.00**	**73.55**	**425.88**
- *Main CAPEX*	70.95	71.72	64.56	80.66	62.67	350.57
- *% Main into Total CAPEX*	*77%*	*80%*	*83%*	*87%*	*85%*	*82%*
- Other CAPEX	21.38	17.65	13.07	12.33	10.88	75.31
- *% Other into Total CAPEX*	*23%*	*20%*	*17%*	*13%*	*15%*	*18%*
- Austria in Total CAPEX in FABCE	23.57	23.92	30.05	31.79	30.55	139.88
- *% Austria in Total CAPEX in FABCE*	*26%*	*27%*	*39%*	*34%*	*42%*	*33%*
- Croatia in Total CAPEX in FABCE	11.91	10.56	10.19	9.02	7.91	49.59
- *% Croatia in Total CAPEX in FABCE*	*13%*	*12%*	*13%*	*10%*	*11%*	*12%*
- Czech Republic in Total CAPEX in FABCE	29.71	30.23	16.52	20.02	10.62	107.10
- *% Czech Republic in Total CAPEX in FABCE*	*32%*	*34%*	*21%*	*22%*	*14%*	*25%*
- Hungary in Total CAPEX in FABCE	16.89	14.90	5.50	14.51	13.03	64.84
- *% Hungary in Total CAPEX in FABCE*	*18%*	*17%*	*7%*	*16%*	*18%*	*15%*
- Slovakia in Total CAPEX in FABCE	8.68	8.31	14.34	14.54	8.30	54.17
- *% Slovakia in Total CAPEX in FABCE*	*9%*	*9%*	*18%*	*16%*	*11%*	*13%*
- Slovenia in Total CAPEX in FABCE	1.56	1.45	1.03	3.11	3.14	10.30
- *% Slovenia in Total CAPEX in FABCE*	*2%*	*2%*	*1%*	*3%*	*4%*	*2%*

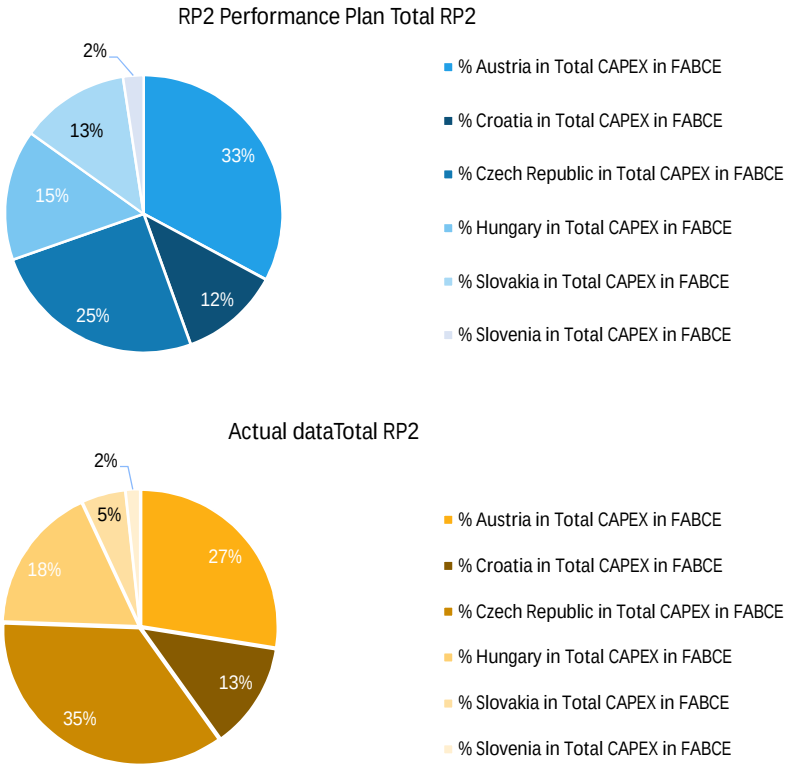
Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**74.64**	**73.73**	**72.96**	**87.30**	**93.67**	**402.30**
- Main CAPEX	55.40	58.51	47.85	67.56	66.68	296.00
- *% Main into Total CAPEX*	*74%*	*79%*	*66%*	*77%*	*71%*	*74%*
- Other CAPEX	19.23	15.21	25.11	19.75	26.99	106.30
- *% Other into Total CAPEX*	*26%*	*21%*	*34%*	*23%*	*29%*	*26%*
- Austria in Total CAPEX in FABCE	20.29	22.04	19.11	24.70	24.48	110.63
- *% Austria in Total CAPEX in FABCE*	*27%*	*30%*	*26%*	*28%*	*26%*	*27%*
- Croatia in Total CAPEX in FABCE	7.25	7.35	10.37	13.55	12.26	50.78
- *% Croatia in Total CAPEX in FABCE*	*10%*	*10%*	*14%*	*16%*	*13%*	*13%*
- Czech Republic in Total CAPEX in FABCE	17.88	30.71	25.70	33.77	34.52	142.57
- *% Czech Republic in Total CAPEX in FABCE*	*24%*	*42%*	*35%*	*39%*	*37%*	*35%*
- Hungary in Total CAPEX in FABCE	21.38	9.79	14.14	9.96	15.22	70.49
- *% Hungary in Total CAPEX in FABCE*	*29%*	*13%*	*19%*	*11%*	*16%*	*18%*
- Slovakia in Total CAPEX in FABCE	6.75	2.68	2.09	3.76	5.58	20.86
- *% Slovakia in Total CAPEX in FABCE*	*9%*	*4%*	*3%*	*4%*	*6%*	*5%*
- Slovenia in Total CAPEX in FABCE	1.10	1.16	1.55	1.56	1.61	6.97
- *% Slovenia in Total CAPEX in FABCE*	*1%*	*2%*	*2%*	*2%*	*2%*	*2%*

OVERALL INVESTMENTS FAB CE

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(17.69)**	**(15.64)**	**(4.67)**	**(5.69)**	**20.12**	**(23.58)**
- Main CAPEX	(15.54)	(13.21)	(16.71)	(13.11)	4.01	(54.56)
- Other CAPEX	(2.14)	(2.43)	12.04	7.41	16.11	30.99
Total CAPEX (%)	***-19%***	***-18%***	***-6%***	***-6%***	***27%***	***-6%***
- Main CAPEX (%)	*-22%*	*-18%*	*-26%*	*-16%*	*6%*	*-16%*
- Other CAPEX (%)	*-10%*	*-14%*	*92%*	*60%*	*148%*	*41%*



OVERALL INVESTMENTS FAB CE



The total actual capital expenditure over RP2 for FAB CE is 402.30M$_{€2009}$. For RP2, investments in FAB CE are 23.58M€$_{2009}$ lower than originally planned. The investments were lower than planned in every year of the period except for 2019, when the members of the FAB overspent by 20.12M€$_{2009}$. In the FAB, Austria, Slovakia and Slovenia underspent, with respect to the performance plan, while Croatia, the Czech Republic and Hungary overspent.

In terms of actual investments over the period, Slovenia represents a minimal share of 2% of the actual investments, Slovakia represents 5% (down from 13% in determined data, due to underspending), Hungary represents 18% due to a small overspending, the Czech Republic represents the largest share, with 35% due to overspending, Croatia represents 13% and Austria represents 27% of the actual investments to date.

4.5.1 Austria - Austro Control

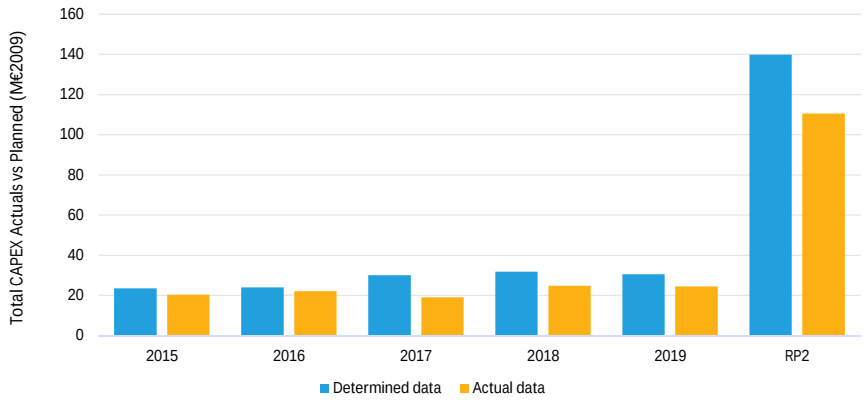
Over RP2, Austria underspent 29M€$_{2009}$ (-21%) with respect to the performance plan. As a result of the underinvestment, Austria overcharged +7M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Austria planned seven main projects for RP2, all of which have been started and are expected to be completed in RP3.

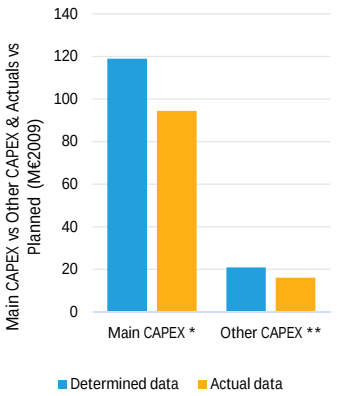
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**23.57**	**23.92**	**30.05**	**31.79**	**30.55**	**139.88**
- Main CAPEX *	20.25	17.81	25.83	27.79	27.23	118.92
- *% Main into Total CAPEX*	*86%*	*74%*	*86%*	*87%*	*89%*	*85%*
- Other CAPEX **	3.32	6.11	4.23	3.99	3.31	20.96
- *% Other into Total CAPEX*	*14%*	*26%*	*14%*	*13%*	*11%*	*15%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**20.29**	**22.04**	**19.11**	**24.70**	**24.48**	**110.63**
- Main CAPEX	16.97	19.33	16.55	21.86	19.75	94.47
- *% Main into Total CAPEX*	*84%*	*88%*	*87%*	*89%*	*81%*	*85%*
- Other CAPEX	3.32	2.71	2.56	2.84	4.73	16.16
- *% Other into Total CAPEX*	*16%*	*12%*	*13%*	*11%*	*19%*	*15%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(3.28)**	**(1.88)**	**(10.94)**	**(7.09)**	**(6.07)**	**(29.25)**
- Main CAPEX	(3.29)	1.52	(9.27)	(5.93)	(7.48)	(24.45)
- Other CAPEX	0.00	(3.40)	(1.67)	(1.15)	1.42	(4.80)
Total CAPEX (%)	***-14%***	***-8%***	***-36%***	***-22%***	***-20%***	***-21%***
- *Main CAPEX (%)*	*-16%*	*9%*	*-36%*	*-21%*	*-27%*	*-21%*
- *Other CAPEX (%)*	*0%*	*-56%*	*-39%*	*-29%*	*43%*	*-23%*





The total actual capital expenditure for RP2 is 110.63M€$_{2009}$. For RP2, Austria spent 29.25M€$_{2009}$ (-21%) less CAPEX than originally determined. For RP2, the main CAPEX is 21% lower than determined, while other CAPEX is 23% lower.

Austria invested less than initially determined, in every year of RP2, 3.28M€$_{2009}$ less in 2015, 1.88M€$_{2009}$ less in 2016, 10.94M€$_{2009}$ less in 2017, 7.09M€$_{2009}$ less in 2018 and 6.07M€$_{2009}$ less in 2019.

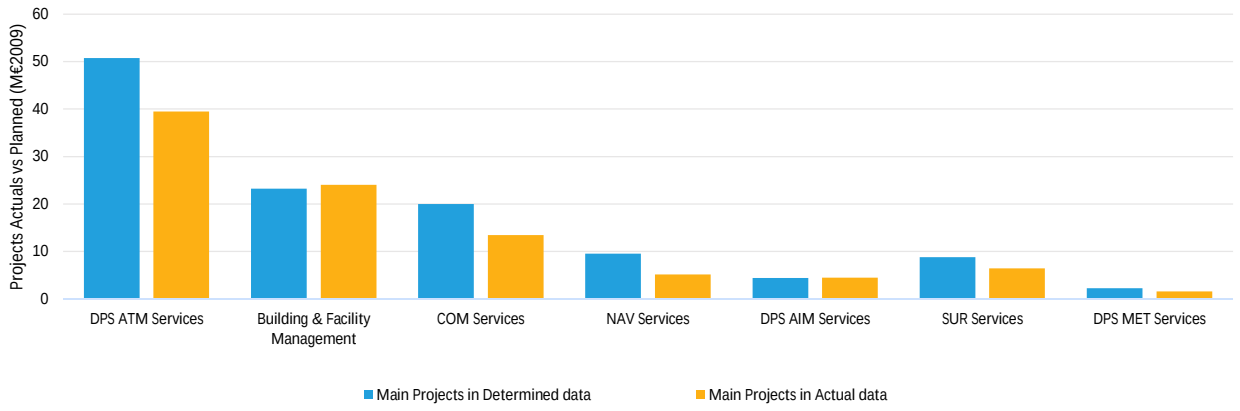
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Austria - Austro Control

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	DPS ATM Services	8.44	7.11	11.93	12.12	11.19	50.79
2	Building & Facility Management	5.57	3.76	6.78	4.35	2.73	23.19
3	COM Services	3.32	3.22	3.17	4.75	5.53	19.99
4	NAV Services	1.53	0.73	1.27	1.99	4.00	9.51
5	DPS AIM Services	1.02	0.91	0.87	0.82	0.79	4.41
6	SUR Services	0.04	1.72	0.85	3.54	2.66	8.81
7	DPS MET Services	0.33	0.36	0.96	0.24	0.34	2.23

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	DPS ATM Services	8.37	8.03	5.58	11.96	5.56	39.51
2	Building & Facility Management	3.56	5.74	5.57	4.01	5.13	24.02
3	COM Services	3.14	3.05	1.66	1.46	4.09	13.41
4	NAV Services	0.37	0.44	2.07	1.85	0.40	5.14
5	DPS AIM Services	0.59	0.84	1.06	1.03	0.92	4.43
6	SUR Services	0.66	0.76	0.43	1.32	3.23	6.40
7	DPS MET Services	0.28	0.47	0.18	0.22	0.41	1.56

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	DPS ATM Services	(0.07)	0.92	(6.35)	(0.16)	(5.62)	(11.28)
2	Building & Facility Management	(2.02)	1.99	(1.21)	(0.33)	2.41	0.83
3	COM Services	(0.19)	(0.17)	(1.51)	(3.28)	(1.43)	(6.58)
4	NAV Services	(1.16)	(0.29)	0.81	(0.14)	(3.60)	(4.37)
5	DPS AIM Services	(0.43)	(0.08)	0.19	0.21	0.13	0.02
6	SUR Services	0.63	(0.96)	(0.41)	(2.22)	0.57	(2.40)
7	DPS MET Services	(0.05)	0.11	(0.78)	(0.01)	0.07	(0.67)



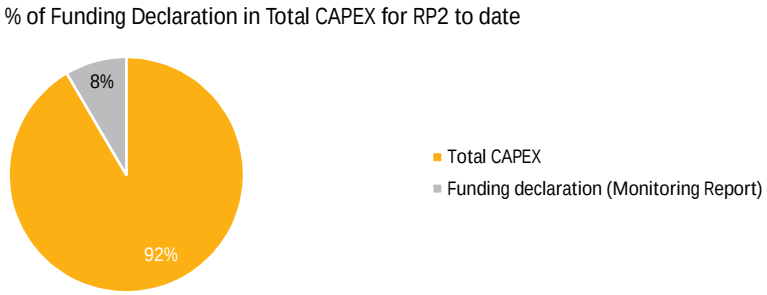
For RP2, the main project is the "DPS ATM Services" with a total actual investment of 39.51M€$_{2009}$; however the amount spent is 11.28M€$_{2009}$ less than initially determined. The second largest project is "Building & Facility Management" which received 24.02M€$_{2009}$, 0.83M€$_{2009}$ more compared to the determined.

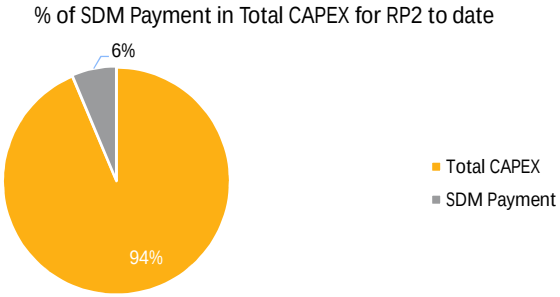
The actual investments of two projects were higher than determined ("Building & Facility Management" and "DPS AIM Services"). The remaining five other projects spent less than originally determined.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Austria - Austro Control

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	0.48	5.07	0.93	0.26	2.63	9.37

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.48	5.07	0.93	0.26	2.63	9.37
SDM Payment	0.81	2.41	1.20	-	2.60	7.01





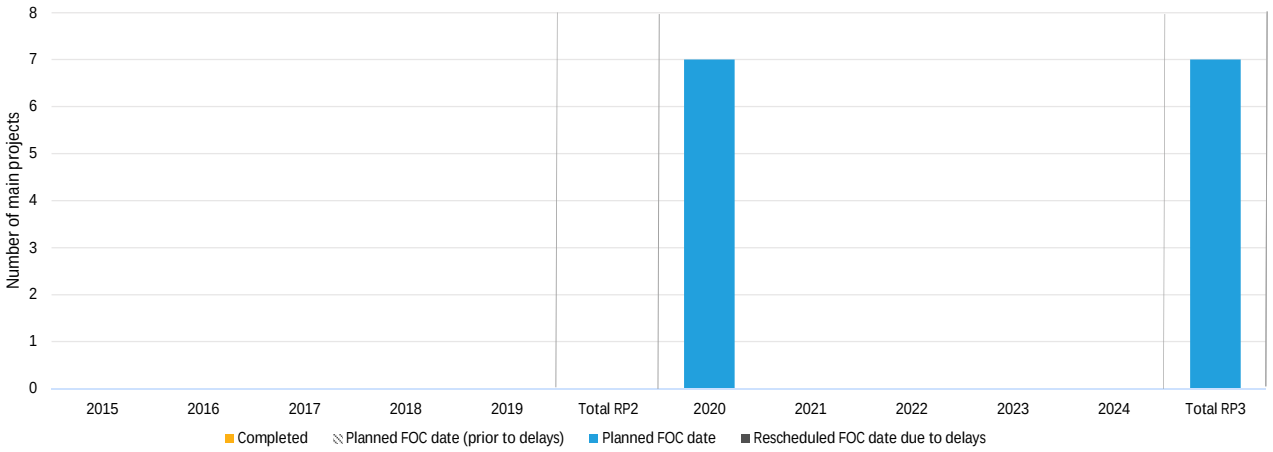
Austria received funds from CEF in the years of 2014, 2015 and 2016. The projects which received funding are "COM Services", "NAV Services", "DPS ATM Services", "DPS AIM Services" and “DPS MET Services". However, with the information provided, the individual amount of funding per project could not be linked.

The total amount of EU funding declared by Austria for RP2 is 9.37M€$_{2009}$, which represent 8% of the actual total CAPEX.
The total SDM payments amount to 7.01M€$_{2009}$, which cover 6% of the actual total CAPEX invested during RP2.

Austria received 26.45M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Implementing harmonised SWIM (Y) solution in COOPANS ANSPs and general PCP compliance" (5.30M€), "AF3A Harmonisation of Tech ATM Platform in 5 ANSP inc suprt of FRA and prep of PCP program.(COOPANS B3.3, B3.4 and B3.5)" (4.26M€) and "VHF Concept Implementation 2020" (4.05M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Austria - Austro Control

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	DPS ATM Services	Ongoing	2020	x	x	x	x	x	
2	Building & Facility Management	Ongoing	2020	x	x		x		
3	COM Services	Ongoing	2020	x	x	x	x	x	
4	NAV Services	Ongoing	2020	x		x	x	x	
5	DPS AIM Services	Ongoing	2020	x		x	x	x	
6	SUR Services	Ongoing	2020	x		x	x	x	
7	DPS MET Services	Ongoing	2020	x		x	x	x	



Austria planned seven main projects for RP2, all of which have been started and are expected to be completed in RP3.

Austria invested in safety, capacity and cost efficiency (six out of seven projects) as priorities. Three out of seven projects are expected to bring benefits for the environment.

The actual investment made in RP2 for the six projects that were linked to the Pilot Common Project is 70.45M€$_{2009}$. This amount represents 64% of the actual Main CAPEX. No project was included in the Network Operations Plan.

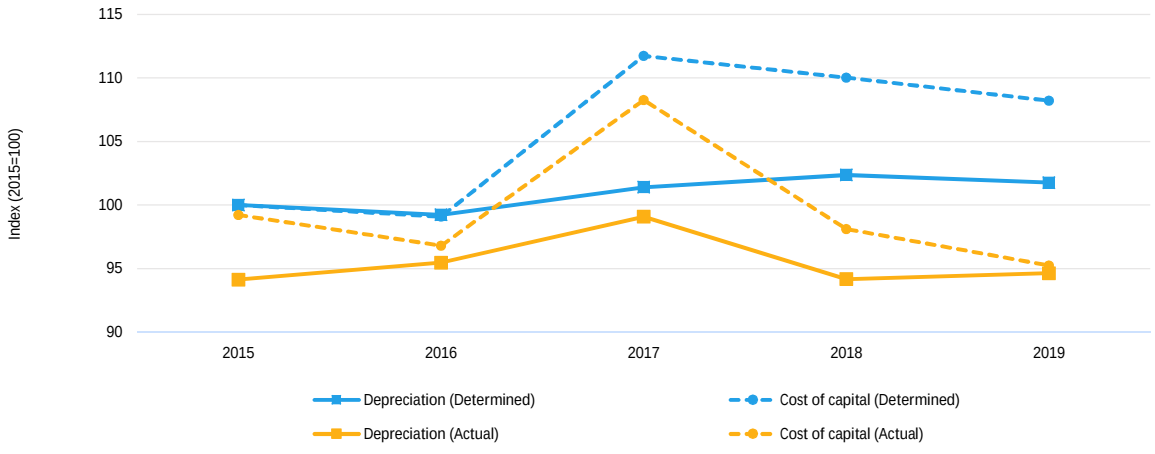
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Austria - Austro Control

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**21.31**	**21.14**	**21.61**	**21.81**	**21.68**	**107.55**
- En route	16.00	16.16	16.68	16.96	16.93	82.74
- Terminal	5.30	4.98	4.92	4.86	4.75	24.81
Cost of Capital	**4.74**	**4.70**	**5.30**	**5.22**	**5.13**	**25.09**
- En route	4.06	4.03	3.99	3.93	3.87	19.89
- Terminal	0.68	0.67	1.31	1.29	1.27	5.21
Total	**26.05**	**25.84**	**26.90**	**27.03**	**26.82**	**132.64**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**20.06**	**20.34**	**21.11**	**20.06**	**20.16**	**101.74**
- En route	15.97	16.35	16.19	15.58	15.69	79.78
- Terminal	4.09	4.00	4.92	4.49	4.47	21.96
Cost of Capital	**4.71**	**4.59**	**5.13**	**4.65**	**4.52**	**23.60**
- En route	4.18	4.08	3.97	3.66	3.56	19.44
- Terminal	0.53	0.51	1.16	1.00	0.96	4.16
Total	**24.76**	**24.93**	**26.25**	**24.72**	**24.68**	**125.34**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(1.25)**	**(0.80)**	**(0.49)**	**(1.75)**	**(1.52)**	**(5.81)**
- En route	(0.03)	0.19	(0.49)	(1.38)	(1.24)	(2.95)
- Terminal	(1.22)	(0.99)	(0.00)	(0.37)	(0.28)	(2.85)
Cost of Capital	**(0.04)**	**(0.11)**	**(0.16)**	**(0.57)**	**(0.61)**	**(1.49)**
- En route	0.11	0.05	(0.02)	(0.28)	(0.31)	(0.44)
- Terminal	(0.15)	(0.16)	(0.15)	(0.29)	(0.31)	(1.05)
Total	**(1.29)**	**(0.91)**	**(0.66)**	**(2.31)**	**(2.13)**	**(7.30)**



Over RP2, 21% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 7.30M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 5.81M€$_{2009}$. This was mainly due to delayed investments in 2017/2018 (e.g. VCS, ASR Vienna).

Throughout RP2, the actual cost of capital was lower than the determined one by 1.49M€$_{2009}$. This was mainly due to a lower than determined fixed asset base as a result of the delays in investments (the actual WACC was in line with the performance plan).

4.5.2 Croatia - Croatia Control

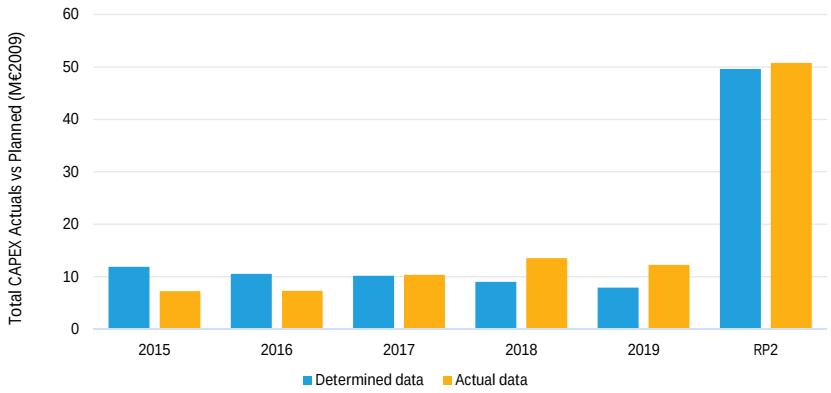
Over RP2, Croatia overspent 1M€$_{2009}$ with (+2%) respect to the performance plan, closing the gap generated in the first years of the period. Due to the late catching up of CAPEX, Croatia overcharged +7M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Croatia planned seven projects for RP2: one project has been completed, representing 2M€$_{2009}$; while the remaining five are expected to continue through RP3, representing 39M€$_{2009}$.

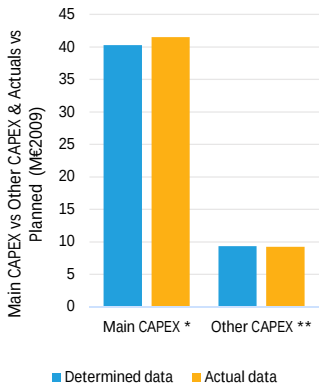
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**11.91**	**10.56**	**10.19**	**9.02**	**7.91**	**49.59**
- Main CAPEX *	9.45	8.56	8.21	7.51	6.55	40.28
- *% Main into Total CAPEX*	*79%*	*81%*	*81%*	*83%*	*83%*	*81%*
- Other CAPEX **	2.45	2.01	1.98	1.51	1.36	9.31
- *% Other into Total CAPEX*	*21%*	*19%*	*19%*	*17%*	*17%*	*19%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**7.25**	**7.35**	**10.37**	**13.55**	**12.26**	**50.78**
- Main CAPEX	5.17	5.68	8.57	11.66	10.44	41.53
- *% Main into Total CAPEX*	*71%*	*77%*	*83%*	*86%*	*85%*	*82%*
- Other CAPEX	2.08	1.67	1.80	1.89	1.82	9.25
- *% Other into Total CAPEX*	*29%*	*23%*	*17%*	*14%*	*15%*	*18%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(4.66)**	**(3.22)**	**0.19**	**4.53**	**4.35**	**1.19**
- Main CAPEX	(4.28)	(2.88)	0.36	4.15	3.89	1.25
- Other CAPEX	(0.38)	(0.34)	(0.17)	0.37	0.46	(0.06)
Total CAPEX (%)	***-39%***	***-30%***	***2%***	***50%***	***55%***	***2%***
- *Main CAPEX (%)*	*-45%*	*-34%*	*4%*	*55%*	*59%*	*3%*
- *Other CAPEX (%)*	*-15%*	*-17%*	*-9%*	*25%*	*34%*	*-1%*





The total actual capital expenditure for RP2 is 50.78M€$_{2009}$. For RP2, Croatia overspent 1.19M€$_{2009}$ in CAPEX than originally planned. For RP2, the main CAPEX is 3% higher than determined, while other CAPEX is 1% lower.

For 2015 and 2016, Croatia underspent 4.66M€$_{2009}$ and 3.22M€$_{2009}$, respectively. For 2017, 2018 and 2019, Croatia overspent 0.19M€$_{2009}$, 4.53M€$_{2009}$, and 4.35M€$_{2009}$ respectively.

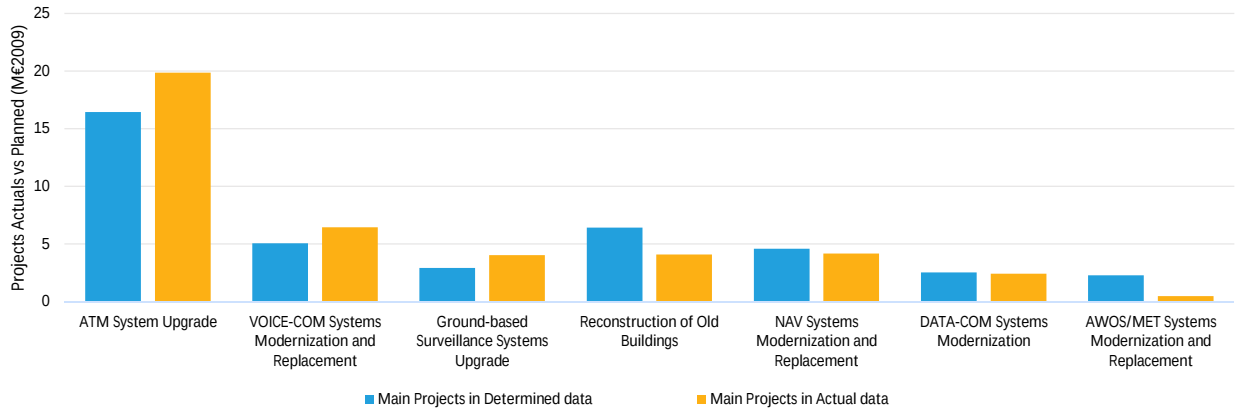
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Croatia - Croatia Control

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	ATM System Upgrade	5.03	2.94	2.89	2.82	2.75	16.43
2	VOICE-COM Systems Modernization and Replacement	0.33	1.68	1.29	0.95	0.82	5.07
3	Ground-based Surveillance Systems Upgrade	1.10	0.68	0.67	0.24	0.23	2.92
4	Reconstruction of Old Buildings	1.25	0.90	1.46	1.42	1.39	6.42
5	NAV Systems Modernization and Replacement	0.87	1.11	0.97	0.71	0.93	4.60
6	DATA-COM Systems Modernization	0.82	0.36	0.32	0.71	0.34	2.55
7	AWOS/MET Systems Modernization and Replacement	0.05	0.89	0.61	0.65	0.09	2.30

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	ATM System Upgrade	2.58	2.72	3.24	5.28	6.01	19.84
2	VOICE-COM Systems Modernization and Replacement	0.29	0.29	0.50	3.78	1.59	6.45
3	Ground-based Surveillance Systems Upgrade	1.12	0.08	1.96	0.88	0.01	4.04
4	Reconstruction of Old Buildings	0.13	0.84	1.27	0.85	1.00	4.09
5	NAV Systems Modernization and Replacement	0.75	0.96	0.76	0.61	1.09	4.18
6	DATA-COM Systems Modernization	0.09	0.77	0.74	0.16	0.69	2.44
7	AWOS/MET Systems Modernization and Replacement	0.21	0.03	0.09	0.10	0.05	0.48

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	ATM System Upgrade	(2.45)	(0.21)	0.35	2.46	3.26	3.41
2	VOICE-COM Systems Modernization and Replacement	(0.04)	(1.39)	(0.79)	2.83	0.77	1.38
3	Ground-based Surveillance Systems Upgrade	0.02	(0.60)	1.29	0.64	(0.22)	1.13
4	Reconstruction of Old Buildings	(1.12)	(0.06)	(0.19)	(0.57)	(0.39)	(2.33)
5	NAV Systems Modernization and Replacement	(0.12)	(0.15)	(0.21)	(0.10)	0.17	(0.41)
6	DATA-COM Systems Modernization	(0.73)	0.41	0.42	(0.55)	0.35	(0.11)
7	AWOS/MET Systems Modernization and Replacement	0.16	(0.86)	(0.51)	(0.56)	(0.04)	(1.81)



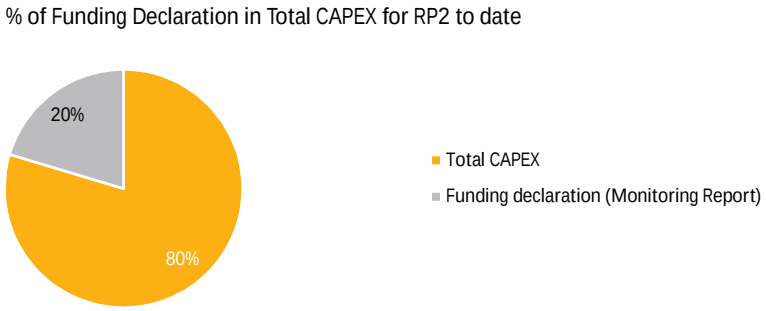
For RP2, Croatia's main project is the "ATM System Upgrade" with a total actual investment of 19.84M€$_{2009}$, 3.41M€$_{2009}$ more than initially determined.

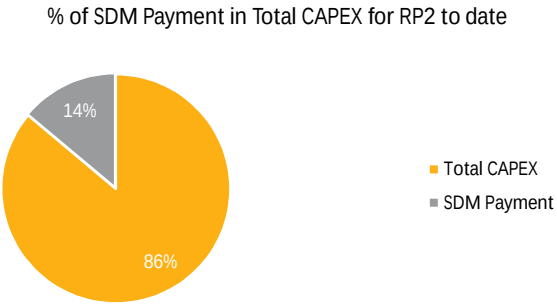
The second largest project is the "VOICE_COM Systems Modernization and Replacement Project" with a total investment of 6.45M€$_{2009}$. For this project, Croatia spent 1.38M€$_{2009}$ more than determined.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Croatia - Croatia Control

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	0.47	2.39	3.85	0.33	3.30	10.34

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.47	2.39	3.85	0.33	3.30	10.34
SDM Payment	0.00	3.06	0.87	-	3.14	7.07





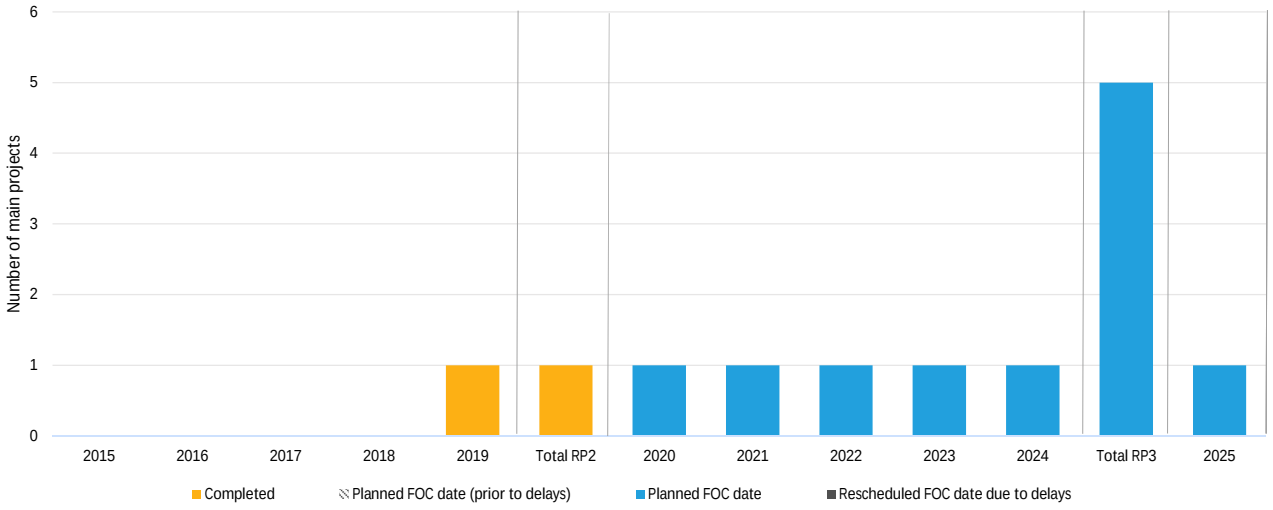
Croatia received grants from different CEF funds for the years 2014, 2015 and 2016 (i.e. "CEF 2015 VARP", "CEF 2015 A-SMGCS", "CEF 2014 COOPANS", "CEF 2016 VCS", "CEF 2015 CODACAS 1B", 'CEF 2014 FAB CE" and "CEF 2016 DLS PATH 1").
The projects "DATA-COM Systems Modernization Project", "VOICE-COM Systems Modernization and Replacement Project", "Ground-based Surveillance Systems Upgrade" and "ATM System Upgrade" received funding from the CEF/ TEN-T fund; however, with the information provided, the individual amount of funding per project could not be linked.

The total amount of EU funding declared by Croatia for RP2 is 10.34M€$_{2009}$, which represents 20% of the actual total CAPEX.
The total SDM payments amount to 7.07M€$_{2009}$, which cover 14% of the actual total CAPEX invested during RP2.

Croatia received 18.53M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Implementing harmonised SWIM (Y) solution in COOPANS ANSPs and general PCP compliance" (5.22M€), "AF3B Harmonisation of Tech ATM Platform in 5 ANSP inc suprt of FRA and prep of PCP program (COOPANS B3.3, B3.4 and B3.5)" (4.42M€) and "VCS-IP - Upgrade of Voice Communication Systems to support ATM VoIP communications" (2.98M€). Only one of these projects corresponds to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Croatia - Croatia Control

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	ATM System Upgrade	Ongoing	2024	x		x	x	x	x
2	VOICE-COM Systems Modernization and Replacement	Ongoing	2020	x		x		x	
3	Ground-based Surveillance Systems Upgrade	Ongoing	2022	x		x		x	
4	Reconstruction of Old Buildings	Ongoing	2025			x			
5	NAV Systems Modernization and Replacement	Ongoing	2021	x	x	x	x	x	
6	DATA-COM Systems Modernization	Completed	2019	x		x	x	x	
7	AWOS/MET Systems Modernization and Replacement	Ongoing	2023	x		x	x	x	



Croatia planned seven projects for RP2: one project has been completed, representing 2.44M€$_{2009}$; while the remaining five are expected to continue through RP3, representing 39.09M€$_{2009}$.

The main priority of the projects is capacity, with all projects expected to bring benefits. Six out of seven projects are expected to have a positive impact on safety, while four out of seven projects are expected to improve cost-efficiency. There is only one project that is expected to bring benefits to the environment.

The actual investment made in RP2 for the 6 projects that were linked to the Pilot Common Project is 39.09M€$_{2009}$. This amount represents 77% of the actual total CAPEX. No project was included in the Network Operations Plan.

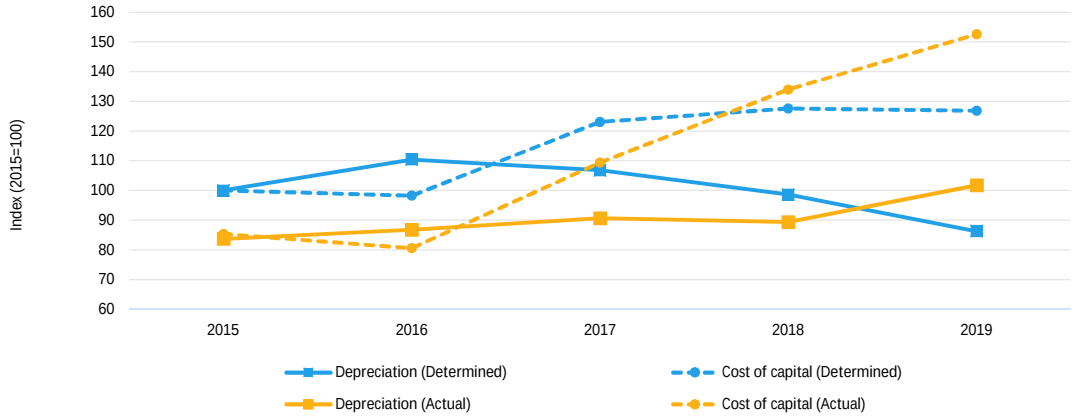
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Croatia - Croatia Control

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**13.75**	**15.19**	**14.69**	**13.56**	**11.87**	**69.06**
- En route	13.26	14.69	14.17	13.03	11.36	66.52
- Terminal	0.49	0.50	0.51	0.53	0.50	2.54
Cost of Capital	**2.02**	**1.98**	**2.48**	**2.57**	**2.56**	**11.60**
- En route	1.96	1.92	2.43	2.52	2.51	11.34
- Terminal	0.06	0.06	0.05	0.05	0.04	0.26
Total	**15.77**	**17.17**	**17.17**	**16.13**	**14.42**	**80.66**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**11.51**	**11.94**	**12.46**	**12.29**	**13.99**	**62.19**
- En route	11.28	11.68	12.19	12.00	13.31	60.47
- Terminal	0.23	0.26	0.27	0.29	0.68	1.72
Cost of Capital	**1.72**	**1.62**	**2.20**	**2.70**	**3.08**	**11.32**
- En route	1.64	1.52	2.08	2.45	2.82	10.50
- Terminal	0.08	0.11	0.13	0.25	0.26	0.83
Total	**13.23**	**13.56**	**14.67**	**14.99**	**17.07**	**73.51**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(2.24)**	**(3.25)**	**(2.22)**	**(1.27)**	**2.13**	**(6.87)**
- En route	(1.98)	(3.01)	(1.98)	(1.03)	1.95	(6.05)
- Terminal	(0.26)	(0.24)	(0.25)	(0.25)	0.18	(0.82)
Cost of Capital	**(0.29)**	**(0.36)**	**(0.28)**	**0.13**	**0.52**	**(0.28)**
- En route	(0.32)	(0.41)	(0.35)	(0.08)	0.30	(0.84)
- Terminal	0.02	0.05	0.07	0.20	0.22	0.57
Total	**(2.54)**	**(3.61)**	**(2.50)**	**(1.15)**	**2.65**	**(7.15)**



Over RP2, the actual CAPEX is 2% higher than determined (overspent), closing the gap generated in the first years of the period. Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. Due to the late catching up of CAPEX, Croatia charged 7.15M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised.

Throughout RP2, the actual depreciation was lower than the determined one by 6.87M€$_{2009}$. This was mainly due to a change in purchasing policy of equipment that slowed down the implementation of projects; a CAPEX gap coming from RP1; and a low completion rate of projects (the majority of the projects are foreseen to be completed in RP3).

Throughout RP2, cost of capital was 0.28M€$_{2009}$ lower than determined. This was due to a lower than determined value of the fixed assets base and a lower than determined WACC for both en route and terminal.

4.5.3 Czech Republic - ANS Czech Republic

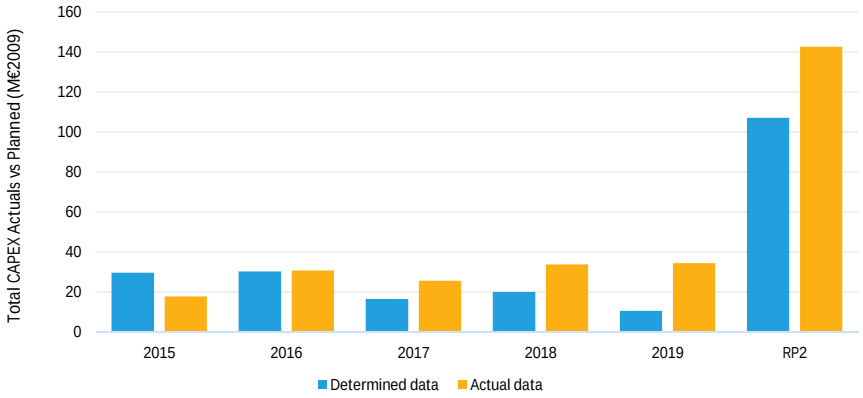
Over RP2, the Czech Republic overspent 35M€$_{2009}$ (+33%) with respect to the performance plan, closing the gap generated in the first years of the period. However, the overspending is mostly due to two investments (DPS - three times higher than planned, +32M€$_{2009}$; and buildings - two times higher than planned, +10M€$_{2009}$). Moreover, ANS CR greatly overinvested in "other CAPEX", without specifying the destinations of the amounts. As a result of investments catching up, the Czech Republic overcharged +12M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. The Czech Republic planned 11 main projects for RP2, all completed during RP2.

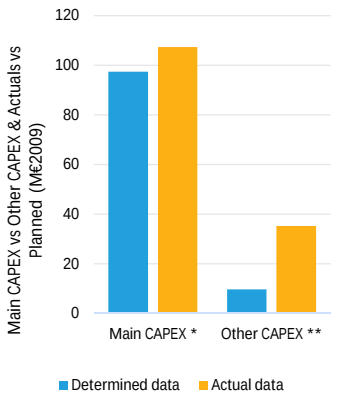
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**29.71**	**30.23**	**16.52**	**20.02**	**10.62**	**107.10**
- Main CAPEX *	27.78	28.18	14.71	17.79	8.99	97.45
- *% Main into Total CAPEX*	*94%*	*93%*	*89%*	*89%*	*85%*	*91%*
- Other CAPEX **	1.93	2.05	1.82	2.23	1.63	9.65
- *% Other into Total CAPEX*	*6%*	*7%*	*11%*	*11%*	*15%*	*9%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**17.88**	**30.71**	**25.70**	**33.77**	**34.52**	**142.57**
- Main CAPEX	16.11	28.32	13.55	25.57	23.73	107.28
- *% Main into Total CAPEX*	*90%*	*92%*	*53%*	*76%*	*69%*	*75%*
- Other CAPEX	1.76	2.39	12.15	8.19	10.79	35.29
- *% Other into Total CAPEX*	*10%*	*8%*	*47%*	*24%*	*31%*	*25%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(11.83)**	**0.48**	**9.17**	**13.75**	**23.90**	**35.47**
- Main CAPEX	(11.67)	0.14	(1.16)	7.78	14.74	9.84
- Other CAPEX	(0.16)	0.34	10.33	5.97	9.16	25.64
Total CAPEX (%)	***-40%***	***2%***	***56%***	***69%***	***225%***	***33%***
- *Main CAPEX (%)*	*-42%*	*0%*	*-8%*	*44%*	*164%*	*10%*
- *Other CAPEX (%)*	*92%*	*117%*	*668%*	*368%*	*661%*	*366%*





The total actual capital expenditure for RP2 is 142.57M€$_{2009}$. For RP2, the Czech Republic spent 35.47M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 10% higher than determined, while other CAPEX is 366% higher.

In 2015, the Czech Republic spent 11.83M€$_{2009}$ less than determined, while in 2016, the Czech Republic spent 0.48M€$_{2009}$ more than determined. For 2017, 2018 and 2019, the Czech Republic overspent 9.17M€$_{2009}$, 13.75M€$_{2009}$ and 23.90M€$_{2009}$ respectively.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

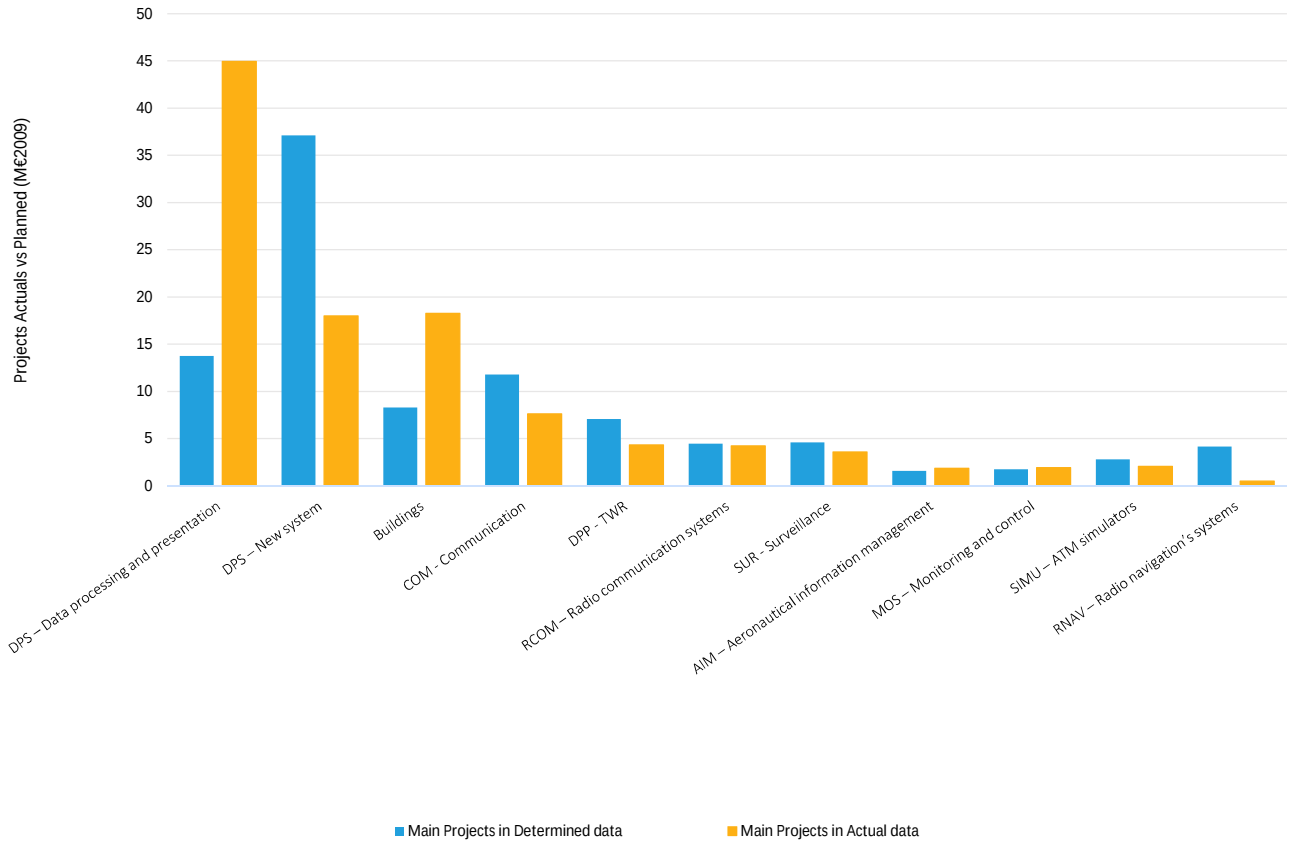
INVESTMENTS PER MAIN PROJECT Czech Republic - ANS Czech Republic

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	DPS – Data processing and presentation	6.54	3.03	2.04	1.18	0.97	13.76
2	DPS – New system	7.95	14.02	3.05	8.32	3.75	37.09
3	Buildings	2.28	2.35	1.95	1.08	0.63	8.30
4	COM - Communication	1.94	4.76	2.12	2.08	0.90	11.80
5	DPP - TWR	3.44	0.25	1.42	1.58	0.40	7.10
6	RCOM – Radio communication systems	2.38	1.73	0.34	-	-	4.46
7	SUR - Surveillance	1.41	0.73	0.89	1.58	-	4.62
8	AIM – Aeronautical information management	0.30	0.27	0.33	0.37	0.35	1.61
9	MOS – Monitoring and control	0.18	0.61	0.34	0.33	0.30	1.76
10	SIMU – ATM simulators	1.15	0.43	0.42	0.43	0.39	2.80
11	RNAV – Radio navigation's systems	0.22	-	1.80	0.83	1.30	4.15

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	DPS – Data processing and presentation	7.13	12.68	6.64	9.08	9.39	44.92
2	DPS – New system	-	5.57	-	8.45	3.96	17.98
3	Buildings	4.79	2.76	1.99	1.27	7.47	18.28
4	COM - Communication	0.15	1.91	1.53	3.65	0.37	7.61
5	DPP - TWR	0.52	1.30	0.96	1.51	0.05	4.34
6	RCOM – Radio communication systems	2.31	1.45	0.04	0.23	0.19	4.23
7	SUR - Surveillance	0.69	0.43	1.12	0.59	0.74	3.57
8	AIM – Aeronautical information management	0.08	1.03	0.36	0.22	0.17	1.87
9	MOS – Monitoring and control	0.20	0.39	0.76	0.26	0.32	1.93
10	SIMU – ATM simulators	0.26	0.54	0.13	0.30	0.83	2.05
11	RNAV – Radio navigation's systems	-	0.26	-	-	0.23	0.49

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	DPS – Data processing and presentation	0.60	9.65	4.60	7.90	8.42	31.17
2	DPS – New system	(7.95)	(8.45)	(3.05)	0.14	0.20	(19.11)
3	Buildings	2.51	0.41	0.04	0.19	6.84	9.98
4	COM - Communication	(1.79)	(2.85)	(0.59)	1.57	(0.53)	(4.19)
5	DPP - TWR	(2.93)	1.05	(0.46)	(0.07)	(0.34)	(2.76)
6	RCOM – Radio communication systems	(0.08)	(0.28)	(0.30)	0.23	0.19	(0.23)
7	SUR - Surveillance	(0.72)	(0.30)	0.24	(1.00)	0.74	(1.04)
8	AIM – Aeronautical information management	(0.22)	0.76	0.03	(0.14)	(0.17)	0.26
9	MOS – Monitoring and control	0.02	(0.22)	0.42	(0.07)	0.02	0.17
10	SIMU – ATM simulators	(0.89)	0.11	(0.29)	(0.12)	0.44	(0.75)
11	RNAV – Radio navigation's systems	(0.22)	0.26	(1.80)	(0.83)	(1.07)	(3.66)

INVESTMENTS PER MAIN PROJECT Czech Republic - ANS Czech Republic



For RP2, the main project in terms of planned investment is "DPS – New system", which was planned to receive 37.09M€$_{2009}$. However, the project has received 19.11M€$_{2009}$ less than determined.

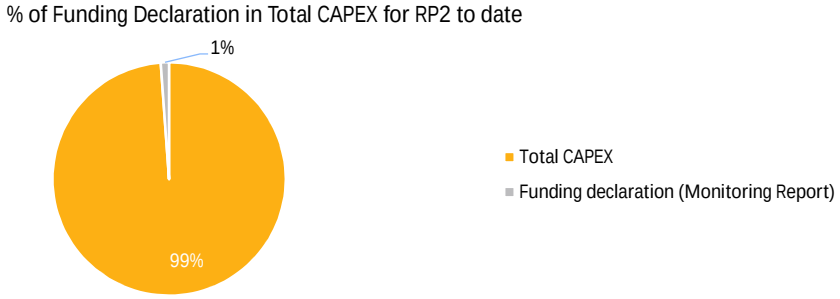
The project "DPS – Data processing and presentation" received the largest amount of investment (44.92M€$_{2009}$), exceeding the initial plan by 31.17M€$_{2009}$. The significant overspending in the project was due to initialisation of Air Traffic Services optimisation restructuring project and the transformation of ESUP and IDP systems for cooperation with the TopSky system.

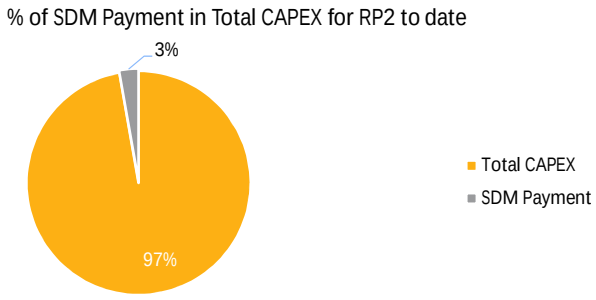
Projects "Buildings" and "Communication" were set to receive a significant share, however, reallocation of investments led to an overspending of 9.98M€$_{2009}$ in "Buildings" and underspending of 4.19M€$_{2009}$ in "Communication". The overspending in Buildings was due to the high increase of construction industry market prices in the Czech Republic, together with the necessity of reconstructing the regional airport towers (Karlovy Vary and Brno).

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Czech Republic - ANS Czech Republic

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Free Route Airspace from the Black Forest to the Black Sea	-	0.03	0.01	-	-	0.04
AMAN LOWW initial	-	-	0.00	-	-	0.00
Extended AMAN in Czech airspace	-	-	0.10	-	(0.06)	0.04
Flexible ASM and Free Route	-	-	0.20	-	(0.04)	0.16
Free Route Implementation into ATM system of ANS CR	-	-	1.30	-	(0.93)	0.37
Traffic Complexity Tools	-	-	0.55	-	(0.36)	0.19
NewPENS Stakeholders procurement and deployment	-	-	0.03	-	0.01	0.04
Aeronautical Information Distribution Service	-	-	0.23	-	(0.13)	0.10
AIM Deployment Toolkit	-	-	0.05	-	(0.02)	0.03
Meteorological Information Exchange Service	-	-	0.03	-	-	0.03
Harmonised and interoperable high Performance European Surveillance	-	0.06	-	0.02	-	0.08
FAB CE wide Study of DAM and STAM	-	-	0.00	-	-	0.00
SWIM implementation into ATS INFO/ARO system of ANS CR	-	-	0.07	-	0.21	0.28
AIMSIL - AIM Systems Integration Layer	-	-	0.09	-	0.18	0.27

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	0.09	2.67	0.02	(1.14)	1.64
SDM Payment	0.01	2.58	0.18	-	1.20	3.96





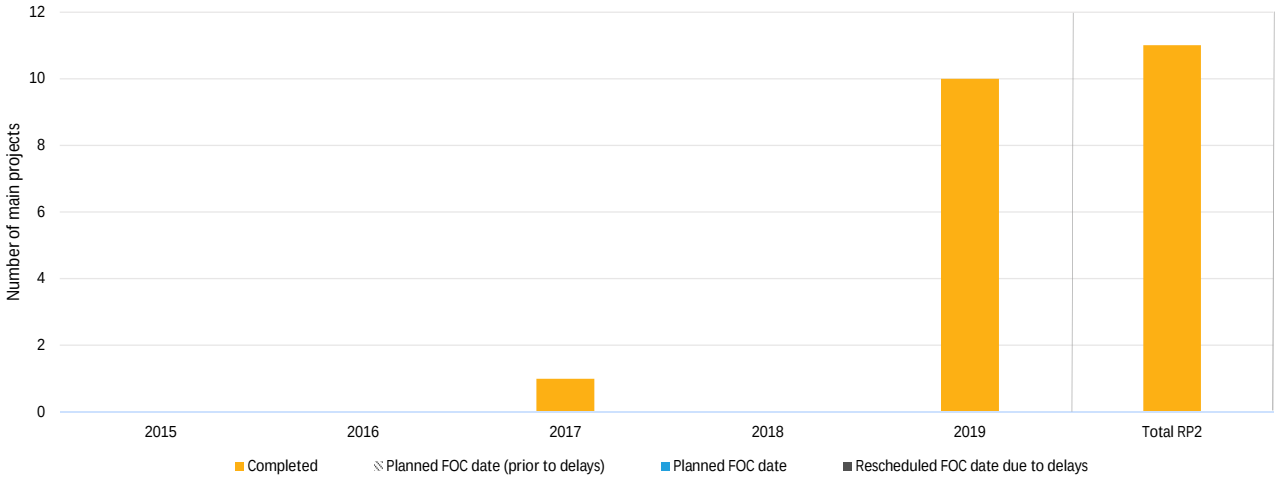
The Czech Republic received funds from multiple projects, however these could not be linked to specific funds. Most of the funding has been received in 2017. The project “Free Route implementation into ATM system” received almost half of the funds, 1.30M€$_{2009}$.

The total amount of EU funding declared by the Czech Republic for RP2 is 1.64M€$_{2009}$ for projects listed as “other CAPEX investments”. This amount represents 1% of the actual total CAPEX.
The total SDM payments amount to 3.96M€$_{2009}$, which is higher than the funding declaration and cove 3% of the actual total CAPEX invested during RP2.

The Czech Republic received 11.12M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Free Route implementation into ATM system of ANS CR" (5.12M€), "Traffic Complexity Tools" (1.58M€) and "AIMSIL - AIM Systems Integration Layer" (1.26M€). These projects correspond to the list of projects reported for RP2 as other CAPEX under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Czech Republic - ANS Czech Republic

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	DPS – Data processing and presentation	Completed	2019	x	x	x	x	x	
2	DPS – New system	Completed	2019	x	x	x	x	x	
3	Buildings	Completed	2019						
4	COM - Communication	Completed	2019	x		x		x	
5	DPP - TWR	Completed	2019	x	x	x		x	
6	RCOM – Radio communication systems	Completed	2017	x		x		x	
7	SUR - Surveillance	Completed	2019	x		x	x	x	
8	AIM – Aeronautical information management	Completed	2019					x	
9	MOS – Monitoring and control	Completed	2019	x					
10	SIMU – ATM simulators	Completed	2019	x		x			
11	RNAV – Radio navigation's systems	Completed	2019	x		x			



The Czech Republic planned 11 main projects for RP2, all of which have been completed.

The majority of the projects will have a positive influence on both safety (nine out of 11) and capacity (eight out of 11); however, only three projects are expected to bring benefits to the environment and cost-efficiency.

The actual investment made in RP2 for the six projects that were linked to the Pilot Common Project is 80.48M€$_{2009}$. This amount represents 56% of the actual total CAPEX. None of the projects were included in the Network Operations Plan.

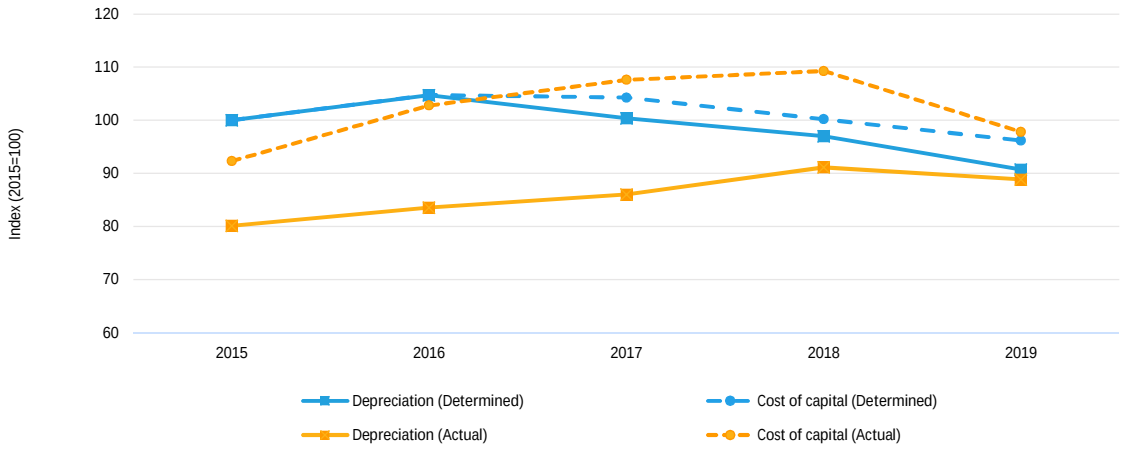
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Czech Republic - ANS Czech Republic

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**20.07**	**21.02**	**20.15**	**19.47**	**18.21**	**98.92**
- En route	16.86	17.61	16.59	15.85	14.44	81.36
- Terminal	3.21	3.41	3.56	3.62	3.77	17.57
Cost of Capital	**6.68**	**7.00**	**6.96**	**6.69**	**6.42**	**33.75**
- En route	6.68	7.00	6.96	6.69	6.42	33.75
- Terminal	-	-	-	-	-	-
Total	**26.75**	**28.02**	**27.11**	**26.16**	**24.64**	**132.68**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**16.09**	**16.77**	**17.27**	**18.30**	**17.83**	**86.26**
- En route	13.24	13.76	13.93	14.84	14.08	69.85
- Terminal	2.85	3.01	3.34	3.46	3.75	16.41
Cost of Capital	**6.17**	**6.87**	**7.19**	**7.30**	**6.53**	**34.05**
- En route	6.17	6.87	7.19	7.30	6.53	34.05
- Terminal	-	-	-	-	-	-
Total	**22.25**	**23.64**	**24.46**	**25.60**	**24.37**	**120.31**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(3.98)**	**(4.25)**	**(2.88)**	**(1.17)**	**(0.38)**	**(12.66)**
- En route	(3.62)	(3.85)	(2.66)	(1.01)	(0.36)	(11.51)
- Terminal	(0.36)	(0.40)	(0.22)	(0.16)	(0.02)	(1.16)
Cost of Capital	**(0.51)**	**(0.13)**	**0.22**	**0.61**	**0.11**	**0.30**
- En route	(0.51)	(0.13)	0.22	0.61	0.11	0.30
- Terminal	-	-	-	-	-	-
Total	**(4.49)**	**(4.38)**	**(2.66)**	**(0.57)**	**(0.27)**	**(12.37)**



Over RP2, the actual CAPEX is 33% higher than determined (overspent), closing the gap generated in the first years of the period. Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. Due to the late catching up of CAPEX, the Czech Republic charged 12.37M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised.

Throughout RP2, the actual depreciation was lower than the determined one by 12.66M€$_{2009}$. This was mainly due to projects implementation delays as a result of delays in public procurement processes, in particular by repetition of some tenders.

Throughout RP2, cost of capital was 0.30M€$_{2009}$ higher than determined. This was mainly due to an increase in the value of the fixed asset base.

4.5.4 Hungary - HungaroControl

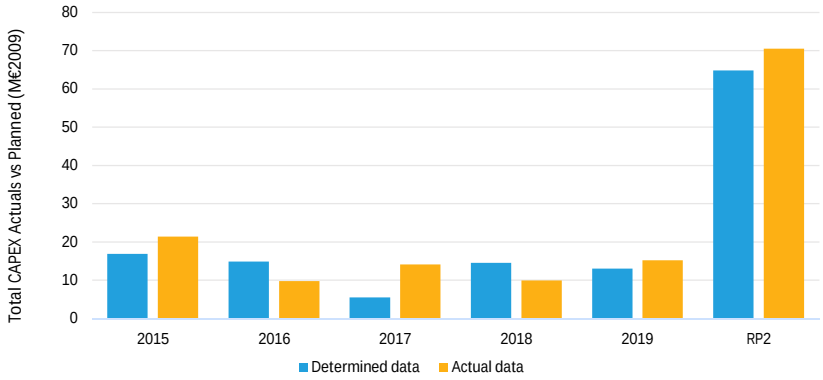
Over RP2, Hungary overspent 3M€$_{2009}$ (+9%) with respect to the performance plan. However, the overspending is mostly due to "other CAPEX" (+13M€$_{2009}$ or +66%), without specifying the destinations of the amounts. Despite the overinvestments, Hungary overcharged +9.5M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Hungary planned ten main projects for RP2: nine projects have been completed, representing 34M€$_{2009}$; and one has been delayed, representing 0.4€$_{2009}$.

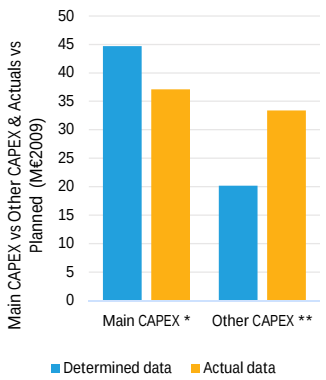
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**16.89**	**14.90**	**5.50**	**14.51**	**13.03**	**64.84**
- Main CAPEX *	8.52	10.52	2.50	12.14	11.00	44.69
- % Main into Total CAPEX	*50%*	*71%*	*45%*	*84%*	*84%*	*69%*
- Other CAPEX **	8.37	4.37	3.00	2.37	2.03	20.15
- % Other into Total CAPEX	*50%*	*29%*	*55%*	*16%*	*16%*	*31%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**21.38**	**9.79**	**14.14**	**9.96**	**15.22**	**70.49**
- Main CAPEX	13.94	3.39	7.83	4.17	7.75	37.09
- % Main into Total CAPEX	*65%*	*35%*	*55%*	*42%*	*51%*	*53%*
- Other CAPEX	7.44	6.40	6.31	5.78	7.46	33.40
- % Other into Total CAPEX	*35%*	*65%*	*45%*	*58%*	*49%*	*47%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**4.49**	**(5.11)**	**8.64**	**(4.55)**	**2.18**	**5.65**
- Main CAPEX	5.42	(7.13)	5.33	(7.97)	(3.25)	(7.60)
- Other CAPEX	(0.93)	2.03	3.31	3.42	5.43	13.25
Total CAPEX (%)	***27%***	***-34%***	***157%***	***-31%***	***17%***	***9%***
- Main CAPEX (%)	*64%*	*-68%*	*213%*	*-66%*	*-30%*	*-17%*
- Other CAPEX (%)	*-11%*	*46%*	*110%*	*144%*	*267%*	*66%*





The total actual capital expenditure for RP2 is 70.49M€$_{2009}$. For RP2, Hungary spent 5.65M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 17% lower than determined, while other CAPEX is 66% higher.

In 2015, 2017 and 2019, Hungary overspent 4.49M€$_{2009}$, 8.64M€$_{2009}$ (+157%) and 2.18M€$_{2009}$ respectively. For 2016 and 2018, actual CAPEX is lower with 5.11M€$_{2009}$ and 4.55M€$_{2009}$, respectively.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

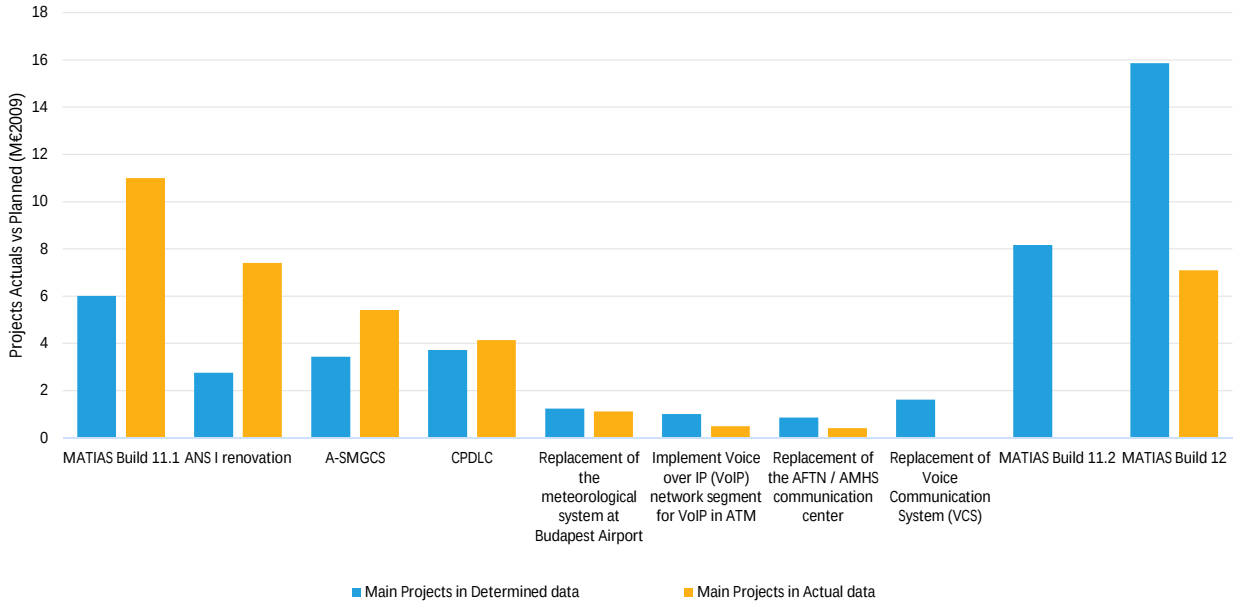
INVESTMENTS PER MAIN PROJECT Hungary - HungaroControl

#	Main Projects in Determined data (M€2009)		2015D	2016D	2017D	2018D	2019D	RP2
1	MATIAS Build 11.1		-	6.01	-	-	-	6.01
2	ANS I renovation		2.54	0.22	-	-	-	2.76
3	A-SMGCS		-	3.43	-	-	-	3.43
4	CPDLC		3.72	-	-	-	-	3.72
5	Replacement of the meteorological system at Budapest Airport		1.24	-	-	-	-	1.24
6	Implement Voice over IP (VoIP) network segment for VoIP in ATM		1.02	-	-	-	-	1.02
7	Replacement of the AFTN / AMHS communication center		-	0.86	-	-	-	0.86
8	Replacement of Voice Communication System (VCS)		-	-	-	1.62	-	1.62
9	MATIAS Build 11.2		-	-	2.50	5.67	-	8.17
10	MATIAS Build 12		-	-	-	4.86	11.00	15.86

#	Main Projects in Actual data (M€2009)		2015A	2016A	2017A	2018A	2019A	RP2
1	MATIAS Build 11.1		-	-	7.22	3.77	0.00	11.00
2	ANS I renovation		6.19	1.21	-	-	0.01	7.41
3	A-SMGCS		3.60	1.20	-	-	0.62	5.41
4	CPDLC		4.15	-	-	-	-	4.15
5	Replacement of the meteorological system at Budapest Airport		0.00	0.56	0.54	0.02	-	1.12
6	Implement Voice over IP (VoIP) network segment for VoIP in ATM		-	0.43	0.00	0.03	0.04	0.49
7	Replacement of the AFTN / AMHS communication center		-	-	0.07	0.34	-	0.41
8	Replacement of Voice Communication System (VCS)		-	-	-	0.01	0.00	0.01
9	MATIAS Build 11.2	x	-	-	-	-	-	-
10	MATIAS Build 12	x	-	-	-	-	7.09	7.09

#	Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
1	MATIAS Build 11.1	-	(6.01)	7.22	3.77	0.00	4.98
2	ANS I renovation	3.65	0.99	-	-	0.01	4.65
3	A-SMGCS	3.60	(2.24)	-	-	0.62	1.98
4	CPDLC	0.43	-	-	-	-	0.43
5	Replacement of the meteorological system at Budapest Airport	(1.24)	0.56	0.54	0.02	-	(0.12)
6	Implement Voice over IP (VoIP) network segment for VoIP in ATM	(1.02)	0.43	0.00	0.03	0.04	(0.52)
7	Replacement of the AFTN / AMHS communication center	-	(0.86)	0.07	0.34	-	(0.45)
8	Replacement of Voice Communication System (VCS)	-	-	-	(1.61)	0.00	(1.61)
9	MATIAS Build 11.2	-	-	(2.50)	(5.67)	-	(8.17)
10	MATIAS Build 12	-	-	-	(4.86)	(3.91)	(8.77)

INVESTMENTS PER MAIN PROJECT Hungary - HungaroControl



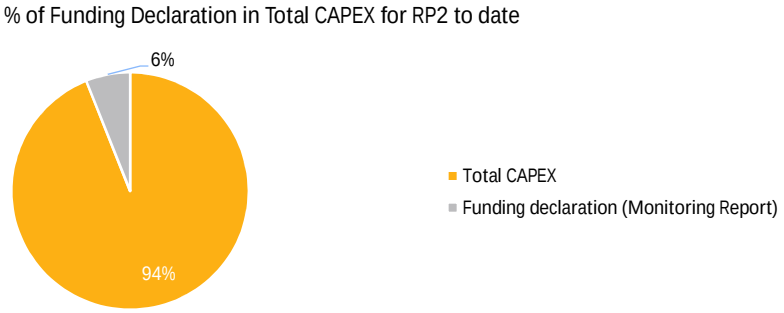
For RP2, Hungary's main project is the "MATIAS Build 11.1" with a total actual investment of 11.00M€$_{2009}$, which is 4.98M€$_{2009}$ more than determined. The second largest investment of 7.41M€$_{2009}$ was made in the project "ANS I renovation", an amount that exceeds the initial estimations by 4.65M€$_{2009}$. Projects "A-SMGCS" and "CPDLC" have also received actual investments higher than originally determined. The project "MATIAS Build 11.2" received no actual investments.

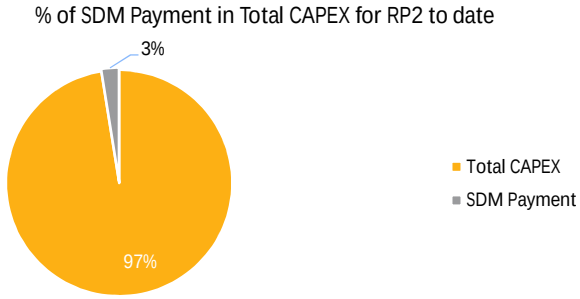
For the remaining five projects, the actual investment is below the amount planned for RP2.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Hungary - HungaroControl

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	0.37	0.69	1.51	0.34	1.35	4.25

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.37	0.69	1.51	0.34	1.35	4.25
SDM Payment	0.02	1.00	0.04	-	0.74	1.79





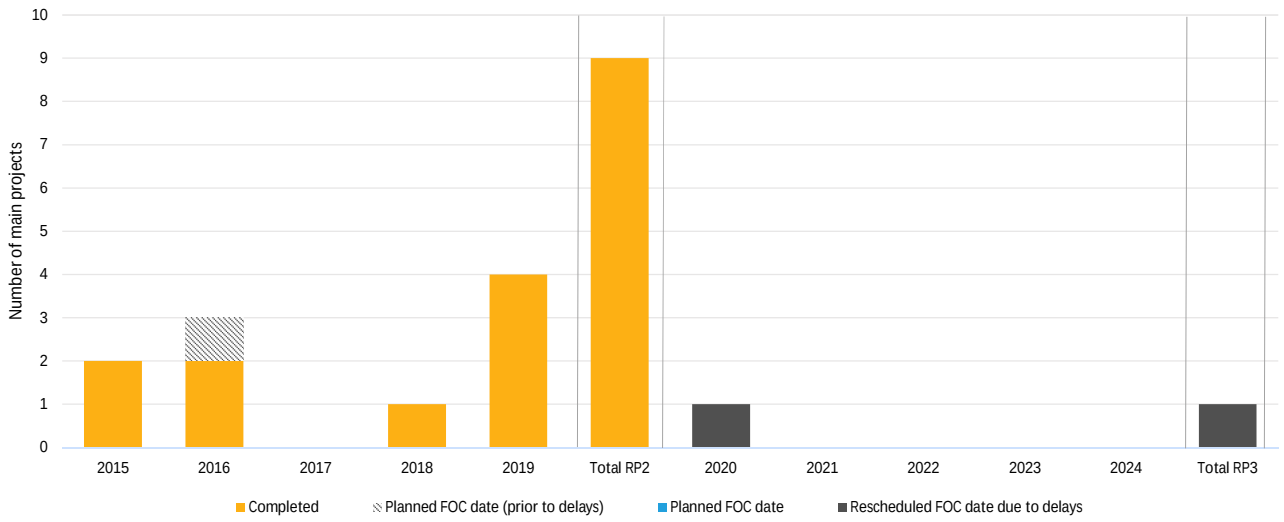
Throughout the period, Hungary received grants from 14 different funds, however, with the information provided, the funds could not be linked to any specific project.

The total amount of EU funding declared by Hungary for RP2 is 4.25M€$_{2009}$, which represent 6% of the actual total CAPEX.
The total SDM payments amount to 1.79M€$_{2009}$, which cover 3% of the actual total CAPEX invested during RP2.

Hungary received 4.14M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "ATM System (MATIAS) upgrade for cross-border free route operation" (1.59M€), "Hungarian ATM system upgrade for AF3-AF4" (1.11M€) and "2015_234_AF1_B - AMAN LOWW initial" (0.68M€). One of these projects corresponds to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Hungary - HungaroControl

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	MATIAS Build 11.1	Completed	2019	x	x	x	x	x	
2	ANS I renovation	Completed	2016	x			x		
3	A-SMGCS	Completed	2016	x	x	x	x	x	
4	CPDLC	Completed	2015	x	x	x	x		x
5	Replacement of the meteorological system at Budapest Airport	Completed	2019	x		x			
6	Voice over IP (VoIP) network segment for VoIP in ATM	Completed	2015	x		x			
7	Replacement of the AFTN / AMHS communication center	Delayed	2020	x					
8	Replacement of Voice Communication System (VCS)	Completed	2018	x		x			
9	MATIAS Build 11.2	Completed	2019	x	x	x	x	x	
10	MATIAS Build 12	Completed	2019	x	x	x	x	x	



Hungary planned ten main projects for RP2: nine projects have been completed, representing 34.40M€$_{2009}$; and one has been delayed, representing 0.41M€$_{2009}$, with no clear indication as to when, therefore 2020 was used as default.

All projects are expected to have a positive impact on safety. Eight projects will also improve capacity, six are expected to enhance cost-efficiency, while five out of ten projects are expected to benefit the environment.

The actual investment made in RP2 for the four projects that were linked to the Pilot Common Project is 21.22M€$_{2009}$. This amount represents 30% of the actual total CAPEX. One of the projects was included in the Network Operations Plan.

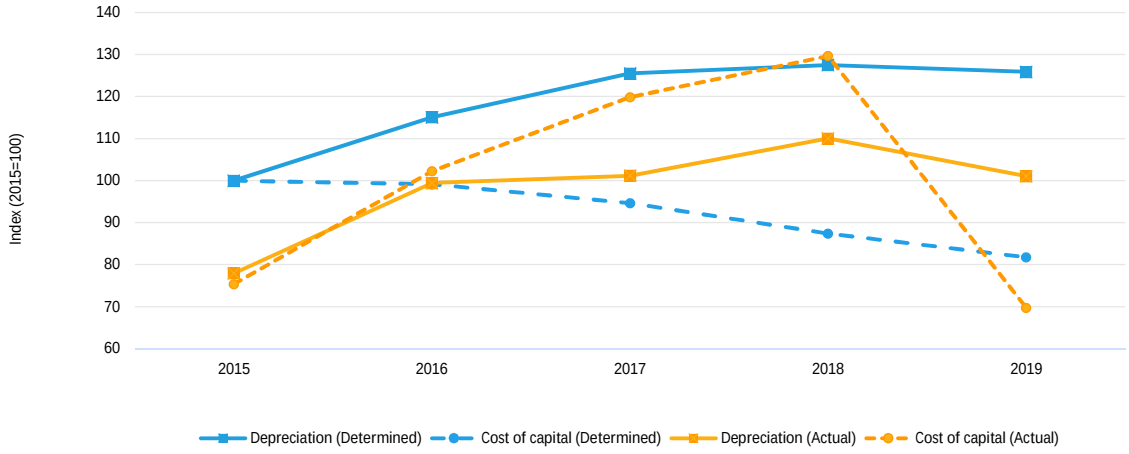
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Hungary - HungaroControl

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**11.23**	**12.93**	**14.10**	**14.33**	**14.14**	**66.73**
- En route	8.71	10.01	10.53	10.78	10.66	50.69
- Terminal	2.53	2.92	3.57	3.55	3.48	16.05
Cost of Capital	**6.47**	**6.42**	**6.13**	**5.66**	**5.29**	**29.96**
- En route	5.10	5.09	4.92	4.69	4.34	24.15
- Terminal	1.37	1.33	1.20	0.97	0.95	5.82
Total	**17.71**	**19.34**	**20.22**	**19.99**	**19.44**	**96.70**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**8.76**	**11.17**	**11.37**	**12.36**	**11.35**	**55.02**
- En route	7.67	9.42	9.32	10.14	9.15	45.69
- Terminal	1.09	1.75	2.05	2.23	2.21	9.33
Cost of Capital	**4.88**	**6.62**	**7.76**	**8.39**	**4.51**	**32.16**
- En route	4.35	5.78	6.64	7.24	3.81	27.82
- Terminal	0.53	0.84	1.11	1.16	0.70	4.33
Total	**13.64**	**17.79**	**19.12**	**20.76**	**15.87**	**87.18**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(2.47)**	**(1.75)**	**(2.73)**	**(1.96)**	**(2.79)**	**(11.71)**
- En route	(1.04)	(0.59)	(1.21)	(0.64)	(1.52)	(4.99)
- Terminal	(1.44)	(1.17)	(1.52)	(1.32)	(1.27)	(6.72)
Cost of Capital	**(1.59)**	**0.20**	**1.63**	**2.74**	**(0.78)**	**2.20**
- En route	(0.75)	0.69	1.72	2.55	(0.53)	3.68
- Terminal	(0.84)	(0.49)	(0.09)	0.19	(0.25)	(1.48)
Total	**(4.07)**	**(1.55)**	**(1.10)**	**0.77**	**(3.57)**	**(9.52)**



Over RP2, the actual CAPEX is 9% higher than determined (overspent). Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 9.52M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 11.71M€$_{2009}$. This was mainly due to project delays in RP1 and the use of different mixture of assets/CAPEX leading to differences in project lifetime and valuation.

Throughout RP2, the actual cost of capital was 2.20M€$_{2009}$ higher than determined. This was due to a higher than planned value of the fixed asset base.

4.5.5 Slovakia - LPS

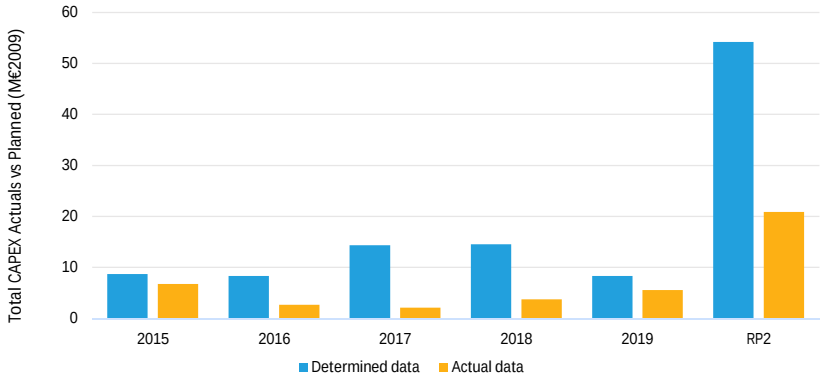
Over RP2, Slovakia underspent 33M€$_{2009}$ (-61%) with respect to the performance plan. As a result of the underinvestment, Slovakia overcharged +8M €$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Slovakia planned 11 main projects for RP2: eight projects have been completed, representing 8M€$_{2009}$, and three projects have been delayed to RP3, representing 3M€$_{2009}$.

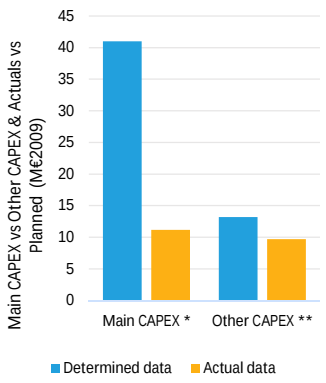
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**8.68**	**8.31**	**14.34**	**14.54**	**8.30**	**54.17**
- Main CAPEX *	3.64	5.56	12.46	12.90	6.42	40.98
- *% Main into Total CAPEX*	*42%*	*67%*	*87%*	*89%*	*77%*	*76%*
- Other CAPEX **	5.04	2.75	1.88	1.65	1.88	13.19
- *% Other into Total CAPEX*	*58%*	*33%*	*13%*	*11%*	*23%*	*24%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**6.75**	**2.68**	**2.09**	**3.76**	**5.58**	**20.86**
- Main CAPEX	2.38	1.34	0.38	3.10	3.94	11.14
- *% Main into Total CAPEX*	*35%*	*50%*	*18%*	*82%*	*71%*	*53%*
- Other CAPEX	4.37	1.34	1.71	0.66	1.64	9.72
- *% Other into Total CAPEX*	*65%*	*50%*	*82%*	*18%*	*29%*	*47%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(1.93)**	**(5.63)**	**(12.25)**	**(10.78)**	**(2.72)**	**(33.31)**
- Main CAPEX	(1.26)	(4.22)	(12.08)	(9.80)	(2.48)	(29.84)
- Other CAPEX	(0.67)	(1.41)	(0.17)	(0.98)	(0.24)	(3.47)
Total CAPEX (%)	***-22%***	***-68%***	***-85%***	***-74%***	***-33%***	***-61%***
- *Main CAPEX (%)*	*-35%*	*-76%*	*-97%*	*-76%*	*-39%*	*-73%*
- *Other CAPEX (%)*	*-13%*	*-51%*	*-9%*	*-60%*	*-13%*	*-26%*





The total actual capital expenditure for RP2 is 20.86M€$_{2009}$. For RP2, Slovakia spent 33.31M€$_{2009}$ (-61%) less CAPEX than originally determined. For RP2, the main CAPEX is 73% lower, while other CAPEX is 26% lower.

Slovakia invested less than initially determined, in every year of RP2, 1.93M€$_{2009}$ less in 2015, 5.63M€$_{2009}$ less in 2016, 12.25M€$_{2009}$ less (-85%) in 2017, 10.78M€$_{2009}$ less in 2018 and 2.72M€$_{2009}$ less in 2019.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

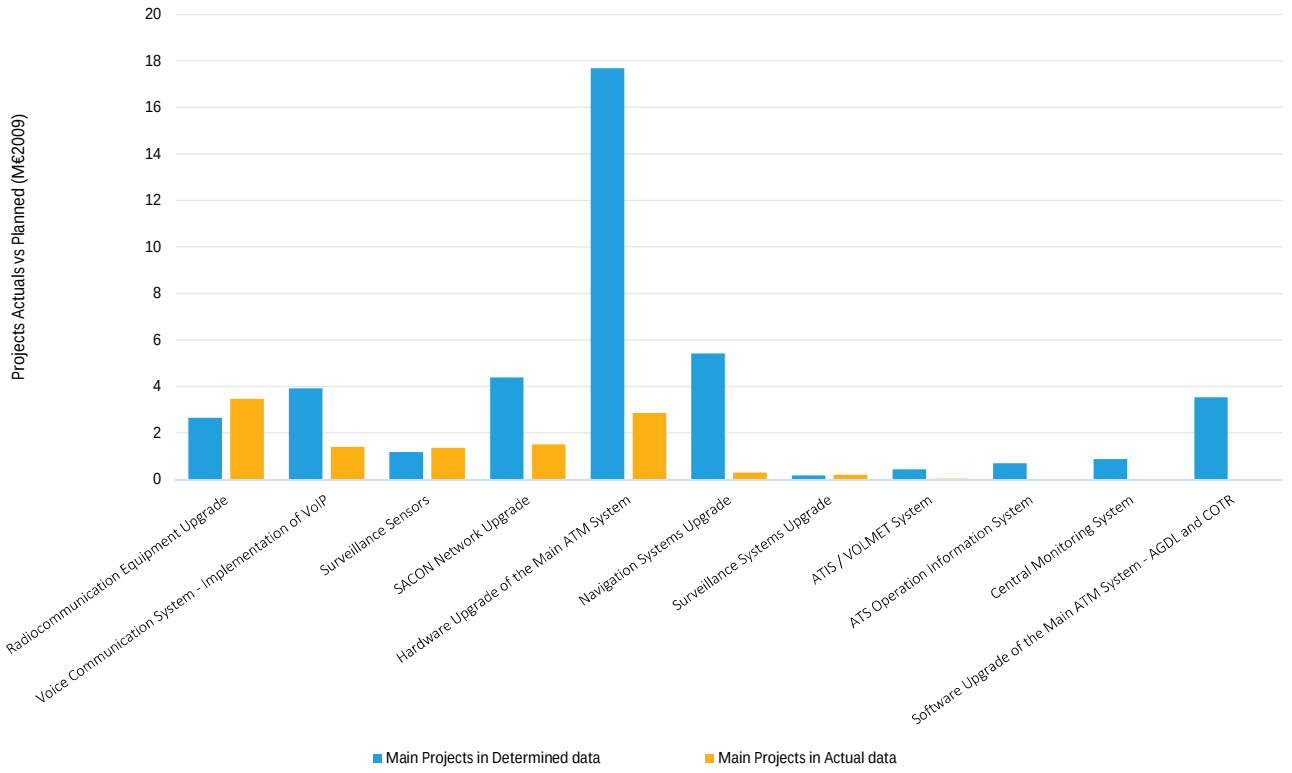
INVESTMENTS PER MAIN PROJECT Slovakia - LPS

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	Radiocommunication Equipment Upgrade	0.16	1.78	0.69	0.02	-	2.65
2	Voice Communication System - Implementation of VoIP	0.85	0.05	0.88	1.12	1.02	3.93
3	Surveillance Sensors	1.18	-	-	-	-	1.18
4	SACON Network Upgrade	0.36	0.45	2.37	0.60	0.59	4.38
5	Hardware Upgrade of the Main ATM System	0.36	1.79	3.52	8.64	3.39	17.69
6	Navigation Systems Upgrade	0.36	0.38	1.70	1.74	1.25	5.43
7	Surveillance Systems Upgrade	-	-	-	0.17	-	0.17
8	ATIS / VOLMET System	-	0.22	0.22	-	-	0.44
9	ATS Operation Information System	-	0.09	0.26	0.17	0.17	0.70
10	Central Monitoring System	-	0.09	0.35	0.43	-	0.87
11	Software Upgrade of the Main ATM System - AGDL and COTR	0.36	0.72	2.46	-	-	3.54

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	Radiocommunication Equipment Upgrade	0.16	0.00	0.22	1.95	1.14	3.47
2	Voice Communication System - Implementation of VoIP	0.46	0.56	-	0.37	0.01	1.40
3	Surveillance Sensors	1.16	0.10	-	0.08	0.02	1.35
4	SACON Network Upgrade	0.25	0.55	0.10	0.11	0.50	1.51
5	Hardware Upgrade of the Main ATM System	0.35	-	-	0.38	2.13	2.86
6	Navigation Systems Upgrade	-	0.13	0.03	0.11	0.03	0.30
7	Surveillance Systems Upgrade	-	-	-	0.09	0.11	0.20
8	ATIS / VOLMET System	-	-	0.04	0.00	0.00	0.04
9	ATS Operation Information System	-	-	-	-	-	-
10	Central Monitoring System	-	-	-	-	-	-
11	Software Upgrade of the Main ATM System - AGDL and COTR	-	-	-	-	-	-

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	Radiocommunication Equipment Upgrade	0.00	(1.78)	(0.48)	1.94	1.14	0.82
2	Voice Communication System - Implementation of VoIP	(0.39)	0.50	(0.88)	(0.75)	(1.00)	(2.52)
3	Surveillance Sensors	(0.03)	0.10	-	0.08	0.02	0.17
4	SACON Network Upgrade	(0.11)	0.10	(2.28)	(0.49)	(0.09)	(2.87)
5	Hardware Upgrade of the Main ATM System	(0.01)	(1.79)	(3.52)	(8.26)	(1.26)	(14.83)
6	Navigation Systems Upgrade	(0.36)	(0.24)	(1.66)	(1.63)	(1.23)	(5.12)
7	Surveillance Systems Upgrade	-	-	-	(0.08)	0.11	0.03
8	ATIS / VOLMET System	-	(0.22)	(0.18)	0.00	0.00	(0.40)
9	ATS Operation Information System	-	(0.09)	(0.26)	(0.17)	(0.17)	(0.70)
10	Central Monitoring System	-	(0.09)	(0.35)	(0.43)	-	(0.87)
11	Software Upgrade of the Main ATM System - AGDL and COTR	(0.36)	(0.72)	(2.46)	-	-	(3.54)

INVESTMENTS PER MAIN PROJECT Slovakia - LPS



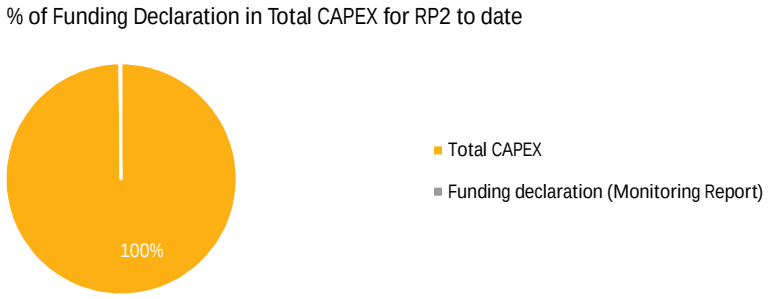
For RP2, Slovakia's main project is the "Radiocommunication Equipment Upgrade" with a total actual investment of 3.47M€$_{2009}$, which was more than determined by 0.82M€$_{2009}$. The second largest project in terms of investment is "Hardware Upgrade of the Main ATM System" with a total actual investment of 2.86M€$_{2009}$, which was lower than determined by 14.83M€$_{2009}$.

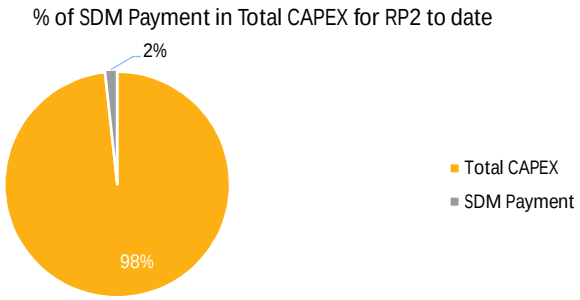
Three projects received no investments, namely “Software Upgrade of the Main ATM System - AGDL and COTR", "ATS Operation Information System" and "Central Monitoring System".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Slovakia - LPS

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	0.01	0.03	0.00	-	-	0.04

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.01	0.03	0.00	-	-	0.04
SDM Payment	0.01	0.24	0.04	-	0.08	0.36





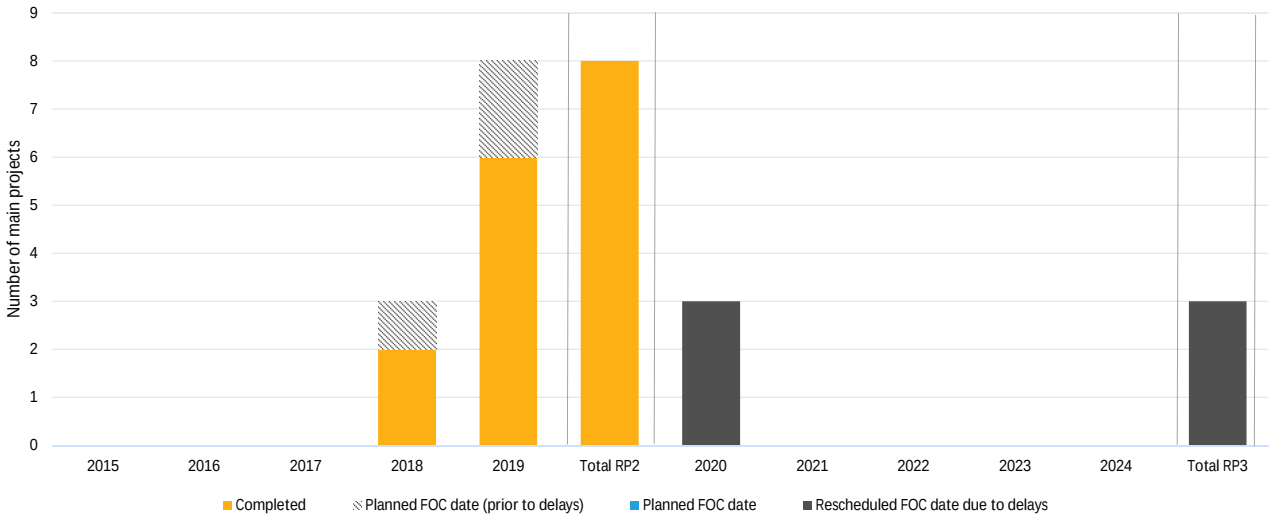
Slovakia received grants from "INEA/CEF/TRAN/M2014/1037259 Free route airspace from the Black Forest to the Black Sea" for RP2. However,with the information available, the funds could not be linked to a specific project.

The amount of EU funding declared by Slovakia is 0.04M€$_{2009}$, which represents 0.18% of the actual total CAPEX.
The SDM payments amount to 0.36M€$_{2009}$, which are higher than the funding declaration and cover 2% of the actual total CAPEX invested during RP2.

Slovakia 0.89M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "2015_234_AF1_B - AMAN LOWW initial" (0.36M€), "NewPENS Stakeholders contribution for the procurement and deployment of NewPENS - Part B: Cohesion Call" (0.26M€) and "Free Route Airspace from the Black Forest to the Black Sea" (0.11M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Slovakia - LPS

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	Radiocommunication Equipment Upgrade	Completed	2019	x	x	x	x		
2	Voice Communication System - Implementation of VoIP	Completed	2019	x			x		
3	Surveillance Sensors	Completed	2019	x	x	x	x		
4	SACON Network Upgrade	Completed	2018	x		x	x		
5	Hardware Upgrade of the Main ATM System	Delayed	2020	x	x	x	x		x
6	Navigation Systems Upgrade	Completed	2019	x	x	x	x		
7	Surveillance Systems Upgrade	Completed	2019	x	x	x	x		
8	ATIS / VOLMET System	Completed	2018	x	x		x		
9	ATS Operation Information System	Delayed	2020	x					
10	Central Monitoring System	Completed	2019	x			x		
11	Software Upgrade of the Main ATM System - AGDL and COTR	Delayed	2020	x	x	x	x		



Slovakia planned 11 main projects for RP2: eight projects have been completed, representing 8.28M€$_{2009}$, and three projects have been delayed to RP3, representing 2.86M€$_{2009}$.

Slovakia invested in safety (11 out of 11 projects) and cost efficiency (ten out of 11 projects) as priorities. Seven out of 11 projects are expected to benefit capacity and environment.

From the total of 11 projects in which Slovakia invested none was linked to the Pilot Common Project. One of the projects was included in the Network Operations Plan.

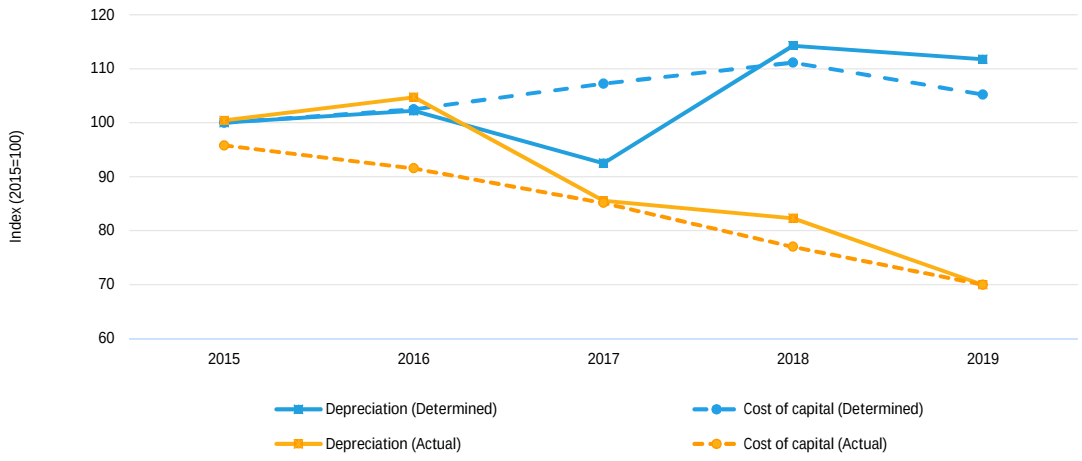
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Slovakia - LPS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**6.50**	**6.64**	**6.01**	**7.42**	**7.26**	**33.83**
- En route	6.28	6.42	5.81	7.18	7.02	32.70
- Terminal	0.22	0.22	0.20	0.25	0.24	1.13
Cost of Capital	**2.63**	**2.69**	**2.82**	**2.92**	**2.76**	**13.81**
- En route	2.54	2.60	2.72	2.82	2.67	13.35
- Terminal	0.09	0.09	0.09	0.10	0.09	0.46
Total	**9.12**	**9.33**	**8.82**	**10.34**	**10.02**	**47.64**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**6.52**	**6.80**	**5.56**	**5.35**	**4.55**	**28.78**
- En route	6.34	6.64	5.40	5.15	4.35	27.90
- Terminal	0.18	0.16	0.15	0.19	0.19	0.88
Cost of Capital	**2.52**	**2.40**	**2.24**	**2.02**	**1.84**	**11.01**
- En route	2.42	2.31	2.14	1.91	1.74	10.52
- Terminal	0.10	0.10	0.09	0.11	0.10	0.50
Total	**9.04**	**9.21**	**7.79**	**7.37**	**6.38**	**39.79**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**0.03**	**0.16**	**(0.45)**	**(2.08)**	**(2.71)**	**(5.05)**
- En route	0.06	0.23	(0.41)	(2.02)	(2.67)	(4.80)
- Terminal	(0.03)	(0.06)	(0.05)	(0.06)	(0.05)	(0.25)
Cost of Capital	**(0.11)**	**(0.29)**	**(0.58)**	**(0.90)**	**(0.93)**	**(2.80)**
- En route	(0.12)	(0.29)	(0.58)	(0.91)	(0.93)	(2.83)
- Terminal	0.01	0.01	(0.00)	0.01	0.01	0.03
Total	**(0.08)**	**(0.12)**	**(1.03)**	**(2.97)**	**(3.64)**	**(7.85)**



Over RP2, 61% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 7.85M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 5.05M€$_{2009}$. This was mainly due to delays in project implementation in RP1 because of procedural constraints during contract signing and complexity in administrative processes and procurement.

Throughout RP2, the actual cost of capital was 2.80M€$_{2009}$ lower than determined. This was mainly due to a decrease in the value of the fixed asset base as a result of the delayed investments.

4.5.6 Slovenia - Slovenia Control

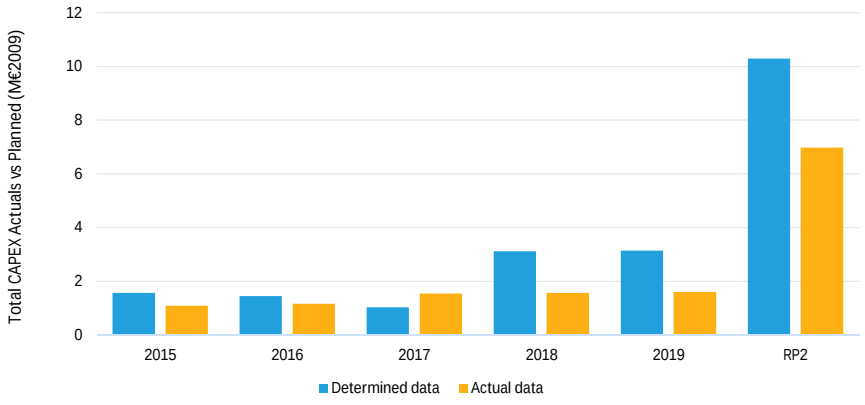
Over RP2, Slovenia underspent 3M€$_{2009}$ (-32%) with respect to the performance plan. This is mainly is due to the underspending in ATM system upgrade, which despite the plans has not been started yet. As a result of the underinvestment, Slovenia overcharged +0.2M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Slovenia planned seven main projects for RP2: six projects have been completed, representing 4M€$_{2009}$, and one project (ATM system upgrade) is expected to continue through RP3, however it did not receive any investments over RP2.

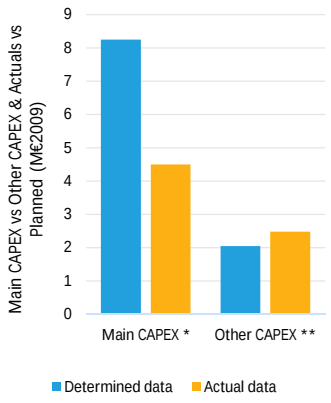
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**1.56**	**1.45**	**1.03**	**3.11**	**3.14**	**10.30**
- Main CAPEX *	1.30	1.09	0.86	2.53	2.48	8.25
- % Main into Total CAPEX	*83%*	*75%*	*83%*	*81%*	*79%*	*80%*
- Other CAPEX **	0.27	0.36	0.17	0.59	0.66	2.05
- % Other into Total CAPEX	*17%*	*25%*	*17%*	*19%*	*21%*	*20%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**1.10**	**1.16**	**1.55**	**1.56**	**1.61**	**6.97**
- Main CAPEX	0.83	0.45	0.96	1.19	1.06	4.50
- % Main into Total CAPEX	*76%*	*39%*	*62%*	*76%*	*66%*	*64%*
- Other CAPEX	0.27	0.71	0.58	0.38	0.55	2.48
- % Other into Total CAPEX	*24%*	*61%*	*38%*	*24%*	*34%*	*36%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(0.47)**	**(0.29)**	**0.52**	**(1.55)**	**(1.53)**	**(3.32)**
- Main CAPEX	(0.46)	(0.64)	0.11	(1.34)	(1.42)	(3.75)
- Other CAPEX	(0.00)	0.35	0.41	(0.21)	(0.11)	0.43
Total C. Other CAPEX	***-30%***	***-20%***	***50%***	***-50%***	***-49%***	***-32%***
- Main CAPEX (%)	*-36%*	*-59%*	*12%*	*-53%*	*-57%*	*-46%*
- Other CAPEX (%)	*-1%*	*97%*	*238%*	*-36%*	*-17%*	*21%*





The total actual capital expenditure for RP2 is 6.97M€$_{2009}$. Throughout the RP2, Slovenia spent 3.32M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 46% lower than planned, while other CAPEX is 21% higher.

In 2015 and 2016, Slovenia underspent 0.47M€$_{2009}$ and 0.29M€$_{2009}$, respectively. In 2017, Slovenia spent 0.52M€$_{2009}$ more than determined, while in 2018 and 2019, actual CAPEX is respectively 1.55M€$_{2009}$ and 1.53M€$_{2009}$ lower than determined.

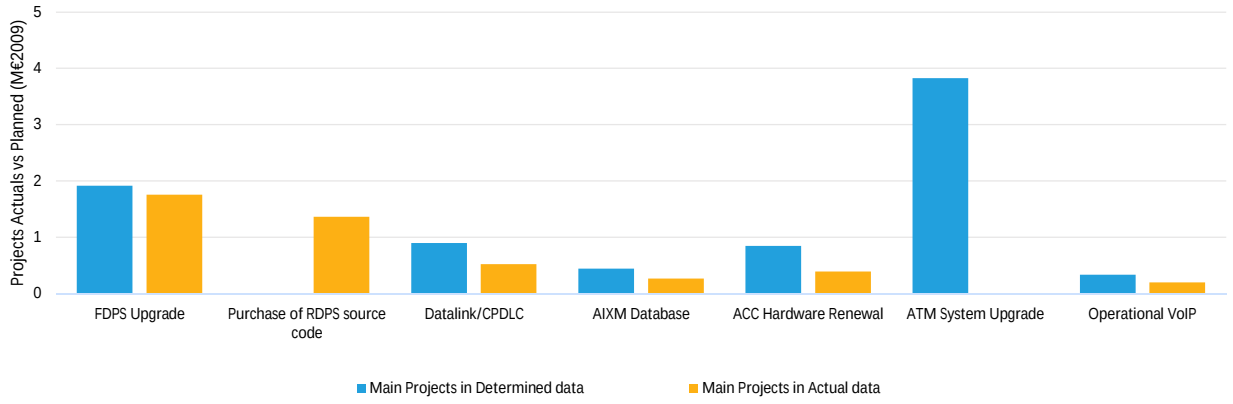
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Slovenia - Slovenia Control

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	FDPS Upgrade	0.18	0.87	0.86	-	-	1.91
2	Purchase of RDPS source code	-	-	-	-	-	-
3	Datalink/CPDLC	0.89	-	-	-	-	0.89
4	AIXM Database	0.22	0.22	-	-	-	0.44
5	ACC Hardware Renewal	-	-	-	0.84		0.84
6	ATM System Upgrade	-	-	-	1.52	2.31	3.83
7	Operational VoIP	-	-	-	0.17	0.17	0.33

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	FDPS Upgrade	0.55	0.34	0.45	0.18	0.22	1.76
2	Purchase of RDPS source code	0.28	-	0.04	0.55	0.50	1.36
3	Datalink/CPDLC	-	-	0.15	0.35	0.02	0.52
4	AIXM Database	-	0.11	0.16	-	-	0.27
5	ACC Hardware Renewal	-	-	0.16	0.10	0.13	0.39
6	ATM System Upgrade	-	-	-	-	-	-
7	Operational VoIP	-	-	-	-	0.20	0.20

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	FDPS Upgrade	0.38	(0.53)	(0.40)	0.18	0.22	(0.16)
2	Purchase of RDPS source code	0.28	-	0.04	0.55	0.50	1.36
3	Datalink/CPDLC	(0.89)	-	0.15	0.35	0.02	(0.37)
4	AIXM Database	(0.22)	(0.11)	0.16	-	-	(0.18)
5	ACC Hardware Renewal	-	-	0.16	(0.74)	0.13	(0.45)
6	ATM System Upgrade	-	-	-	(1.52)	(2.31)	(3.83)
7	Operational VoIP	-	-	-	(0.17)	0.03	(0.14)



In the performance plan, Slovenia planned six projects to receive investments during RP2. All projects received investments, except for "ATM System Upgrade".

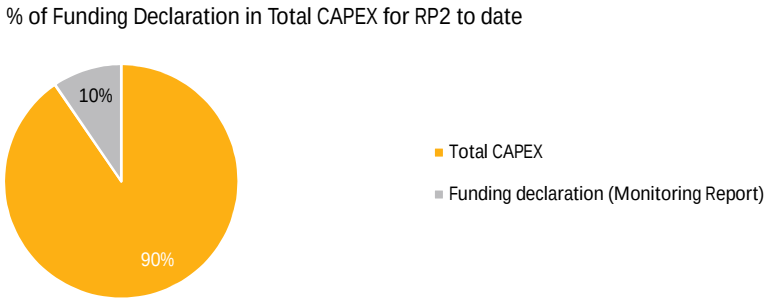
For RP2, Slovenia's main project is "FDPS Upgrade" with a total actual investment of 1.76M€$_{2009}$, which is 0.16M€$_{2009}$ less than determined. The second largest project "Purchase of RDPS source code", however it was not originally planned for RP2. Projects "Datalink/CPDLC", "AIXM Database", "ACC Hardware Renewal" and "Operational VoIP" received lower investments than originally determined.

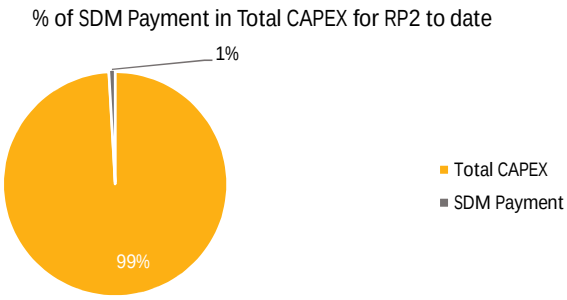
The unplanned CAPEX for Slovenia amounts to 1.36M€$_{2009}$ (or 20% of total CAPEX) over RP2, in 2015, 2017, 2018 and 2019, distributed in the following existing project "Purchase of RDPS source code".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Slovenia - Slovenia Control

# Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	0.11	0.05	0.59	0.12	(0.20)	0.67

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.11	0.05	0.59	0.12	(0.20)	0.67
SDM Payment	-	-	-	-	0.06	0.06





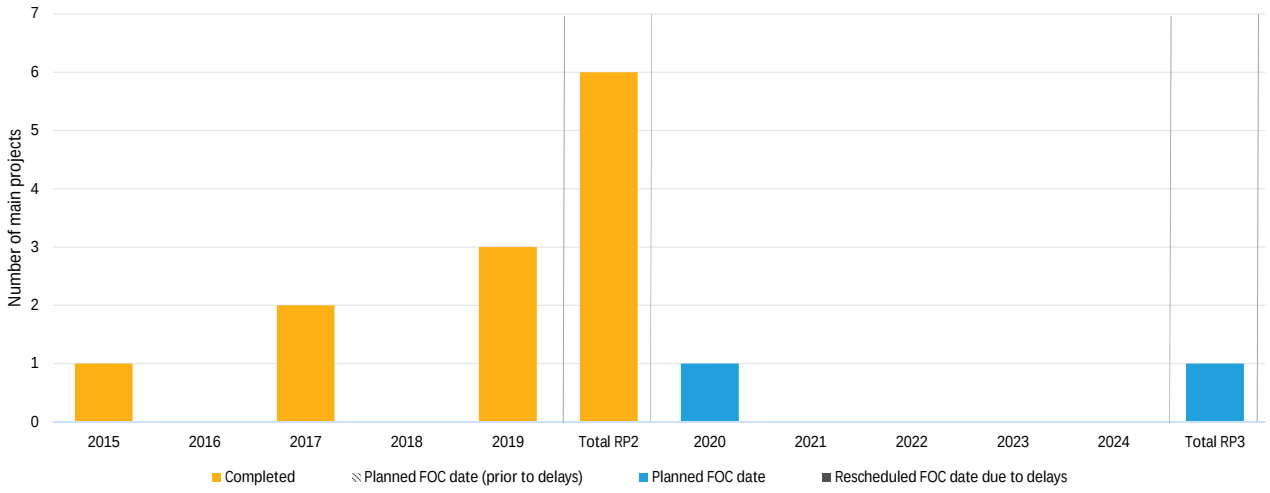
Slovenia received grants from four funds throughout the RP2, which are: the "INEA/CEF/TRAN/M2014/1026723; Project Nº CEF 2014 N° EU -TM-0032-S", the "INEA/CEF/TRAN/M2014/1037259; Project Nº CEF-2014-EU-TM-0136-M", 'the INEA/CEF/TRAN/M2015/1132363; Project Nº CEF 2015 N° EU-TM-0196-M" and the "INEA/CEF/TRAN/M2016/1349619 Project Nº CEF 2016-EU-TM-0117-M". Only one project "FDPS Upgrade" reported a direct link between fund and investments, however, information on the specific fund was not available.

The total of EU funding declared by Slovenia for RP2 is 0.67M€$_{2009}$, representing 10% of the actual total CAPEX.
The total SDM payments amount to 0.06M€$_{2009}$, which cover 1% of the actual total CAPEX invested during RP2.

Slovenia received 1.25M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Air Ground Datalink Implementation" (0.90M€), "Free Route Airspace from the Black Forest to the Black Sea" (0.16M€) and "NewPENS Stakeholders contribution for the procurement and deployment of NewPENS - Part A: General Call" (0.08M€).

EXPECTED BENEFIT PER PROJECT Slovenia - Slovenia Control

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	FDPS Upgrade	Completed	2017	x		x	x	x	
2	Purchase of RDPS source code	Completed	2015	x		x	x	x	
3	Datalink/CPDLC	Completed	2019	x		x	x	x	x
4	AIXM Database	Completed	2017	x		x	x	x	
5	ACC Hardware Renewal	Completed	2019	x			x		
6	ATM System Upgrade	Ongoing	2020	x		x	x	x	
7	Operational VoIP	Completed	2019	x		x	x	x	



Slovenia planned seven main projects for RP2: six projects have been completed, representing 4.5M and project is expected to continue through RP3.

All projects are expected to have a ppositive impact on safety and cost-efficiency. Five out six projects are also expected to improve capacity. None of the projects are expected to bring benefits to the environment.

The actual investment in RP2 for the six projects that were linked to the Pilot Common Project is 4.11M€$_{2009}$. This amount represents 59% of the actual total CAPEX. One project was included in the Network Operations Plan.

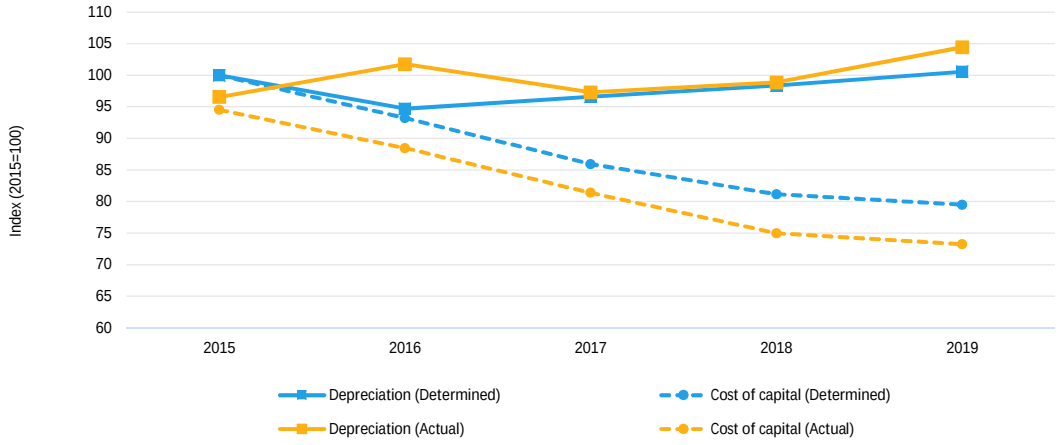
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Slovenia - Slovenia Control

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**3.20**	**3.03**	**3.09**	**3.15**	**3.22**	**15.68**
- En route	3.05	2.88	2.94	3.00	3.08	14.96
- Terminal	0.15	0.14	0.15	0.14	0.14	0.73
Cost of Capital	**1.94**	**1.80**	**1.66**	**1.57**	**1.54**	**8.51**
- En route	1.87	1.74	1.61	1.52	1.50	8.24
- Terminal	0.07	0.06	0.06	0.05	0.04	0.27
Total	**5.13**	**4.83**	**4.75**	**4.72**	**4.76**	**24.19**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**3.09**	**3.25**	**3.11**	**3.16**	**3.34**	**15.96**
- En route	2.93	3.10	2.97	3.01	3.18	15.20
- Terminal	0.15	0.15	0.14	0.15	0.16	0.76
Cost of Capital	**1.83**	**1.71**	**1.58**	**1.45**	**1.42**	**7.99**
- En route	1.74	1.63	1.50	1.38	1.35	7.61
- Terminal	0.09	0.08	0.07	0.07	0.07	0.38
Total	**4.92**	**4.97**	**4.69**	**4.61**	**4.76**	**23.95**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.11)**	**0.22**	**0.02**	**0.02**	**0.12**	**0.28**
- En route	(0.11)	0.22	0.03	0.01	0.10	0.24
- Terminal	0.00	0.01	(0.01)	0.00	0.03	0.03
Cost of Capital	**(0.11)**	**(0.09)**	**(0.09)**	**(0.12)**	**(0.12)**	**(0.41)**
- En route	(0.13)	(0.11)	(0.10)	(0.14)	(0.15)	(0.64)
- Terminal	0.02	0.02	0.02	0.02	0.03	0.11
Total	**(0.22)**	**0.13**	**(0.07)**	**(0.10)**	**0.00**	**(0.25)**



Over RP2, 32% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 0.25M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, actual depreciation was higher than the determined one by 0.28M€$_{2009}$. This was due to the postponement of some investments from RP1, which were implemented at the beginning of RP2.

Throughout RP2, cost of capital was 0.41M€$_{2009}$ lower than determined. This was mainly due to the lower level of the net fixed assets base as a result of the delays in the implementation of some investments.

4.6 FABEC

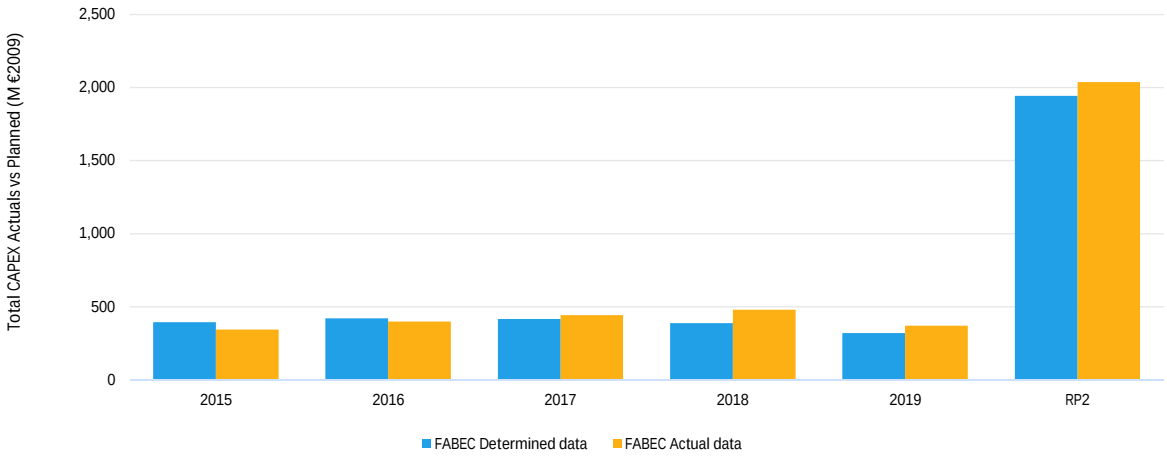
OVERALL INVESTMENTS

Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**394.16**	**419.95**	**417.68**	**389.06**	**320.99**	**1,941.84**
- *Main CAPEX*	289.54	311.94	291.88	244.79	183.25	1,321.40
- *% Main into Total CAPEX*	*73%*	*74%*	*70%*	*63%*	*57%*	*68%*
- Other CAPEX	104.63	108.01	125.79	144.27	137.74	620.44
- *% Other into Total CAPEX*	*27%*	*26%*	*30%*	*37%*	*43%*	*32%*
- Belgium in Total CAPEX in FABEC	18.54	19.72	11.39	13.70	14.15	77.51
- *% Belgium in Total CAPEX in FABEC*	*5%*	*5%*	*3%*	*4%*	*4%*	*4%*
- France in Total CAPEX in FABEC	163.80	178.04	185.83	169.51	138.84	836.02
- *% France in Total CAPEX in FABEC*	*42%*	*42%*	*44%*	*44%*	*43%*	*43%*
- Germany in Total CAPEX in FABEC	122.55	121.45	129.98	130.83	103.82	608.62
- *% Germany in Total CAPEX in FABEC*	*31%*	*29%*	*31%*	*34%*	*32%*	*31%*
- Luxembourg in Total CAPEX in FABEC	2.48	3.84	4.65	2.39	1.00	14.35
- *% Luxembourg in Total CAPEX in FABEC*	*1%*	*1%*	*1%*	*1%*	*0%*	*1%*
- MUAC in Total CAPEX in FABEC	13.25	14.43	13.82	14.04	13.80	69.33
- *% MUAC in Total CAPEX in FABEC*	*3%*	*3%*	*3%*	*4%*	*4%*	*4%*
- Netherlands in Total CAPEX in FABEC	33.42	42.36	32.08	19.06	10.25	137.17
- *% Netherlands in Total CAPEX in FABEC*	*8%*	*10%*	*8%*	*5%*	*3%*	*7%*
- Switzerland in Total CAPEX in FABEC	40.13	40.13	39.93	39.53	39.14	198.85
- *% Switzerland in Total CAPEX in FABEC*	*10%*	*10%*	*10%*	*10%*	*12%*	*10%*

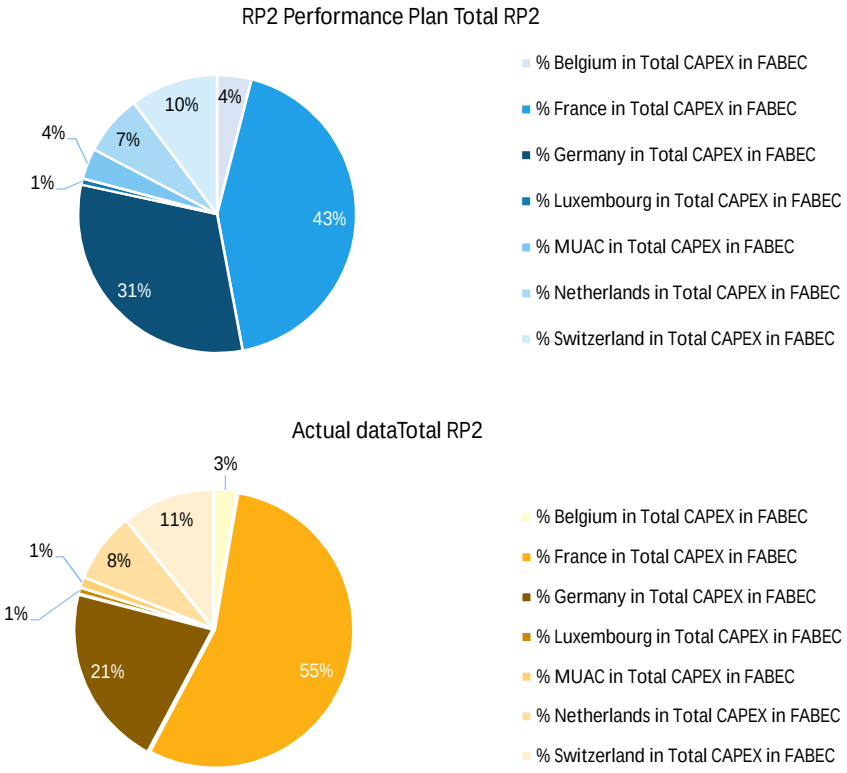
Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**344.83**	**398.18**	**443.65**	**479.48**	**370.84**	**2,036.99**
- Main CAPEX	268.61	318.38	352.42	382.74	289.45	1,611.60
- *% Main into Total CAPEX*	*78%*	*80%*	*79%*	*80%*	*78%*	*79%*
- Other CAPEX	76.23	79.80	91.23	96.75	81.39	425.39
- *% Other into Total CAPEX*	*22%*	*20%*	*21%*	*20%*	*22%*	*21%*
- Belgium in Total CAPEX in FABEC	5.07	4.80	18.01	17.46	9.08	54.44
- *% Belgium in Total CAPEX in FABEC*	*1%*	*1%*	*4%*	*4%*	*2%*	*3%*
- France in Total CAPEX in FABEC	212.13	242.23	246.65	266.26	154.99	1,122.27
- *% France in Total CAPEX in FABEC*	*62%*	*61%*	*56%*	*56%*	*42%*	*55%*
- Germany in Total CAPEX in FABEC	71.85	75.02	101.23	89.49	96.44	434.03
- *% Germany in Total CAPEX in FABEC*	*21%*	*19%*	*23%*	*19%*	*26%*	*21%*
- Luxembourg in Total CAPEX in FABEC	1.71	0.63	3.97	5.30	3.18	14.79
- *% Luxembourg in Total CAPEX in FABEC*	*0%*	*0%*	*1%*	*1%*	*1%*	*1%*
- MUAC in Total CAPEX in FABEC	4.87	3.49	4.34	5.92	6.23	24.85
- *% MUAC in Total CAPEX in FABEC*	*1%*	*1%*	*1%*	*1%*	*2%*	*1%*
- Netherlands in Total CAPEX in FABEC	12.62	26.79	18.88	49.48	58.90	166.67
- *% Netherlands in Total CAPEX in FABEC*	*4%*	*7%*	*4%*	*10%*	*16%*	*8%*
- Switzerland in Total CAPEX in FABEC	36.59	45.21	50.57	45.57	42.00	219.94
- *% Switzerland in Total CAPEX in FABEC*	*11%*	*11%*	*11%*	*10%*	*11%*	*11%*

OVERALL INVESTMENTS FABEC

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(49.33)**	**(21.77)**	**25.98**	**90.43**	**49.84**	**95.14**
- Main CAPEX	(20.93)	6.44	60.54	137.95	106.20	290.19
- Other CAPEX	(28.40)	(28.21)	(34.56)	(47.52)	(56.35)	(195.05)
Total CAPEX (%)	***-13%***	***-5%***	***6%***	***23%***	***16%***	***5%***
- Main CAPEX (%)	*-7%*	*2%*	*21%*	*56%*	*58%*	*22%*
- Other CAPEX (%)	*-27%*	*-26%*	*-27%*	*-33%*	*-41%*	*-31%*



OVERALL INVESTMENTS FABEC



During RP2, the total actual investments in CAPEX in FABEC have been higher than determined in the performance plan. Actual investments were made for a total amount of 2036.99M€$_{2009}$, while in the performance plan they were set out to be 1941.84M€$_{2009}$, a difference of 95.14M€$_{2009}$ or 5%. In the first two years of RP2, the actual registered investments were lower than planned, but in the last three years of the period, the investments were higher than planned, resulting in a total actual CAPEX higher than planned.

Luxembourg and MUAC have a minimal share in the total investments made with 1% each. France has the largest percent both in planned and actual investments, with 43% and 55% respectively. This high increase in percentage is a result of France overspending with respect to what was initially planned and of Germany going from representing 31% of the planned investments to 21% by underspending a total amount of 174.59M€$_{2009}$.

4.6.1 Belgium - Skeyes

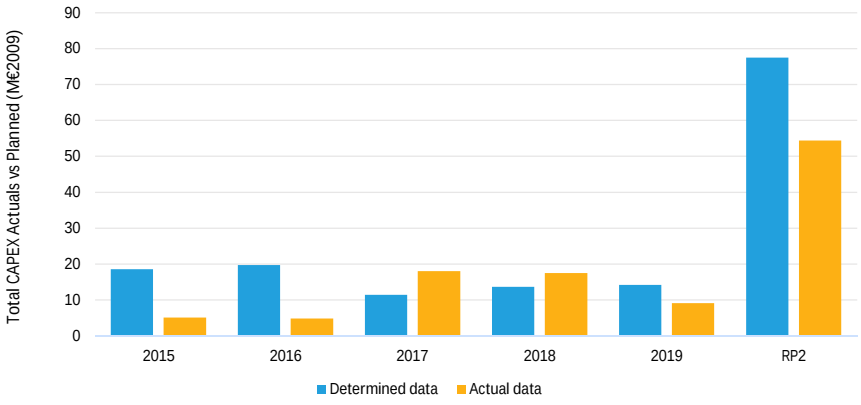
Over RP2, Belgium underspent 23M€$_{2009}$ (-30%) with respect to the performance plan. As a result of the underinvestment, Belgium overcharged +18M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Belgium planned 17 main projects for RP2: 13 projects have been completed, representing 19M€$_{2009}$; three are ongoing, representing 18M€$_{2009}$, with foreseen completion in RP3 and beyond; and one has not started yet.

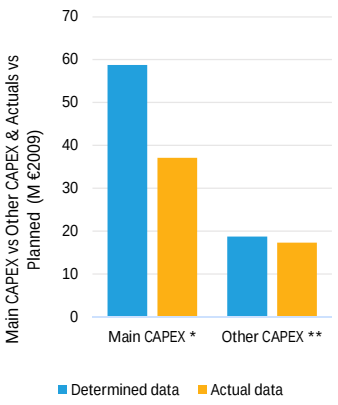
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**18.54**	**19.72**	**11.39**	**13.70**	**14.15**	**77.51**
- Main CAPEX *	14.37	17.10	8.72	9.88	8.66	58.74
- *% Main into Total CAPEX*	*78%*	*87%*	*77%*	*72%*	*61%*	*76%*
- Other CAPEX **	4.16	2.62	2.67	3.82	5.49	18.77
- *% Other into Total CAPEX*	*22%*	*13%*	*23%*	*28%*	*39%*	*24%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**5.07**	**4.80**	**18.01**	**17.46**	**9.08**	**54.44**
- Main CAPEX	2.97	1.98	14.54	12.92	4.71	37.12
- *% Main into Total CAPEX*	*58%*	*41%*	*81%*	*74%*	*52%*	*68%*
- Other CAPEX	2.11	2.82	3.47	4.54	4.37	17.32
- *% Other into Total CAPEX*	*42%*	*59%*	*19%*	*26%*	*48%*	*32%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(13.46)**	**(14.92)**	**6.62**	**3.76**	**(5.07)**	**(23.07)**
- Main CAPEX	(11.41)	(15.12)	5.82	3.04	(3.95)	(21.62)
- Other CAPEX	(2.055)	0.199	0.80	0.72	(1.12)	(1.45)
Total CAPEX (%)	***-73%***	***-76%***	***58%***	***27%***	***-36%***	***-30%***
- *Main CAPEX (%)*	*-79%*	*-88%*	*67%*	*31%*	*-46%*	*-37%*
- *Other CAPEX (%)*	*-49%*	*8%*	*30%*	*19%*	*-20%*	*-8%*





The total actual capital expenditure for RP2 is 54.44M€$_{2009}$. Throughout RP2, Belgium spent 23.07M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 37% lower than determined, while other CAPEX is 8% lower.

In 2015 and 2016, Belgium underspent 13.46M€$_{2009}$ (-73%) and 14.92M€$_{2009}$ (-76%), respectively. In 2017 and 2018, Belgium overspent 6.62M€$_{2009}$ and 3.76M€$_{2009,}$ respectively. In 2019 Belgium underspent 5.07M€$_{2009}$ than originally determined.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

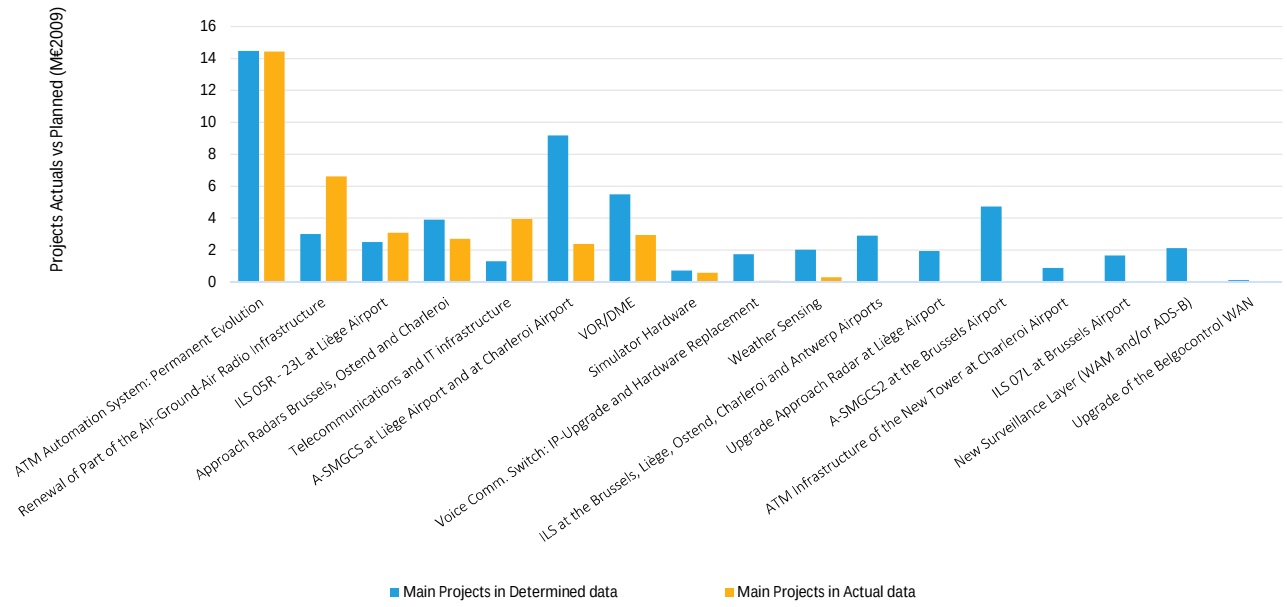
INVESTMENTS PER MAIN PROJECT Belgium - Skeyes

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	ATM Automation System: Permanent Evolution	2.28	2.12	4.34	4.02	1.70	14.46
2	Renewal of Part of the Air-Ground-Air Radio Infrastructure	1.47	0.19	0.69	0.19	0.47	3.01
3	ILS 05R - 23L at Liège Airport	1.14	1.06	0.31	-	-	2.50
4	Approach Radars Brussels, Ostend and Charleroi	3.11	0.29	-	0.26	0.26	3.91
5	Telecommunications and IT infrastructure	0.48	0.31	0.17	0.14	0.21	1.31
6	A-SMGCS at Liège Airport and at Charleroi Airport	2.69	6.24	0.09	0.09	0.09	9.19
7	VOR/DME	0.93	2.03	1.27	1.26	-	5.48
8	Simulator Hardware	0.34	0.20	0.20	-	-	0.73
9	Voice Comm. Switch: IP-Upgrade and Hardware Replacement	-	0.89	-	0.26	0.60	1.74
10	Weather Sensing	0.11	0.96	0.87	-	0.09	2.02
11	ILS at the Brussels, Liège, Ostend, Charleroi and Antwerp Airports	-	-	-	1.47	1.45	2.91
12	Upgrade Approach Radar at Liège Airport	0.20	1.75	-	-	-	1.95
13	A-SMGCS2 at the Brussels Airport	-	0.05	0.79	2.20	1.69	4.73
14	ATM Infrastructure of the New Tower at Charleroi Airport	-	0.89	-	-	-	0.89
15	ILS 07L at Brussels Airport	1.53	0.14	-	-	-	1.67
16	New Surveillance Layer (WAM and/or ADS-B)	-	-	-	-	2.13	2.13
17	Upgrade of the Belgocontrol WAN	0.12	-	-	-	-	0.12

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	ATM Automation System: Permanent Evolution	1.18	0.35	6.16	5.66	1.08	14.44
2	Renewal of Part of the Air-Ground-Air Radio Infrastructure	0.01	-	1.83	3.64	1.14	6.61
3	ILS 05R - 23L at Liège Airport	0.63	0.88	1.20	0.36	0.02	3.09
4	Approach Radars Brussels, Ostend and Charleroi	0.38	0.10	2.22	-	0.02	2.72
5	Telecommunications and IT infrastructure	0.31	0.19	1.11	0.88	1.46	3.95
6	A-SMGCS at Liège Airport and at Charleroi Airport	-	-	0.91	1.47	0.01	2.39
7	VOR/DME	0.30	-	1.00	0.89	0.75	2.94
8	Simulator Hardware	0.16	0.38	0.04	-	-	0.58
9	Voice Comm. Switch: IP-Upgrade and Hardware Replacement	-	-	0.06	0.02	-	0.08
10	Weather Sensing	-	0.04	0.01	0.01	0.23	0.30
11	ILS at the Brussels, Liège, Ostend, Charleroi and Antwerp Airports	-	0.03	-	-	-	0.03
12	Upgrade Approach Radar at Liège Airport	0.01	-	-	-	-	0.01
13	A-SMGCS2 at the Brussels Airport	-	-	-	-	-	-
14	ATM Infrastructure of the New Tower at Charleroi Airport	-	-	-	-	-	-
15	ILS 07L at Brussels Airport	-	-	-	-	-	-
16	New Surveillance Layer (WAM and/or ADS-B)	-	-	-	-	-	-
17	Upgrade of the Belgocontrol WAN	-	-	-	-	-	-

#	Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
1	ATM Automation System: Permanent Evolution	(1.10)	(1.77)	1.82	1.64	(0.62)	(0.02)
2	Renewal of Part of the Air-Ground-Air Radio Infrastructure	(1.46)	(0.19)	1.14	3.45	0.67	3.61
3	ILS 05R - 23L at Liège Airport	(0.51)	(0.18)	0.90	0.36	0.02	0.59
4	Approach Radars Brussels, Ostend and Charleroi	(2.73)	(0.18)	2.22	(0.26)	(0.24)	(1.19)
5	Telecommunications and IT infrastructure	(0.17)	(0.11)	0.94	0.73	1.25	2.64
6	A-SMGCS at Liège Airport and at Charleroi Airport	(2.69)	(6.24)	0.83	1.38	(0.08)	(6.80)
7	VOR/DME	(0.63)	(2.03)	(0.27)	(0.37)	0.75	(2.54)
8	Simulator Hardware	(0.18)	0.18	(0.16)	-	-	(0.16)
9	Voice Comm. Switch: IP-Upgrade and Hardware Replacement	-	(0.89)	0.06	(0.24)	(0.60)	(1.66)
10	Weather Sensing	(0.11)	(0.91)	(0.86)	0.01	0.15	(1.73)
11	ILS at the Brussels, Liège, Ostend, Charleroi and Antwerp Airports	-	0.03	-	(1.47)	(1.45)	(2.89)
12	Upgrade Approach Radar at Liège Airport	(0.19)	(1.75)	-	-	-	(1.94)
13	A-SMGCS2 at the Brussels Airport	-	(0.05)	(0.79)	(2.20)	(1.69)	(4.73)
14	ATM Infrastructure of the New Tower at Charleroi Airport	-	(0.89)	-	-	-	(0.89)
15	ILS 07L at Brussels Airport	(1.53)	(0.14)	-	-	-	(1.67)
16	New Surveillance Layer (WAM and/or ADS-B)	-	-	-	-	(2.13)	(2.13)
17	Upgrade of the Belgocontrol WAN	(0.12)	-	-	-	-	(0.12)

INVESTMENTS PER MAIN PROJECT Belgium - Skeyes



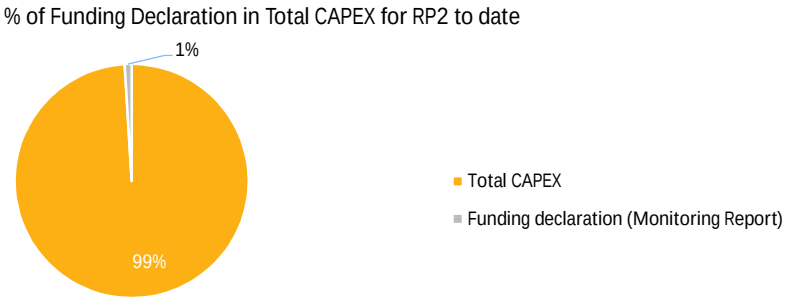
For RP2, Belgium's major project is the "ATM Automation System: Permanent Evolution", which received 14.44M€$_{2009}$. Actual investments received for the projects "Renewal of Part of the Ai-Ground-Air Radio Infrastructure", "ILS 05R - 23L at Liège Airport" and "Telecommunications and IT infrastructure" were 3.61M€$_{2009}$, 0.59M€$_{2009}$ and 2.64M€$_{2009}$, respectively, higher than determined.

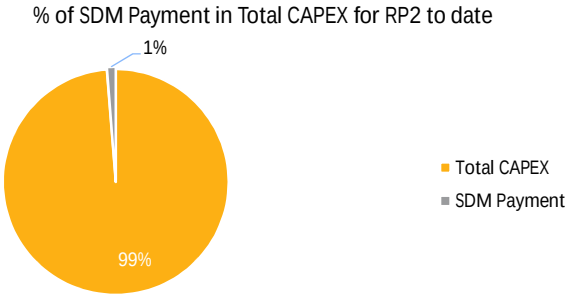
There are five projects, namely "A-SMGCS2 at the Brussels Airport", "ATM Infrastructure of the New Tower at Charleroi Airport", "ILS 07L at Brussels Airport", "New Surveillance Layer (WAM and/or ADS-B)" and "Upgrade of the Belgocontrol WAN" that received no investments.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Belgium - Skeyes

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	0.18	0.23	0.10	0.00	0.00	0.52

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.18	0.23	0.10	0.00	0.00	0.52
SDM Payment	0.11	0.16	0.11	-	0.30	0.69





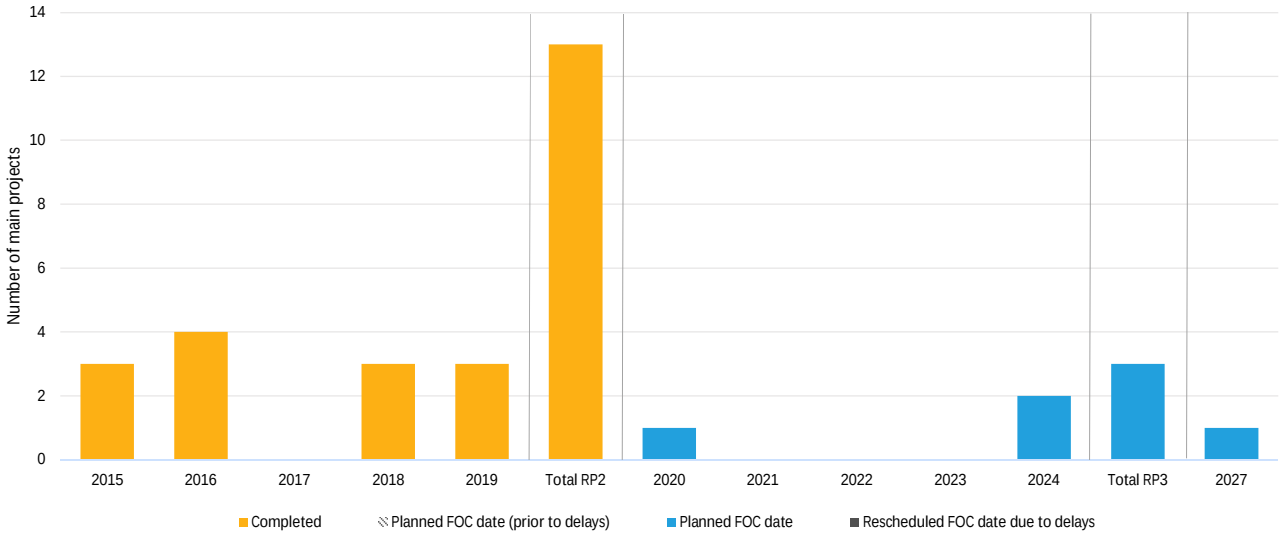
Belgium received funding throughout the period from seven funding schemes. However, with the information provided, none of the funds could be linked to a specific project.

The total amount of EU funding declared by Belgium for RP2 is 0.52M$€_{2009}$, which represents 1% of the actual total CAPEX.
The total SDM payments amount to 0.69M$€_{2009}$, which cover 1% of the actual total CAPEX invested during RP2.

Belgium received 1.85M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Traffic Complexity Assessment and Simulations Tool - TCAST" (0.45M€), "MPLS WAN Project" (0.35M€) and "Implementation of RNP Approaches with Vertical Guidance at the Belgian civil aerodromes within the Brussels TMA" (0.3M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Belgium - Skeyes

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	ATM Automation System: Permanent Evolution	Ongoing	2024					x	
2	Renewal of Part of the Ai-Ground-Air Radio Infrastructure	Completed	2019						
3	ILS 05R - 23L at Liège Airport	Completed	2016			x			
4	Approach Radars Brussels, Ostend and Charleroi	Completed	2015	x		x	x		
5	Telecommunications and IT infrastructure	Ongoing	2024	x					
6	A-SMGCS at Liège Airport and at Charleroi Airport	Completed	2016	x		x			
7	VOR/DME	Completed	2018				x		
8	Simulator Hardware	Completed	2018						
9	Voice Comm. Switch: IP-Upgrade and Hardware Replacement	Completed	2019						
10	Weather Sensing	Completed	2018	x					
11	ILS at the Brussels, Liège, Ostend, Charleroi and Antwerp Airports	Ongoing	2027						
12	Upgrade Approach Radar at Liège Airport	Completed	2016	x		x			
13	A-SMGCS2 at the Brussels Airport	Completed	2019						
14	ATM Infrastructure of the New Tower at Charleroi Airport	Completed	2016	x		x		x	
15	ILS 07L at Brussels Airport	Completed	2015	x		x			
16	New Surveillance Layer (WAM and/or ADS-B)	Not started	2020						
17	Upgrade of the Belgocontrol WAN	Completed	2015					x	



Belgium planned 17 main projects for RP2: 13 projects have been completed, representing 18.7M€$_{2009}$; three have started, representing 18.41M€$_{2009}$, with foreseen completion at the end of RP3 (i.e. 2024) and 2017; and one project has not been started but is expected to be completed in 2020. The FOC date of projects #1 and #5 was not indicated, therefore 2024 was used as default.

Seven projects out of 17 are expected to have a positive impact on safety and six on capacity. There are four projects that are not expected to benefit any key performance area. None of the projects are expected to have an impact on the environment.

The actual investment made in RP2 to date for the three projects linked to the Pilot Common Project is 14.44M€$_{2009}$. This amount represents 27% of the actual total CAPEX. No project was included in the Network Operations Plan.

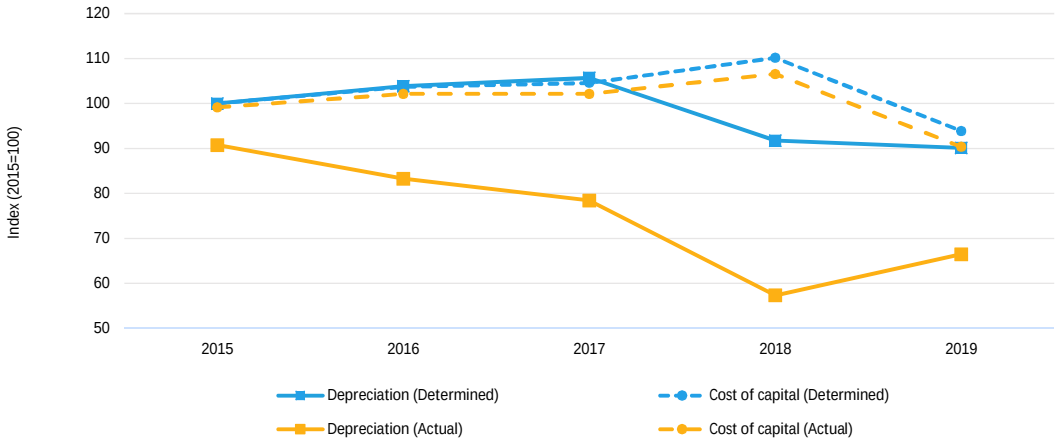
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Belgium - Skeyes

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**15.63**	**16.24**	**16.53**	**14.35**	**14.09**	**76.85**
- En route	9.62	9.61	9.77	8.26	7.96	45.22
- Terminal	6.02	6.63	6.76	6.09	6.14	31.63
Cost of Capital	**3.92**	**4.06**	**4.10**	**4.32**	**3.68**	**20.09**
- En route	2.87	2.98	3.00	3.18	2.53	14.56
- Terminal	1.05	1.09	1.10	1.14	1.15	5.53
Total	**19.56**	**20.30**	**20.63**	**18.67**	**17.78**	**96.93**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**14.19**	**13.02**	**12.27**	**8.97**	**10.40**	**58.85**
- En route	9.12	8.43	7.99	5.94	6.84	38.33
- Terminal	5.07	4.59	4.28	3.02	3.56	20.52
Cost of Capital	**3.89**	**4.00**	**4.01**	**4.18**	**3.54**	**19.62**
- En route	2.85	2.94	2.93	3.08	2.43	14.24
- Terminal	1.03	1.07	1.07	1.10	1.11	5.38
Total	**18.08**	**17.02**	**16.27**	**13.15**	**13.94**	**78.47**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(1.44)**	**(3.22)**	**(4.26)**	**(5.38)**	**(3.70)**	**(18.00)**
- En route	(0.49)	(1.17)	(1.78)	(2.32)	(1.12)	(6.89)
- Terminal	(0.95)	(2.05)	(2.48)	(3.06)	(2.57)	(11.11)
Cost of Capital	**(0.03)**	**(0.06)**	**(0.10)**	**(0.14)**	**(0.14)**	**(0.47)**
- En route	(0.02)	(0.04)	(0.06)	(0.10)	(0.10)	(0.32)
- Terminal	(0.01)	(0.02)	(0.03)	(0.04)	(0.04)	(0.15)
Total	**(1.48)**	**(3.28)**	**(4.35)**	**(5.52)**	**(3.83)**	**(18.47)**



Over RP2, 30% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 18.47M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 18M€$_{2009}$. This was mainly due to delays in the implementation of foreseen investments.

Throughout RP2, the actual cost of capital was 0.47M€$_{2009}$ lower than determined. This was mainly due to a lower than planned fixed asset base (actual WACC did not change compared to the determined).

4.6.2 France - DSNA

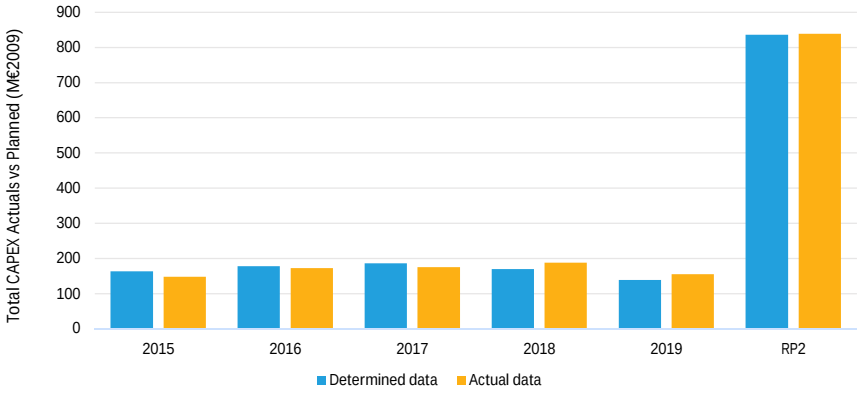
Over RP2, France overspent 3M€$_{2009}$ (+0.3%) with respect to the performance plan (not including OPEX related to CAPEX). Despite higher actual than planned capital expenditure, the actual total depreciation and cost of capital were lower than determined (-50M€$_{2009}$) due to changes in the accounting system (i.e. reporting part of depreciation as other operating costs). France planned 14 main projects for RP2: five projects have been completed, which represents 29M€$_{2009}$, and nine are ongoing (656M€$_{2009}$). Out of the ongoing projects, five are expected to be completed in RP3 and the remaining four in RP4 or later.

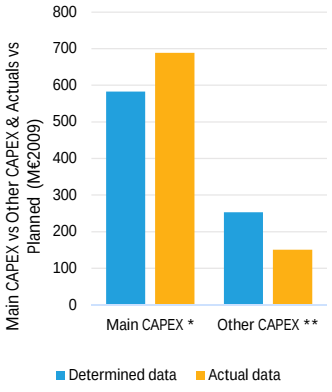
OVERALL INVESTMENTS France - DSNA

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**163.80**	**178.04**	**185.83**	**169.51**	**138.84**	**836.02**
- Main CAPEX *	118.57	121.48	127.20	118.34	97.24	582.83
- *% Main into Total CAPEX*	*72%*	*68%*	*68%*	*70%*	*70%*	*70%*
- Other CAPEX **	45.24	56.55	58.63	51.16	41.60	253.18
- *% Other into Total CAPEX*	*28%*	*32%*	*32%*	*30%*	*30%*	*30%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**147.76**	**172.21**	**175.61**	**188.29**	**154.99**	**838.86**
- Main CAPEX	122.48	143.09	139.08	154.22	129.37	688.25
- *% Main into Total CAPEX*	*83%*	*83%*	*79%*	*82%*	*83%*	*82%*
- Other CAPEX	25.28	29.12	36.52	34.07	25.62	150.60
- *% Other into Total CAPEX*	*17%*	*17%*	*21%*	*18%*	*17%*	*18%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(16.05)**	**(5.83)**	**(10.23)**	**18.79**	**16.15**	**2.84**
- Main CAPEX	3.91	21.61	11.88	35.88	32.14	105.42
- Other CAPEX	(19.96)	(27.44)	(22.11)	(17.09)	(15.98)	(102.58)
Total CAPEX (%)	***-10%***	***-3%***	***-6%***	***11%***	***12%***	***0%***
- *Main CAPEX (%)*	*3%*	*18%*	*9%*	*30%*	*33%*	*18%*
- *Other CAPEX (%)*	*-44%*	*-49%*	*-38%*	*-33%*	*-38%*	*-41%*





DSNA have considered the sum of investments costs as well as some operating costs which are directly associated to their investments (referred to as "T3 Tech"). In order to take into account the "T3 Tech" costs, they have used the "unplanned CAPEX" line to include them in the total CAPEX in the monitoring data submitted by France. Actual investments made in RP2 under these "T3 Tech" costs added up to a value of 362.67M€$_{2009}$, which is roughly 30% of the total CAPEX. This investment, contrary to last year, is not included in the analysis in order to provide a consistent comparison across ANSPs.

The total actual capital expenditure for RP2 is 838.86M€$_{2009}$. For RP2, France spent 2.84M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 18% higher than determined, while other CAPEX is 41% lower than determined. In 2015, 2016 and 2017, France underspent 16.05M€$_{2009}$, 5.83M€2009 and 10.23M€$_{2009}$, respectively. In 2018 and 2019, actual CAPEX is 18.79M€$_{2009}$ and 16.15M€$_{2009}$, respectively, higher than determined.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

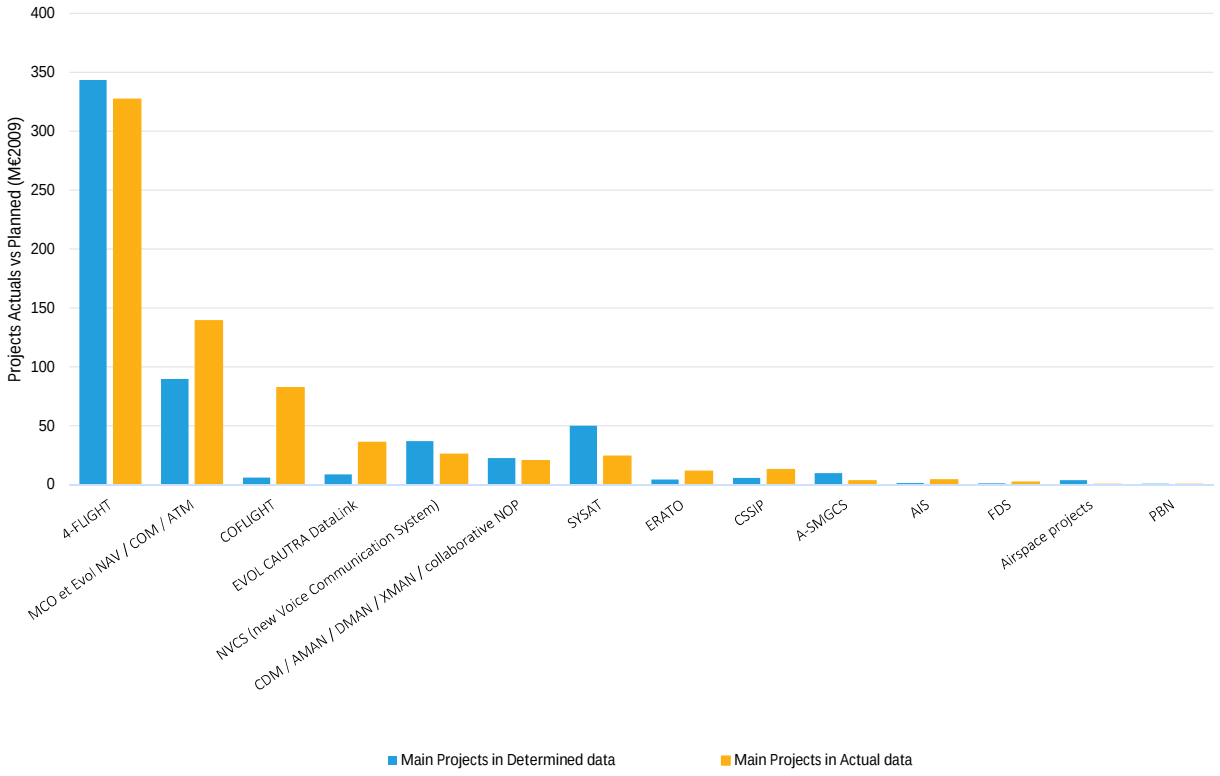
INVESTMENTS PER MAIN PROJECT France - DSNA

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	4-FLIGHT	72.77	78.60	77.02	70.66	44.42	343.48
2	MCO et Evol NAV / COM / ATM	14.95	18.90	19.29	18.29	18.05	89.48
3	COFLIGHT	5.82	-	-	-	-	5.82
4	EVOL CAUTRA DataLink	3.51	2.02	1.99	0.58	0.58	8.68
5	NVCS (new Voice Communication System)	4.15	8.20	8.68	6.81	9.03	36.87
6	CDM / AMAN / DMAN / XMAN / collaborative NOP	3.18	3.67	4.35	4.95	6.27	22.41
7	SYSAT	2.81	5.87	13.05	13.56	14.76	50.05
8	ERATO	4.16	-	-	-	-	4.16
9	CSSIP	4.22	1.16	0.18	-	-	5.56
10	A-SMGCS	1.40	1.75	1.34	2.21	2.87	9.56
11	AIS	0.28	0.29	0.27	0.27	0.27	1.38
12	FDS	0.44	0.16	0.16	0.16	0.16	1.08
13	Airspace projects	0.74	0.73	0.73	0.72	0.71	3.62
14	PBN	0.14	0.14	0.14	0.13	0.13	0.68

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	4-FLIGHT	72.87	66.75	64.71	69.89	52.86	327.09
2	MCO et Evol NAV / COM / ATM	16.13	31.23	25.05	32.24	34.49	139.15
3	COFLIGHT	4.81	18.98	18.49	19.72	20.33	82.33
4	EVOL CAUTRA DataLink	4.41	6.73	11.84	11.24	1.61	35.83
5	NVCS (new Voice Communication System)	4.19	2.03	7.47	7.20	4.86	25.74
6	CDM / AMAN / DMAN / XMAN / collaborative NOP	4.14	4.92	3.68	3.63	3.97	20.34
7	SYSAT	2.23	3.26	3.86	6.41	8.26	24.03
8	ERATO	6.33	5.07	-	-	-	11.40
9	CSSIP	4.57	2.95	1.91	1.96	1.40	12.79
10	A-SMGCS	1.09	0.53	1.16	0.18	0.18	3.14
11	AIS	0.46	0.28	0.55	1.40	1.39	4.08
12	FDS	1.13	0.37	0.18	0.31	-	1.99
13	Airspace projects	0.09	-	0.09	0.04	-	0.23
14	PBN	0.04	-	0.09	-	-	0.13

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	4-FLIGHT	0.10	(11.85)	(12.31)	(0.78)	8.44	(16.39)
2	MCO et Evol NAV / COM / ATM	1.18	12.34	5.76	13.95	16.44	49.67
3	COFLIGHT	(1.02)	18.98	18.49	19.72	20.33	76.50
4	EVOL CAUTRA DataLink	0.90	4.71	9.85	10.66	1.04	27.15
5	NVCS (new Voice Communication System)	0.04	(6.17)	(1.21)	0.38	(4.17)	(11.13)
6	CDM / AMAN / DMAN / XMAN / collaborative NOP	0.96	1.25	(0.67)	(1.32)	(2.29)	(2.07)
7	SYSAT	(0.58)	(2.60)	(9.19)	(7.14)	(6.50)	(26.02)
8	ERATO	2.17	5.07	-	-	-	7.24
9	CSSIP	0.34	1.79	1.73	1.96	1.40	7.23
10	A-SMGCS	(0.31)	(1.22)	(0.18)	(2.03)	(2.68)	(6.42)
11	AIS	0.18	(0.02)	0.27	1.13	1.13	2.70
12	FDS	0.69	0.21	0.02	0.15	(0.16)	0.91
13	Airspace projects	(0.65)	(0.73)	(0.63)	(0.67)	(0.71)	(3.39)
14	PBN	(0.10)	(0.14)	(0.04)	(0.13)	(0.13)	(0.55)

INVESTMENTS PER MAIN PROJECT France - DSNA



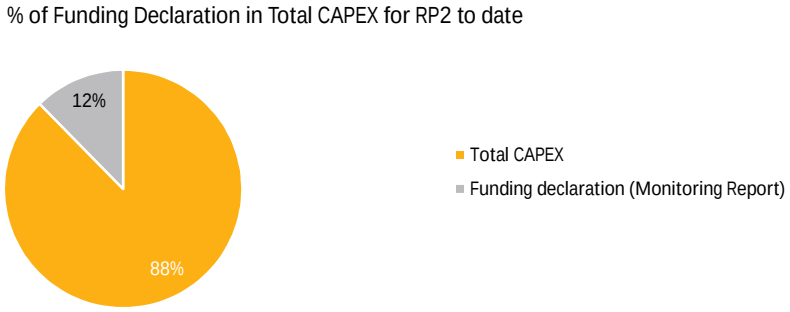
For RP2, the biggest investment, both in the performance plan and the actual data, is the "4-flight" project, amounting up to 48% of the total actual investment, but still lower than originally determined by 16.39M€$_{2009}$. The second largest investment is project "MCO et Evol NAV / COM / ATM". The investment for this project is higher than originally determined by 49.67M€$_{2009}$.

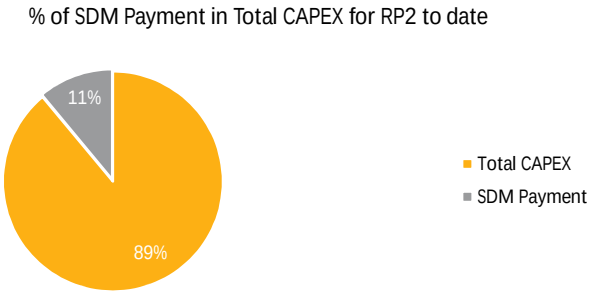
All of the projects have received investments, although not always in proportion to their determined investments. For example, the project "Coflight" has received 14 times more investment than determined. Others, like "Airspace projects" are not at the level of investments determined.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) France - DSNA

#	Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	4-FLIGHT	-	19.81	19.07	5.87	21.01	65.76
3	COFLIGHT	-	2.90	3.65	0.86	3.52	10.93
5	NVCS (new Voice Communication System)	-	2.37	0.33	-	4.58	7.28
6	CDM / AMAN / DMAN / XMAN / collaborative NOP	-	-	0.84	-	1.15	1.99
7	SYSAT	-	5.04	-	1.50	1.00	7.54
8	ERATO in Brest dans Bordeaux ACCs	-	-	9.01	-	-	9.01
9	CSSIP	-	-	0.12	-	-	0.12
12	FDS	-	0.18	0.44	0.05	0.17	0.85
14	PBN	-	0.06	-	0.02	0.48	0.56

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	30.36	33.46	8.30	31.46	103.59
SDM Payment	16.19	12.08	35.91	-	28.45	92.64





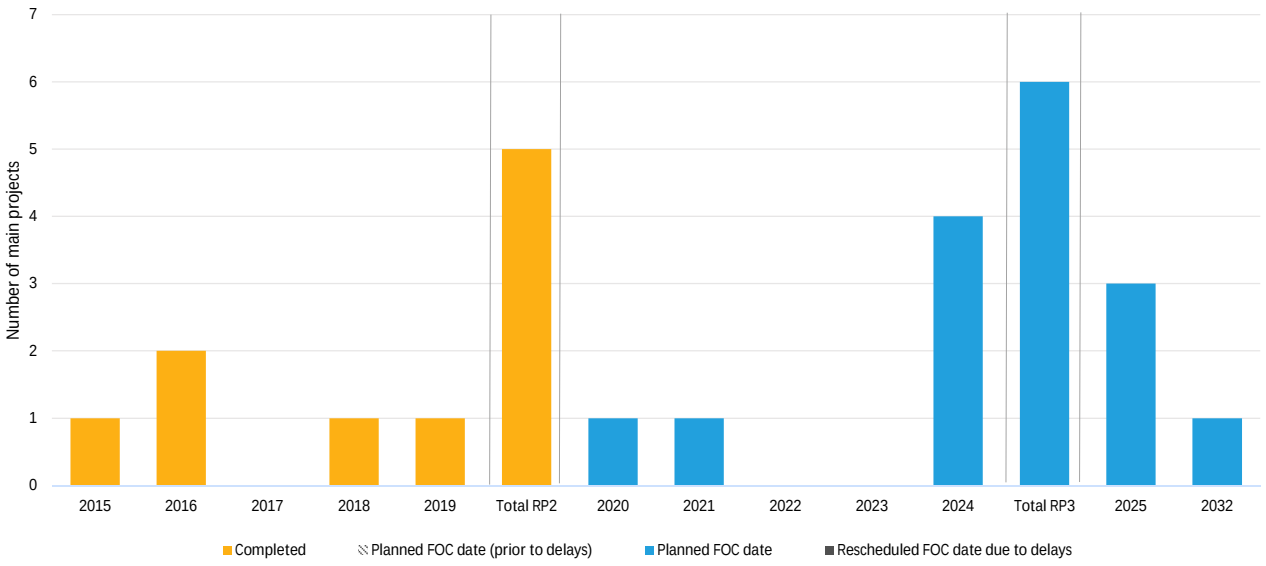
During RP2, France received funding for nine out of 15 projects. The biggest share of the funds, i.e. 62% was allocated to the project "4-flight". 18% of the investments for this project were financed with public funding. "COFLIGHT", "SYSAT" and "ERATO" also received substantial share of funding.

The total amount of EU funding declared by France for RP2 is 103.59M€$_{2009}$, which represents 12% of the actual total CAPEX.
The total SDM payments amount to 92.64M€$_{2009}$, which cover 11% of the actual total CAPEX invested during RP2.

France received 146.1M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects awarded the largest sums are "4-Flight deployment in DSNA pilot ACCs" (71.17M€), "4-Flight Deployment in PARIS Area - Phase I" (13.94M€) and "Coflight-eFDP System Development" (12.11M€). Two of these projects correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT France - DSNA

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	4-FLIGHT	Ongoing	2025	x	x	x	x	x	x
2	MCO et Evol NAV / COM / ATM	Ongoing	2025	x		x	x	x	
3	COFLIGHT	Ongoing	2025	x		x	x	x	
4	EVOL CAUTRA DataLink	Ongoing	2020	x		x	x	x	x
5	NVCS (new Voice Communication System)	Ongoing	2024	x		x	x	x	
6	CDM / AMAN / DMAN / XMAN / collaborative NOP	Ongoing	2024	x	x	x	x	x	
7	SYSAT	Ongoing	2032	x		x	x	x	
8	ERATO	Completed	2016	x	x	x	x	x	x
9	CSSIP	Completed	2019	x		x	x	x	
10	A-SMGCS	Completed	2018	x	x	x	x	x	
11	AIS	Ongoing	2024	x	x	x	x	x	
12	FDS	Completed	2015	x		x	x	x	
13	Airspace projects	Ongoing	2021	x	x	x	x	x	x
14	PBN	Completed	2016	x		x	x	x	



France planned 14 main projects for RP2: five projects have been completed, representing 29.44M€$_{2009}$, and nine have been started, representing 655.66M€$_{2009}$. Out of the started projects, five are expected to be completed in RP3 and the remaining four post RP3 (which represents 572.59M€$_{2009}$). The FOC date of projects #6 and #11 was not indicated, therefore 2024 was used as default.

All of the projects were linked to the Pilot Common Project. Furthermore, they all have a positive effect on safety, cost-efficiency and all but one on capacity as well. Five out of the 14 projects have a positive effect on the environment.

The actual investments made in RP2 for the 14 projects that were linked to the Pilot Common Project is 684.88M€$_{2009}$. This amount represents 82% of the actual total CAPEX. Four projects were included in the Network Operations Plan.

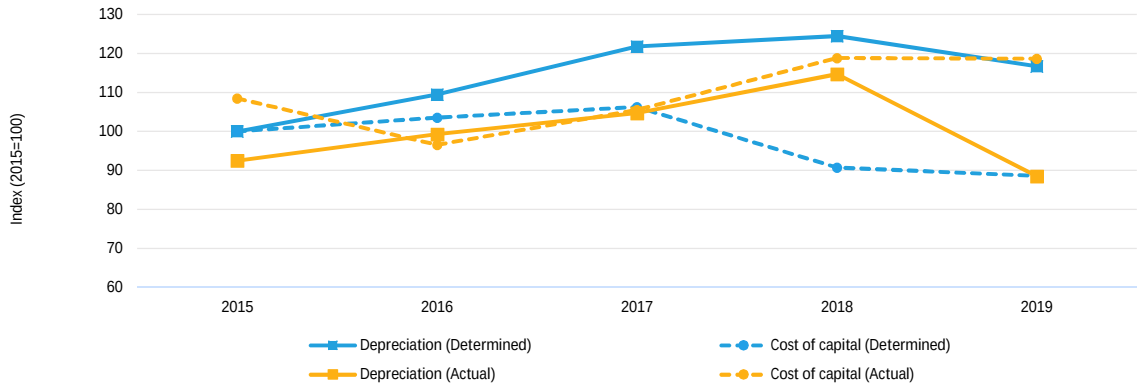
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL France - DSNA

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**136.10**	**149.02**	**165.71**	**169.44**	**158.80**	**779.08**
- En route	109.30	121.72	136.95	141.19	131.96	641.11
- Terminal	26.80	27.30	28.77	28.25	26.85	137.97
Cost of Capital	**34.73**	**35.96**	**36.91**	**31.50**	**30.77**	**169.87**
- En route	27.92	28.91	29.36	24.58	23.37	134.13
- Terminal	6.81	7.05	7.55	6.92	7.40	35.74
Total	**170.83**	**184.98**	**202.62**	**200.94**	**189.58**	**948.96**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**125.91**	**135.16**	**142.53**	**156.14**	**146.65**	**706.38**
- En route	104.53	114.43	121.12	134.71	124.54	599.32
- Terminal	21.38	20.73	21.41	21.43	22.11	107.06
Cost of Capital	**37.66**	**33.54**	**36.64**	**41.28**	**43.80**	**192.91**
- En route	31.80	28.64	31.61	35.68	37.39	165.11
- Terminal	5.86	4.90	5.03	5.60	6.41	27.80
Total	**163.57**	**168.69**	**179.17**	**197.41**	**190.45**	**899.30**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(10.20)**	**(13.86)**	**(23.18)**	**(13.31)**	**(12.15)**	**(72.70)**
- En route	(4.77)	(7.29)	(15.83)	(6.49)	(7.42)	(41.79)
- Terminal	(5.42)	(6.58)	(7.35)	(6.82)	(4.73)	(30.91)
Cost of Capital	**2.93**	**(2.42)**	**(0.27)**	**9.78**	**13.02**	**23.04**
- En route	3.89	(0.27)	2.25	11.10	14.02	30.98
- Terminal	(0.95)	(2.16)	(2.52)	(1.32)	(1.00)	(7.94)
Total	**(7.26)**	**(16.29)**	**(23.45)**	**(3.53)**	**0.87**	**(49.66)**



Over RP2, the actual CAPEX was 0.3% higher than determined (not including OPEX related to CAPEX). Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 46.66M€$_{2009}$ for investments that have been materialised in RP2.

Throughout RP2, the actual depreciation was lower than the determined one by 72.70M€$_{2009}$. This was due to some assets being put in operation with delay during the year, shifting the depreciation costs to the next periods, and the fact that, in France, specific public accounting rules do not allow the depreciation of certain investment expenses and record them as operating expenses instead. As a result, depreciation was lower than foreseen and costs were reported in 'other operating costs' (referred to as "T3 Tech" in the unplanned CAPEX).

Throughout RP2, the actual cost of capital was 23.04M€$_{2009}$ higher than determined. This was mainly due to an increase in the net value of the fixed asset base and also a higher than determined WACC.

4.6.3 Germany - DFS

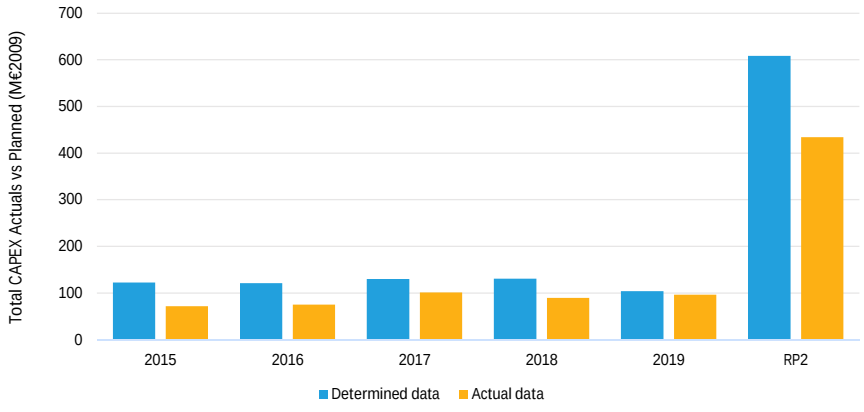
Over RP2, Germany underspent 175M€$_{2009\ (-29\%)}$ with respect to the performance plan. As a result of the underinvestment, Germany overcharged +19M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Germany planned 44 main projects for RP2: 13 projects have been completed, representing 64M€$_{2009}$; 28 are ongoing, representing 266M€$_{2009}$; and two projects have been stopped, representing 3M€$_{2009}$.

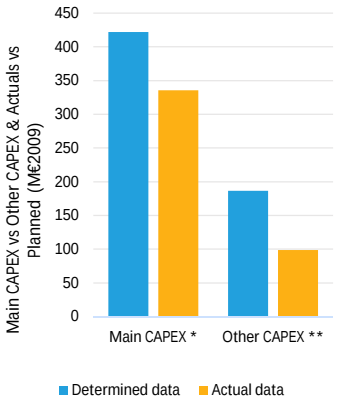
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**122.55**	**121.45**	**129.98**	**130.83**	**103.82**	**608.62**
- Main CAPEX *	99.66	100.32	95.78	74.01	52.41	422.18
- *% Main into Total CAPEX*	*81%*	*83%*	*74%*	*57%*	*50%*	*69%*
- Other CAPEX **	22.89	21.13	34.20	56.82	51.41	186.44
- *% Other into Total CAPEX*	*19%*	*17%*	*26%*	*43%*	*50%*	*31%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**71.85**	**75.02**	**101.23**	**89.49**	**96.44**	**434.03**
- Main CAPEX	52.34	61.16	87.22	62.32	72.43	335.47
- *% Main into Total CAPEX*	*73%*	*82%*	*86%*	*70%*	*75%*	*77%*
- Other CAPEX	19.51	13.86	14.01	27.17	24.01	98.56
- *% Other into Total CAPEX*	*27%*	*18%*	*14%*	*30%*	*25%*	*23%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(50.70)**	**(46.42)**	**(28.75)**	**(41.34)**	**(7.37)**	**(174.59)**
- Main CAPEX	(47.32)	(39.16)	(8.56)	(11.69)	20.03	(86.70)
- Other CAPEX	(3.38)	(7.27)	(20.18)	(29.65)	(27.40)	(87.88)
Total CAPEX (%)	***-41%***	***-38%***	***-22%***	***-32%***	***-7%***	***-29%***
- *Main CAPEX (%)*	*-47%*	*-39%*	*-9%*	*-16%*	*38%*	*-21%*
- *Other CAPEX (%)*	*-15%*	*-34%*	*-59%*	*-52%*	*-53%*	*-47%*





The total actual capital expenditure for RP2 is 434.03M€$_{2009}$. For RP2, Germany spent 174.59M€$_{2009}$ (-29%) less CAPEX than originally determined. For RP2, the main CAPEX is 21% lower than planned, while other CAPEX is 47% lower.

Germany invested less than initially determined, in every year of RP2, 50.70M€$_{2009}$ less in 2015, 46.42M€$_{2009}$ less in 2016, 28.75M€$_{2009}$ less in 2017, 41.34M€$_{2009}$ less in 2018 and 7.37M€$_{2009}$ less in 2019.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Germany - DFS

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	iCAS programme (iTEC Centre Automation System)	41.15	45.21	45.09	43.43	14.97	189.85
2	RASUM 8.33 (Radio Site Upgrade and Modernisation)	10.27	10.26	6.32	3.56	3.50	33.91
3	Digital networks	1.72	2.68	2.42	2.38	2.34	11.54
4	ILS (Instrument Landing System)	2.78	5.48	2.85	5.61	4.16	20.89
5	Value added network services in data communication	1.75	1.72	1.69	1.66	1.63	8.45
6	Product management iCAS (iTEC Centre Automation System)	-	3.13	6.51	6.41	7.15	23.20
7	VAFORIT	4.59	3.37	1.85	-	-	9.81
8	BRISE	-	-	-	-	-	-
9	BaBola	4.13	3.55	2.91	1.11	-	11.68
10	Remote Tower Control (RTC)	3.68	0.03	1.77	-	-	5.49
11	Overhaul academy	3.89	6.31	4.58	-	-	14.78
12	Transmitters, receivers, antennas	2.00	1.36	1.32	1.30	1.28	7.25
13	Intercom system 2 (GS2)	1.86	2.61	1.31	0.30	-	6.08
14	Sum of other unplanned investments with capex < 1M€3009 in RP2	-	-	-	-	-	-
15	Technical centre on the campus in Langen	7.28	1.54	-	-	-	8.82
16	Modernisation VOR/DME systems	-	-	-	-	-	-
17	Reconstruction of the operating media on the campus in Langen	-	-	-	-	-	-
18	Control centre simulators	1.65	1.27	1.15	1.31	1.32	6.70
19	ErNoCen	0.90	1.23	0.83	-	-	2.97
20	Programme P2	4.46	1.60	0.65	1.12	-	7.82
21	RAPNET NG (New Generation)	0.73	0.85	0.84	0.82	0.81	4.05
22	MaRS	2.37	1.97	6.09	1.23	13.10	24.75
23	TOPAS 2016	0.04	3.26	1.60	-	-	4.90
24	SWIM Node 1 (VAN-NG)	-	-	-	-	-	-
25	Power station	-	-	-	-	-	-
26	En-route navigation (without VOR/DME)	2.50	2.28	2.20	2.23	2.13	11.34
27	EASI	1.03	-	-	-	-	1.03
28	ADQ	0.87	-	-	-	-	0.87
29	DLS Implementation Project - Path 1 "Ground" stakeholders	-	-	-	-	-	-
30	S-ATM Robusto (Sectorless Air-Traffic-Management Step I "Robustc	-	-	-	-	-	-
31	TAVO (Tower advanced voice operation)	-	-	-	-	-	-
32	Realignment of the logistic-building	-	-	-	-	-	-
33	Startup airport BER 2017+	-	-	-	-	-	-
34	Renovation of the headquarters in Langen	-	-	-	-	-	-
35	Deployment of an Automated Support Tool for Traffic Complexity A	-	-	-	-	-	-
36	A-SMGCS	-	0.58	3.79	1.51	-	5.88
37	STANLY ACOS	-	0.02	0.02	0.02	0.02	0.09
38	AMAN DUS bzw. neu AMAN NRW und AMAN BER	-	-	-	-	-	-
39	XMAN	0.01	-	-	-	-	0.01
40	Free Route Airspace	-	-	-	-	-	-
41	Met Gate	-	-	-	-	-	-
42	Renovation of the operating room in Langen	-	-	-	-	-	-
43	RNP based Operations	-	-	-	-	-	-
44	CICIS	-	-	-	-	-	-

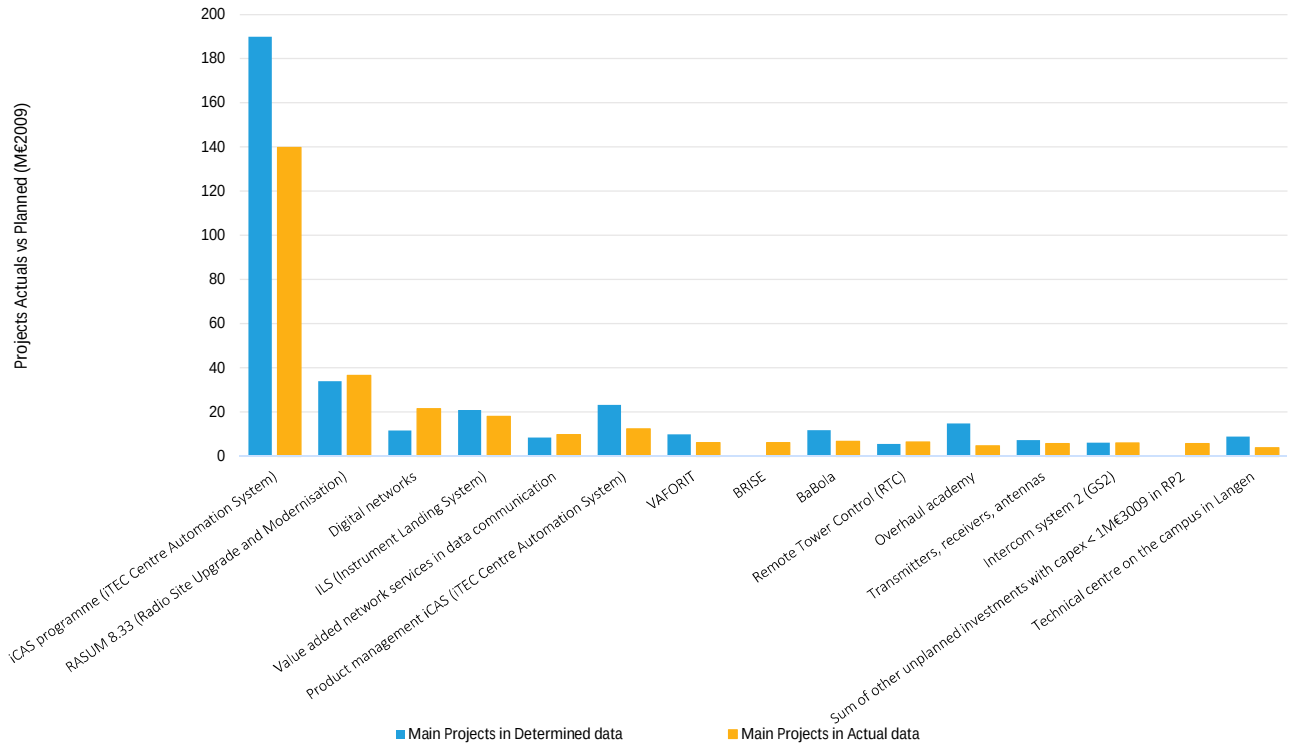
INVESTMENTS PER MAIN PROJECT Germany - DFS

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	iCAS programme (iTEC Centre Automation System)	24.21	25.23	43.11	16.55	30.68	139.78
2	RASUM 8.33 (Radio Site Upgrade and Modernisation)	5.79	4.83	5.36	11.41	9.10	36.48
3	Digital networks	3.72	4.34	3.91	5.20	4.29	21.46
4	ILS (Instrument Landing System)	1.37	4.73	4.43	5.21	2.25	17.99
5	Value added network services in data communication	1.98	1.91	2.70	1.44	1.70	9.73
6	Product management iCAS (iTEC Centre Automation System)	-	-	2.58	5.07	4.65	12.30
7	VAFORIT	2.58	2.17	1.32	-	-	6.07
8	BRISE	-	3.84	2.02	0.17	0.02	6.05
9	BaBola	0.13	0.64	2.42	2.51	1.02	6.72
10	Remote Tower Control (RTC)	0.39	0.65	2.92	1.46	0.93	6.36
11	Overhaul academy	0.22	1.88	1.76	0.75	0.07	4.68
12	Transmitters, receivers, antennas	1.01	0.42	0.96	1.87	1.39	5.66
13	Intercom system 2 (GS2)	0.51	0.73	2.14	0.83	1.77	5.98
14	Sum of other unplanned investments with capex < 1M€3009 in RP2	0.29	0.50	0.62	2.73	1.53	5.68
15	Technical centre on the campus in Langen	3.02	0.13	0.57	-	-	3.73
16	Modernisation VOR/DME systems	-	0.08	1.31	1.81	1.60	4.81
17	Reconstruction of the operating media on the campus in Langen	-	1.61	1.20	0.30	(0.58)	2.53
18	Control centre simulators	0.89	1.16	0.57	0.40	1.10	4.12
19	ErNoCen	0.73	0.87	0.77	0.45	0.00	2.83
20	Programme P2	2.01	0.58	0.10	0.07	-	2.76
21	RAPNET NG (New Generation)	0.04	1.67	0.89	0.03	-	2.64
22	MaRS	0.95	1.04	0.54	0.07	0.13	2.73
23	TOPAS 2016	-	1.07	0.60	0.38	0.85	2.90
24	SWIM Node 1 (VAN-NG)	-	-	0.98	0.84	1.17	2.99
25	Power station	0.40	0.61	0.29	0.34	0.31	1.95
26	En-route navigation (without VOR/DME)	0.89	0.22	0.26	0.08	0.32	1.77
27	EASI	0.02	-	1.19	0.09	-	1.30
28	ADQ	1.08	0.05	0.12	-	-	1.25
29	DLS Implementation Project - Path 1 "Ground" stakeholders	-	-	0.70	0.24	-	0.94
30	S-ATM Robusto (Sectorless Air-Traffic-Management Step I "Robusto")	-	-	0.33	0.43	3.62	4.39
31	TAVO (Tower advanced voice operation)	-	-	0.01	0.70	0.46	1.17
32	Realignment of the logistic-building	-	0.01	0.12	0.41	2.09	2.63
33	Startup airport BER 2017+	-	0.07	0.12	0.28	0.06	0.53
34	Renovation of the headquarters in Langen	-	0.11	0.22	0.01	0.02	0.35
35	Deployment of an Automated Support Tool for Traffic Complexity Assess	-	-	-	0.19	0.32	0.51
36	A-SMGCS	0.03	0.00	0.06	-	-	0.09
37	STANLY ACOS	0.06	-	-	-	0.03	0.09
38	AMAN DUS bzw. neu AMAN NRW und AMAN BER	0.00	0.01	0.00	-	-	0.01
39	XMAN	-	0.00	-	0.00	0.00	0.01
40	Free Route Airspace	-	0.00	-	-	-	0.00
41	Met Gate	-	-	-	-	-	0.00
42	Renovation of the operating room in Langen	-	-	-	-	-	0.00
43	RNP based Operations	-	-	-	-	-	0.00
44	CICIS	-	-	-	-	1.52	1.52

INVESTMENTS PER MAIN PROJECT Germany - DFS

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	iCAS programme (iTEC Centre Automation System)	(16.94)	(19.98)	(1.98)	(26.88)	15.71	(50.08)
2	RASUM 8.33 (Radio Site Upgrade and Modernisation)	(4.48)	(5.44)	(0.97)	7.85	5.60	2.57
3	Digital networks	2.00	1.66	1.49	2.82	1.95	9.91
4	ILS (Instrument Landing System)	(1.42)	(0.75)	1.59	(0.40)	(1.91)	(2.89)
5	Value added network services in data communication	0.23	0.19	1.01	(0.22)	0.06	1.28
6	Product management iCAS (iTEC Centre Automation System)	-	(3.13)	(3.94)	(1.33)	(2.50)	(10.90)
7	VAFORIT	(2.01)	(1.19)	(0.54)	-	-	(3.74)
8	BRISE	-	3.84	2.02	0.17	0.02	6.05
9	BaBola	(3.99)	(2.91)	(0.48)	1.40	1.02	(4.96)
10	Remote Tower Control (RTC)	(3.29)	0.62	1.15	1.46	0.93	0.88
11	Overhaul academy	(3.67)	(4.43)	(2.82)	0.75	0.07	(10.10)
12	Transmitters, receivers, antennas	(0.99)	(0.93)	(0.36)	0.57	0.12	(1.59)
13	Intercom system 2 (GS2)	(1.36)	(1.88)	0.83	0.53	1.77	(0.10)
14	Sum of other unplanned investments with capex < 1M€3009 in RP2	0.29	0.50	0.62	2.73	1.53	5.68
15	Technical centre on the campus in Langen	(4.26)	(1.41)	0.57	-	-	(5.10)
16	Modernisation VOR/DME systems	-	0.08	1.31	1.81	1.60	4.81
17	Reconstruction of the operating media on the campus in Langen	-	1.61	1.20	0.30	(0.58)	2.53
18	Control centre simulators	(0.76)	(0.11)	(0.58)	(0.91)	(0.22)	(2.58)
19	ErNoCen	(0.17)	(0.36)	(0.06)	0.45	0.00	(0.14)
20	Programme P2	(2.45)	(1.02)	(0.54)	(1.04)	-	(5.06)
21	RAPNET NG (New Generation)	(0.68)	0.82	0.05	(0.79)	(0.81)	(1.41)
22	MaRS	(1.41)	(0.93)	(5.54)	(1.17)	(12.97)	(22.02)
23	TOPAS 2016	(0.04)	(2.19)	(1.01)	0.38	0.85	(1.99)
24	SWIM Node 1 (VAN-NG)	-	-	0.98	0.84	1.17	2.99
25	Power station	0.40	0.61	0.29	0.34	0.31	1.95
26	En-route navigation (without VOR/DME)	(1.61)	(2.07)	(1.94)	(2.15)	(1.80)	(9.57)
27	EASI	(1.01)	-	1.19	0.09	-	0.27
28	ADQ	0.21	0.05	0.12	-	-	0.39
29	DLS Implementation Project - Path 1 "Ground" stakeholders	-	-	0.70	0.24	-	0.94
30	S-ATM Robusto (Sectorless Air-Traffic-Management Step I "Robusto")	-	-	0.33	0.43	3.62	4.39
31	TAVO (Tower advanced voice operation)	-	-	0.01	0.70	0.46	1.17
32	Realignment of the logistic-building	-	0.01	0.12	0.41	2.09	2.63
33	Startup airport BER 2017+	-	0.07	0.12	0.28	0.06	0.53
34	Renovation of the headquarters in Langen	-	0.11	0.22	0.01	0.02	0.35
35	Deployment of an Automated Support Tool for Traffic Complexity Assess	-	-	-	0.19	0.32	0.51
36	A-SMGCS	0.03	(0.58)	(3.73)	(1.51)	-	(5.79)
37	STANLY ACOS	0.06	(0.02)	(0.02)	(0.02)	0.01	(0.01)
38	AMAN DUS bzw. neu AMAN NRW und AMAN BER	0.00	0.01	0.00	-	-	0.01
39	XMAN	(0.01)	0.00	-	0.00	0.00	(0.00)
40	Free Route Airspace	-	0.00	-	-	-	0.00
41	Met Gate	-	-	-	-	-	-
42	Renovation of the operating room in Langen	-	-	-	-	-	-
43	RNP based Operations	-	-	-	-	-	-
44	CICIS	-	-	-	-	1.52	1.52

INVESTMENTS PER MAIN PROJECT Germany - DFS



The flagship project for Germany is "iCAS programme (iTEC Centre Automation System)", representing 31% of the total actual investments. The planned investments for this project are 174.88M€$_{2009}$, with the actual investments to date being 109.10M€$_{2009}$.

Other projects that received substantial investments are "RASUM 8.33 (Radio Site Upgrade and Modernisation)", “Digital Networks” and "ILS (Instrument Landing System)". Projects "MaRS" and “Overhaul Academy” received low investments compared to the determined ones.

The unplanned CAPEX for Germany amounts to 31.24M€$_{2009}$ (or 7% of total CAPEX) over RP2, from 2015 to 2019, distributed in 18 projects.

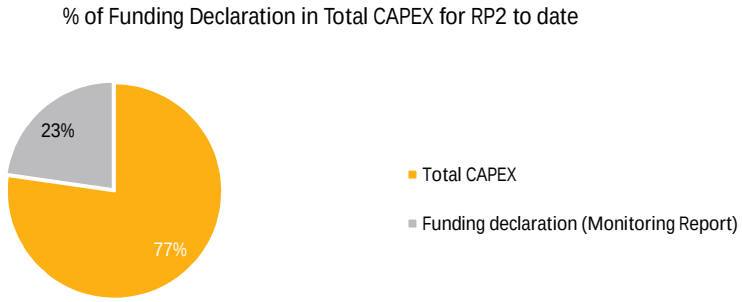
Projects "Free Route Airspace" and "Met Gate" have not received any investments.

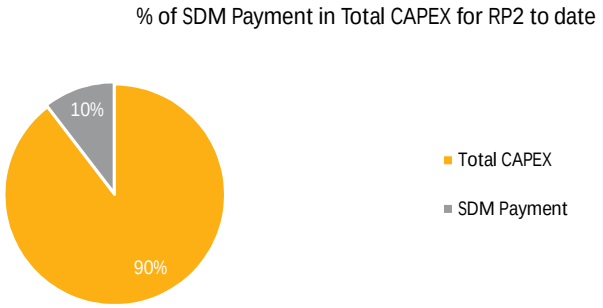
PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Germany - DFS

#	Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	iCAS programme	-	7.42	25.10	12.03	17.35	61.91
8	BRISE	-	1.17	0.71	0.08	-	1.96
9	BaBola DUS	0.17	0.53	0.67	0.18	-	1.56
10	Remote Tower Control (RTC)	-	0.88	1.79	0.88	0.63	4.18
16	Modernisation VOR/DME systems	-	-	0.98	1.39	1.13	3.51
19	ErNoCen	-	0.36	0.38	0.25	-	1.00
21	RAPNET NG (New Generation)	-	1.04	1.61	0.13	-	2.78
22	MaRS (Modernisation and Replacement of Surveillance Infrastructure)	-	0.95	0.96	0.93	1.04	3.86
24	SWIM Node 1	-	0.09	0.24	0.20	0.35	0.88
27	EASI	0.54	0.44	0.92	0.37	-	2.28
28	ADQ	1.58	0.67	0.55	-	-	2.80
30	S-ATM Robusto	-	-	-	0.96	2.18	3.14
35	Deployment of an Automated Support Tool for Traffic Complexity Assess	-	-	0.17	0.27	0.44	0.89
37	STANLY ACOS	-	0.02	0.00	-	0.02	0.04
38	AMAN DUS bzw. neu AMAN NRW und AMAN BER	-	0.54	0.39	0.11	-	1.03
39	XMAN	-	0.30	0.34	0.35	0.20	1.18
40	Free Route Airspace	-	0.28	0.32	0.48	0.20	1.28
41	Met Gate	-	0.01	0.01	0.01	0.01	0.04
43	RNP based Operations	-	0.02	0.05	0.06	0.07	0.20
	A-CDM	0.04	-	-	-	-	0.04
	IOP	0.58	-	0.03	-	-	0.61
	CS PENS & DLS	0.14	-	-	-	-	0.14
	IDP ANSPs Interim Deployment Programme Implementation	0.62	-	-	-	-	0.62
	TANGe (Tower ATS Next Generation) Phase 1	-	-	0.08	0.15	0.02	0.26
	DLS Path I	-	-	0.30	0.11	-	0.41
	DLS Path II	-	-	0.03	0.02	0.00	0.05
	SWIM Governance	-	-	0.05	0.09	-	0.15
	Initial AOP DUS	-	-	-	-	-	-
	CSIS	-	-	-	0.12	0.69	0.81
	TANGe TWR-ATS Next Generation Phase 1+ & ZAAS Planungsphase	-	-	-	0.22	0.74	0.96
	Common SWIM PKI and Cyber-security	-	-	-	0.00	-	0.00
	IP1 - DLS European Target Solution assessment	-	-	-	0.02	0.03	0.05

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	3.67	14.71	35.72	19.40	25.16	98.66
SDM Payment	2.36	12.11	13.85	-	16.99	45.32

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Germany - DFS





Germany received funds from 36 different funding schemes. For some projects, like their flagship "iCAS" project, funds were received from multiple funding schemes.

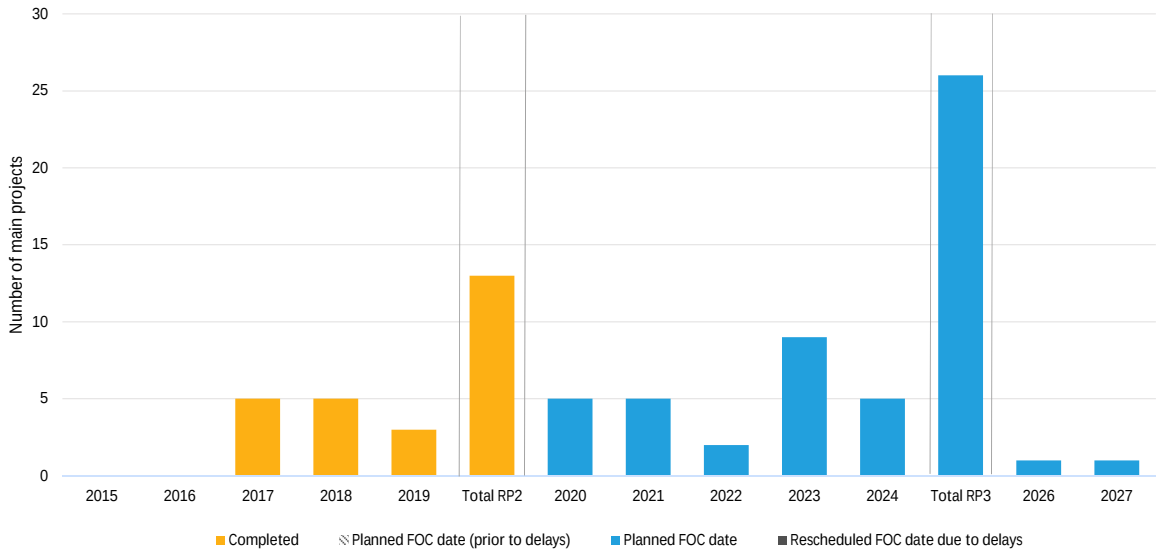
The total amount of EU funding declared by Germany for RP2 is 98.66M€$_{2009}$, which represents 23% of the actual total CAPEX.
The total SDM payments amount to 45.32M€$_{2009}$, which cover 10% of the actual total CAPEX invested during RP2.

Germany received 177.49M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Deployment of Air Traffic Control System iCAS: Implementation of ATM PCP Functionalities at LVNL and DFS" (85.38M€), "System Procurement for Deployment of PCP Air Traffic Control System iCAS at DFS and LVNL" (39.55M€) and "Procurement and Deployment of PCP Air Traffic Control System iCAS at DFS Munich and Bremen and LVNL Amsterdam" (14.65M€). These projects correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Germany - DFS

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	iCAS programme (iTEC Centre Automation System)	Ongoing	2027	x	x	x	x	x	x
2	RASUM 8.33 (Radio Site Upgrade and Modernisation)	Ongoing	2021		x	x			
3	Digital networks	Completed	2019					x	
4	ILS (Instrument Landing System)	Ongoing	2024						
5	Value added network services in data communication	Completed	2019					x	
6	Product management iCAS (iTEC Centre Automation System)	Ongoing	2023	x	x	x	x	x	
7	VAFORIT	Completed	2017					x	x
8	BRISE	Ongoing	2023					x	
9	BaBola	Ongoing	2022	x		x	(x)	x	
10	Remote Tower Control (RTC)	Ongoing	2023				x		
11	Overhaul academy	Completed	2017				(x)		
12	Transmitters, receivers, antennas	Ongoing	2020						
13	Intercom system 2 (GS2)	Ongoing	2022				(x)		
14	Technical centre on the campus in Langen	Completed	2017						
15	Modernisation VOR/DME systems	Ongoing	2024		x		(x)		
16	Reconstruction of the operating media on the campus in Langen	Completed	2017				x		
17	Control centre simulators	Completed	2019				(x)		
18	ErNoCen	Completed	2018				(x)	x	
19	Programme P2	Completed	2018				(x)		
20	RAPNET NG (New Generation)	Completed	2018				x	x	
21	MaRS	Ongoing	2023			x	(x)		
22	TOPAS 2016	Ongoing	2024						
23	SWIM Node 1 (VAN-NG)	Ongoing	2023				x	x	
24	Power station	Ongoing	2021						
25	En-route navigation (without VOR/DME)	Ongoing	2024						
26	EASI	Completed	2018				x	x	
27	ADQ	Completed	2017				(x)	x	
28	DLS Implementation Project - Path 1 "Ground" stakeholders	Completed	2018	x	x	x		x	
29	S-ATM Robusto (Sectorless Air-Traffic-Management "Robusto")	Ongoing	2026		x	x	x		
30	TAVO (Tower advanced voice operation)	Ongoing	2023				x		
31	Realignment of the logistic-building	Ongoing	2021				x		
32	Startup airport BER 2017+	Ongoing	2020	x			x		
33	Renovation of the headquarters in Langen	Ongoing	2023				(x)		
34	Automated Support Tool for Traffic Complexity Assessment at DFS (AirMagic)	Ongoing	2021	x		x	x	x	
35	A-SMGCS	Stopped	Unknown					x	
36	STANLY ACOS	Ongoing	2020			x		x	
37	AMAN DUS bzw. neu AMAN NRW und AMAN BER	Ongoing	2020			x		x	x
38	XMAN	Ongoing	2023		x	x		x	x
39	Free Route Airspace	Ongoing	2021		x			x	x
40	Met Gate	Ongoing	2020	x		x	x	x	
41	Renovation of the operating room in Langen	Stopped	Unknown				(x)		
42	RNP based Operations	Ongoing	2024	x	x			x	
43	CICIS	Ongoing	2023						
44	Sum of other unplanned investments with capex < 1M€3009 in RP2	Unknown	Unknown						

EXPECTED BENEFIT PER PROJECT Germany - DFS



Germany planned 44 main projects for RP2: 13 projects have been completed, representing 67.17M€$_{2009}$, 28 have been started, representing 265.68M€$_{2009}$. 26 projects will continue through RP3, while two projects are expected to complete in 2026 and 2027 (which represents 144.16M€$_{2009}$). The FOC date for projects #4, #22 and #25 was not indicated, therefore 2024 was used as default. Two projects have been stopped, representing 3.14M€$_{2009}$ and their FOC date is unknown.

24 projects have an effect, positive or negative, on cost-efficiency. Negative effects on cost-efficiency can be due to higher investment costs that affect the overall positive impact expected (e.g. reduction of maintenance, staff etc).
Eight projects are expected to have a positive impact on safety, and nine on environment, while capacity is expected to be improved by 12 projects. Some projects do not mention any relevant impact in the future, or the impact is minor and not related to a significant change in any performance area.

The actual investments made in RP2 for the 21 projects that were linked to the Pilot Common project is 217.81M€$_{2009}$. This amount represents 50% of the actual total CAPEX. Five projects were included in the Network Operations Plan.

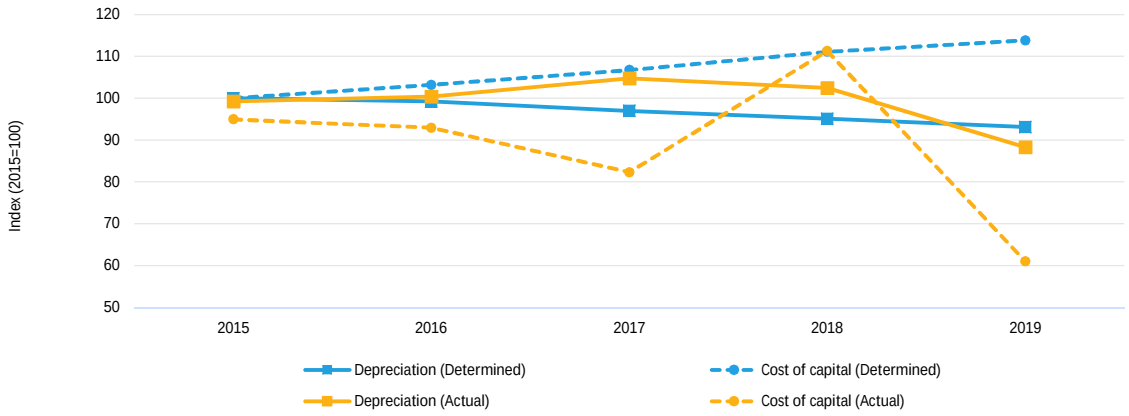
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Germany - DFS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**88.49**	**87.81**	**85.79**	**84.14**	**82.39**	**428.62**
- En route	73.09	72.16	70.52	68.74	66.95	351.46
- Terminal	15.40	15.65	15.28	15.39	15.44	77.16
Cost of Capital	**31.17**	**32.17**	**33.28**	**34.63**	**35.48**	**166.74**
- En route	23.56	24.39	25.31	26.46	27.16	126.89
- Terminal	7.61	7.78	7.96	8.18	8.31	39.85
Total	**119.66**	**119.98**	**119.07**	**118.77**	**117.87**	**595.35**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**87.80**	**88.79**	**92.68**	**90.64**	**78.12**	**438.02**
- En route	72.55	73.73	77.64	75.44	61.38	360.74
- Terminal	15.25	15.06	15.03	15.20	16.74	77.28
Cost of Capital	**29.61**	**28.98**	**25.66**	**34.70**	**19.04**	**137.98**
- En route	22.54	21.97	19.87	26.57	15.69	106.64
- Terminal	7.07	7.01	5.80	8.13	3.34	31.34
Total	**117.41**	**117.77**	**118.34**	**125.33**	**97.15**	**575.99**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.69)**	**0.98**	**6.88**	**6.50**	**(4.28)**	**9.40**
- En route	(0.54)	1.57	7.13	6.70	(5.57)	9.29
- Terminal	(0.15)	(0.59)	(0.24)	(0.20)	1.30	0.11
Cost of Capital	**(1.57)**	**(3.20)**	**(7.61)**	**0.06**	**(16.44)**	**(28.76)**
- En route	(1.02)	(2.42)	(5.45)	0.11	(11.47)	(20.25)
- Terminal	(0.54)	(0.78)	(2.17)	(0.05)	(4.97)	(8.51)
Total	**(2.25)**	**(2.22)**	**(0.73)**	**6.56**	**(20.72)**	**(19.36)**



Over RP2, 29% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 19.36M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was higher than the determined one by 9.40M€$_{2009}$. The substantial increase in depreciation occurred from 2016 to 2017 (6.88M€$_{2009}$) mainly due to investment in the iCAS programme and especially the iCAS Upper Airspace. Furthermore, measures regarding the improvement of IT infrastructure (e.g. the backup system of SDDS-NG and the purchase of VAN routers) had an impact on depreciation. This is also the case for 2018, when the actual depreciation was higher than determined by 6.50M€$_{2009}$.

Throughout RP2, the actual cost of capital was 28.76M€$_{2009}$ lower than determined. This was largely due to a lower than planned net value of the fixed asset base as a result of delays in investments, coupled with a lower than determined WACC.

4.6.4 Luxembourg - ANA Luxembourg

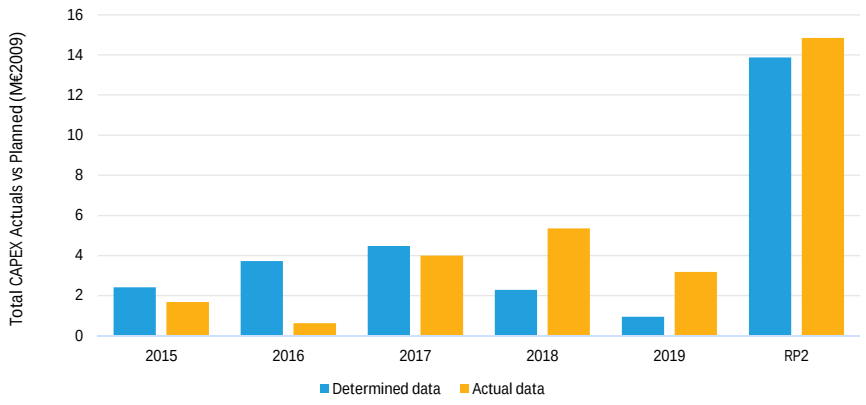
Over RP2, Luxembourg overspent 1M€$_{2009}$ (+7%) with respect to the performance plan. Due to higher actual than planned capital expenditure, the actual total depreciation and cost of capital were higher than determined (+0.4M€$_{2009}$). Luxembourg planned ten main projects for RP2: six projects are completed in 2019, representing 8M€$_{2009}$, and one is expected to continue through RP3, representing 3M€$_{2009}$. The expected completion date was not indicated for three projects, that represent 1M€$_{2009}$.

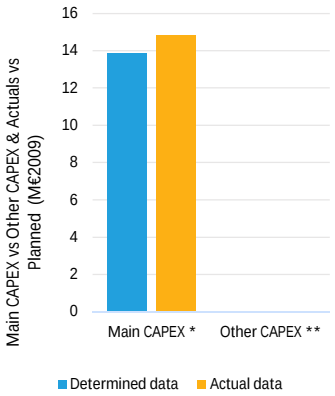
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**2.42**	**3.73**	**4.48**	**2.30**	**0.95**	**13.87**
- Main CAPEX *	2.42	3.73	4.48	2.30	0.95	13.87
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX **	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**1.69**	**0.63**	**3.99**	**5.35**	**3.18**	**14.84**
- Main CAPEX	1.69	0.63	3.99	5.35	3.18	14.84
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(0.73)**	**(3.10)**	**(0.49)**	**3.06**	**2.23**	**0.97**
- Main CAPEX	(0.73)	(3.10)	(0.49)	3.06	2.23	0.97
- Other CAPEX	-	-	-	-	-	-
Total CAPEX (%)	***-30%***	***-83%***	***-11%***	***133%***	***235%***	***7%***
- *Main CAPEX (%)*	*-30%*	*-83%*	*-11%*	*133%*	*235%*	*7%*
- *Other CAPEX (%)*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*





The total actual capital expenditure for RP2 is 14.84M€$_{2009}$. For RP2, Luxembourg spent 0.97M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 7% higher than determined and there is no other CAPEX.

In 2015, Luxembourg spent 0.73M€$_{2009}$ less than planned. For 2016 and 2017, Luxembourg underspent 3.10M€$_{2009}$ and 0.49M€$_{2009}$, respectively. In 2018 and 2019, actual CAPEX is 3.06M€$_{2009}$ and 2.23M€$_{2009}$ respectively higher than determined.

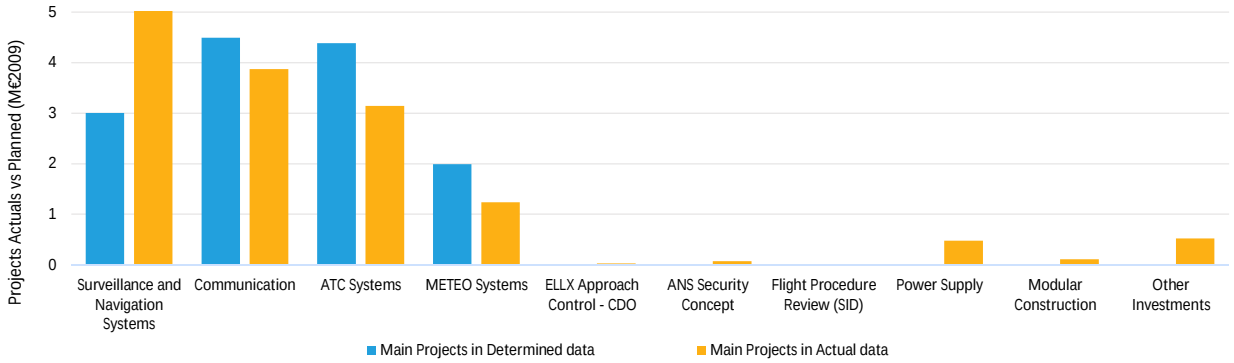
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Luxembourg - ANA Luxembourg

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	Surveillance and Navigation Systems	0.62	-	1.18	1.03	0.16	3.00
2	Communication	0.29	-	3.04	0.65	0.51	4.49
3	ATC Systems	0.33	3.73	-	0.17	0.16	4.39
4	METEO Systems	1.17	-	0.27	0.44	0.11	1.99
5	ELLX Approach Control - CDO	-	-	-	-	-	-
6	ANS Security Concept	-	-	-	-	-	-
7	Flight Procedure Review (SID)	-	-	-	-	-	-
8	Power Supply	-	-	-	-	-	-
9	Modular Construction	-	-	-	-	-	-
10	Other Investments	-	-	-	-	-	-

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	Surveillance and Navigation Systems	0.06	0.35	1.44	2.32	1.20	5.37
2	Communication	0.27	-	0.97	2.35	0.28	3.87
3	ATC Systems	1.20	0.25	1.21	0.11	0.37	3.14
4	METEO Systems	0.16	0.03	0.37	0.52	0.17	1.24
5	ELLX Approach Control - CDO	-	-	-	0.03	-	0.03
6	ANS Security Concept	-	-	-	0.02	0.06	0.07
7	Flight Procedure Review (SID)	-	-	-	0.01	-	0.01
8	Power Supply	-	-	-	-	0.48	0.48
9	Modular Construction	-	-	-	-	0.11	0.11
10	Other Investments	-	-	-	-	0.52	0.52

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	Surveillance and Navigation Systems	(0.57)	0.35	0.26	1.28	1.04	2.37
2	Communication	(0.02)	-	(2.06)	1.69	(0.23)	(0.62)
3	ATC Systems	0.86	(3.47)	1.21	(0.05)	0.20	(1.24)
4	METEO Systems	(1.01)	0.03	0.10	0.08	0.05	(0.75)
5	ELLX Approach Control - CDO	-	-	-	0.03	-	0.03
6	ANS Security Concept	-	-	-	0.02	0.06	0.07
7	Flight Procedure Review (SID)	-	-	-	0.01	-	0.01
8	Power Supply	-	-	-	-	0.48	0.48
9	Modular Construction	-	-	-	-	0.11	0.11
10	Other Investments	-	-	-	-	0.52	0.52



For RP2, the major project is "Surveillance and Navigation Systems", which received a steady flow of investment throughout the period. The total actual investment in this project is 5.37M€$_{2009}$, with a difference of 2.37M€$_{2009}$ more than determined. The second largest project is the "Communication", which received a total actual investment of 3.87M€$_{2009}$; however, less than determined by 0.62M€$_{2009}$.

The unplanned CAPEX for Luxembourg amounts to 1.22M€2009 (or 8% of total CAPEX) over RP2, in 2018 and 2019, distributed in the following projects "ANS Security Concept", "ELLX Approach Control - CDO", "Flight Procedure Review (SID)", "Power Supply", "Modular Construction" and "Other Investments".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Luxembourg - ANA Luxembourg

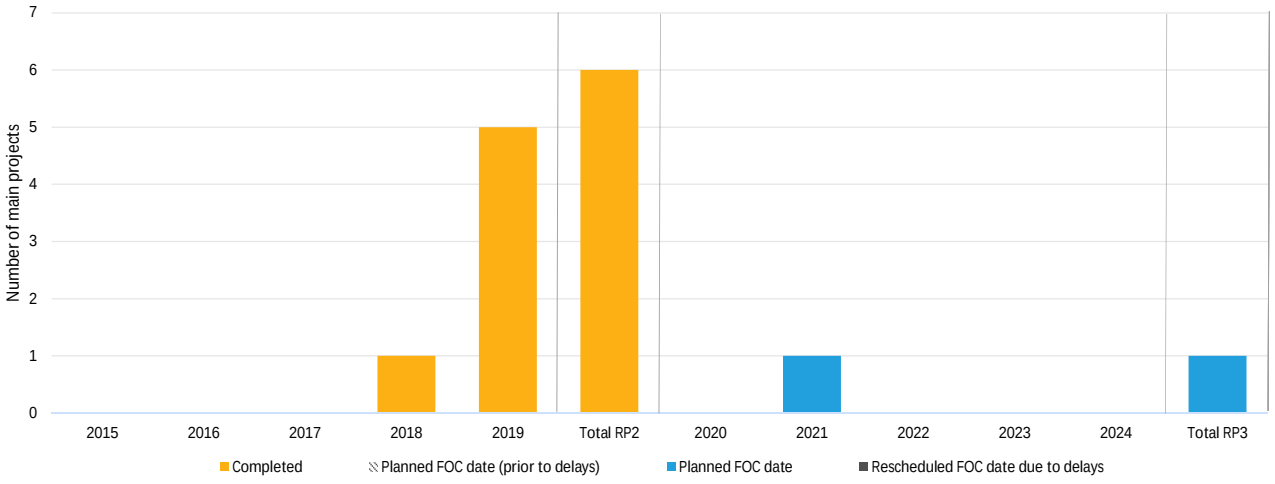
# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
	-	-	-	-	-	-

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	-	-	-	-	-
SDM Payment	-	-	-	-	-	-

No projects were funded through the CEF or TEN-T.

EXPECTED BENEFIT PER PROJECT Luxembourg - ANA Luxembourg

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	Surveillance and Navigation Systems	Completed	2019						
2	Communication	Completed	2019	x	x	x	x		
3	ATC Systems	Ongoing	2021	x	x	x	x		
4	METEO Systems	Completed	2019		x		x		
5	ELLX Approach Control - CDO	Completed	2019	x	x	x			
6	ANS Security Concept	Ongoing	2018	x		x	x		
7	Flight Procedure Review (SID)	Completed	2019	x	x	x	x		
8	Power Supply	Unknown	Unknown						
9	Modular Construction	Unknown	Unknown						
10	Other Investments	Unknown	Unknown						



Luxembourg planned ten main projects for RP2: six have been completed, representing 7.75M€$_{2009}$, and one is expected to continue through RP3, representing 3.14M€$_{2009}$. The expected completion date was not indicated for three projects, that represent 1.11M€$_{2009}$.

Luxembourg invested in safety, environment, capacity and cost efficiency equally (five out of seven projects) as priorities.

No project was linked to the Pilot Common Project or included in the Network Operations Plan.

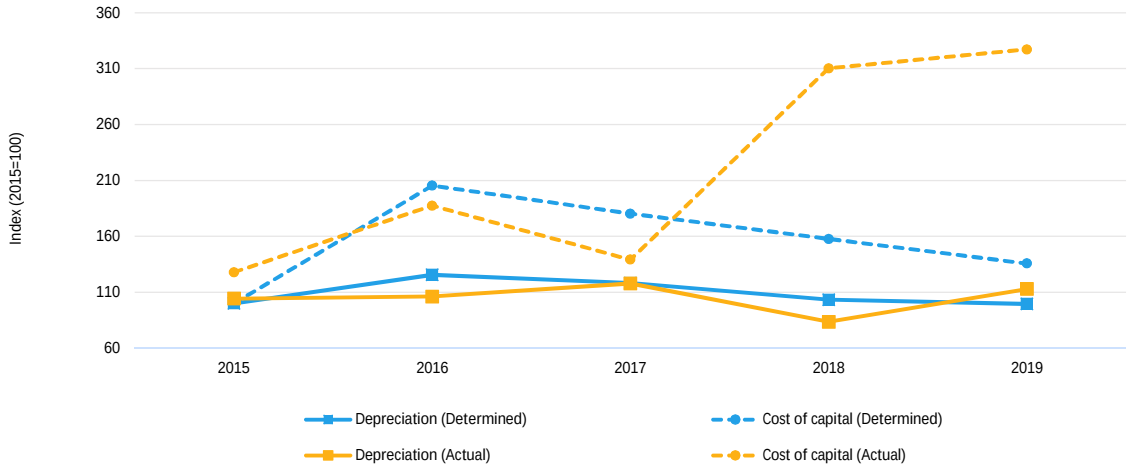
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Luxembourg - ANA Luxembourg

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**0.30**	**0.38**	**0.35**	**0.31**	**0.30**	**1.64**
- En route	0.30	0.38	0.35	0.31	0.30	1.64
- Terminal	-	-	-	-	-	-
Cost of Capital	**0.14**	**0.30**	**0.26**	**0.23**	**0.20**	**1.13**
- En route	0.04	0.08	0.07	0.06	0.05	0.30
- Terminal	0.10	0.22	0.19	0.17	0.14	0.82
Total	**0.44**	**0.67**	**0.62**	**0.54**	**0.49**	**2.77**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**0.31**	**0.32**	**0.35**	**0.25**	**0.34**	**1.58**
- En route	0.31	0.32	0.35	0.25	0.34	1.58
- Terminal	-	-	-	-	-	-
Cost of Capital	**0.18**	**0.27**	**0.20**	**0.45**	**0.47**	**1.58**
- En route	0.06	0.09	0.06	0.12	0.14	0.47
- Terminal	0.13	0.18	0.14	0.33	0.33	1.11
Total	**0.50**	**0.59**	**0.55**	**0.70**	**0.81**	**3.15**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**0.01**	**(0.06)**	**(0.00)**	**(0.06)**	**0.04**	**(0.07)**
- En route	0.01	(0.06)	(0.00)	(0.06)	0.04	(0.07)
- Terminal	-	-	-	-	-	-
Cost of Capital	**0.04**	**(0.03)**	**(0.06)**	**0.22**	**0.28**	**0.45**
- En route	0.02	0.01	(0.01)	0.06	0.09	0.17
- Terminal	0.03	(0.04)	(0.05)	0.16	0.19	0.29
Total	**0.05**	**(0.08)**	**(0.06)**	**0.16**	**0.32**	**0.39**



Over RP2, the actual CAPEX was 7% higher than determined (overspend).Due to this, the related actual costs (depreciation and cost of capital) exceeded the determined costs and therefore the difference of costs have been borne by the ANSP. The difference between these costs amounts to 0.39M€$_{2009}$.

Throughout RP2, the actual depreciation was lower than determined by 0.07M€$_{2009}$. This was mainly due to delays in project implementation and lower than planned investments for the en route activity from 2015 to 2017.

Throughout RP2, the actual cost of capital was 0.45M€$_{2009}$ higher than determined. This was mainly due to a higher net book value of the fixed assets than initially determined, especially on terminal assets.

4.6.5 MUAC

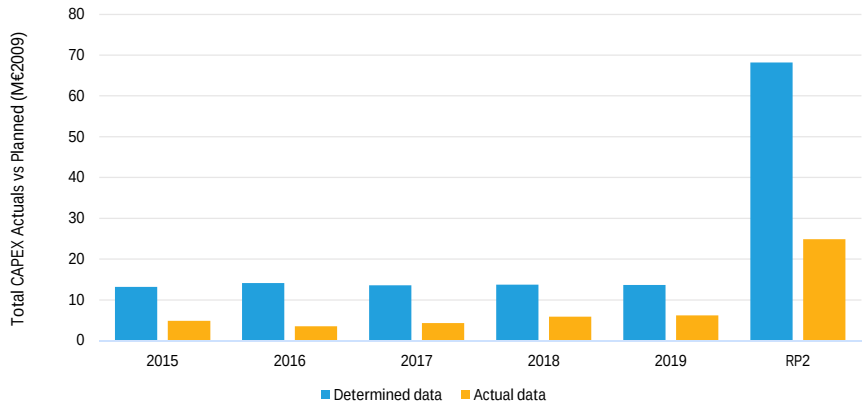
Over RP2, MUAC underspent 43M€$_{2009}$ (-64%) with respect to the performance plan. As a result of the underinvestment, MUAC overcharged +7M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. MUAC planned 12 main projects for RP2: six projects have been completed, representing 8M€$_{2009}$; and five are ongoing, representing 14M€$_{2009}$, with expected completion through RP3. One project was expected to be completed in 2019, representing 1M€$_{2009}$, but it has been delayed with expected completion in 2024.

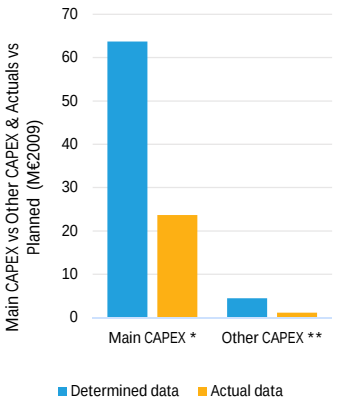
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**13.14**	**14.15**	**13.54**	**13.76**	**13.62**	**68.22**
- Main CAPEX *	11.47	13.12	12.92	13.17	13.05	63.75
- % Main into Total CAPEX	*87%*	*93%*	*95%*	*96%*	*96%*	*93%*
- Other CAPEX **	1.67	1.03	0.61	0.59	0.57	4.47
- % Other into Total CAPEX	*13%*	*7%*	*5%*	*4%*	*4%*	*7%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**4.87**	**3.49**	**4.34**	**5.92**	**6.23**	**24.85**
- Main CAPEX	4.62	3.22	3.75	5.90	6.19	23.68
- % Main into Total CAPEX	*95%*	*92%*	*86%*	*100%*	*99%*	*95%*
- Other CAPEX	0.25	0.27	0.60	0.02	0.04	1.17
- % Other into Total CAPEX	*5%*	*8%*	*14%*	*0%*	*1%*	*5%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(8.28)**	**(10.66)**	**(9.19)**	**(7.85)**	**(7.39)**	**(43.37)**
- Main CAPEX	(6.85)	(9.90)	(9.18)	(7.27)	(6.86)	(40.06)
- Other CAPEX	(1.42)	(0.76)	(0.02)	(0.57)	(0.53)	(3.30)
Total CAPEX (%)	***-63%***	***-75%***	***-68%***	***-57%***	***-54%***	***-64%***
- Main CAPEX (%)	*-60%*	*-75%*	*-71%*	*-55%*	*-53%*	*-63%*
- Other CAPEX (%)	*-85%*	*-74%*	*-3%*	*-96%*	*-94%*	*-74%*





The total actual capital expenditure for RP2 is 24.85M€$_{2009}$. For RP2, MUAC spent 43.37M€$_{2009}$ (-64%) less CAPEX than originally determined. For RP2, the main CAPEX is 63% lower than planned, while other CAPEX is 74% lower.

MUAC invested less than initially determined, in every year of RP2: 8.28M€$_{2009}$ less in 2015, 10.66M€$_{2009}$ less in 2016, 9.19M€$_{2009}$ less in 2017, 7.85M €$_{2009}$ less in 2018 and 7.39M€$_{2009}$ less in 2019.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

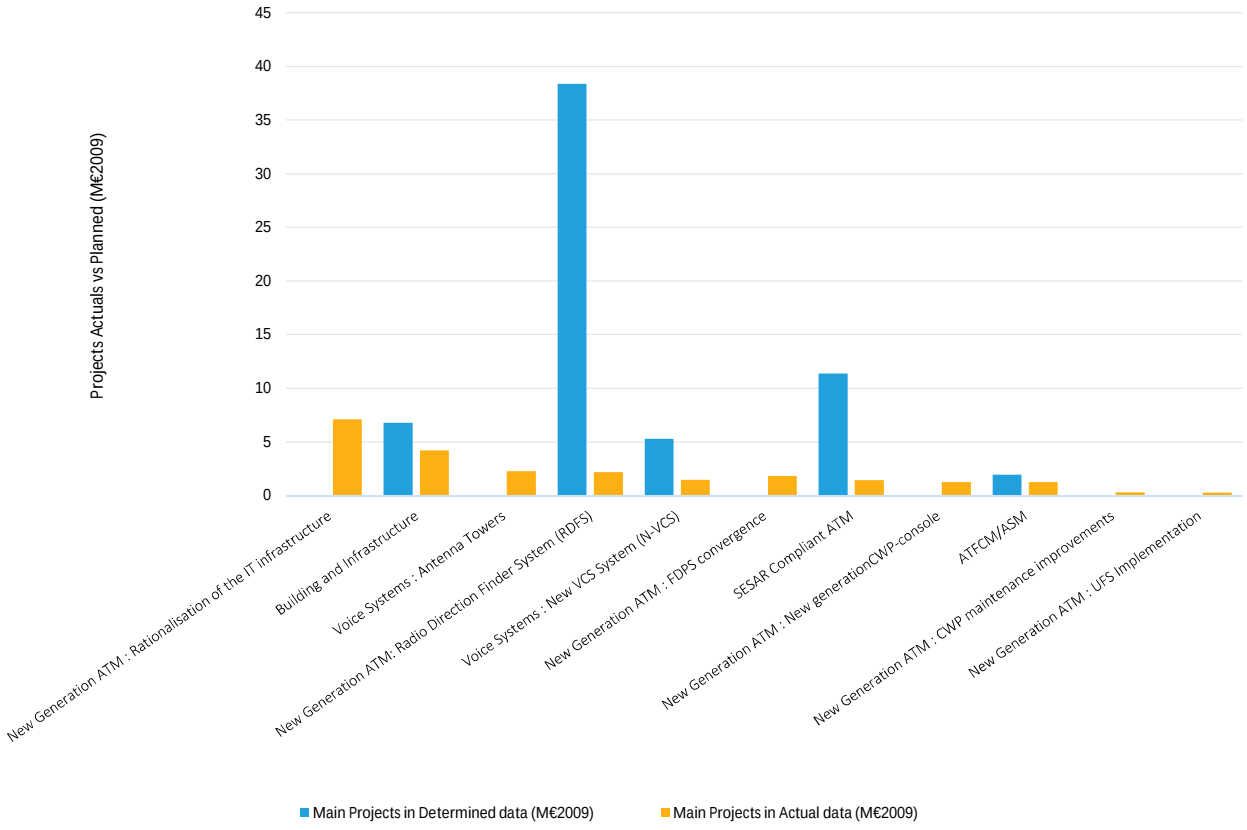
INVESTMENTS PER MAIN PROJECT MUAC

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	New Generation ATM : Rationalisation of the IT infrastructure	-	-	-	-	-	-
2	Building and Infrastructure	2.04	1.19	1.35	1.12	1.08	6.77
3	Voice Systems : Antenna Towers	-	-	-	-	-	-
4	New Generation ATM: Radio Direction Finder System (RDFS)	7.75	8.40	8.01	7.78	6.44	38.39
5	Voice Systems : New VCS System (N-VCS)	1.19	1.17	0.35	0.87	1.71	5.28
6	New Generation ATM : FDPS convergence	-	-	-	-	-	-
7	SESAR Compliant ATM	0.14	1.96	2.82	3.01	3.44	11.37
8	New Generation ATM : New generationCWP-console	-	-	-	-	-	-
9	ATFCM/ASM	0.36	0.40	0.40	0.39	0.38	1.93
10	New Generation ATM : CWP maintenance improvements	-	-	-	-	-	-
11	New Generation ATM : UFS Implementation	-	-	-	-	-	-
12	Voice Systems : B-VCS replacement	-	-	-	-	-	-

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	New Generation ATM : Rationalisation of the IT infrastructure	0.22	0.67	1.13	2.05	3.05	7.11
2	Building and Infrastructure	0.28	0.59	0.93	1.34	1.08	4.21
3	Voice Systems : Antenna Towers	1.47	0.80	-	-	-	2.27
4	New Generation ATM: Radio Direction Finder System (RDFS)	1.16	0.07	0.45	0.03	0.49	2.20
5	Voice Systems : New VCS System (N-VCS)	0.26	0.31	0.85	0.05	-	1.48
6	New Generation ATM : FDPS convergence	1.15	0.19	-	-	0.50	1.84
7	SESAR Compliant ATM	-	-	0.18	1.14	0.13	1.45
8	New Generation ATM : New generationCWP-console	-	0.00	0.13	0.70	0.44	1.27
9	ATFCM/ASM	0.01	0.13	0.06	0.57	0.50	1.27
10	New Generation ATM : CWP maintenance improvements	-	0.27	0.02	0.02	-	0.31
11	New Generation ATM : UFS Implementation	0.08	0.19	-	-	-	0.27
12	Voice Systems : B-VCS replacement	-	-	-	-	0.01	0.01

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	New Generation ATM : Rationalisation of the IT infrastructure	0.22	0.67	1.13	2.05	3.05	7.11
2	Building and Infrastructure	(1.76)	(0.60)	(0.42)	0.22	0.00	(2.56)
3	Voice Systems : Antenna Towers	1.47	0.80	-	-	-	2.27
4	New Generation ATM: Radio Direction Finder System (RDFS)	(6.60)	(8.33)	(7.56)	(7.75)	(5.94)	(36.19)
5	Voice Systems : New VCS System (N-VCS)	(0.93)	(0.85)	0.50	(0.81)	(1.71)	(3.80)
6	New Generation ATM : FDPS convergence	1.15	0.19	-	-	0.50	1.84
7	SESAR Compliant ATM	(0.14)	(1.96)	(2.64)	(1.87)	(3.31)	(9.92)
8	New Generation ATM : New generationCWP-console	-	0.00	0.13	0.70	0.44	1.27
9	ATFCM/ASM	(0.36)	(0.27)	(0.33)	0.18	0.11	(0.67)
10	New Generation ATM : CWP maintenance improvements	-	0.27	0.02	0.02	-	0.31
11	New Generation ATM : UFS Implementation	0.08	0.19	-	-	-	0.27
12	Voice Systems : B-VCS replacement	-	-	-	-	0.01	0.01

INVESTMENTS PER MAIN PROJECT MUAC



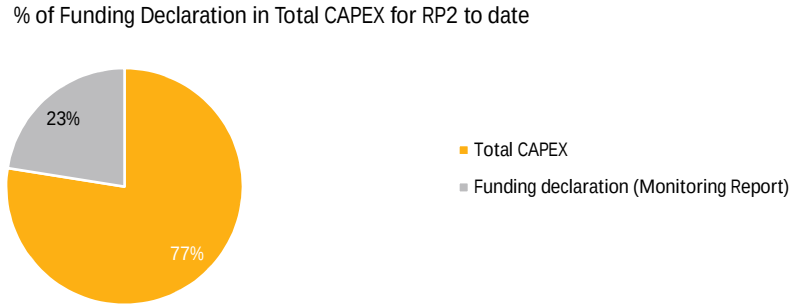
For RP2, the largest investment is "New Generation ATM: Rationalisation of the IT infrastructure" which received a total of 7.11M€$_{2009}$, even though no investment was originally planned. On the other hand, project "New Generation ATM: Radio Direction Finder System (RDFS)" for which 38.39M€$_{2009}$ was planned, only received 2.20M€$_{2009}$. The second largest investment is placed in project "Building and Infrastructure", which received 4.21M€$_{2009}$; however, it is 2.56M€$_{2009}$ lower than determined in the performance plan.

There are six projects, which were initially not included in the performance plan but still received investments: "New Generation ATM: Rationalisation of the IT infrastructure", "Voice Systems: Antenna Towers", "New Generation ATM: FDPS convergence", "New Generation ATM : New generation CWP-console", "New Generation ATM : CWP maintenance improvements", "New Generation ATM : UFS Implementation" and "Voice Systems : B-VCS replacement".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) MUAC

#	Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
4	New Generation ATM: Radio Direction Finder System (RDFS)	0.34	0.44	-	0.31	-	1.08
5	Voice Systems : New VCS System (N-VCS)	-	1.30	0.73	1.55	-	3.58
	2014-EU-TM-0032-S (ADaaS)	-	0.14	0.43	0.38	-	0.95

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.34	1.87	1.16	2.23	-	5.60
SDM Payment	-	-	-	-	-	-

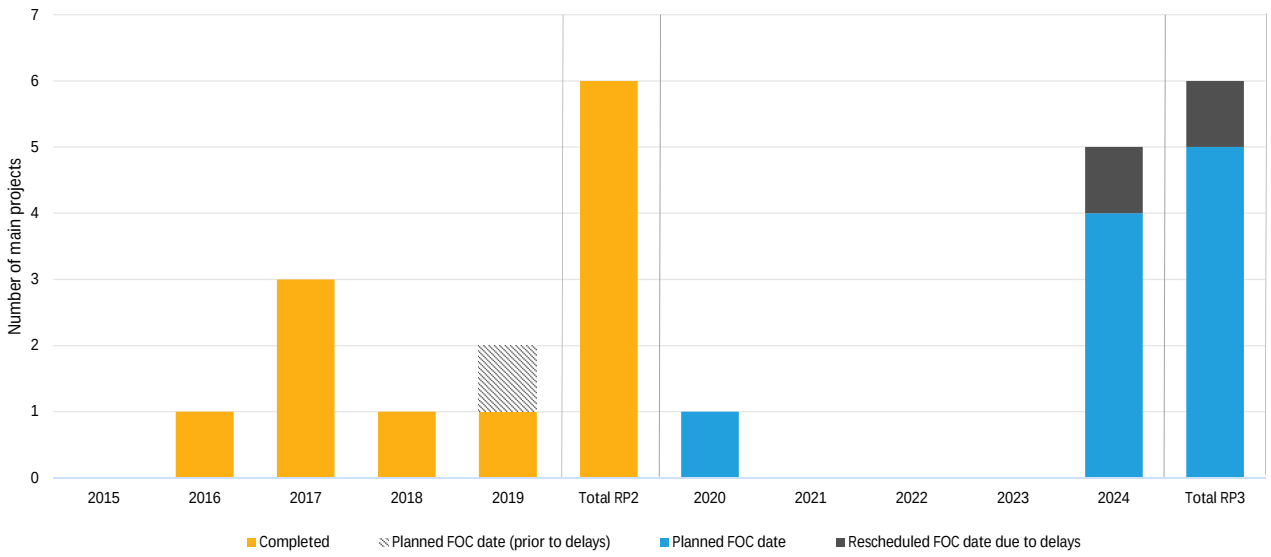


During RP2, three projects received funding through CEF/TEN-T: "Voice Systems: New VCS System (N-VCS)" received funds through the 2014-EU-TM-0322-W call; "New Generation ATM: Radio Direction Finder System (RDFS)" received funding through the 2014-BE-TM-0189-W call; and “ADaaS” received funding through the 2014-EU-TM-0032-S call.

The total amount of EU funding declared by MUAC for RP2 granted in RP2 is 5.62M€$_{2009}$, which represent 23% of the actual total CAPEX.
There was no SDM payment registered. MUAC has self-declared more funding during RP2 than the total EU funding for the entirety of ANSP list of projects/solutions for a duration that might be equal or superior to RP2, depending on the project lifecycle.

EXPECTED BENEFIT PER PROJECT MUAC

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	New Generation ATM : Rationalisation of the IT infrastructure	Ongoing	2024				x		
2	Building and Infrastructure	Ongoing	2024						
3	Voice Systems : Antenna Towers	Completed	2017	x		x			
4	New Generation ATM: Radio Direction Finder System (RDFS)	Completed	2019	x			x		x
5	Voice Systems : New VCS System (N-VCS)	Completed	2017	x		x	x		x
6	New Generation ATM : FDPS convergence	Completed	2016				x		
7	SESAR Compliant ATM	Delayed	2024	x	x	x	x	x	
8	New Generation ATM : New generationCWP-console	Ongoing	2020	x	x	x	x		
9	ATFCM/ASM	Ongoing	2024	x	x	x	x		
10	New Generation ATM : CWP maintenance improvements	Completed	2018			x	x		
11	New Generation ATM : UFS Implementation	Completed	2017	x		x			
12	Voice Systems : B-VCS replacement	Ongoing	2024	x		x			



MUAC planned 12 main projects for RP2: six projects have been completed, representing 8.36M€$_{2009}$; and five are ongoing, representing 13.87M€$_{2009}$, with expected completion through RP3 (The FOC date of projects #1, #2 and #9 was not indicated, therefore 2024 was used as default). One project was expected to be completed in 2019, representing 1.45M€$_{2009}$, but it has been delayed with no clear indication as to when, therefore 2024 has been used as default.

The main priorities for the investments were safety, capacity and cost-efficiency, with eight projects having an expected positive impact. Only three projects are expected to have an impact on the environment.

The actual investment made in RP2 for the project that was linked to the Pilot Common Project is 1.45M€$_{2009}$. This amount represents 6% of the actual total CAPEX. Two projects were included in the Network Operations Plan.

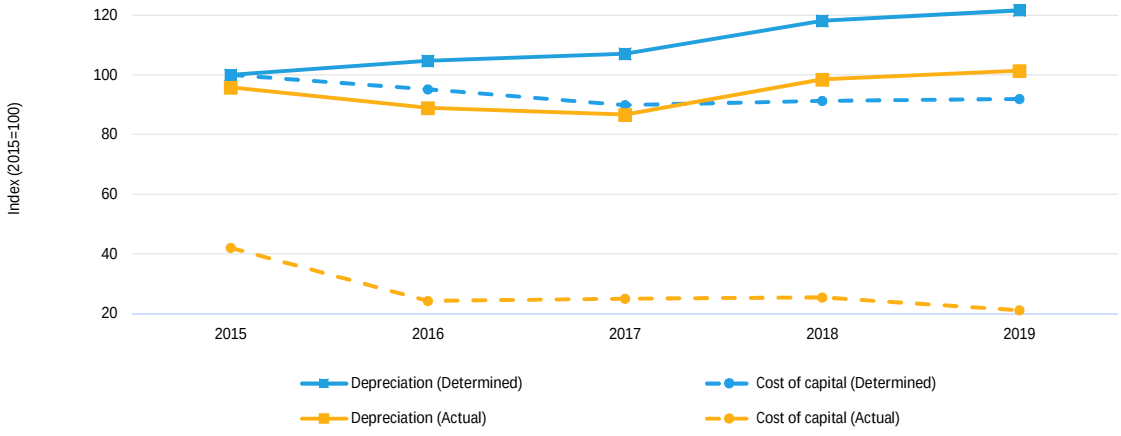
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
FOC date : Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL MUAC

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**8.37**	**8.76**	**8.95**	**9.88**	**10.18**	**46.14**
- En route	8.37	8.76	8.95	9.88	10.18	46.14
- Terminal	-	-	-	-	-	-
Cost of Capital	**0.19**	**0.18**	**0.17**	**0.17**	**0.17**	**0.88**
- En route	0.19	0.18	0.17	0.17	0.17	0.88
- Terminal	-	-	-	-	-	-
Total	**8.55**	**8.94**	**9.12**	**10.05**	**10.35**	**47.02**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**8.02**	**7.44**	**7.25**	**8.24**	**8.48**	**39.44**
- En route	8.02	7.44	7.25	8.24	8.48	39.44
- Terminal	-	-	-	-	-	-
Cost of Capital	**0.08**	**0.05**	**0.05**	**0.05**	**0.04**	**0.26**
- En route	0.08	0.05	0.05	0.05	0.04	0.26
- Terminal	-	-	-	-	-	-
Total	**8.10**	**7.49**	**7.30**	**8.29**	**8.52**	**39.70**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.35)**	**(1.32)**	**(1.70)**	**(1.64)**	**(1.69)**	**(6.70)**
- En route	(0.35)	(1.32)	(1.70)	(1.64)	(1.69)	(6.70)
- Terminal	-	-	-	-	-	-
Cost of Capital	**(0.11)**	**(0.13)**	**(0.12)**	**(0.12)**	**(0.13)**	**(0.62)**
- En route	(0.11)	(0.13)	(0.12)	(0.12)	(0.13)	(0.62)
- Terminal	-	-	-	-	-	-
Total	**(0.46)**	**(1.45)**	**(1.82)**	**(1.76)**	**(1.83)**	**(7.32)**



Over RP2, 64% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 7.32M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, actual depreciation was lower than determined by 6.70M€$_{2009}$. This was mainly due to delays in project implementation in RP2.

Throughout RP2, the actual cost of capital was 0.62M€$_{2009}$ lower than determined. This was mainly due to an actual WACC being consistently lower each year than the determined one (the actual WACC variated between 0.3% and 0.5%, while the determined between 1.1% and 1.2%).

4.6.6 The Netherlands - LVNL

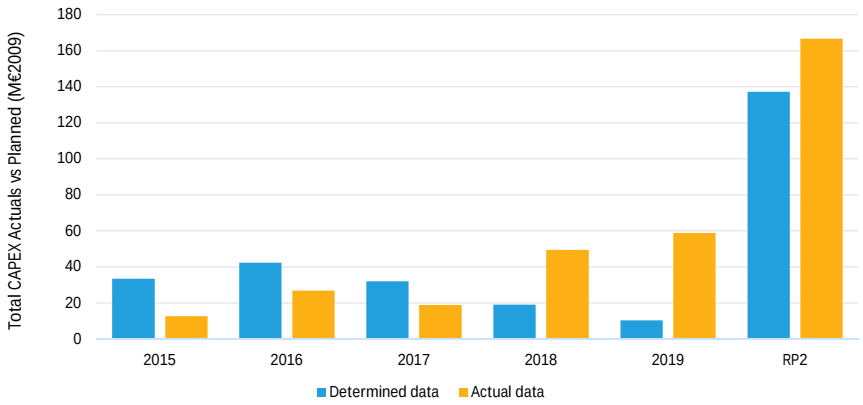
Over RP2, the Netherlands overspent 29M€$_{2009}$ with respect to the performance plan, closing the investment gap of previous years in 2019. However, the overspending is mostly due to expansion facilities, +22M€$_{2009}$ or +15% than originally planned; whereas the replacement of AAA, despite the over-spending in 2019, is -28M€$_{2009}$ or -41% behind the plan. Despite higher actual than planned capital expenditure, the actual total depreciation and cost of capital were lower than determined (-9M€$_{2009}$). The Netherlands planned 11 main projects for RP2: five projects have been completed, representing 64M€$_{2009}$, and six are ongoing, representing 61M€$_{2009}$, and are expected to continue through RP3.

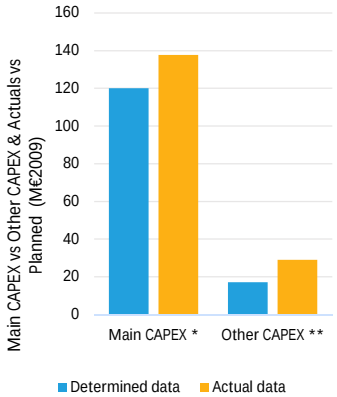
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**33.42**	**42.36**	**32.08**	**19.06**	**10.25**	**137.17**
- Main CAPEX *	27.24	40.24	31.11	18.51	3.02	120.12
- *% Main into Total CAPEX*	*82%*	*95%*	*97%*	*97%*	*29%*	*88%*
- Other CAPEX **	6.18	2.12	0.97	0.55	7.24	17.05
- *% Other into Total CAPEX*	*18%*	*5%*	*3%*	*3%*	*71%*	*12%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**12.62**	**26.79**	**18.88**	**49.48**	**58.90**	**166.67**
- Main CAPEX	7.58	21.00	11.71	42.13	55.28	137.70
- *% Main into Total CAPEX*	*60%*	*78%*	*62%*	*85%*	*94%*	*83%*
- Other CAPEX	5.04	5.79	7.17	7.34	3.63	28.97
- *% Other into Total CAPEX*	*40%*	*22%*	*38%*	*15%*	*6%*	*17%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(20.80)**	**(15.57)**	**(13.20)**	**30.42**	**48.65**	**29.50**
- Main CAPEX	(19.67)	(19.24)	(19.40)	23.62	52.26	17.58
- Other CAPEX	(1.136)	3.672	6.20	6.80	(3.61)	11.92
Total CAPEX (%)	***-62%***	***-37%***	***-41%***	***160%***	***474%***	***22%***
- *Main CAPEX (%)*	*-72%*	*-48%*	*-62%*	*128%*	*1733%*	*15%*
- *Other CAPEX (%)*	*-18%*	*173%*	*639%*	*1244%*	*-50%*	*70%*





The total actual capital expenditure for RP2 is 166.67M€$_{2009}$. For RP2, the Netherlands spent 29.50M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 15% higher than determined, while other CAPEX is 70% higher.

In 2015, the Netherlands spent 20.80M€$_{2009}$ less than planned. For 2016 and 2017, the Netherlands underspent 15.57M€$_{2009}$ and 13.20M€$_{2009}$, respectively. In 2018 and 2019, actual CAPEX is 30.42M€$_{2009}$ (+160%) and 48.65M€$_{2009}$ respectively higher than determined.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

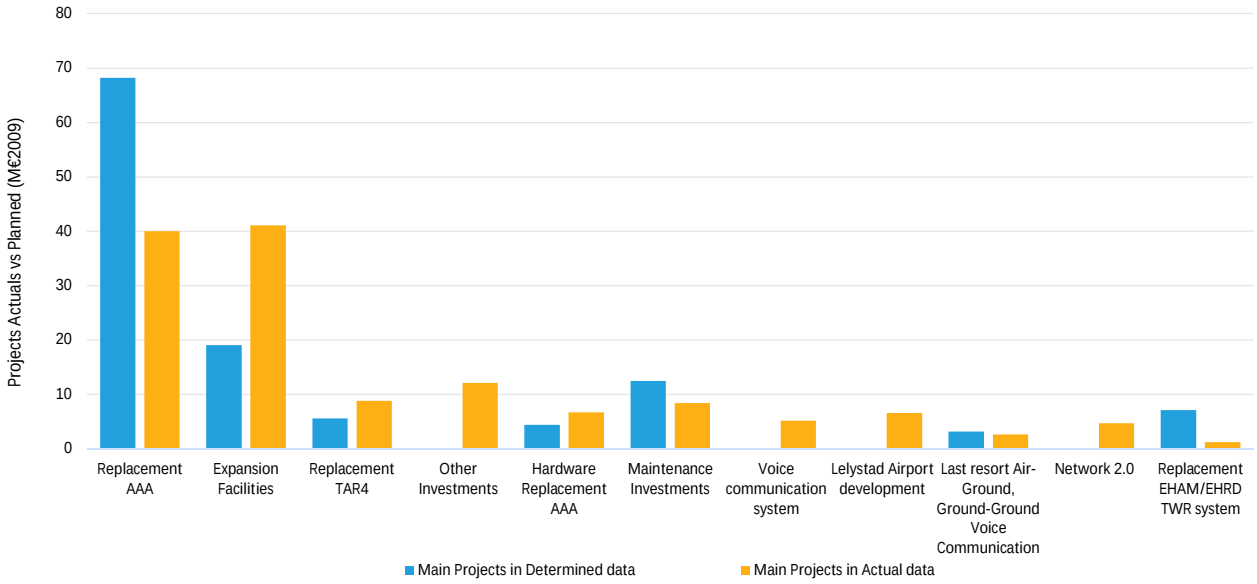
INVESTMENTS PER MAIN PROJECT Netherlands - LVNL

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	Replacement AAA	17.73	22.06	12.59	15.24	0.62	68.23
2	Expansion Facilities	-	9.82	9.24	-	-	19.07
3	Replacement TAR4	3.62	1.96	-	-	-	5.58
4	Other Investments	-	-	-	-	-	-
5	Hardware Replacement AAA	-	-	4.40	-	-	4.40
6	Maintenance Investments	2.16	2.52	2.15	3.28	2.40	12.51
7	Voice communication system	-	-	-	-	-	-
8	Lelystad Airport development	-	-	-	-	-	-
9	Last resort Air-Ground, Ground-Ground Voice Communication	1.48	1.73	-	-	-	3.20
10	Network 2.0	-	-	-	-	-	-
11	Replacement EHAM/EHRD TWR system	2.26	2.14	2.73	-	-	7.13

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	Replacement AAA	2.14	11.10	5.55	9.63	11.58	40.00
2	Expansion Facilities		0.11	1.11	15.93	23.96	41.11
3	Replacement TAR4	3.92	2.18	2.48	-	0.24	8.82
4	Other Investments	-	-	0.02	6.97	5.15	12.14
5	Hardware Replacement AAA	0.40	5.83	0.42	0.06	-	6.71
6	Maintenance Investments	0.58	0.82	0.49	2.42	4.13	8.44
7	Voice communication system	-	-	0.03	3.36	1.79	5.19
8	Lelystad Airport development	-	-	0.51	2.32	3.79	6.63
9	Last resort Air-Ground, Ground-Ground Voice Communication	0.53	0.96	0.58	0.06	0.54	2.66
10	Network 2.0	-	-	0.25	1.31	3.18	4.74
11	Replacement EHAM/EHRD TWR system	-	-	0.26	0.07	0.93	1.27

#	Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
1	Replacement AAA	(15.59)	(10.96)	(7.04)	(5.61)	10.96	(28.23)
2	Expansion Facilities	-	(9.72)	(8.13)	15.93	23.96	22.04
3	Replacement TAR4	0.31	0.22	2.48	-	0.24	3.24
4	Other Investments	-	-	0.02	6.97	5.15	12.14
5	Hardware Replacement AAA	0.40	5.83	(3.98)	0.06	-	2.31
6	Maintenance Investments	(1.58)	(1.70)	(1.66)	(0.86)	1.73	(4.07)
7	Voice communication system	-	-	0.03	3.36	1.79	5.19
8	Lelystad Airport development	-	-	0.51	2.32	3.79	6.63
9	Last resort Air-Ground, Ground-Ground Voice Communication	(0.95)	(0.77)	0.58	0.06	0.54	(0.54)
10	Network 2.0	-	-	0.25	1.31	3.18	4.74
11	Replacement EHAM/EHRD TWR system	(2.26)	(2.14)	(2.46)	0.07	0.93	(5.86)

INVESTMENTS PER MAIN PROJECT Netherlands - LVNL



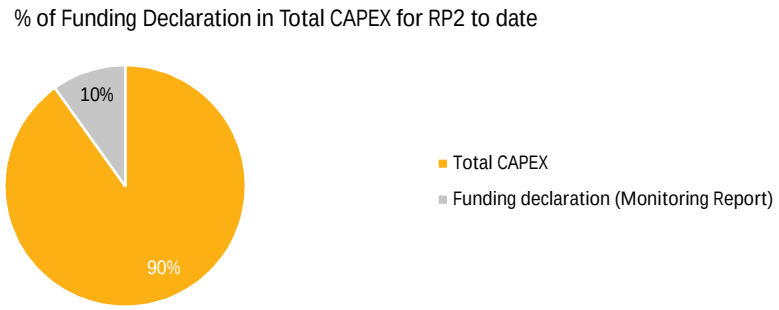
For RP2, the major project is "Expansion Facilities" which received a total actual investment of 41.11M€$_{2009}$ throughout the whole period, 22.04M€$_{2009}$ more than determined. The second major project is "Replacement AAA" with a total actual investment of 40.00M€$_{2009}$. However, this investment was 28.23M€$_{2009}$ less than determined.

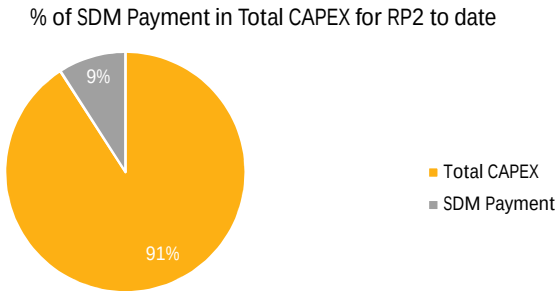
The unplanned CAPEX for the Netherlands amounts to 30.74M€$_{2009}$ (or 18% of total CAPEX) over RP2, distributed in the following existing projects: "Maintenance investments", "Other Investments", "Voice Communication System", "Lelystad Airport Development" and "Network 2.0".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Netherlands - LVNL

#	Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	Replacement AAA	-	3.61	3.28	-	3.13	10.02
4	Other Investments	-	1.08	0.61	0.68	2.43	4.80
6	Maintenance Investments	-	-	0.55	0.36	0.14	1.05
8	Lelystad Airport development	-	-	0.03	-	-	0.03
10	Network 2.0	-	-	0.57	-	-	0.57
11	Replacement EHAM/EHRD TWR System	-	0.19	-	-	(0.18)	0.01

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	4.87	5.04	1.04	5.53	16.49
SDM Payment	0.34	3.93	5.29	-	5.65	15.21





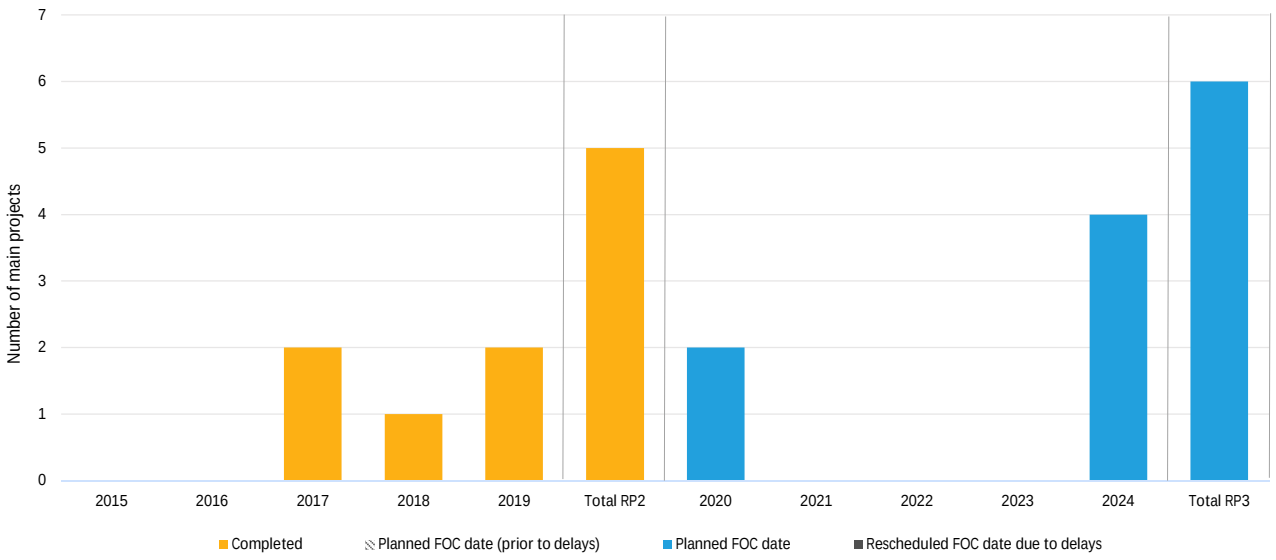
Six projects received funding through CEF/TEN-T funding during RP2. "Replacement AAA" received funding through the CEF calls: in 2015, 2016 and 2017, "Maintenance Investments" through the 2016 and 2017 CEF calls; "Lelystad Airport Development" through the 2016 CEF Call; "Network 2.0" through the 2016 CEF call and "Replacement EHAM/EHRD TWR System" through the 2015 CEF call. However, with the provided information, the investments could not be linked to specific funds.

The total amount of EU funding declared by the Netherlands in RP2 is 16.49M€$_{2009}$, which represents 10% of the actual total CAPEX. The total SDM payments amount to 15.21M€$_{2009}$, which cover 9% of the actual total CAPEX invested during RP2.

The Netherlands received 91.22M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Deployment of Air Traffic Control System iCAS: Implementation of ATM PCP Functionalities at LVNL and DFS" (41.03M€), "System Procurement for Deployment of PCP Air Traffic Control System iCAS at DFS and LVNL" (20.78M€) and "Procurement and Deployment of PCP Air Traffic Control System iCAS at DFS Munich and Bremen and LVNL Amsterdam" (11.98M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Netherlands - LVNL

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	Replacement AAA	Ongoing	2024	x	x	x	x	x	
2	Expansion Facilities	Completed	2019	x	x	x	x		
3	Replacement TAR4	Completed	2017	x	x	x	x		
4	Other Investments	Ongoing	2024						
5	Hardware Replacement AAA	Completed	2017	x	x	x	x		
6	Maintenance Investments	Ongoing	2024		x	x			
7	Voice communication system	Completed	2019			x	(x)		
8	Lelystad Airport development	Ongoing	2020			x			
9	Last resort Air-Ground, Ground-Ground Voice Communication	Completed	2018	x	x	x			
10	Network 2.0	Ongoing	2020				x		
11	Replacement EHAM/EHRD TWR system	Ongoing	2024					x	



The Netherlands planned 11 main projects for RP2: five projects have been completed, representing 64.49M€$_{2009}$, and six have been started, representing 61.33M€$_{2009}$, and are expected to continue through RP3.

The main priority for the investments was capacity, with eight projects being expected to bring benefits, followed by environment, with six projects expected to bring benefits. The "Voice Communications System" is expected to decrease cost-efficiency.

The actual investment made in RP2 for the project that was linked to the Pilot Common Project is 41M€$_{2009}$. This amount represents 25% of the actual total CAPEX. No project was included in the Network Operations Plan.

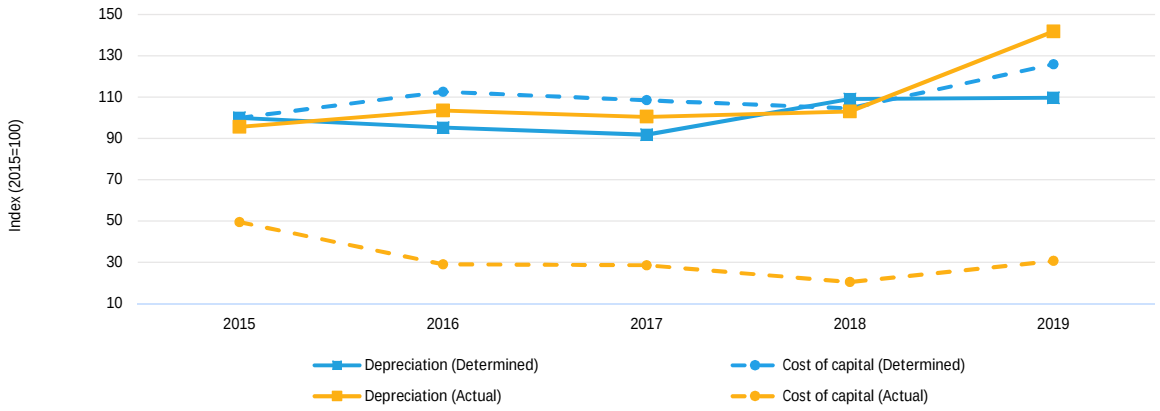
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Netherlands - LVNL

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**11.48**	**10.94**	**10.54**	**12.52**	**12.59**	**58.07**
- En-route	7.94	7.56	7.03	8.63	8.69	39.86
- Terminal	3.54	3.38	3.51	3.89	3.90	18.22
Cost of Capital	**3.48**	**3.92**	**3.78**	**3.65**	**4.39**	**19.22**
- En-route	2.43	2.74	2.55	2.46	2.96	13.15
- Terminal	1.05	1.18	1.23	1.19	1.43	6.07
Total	**14.96**	**14.86**	**14.32**	**16.17**	**16.98**	**77.30**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**10.97**	**11.88**	**11.53**	**11.82**	**16.28**	**62.48**
- En-route	7.58	8.19	7.87	7.90	11.33	42.87
- Terminal	3.39	3.69	3.67	3.92	4.94	19.61
Cost of Capital	**1.72**	**1.01**	**1.00**	**0.71**	**1.07**	**5.52**
- En-route	1.20	0.66	0.63	0.45	0.67	3.62
- Terminal	0.52	0.35	0.37	0.27	0.39	1.90
Total	**12.70**	**12.89**	**12.53**	**12.53**	**17.34**	**68.00**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.51)**	**0.94**	**0.99**	**(0.70)**	**3.68**	**4.41**
- En-route	(0.36)	0.63	0.84	(0.73)	2.64	3.01
- Terminal	(0.15)	0.32	0.15	0.03	1.05	1.40
Cost of Capital	**(1.76)**	**(2.91)**	**(2.78)**	**(2.93)**	**(3.32)**	**(13.71)**
- En-route	(1.23)	(2.08)	(1.93)	(2.01)	(2.29)	(9.53)
- Terminal	(0.53)	(0.83)	(0.86)	(0.92)	(1.03)	(4.17)
Total	**(2.27)**	**(1.97)**	**(1.79)**	**(3.64)**	**0.36**	**(9.30)**



Over RP2, the actual CAPEX was 22% higher than determined (overspend), closing the gap generated in the first years of the period. Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. Due to the late catching up of CAPEX, the Netherlands charged 9.30M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised.

Throughout RP2, the actual depreciation was higher than determined by 4.41M€$_{2009}$. In 2016, higher depreciation was mainly due to higher costs of the new VCS system operating as of March 2015. In 2017, depreciation increased because of the hardware replacement in the ATM system as well as the introduction of a new approach radar. Only in 2018, the actual depreciation was lower than determined by 2.39M€$_{2009}$ due to delays in investments implementation and increased in 2019 due to completion of major projects.

Throughout RP2, the actual cost of capital was 13.71M€$_{2009}$ lower than determined. This was due to the postponement of the implementation of some investments resulting in a lower than planned fixed asset base, but mainly due to a shift in WACC. The actual WACC was significantly lower (decreasing from 1.73% in 2015 to 0.51% in 2019) than initially planned (decreasing from 3.64% to 3.52%).

4.6.7 Switzerland - Skyguide

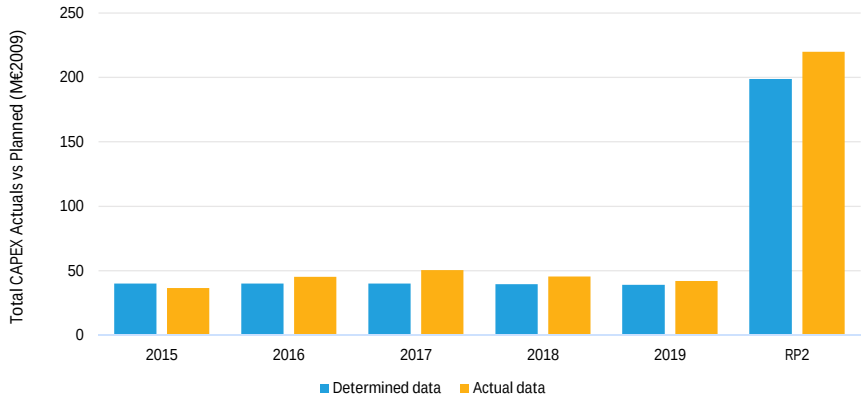
Over RP2, Switzerland overspent 21M€$_{2009}$ (+11%) with respect to the performance plan. However, the overspending is mostly due to unplanned investments "Several projects" (+44M€$_{2009}$) and "other CAPEX" (+129M€$_{2009}$), due to changes/consolidation of sub-projects, particularly for Virtual Center projects, presenting several discrepancies between actual and planned values. Due to higher actual than planned capital expenditure, the actual total depreciation and cost of capital were higher than determined (+9M€$_{2009}$). Switzerland planned 12 main projects for RP2: three projects have been completed, representing 22M€$_{2009}$; eight will continue through RP3, representing 26M€$_{2009}$; and one (unplanned "Several projects") has not sufficient data to determine the FOC, representing 44M€$_{2009}$.

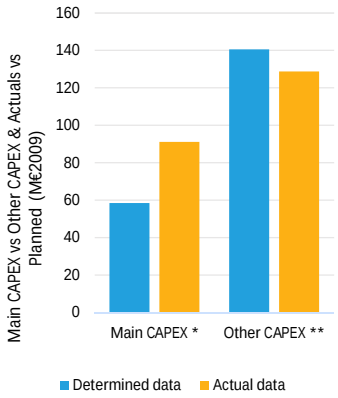
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**40.13**	**40.13**	**39.93**	**39.53**	**39.14**	**198.85**
- Main CAPEX *	15.65	15.58	11.22	8.21	7.72	58.39
- *% Main into Total CAPEX*	*39%*	*39%*	*28%*	*21%*	*20%*	*29%*
- Other CAPEX **	24.47	24.54	28.70	31.32	31.42	140.46
- *% Other into Total CAPEX*	*61%*	*61%*	*72%*	*79%*	*80%*	*71%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**36.59**	**45.21**	**50.57**	**45.57**	**42.00**	**219.94**
- Main CAPEX	12.55	17.27	21.11	21.97	18.28	91.17
- *% Main into Total CAPEX*	*34%*	*38%*	*42%*	*48%*	*44%*	*41%*
- Other CAPEX	24.04	27.95	29.46	23.60	23.72	128.78
- *% Other into Total CAPEX*	*66%*	*62%*	*58%*	*52%*	*56%*	*59%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(3.54)**	**5.09**	**10.64**	**6.04**	**2.86**	**21.10**
- Main CAPEX	(3.11)	1.69	9.88	13.76	10.56	32.78
- Other CAPEX	(0.43)	3.40	0.76	(7.72)	(7.70)	(11.68)
Total CAPEX (%)	***-9%***	***13%***	***27%***	***15%***	***7%***	***11%***
- *Main CAPEX (%)*	*-20%*	*11%*	*88%*	*168%*	*137%*	*56%*
- *Other CAPEX (%)*	*-2%*	*14%*	*3%*	*-25%*	*-24%*	*-8%*





The total actual capital expenditure for RP2 is 219.94M€$_{2009}$. For RP2, Switzerland spent 21.10M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 56% higher than determined, while other CAPEX is 8% lower.

In 2015, Switzerland spent 3.54M€$_{2009}$ less than planned. For 2016, 2017, 2018 and 2019, Switzerland overspent 5.09M€$_{2009}$, 10.64M€$_{2009}$, 6.04M€$_{2009}$ and 2.86M€$_{2009}$, respectively.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

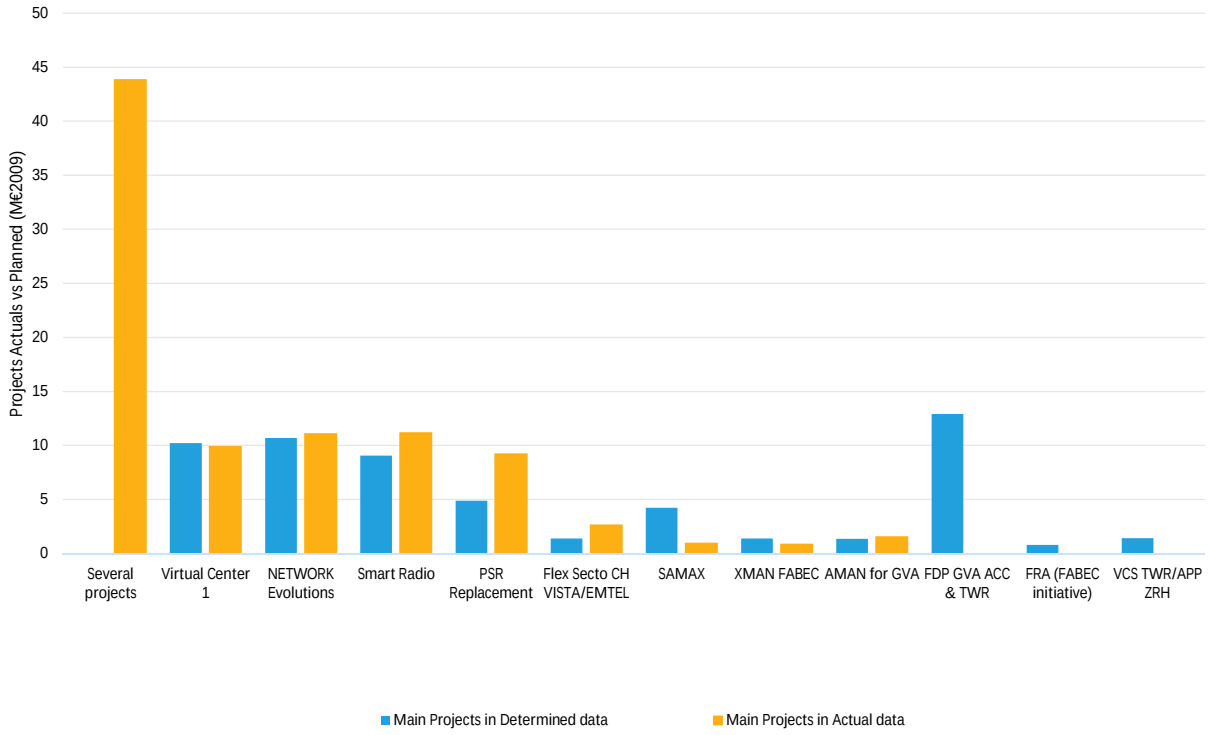
INVESTMENTS PER MAIN PROJECT Switzerland - Skyguide

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	Several projects	-	-	-	-	-	-
2	Virtual Center 1	6.62	3.24	0.30	0.04	0.04	10.23
3	NETWORK Evolutions	1.07	2.36	2.42	2.46	2.40	10.70
4	Smart Radio	2.38	1.65	2.96	1.29	0.78	9.06
5	PSR Replacement	2.22	2.20	0.48	-	-	4.90
6	Flex Secto CH VISTA/EMTEL	1.12	0.21	0.07	-	-	1.40
7	SAMAX	0.60	0.78	0.41	0.87	1.57	4.23
8	XMAN FABEC	0.20	0.20	0.33	0.33	0.33	1.39
9	AMAN for GVA	0.45	0.90	-	-	-	1.35
10	FDP GVA ACC & TWR	1.00	3.01	3.33	2.96	2.61	12.91
11	FRA (FABEC initiative)	-	0.27	0.27	0.26	-	0.80
12	VCS TWR/APP ZRH	-	0.76	0.66	-	-	1.41

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	Several projects	-	3.67	12.37	14.72	13.07	43.83
2	Virtual Center 1	7.03	2.85	-	-	-	9.89
3	NETWORK Evolutions	1.63	2.58	2.74	2.70	1.44	11.08
4	Smart Radio	2.55	2.36	2.52	2.00	1.74	11.16
5	PSR Replacement	0.56	3.72	2.63	1.56	0.74	9.22
6	Flex Secto CH VISTA/EMTEL	0.55	1.22	0.38	0.41	0.08	2.64
7	SAMAX	0.06	0.30	0.34	0.18	0.05	0.94
8	XMAN FABEC	0.16	0.56	0.13	-	-	0.85
9	AMAN for GVA	-	-	-	0.40	1.15	1.55
10	FDP GVA ACC & TWR	-	-	-	-	-	-
11	FRA (FABEC initiative)	-	-	-	-	-	-
12	VCS TWR/APP ZRH	-	-	-	-	-	-

#	Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
1	Several projects	-	3.67	12.37	14.72	13.07	43.83
2	Virtual Center 1	0.41	(0.38)	(0.30)	(0.04)	(0.04)	(0.34)
3	NETWORK Evolutions	0.56	0.22	0.32	0.25	(0.96)	0.38
4	Smart Radio	0.17	0.71	(0.45)	0.71	0.96	2.10
5	PSR Replacement	(1.66)	1.52	2.15	1.56	0.74	4.32
6	Flex Secto CH VISTA/EMTEL	(0.56)	1.00	0.31	0.41	0.08	1.25
7	SAMAX	(0.53)	(0.48)	(0.07)	(0.69)	(1.52)	(3.29)
8	XMAN FABEC	(0.05)	0.36	(0.20)	(0.33)	(0.33)	(0.54)
9	AMAN for GVA	(0.45)	(0.90)	-	0.40	1.15	0.20
10	FDP GVA ACC & TWR	(1.00)	(3.01)	(3.33)	(2.96)	(2.61)	(12.91)
11	FRA (FABEC initiative)	-	(0.27)	(0.27)	(0.26)	-	(0.80)
12	VCS TWR/APP ZRH	-	(0.76)	(0.66)	-	-	(1.41)

INVESTMENTS PER MAIN PROJECT Switzerland - Skyguide



For RP2, the first main project was "Several projects", which received 43.83M€$_{2009}$ more than determined, as no investments were planned for this project. The second main project was "Smart Radio", which received 2.10M€$_{2009}$ more than determined.

Project "FDP FVA ACC & TWR", was planned to receive 12.91M€$_{2009}$ by the end of RP2, but no investment has been made. Two other projects, "FRA" and "VCS TWR/APP ZRH" have not received any investments in RP2 either.

The unplanned CAPEX for Switzerland amounts to 43.83M€$_{2009}$ (or 20% of total CAPEX) over RP2, from 2016 to 2019, distributed in the following project "Several projects".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Switzerland - Skyguide

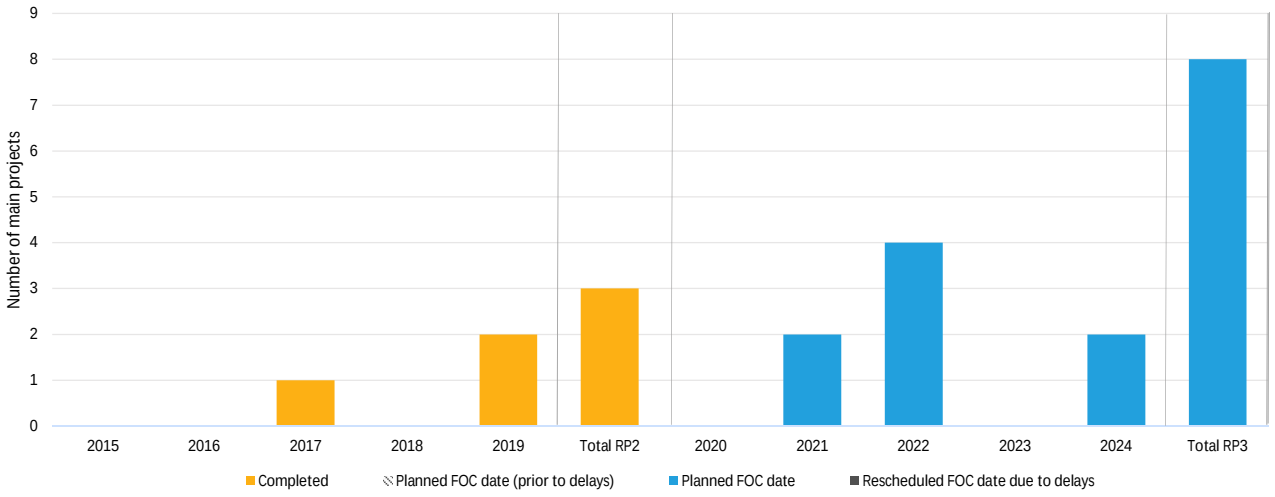
# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
	-	-	-	-	-	-
						-

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	-	-	-	-	-
SDM Payment	-	-	-	-	-	-

Since Switzerland is not part of the European Union, no funding has been granted for projects under CEF/TEN-T.

EXPECTED BENEFIT PER PROJECT Switzerland - Skyguide

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
2	Virtual Center 1	Completed	2017	x		x	x		x
3	NETWORK Evolutions	Ongoing	2024	x		x	x		
4	Smart Radio	Ongoing	2021	x			x		
5	PSR Replacement	Completed	2019	x		x	x		
6	Flex Secto CH VISTA/EMTEL	Completed	2019						
7	SAMAX	Ongoing	2021	x	x	x	x		
8	XMAN FABEC	Ongoing	2022	x	x	x	x	x	
9	AMAN for GVA	Ongoing	2022	x	x	x	x		
10	FDP GVA ACC & TWR	Ongoing	2022			x			
11	FRA (FABEC initiative)	Ongoing	2022		x	x	x	x	x
12	VCS TWR/APP ZRH	Ongoing	2024	x		x	x		
1	Several projects	Unknown	Unknown						



Switzerland planned 12 main projects for RP2: three projects have been completed, representing 21.74M€$_{2009}$; eight will continue through RP3, representing 25.59M€$_{2009}$; and one has not sufficient data to determine the FOC (unknown), representing 43.83M€$_{2009}$.

Most of the projects are expected to have a positive impact on capacity, cost-efficiency and safety, while only four are expected to have an impact on environment.

The actual investment made in RP2 for the two projects that were linked to the Pilot Common Project is 0.85M€$_{2009}$. This amount represents 0.4% of the actual total CAPEX. Two projects were included in the Network Operations Plan.

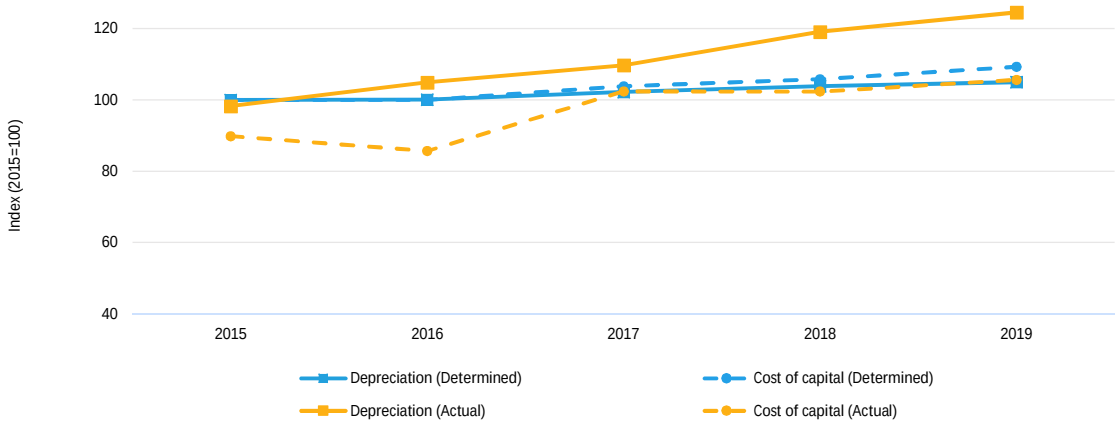
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Switzerland - Skyguide

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**21.95**	**21.97**	**22.43**	**22.80**	**23.04**	**112.19**
- En route	14.13	14.31	14.77	15.17	15.35	73.72
- Terminal	7.82	7.66	7.66	7.63	7.69	38.47
Cost of Capital	**3.92**	**3.92**	**4.07**	**4.15**	**4.29**	**20.36**
- En route	2.40	2.42	2.48	2.56	2.69	12.56
- Terminal	1.52	1.50	1.59	1.59	1.60	7.80
Total	**25.87**	**25.89**	**26.50**	**26.95**	**27.33**	**132.55**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**21.57**	**23.02**	**24.08**	**26.14**	**27.34**	**122.15**
- En route	13.44	14.38	14.71	16.93	17.83	77.30
- Terminal	8.13	8.64	9.37	9.21	9.50	44.85
Cost of Capital	**3.52**	**3.36**	**4.02**	**4.01**	**4.14**	**19.06**
- En route	2.16	2.07	2.41	2.56	2.67	11.88
- Terminal	1.36	1.30	1.60	1.45	1.47	7.18
Total	**25.10**	**26.38**	**28.10**	**30.15**	**31.48**	**141.21**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.37)**	**1.05**	**1.65**	**3.34**	**4.30**	**9.96**
- En route	(0.69)	0.08	(0.06)	1.76	2.49	3.58
- Terminal	0.31	0.98	1.71	1.58	1.81	6.38
Cost of Capital	**(0.40)**	**(0.56)**	**(0.06)**	**(0.14)**	**(0.14)**	**(1.30)**
- En route	(0.24)	(0.36)	(0.07)	0.00	(0.02)	(0.68)
- Terminal	(0.16)	(0.20)	0.01	(0.14)	(0.13)	(0.62)
Total	**(0.77)**	**0.49**	**1.59**	**3.20**	**4.15**	**8.67**



Over RP2, the actual CAPEX was 11% higher than determined (overspent). Due to this, the related actual costs (depreciation and cost of capital) exceeded the determined costs and therefore the difference of costs have been borne by the ANSP. The difference between these costs amounts to 8.67M€$_{2009}$.

Throughout RP2, the actual depreciation was higher than determined by 9.96M€$_{2009}$. In 2015, the decrease in depreciation was mainly due to delays in project implementation. In 2016, the investments increased, leading to an increase in the actual depreciation. This continued in 2018 and 2019, as the actual depreciation were 3.34M€$_{2009}$ and 4.30M$_{€2009}$ respectively, higher than determined.

Throughout RP2, the actual cost of capital was 1.30M€$_{2009}$ lower than determined. This was due to a lower then planned net value of the fixed assets.

4.7 NEFAB

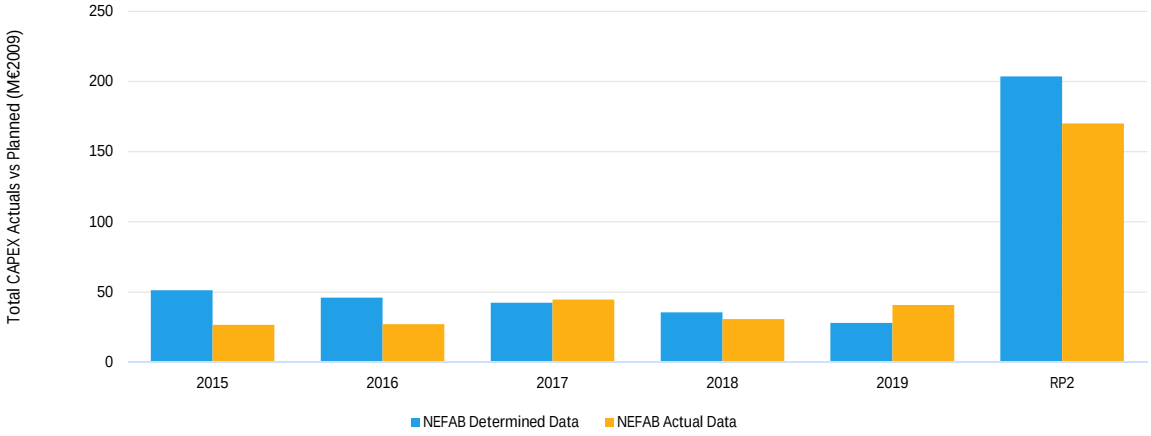
OVERALL INVESTMENTS

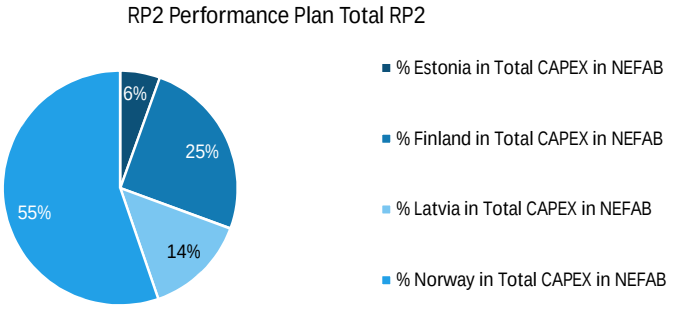
Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**51.27**	**46.06**	**42.47**	**35.59**	**28.15**	**203.54**
- *Main CAPEX*	43.46	37.03	34.76	28.60	22.01	165.87
- *% Main into Total CAPEX*	*85%*	*80%*	*82%*	*80%*	*78%*	*81%*
- Other CAPEX	7.81	9.02	7.71	6.99	6.14	37.67
- *% Other into Total CAPEX*	*15%*	*20%*	*18%*	*20%*	*22%*	*19%*
- Estonia in Total CAPEX in NEFAB	4.05	2.15	1.70	1.75	1.54	11.19
- *% Estonia in Total CAPEX in NEFAB*	*8%*	*5%*	*4%*	*5%*	*5%*	*5%*
- Finland in Total CAPEX in NEFAB	9.93	15.06	11.55	9.34	5.23	51.12
- *% Finland in Total CAPEX in NEFAB*	*19%*	*33%*	*27%*	*26%*	*19%*	*25%*
- Latvia in Total CAPEX in NEFAB	5.49	5.67	5.50	5.48	6.61	28.75
- *% Latvia in Total CAPEX in NEFAB*	*11%*	*12%*	*13%*	*15%*	*23%*	*14%*
- Norway in Total CAPEX in NEFAB	31.80	23.18	23.73	19.02	14.77	112.49
- *% Norway in Total CAPEX in NEFAB*	*62%*	*50%*	*56%*	*53%*	*52%*	*55%*

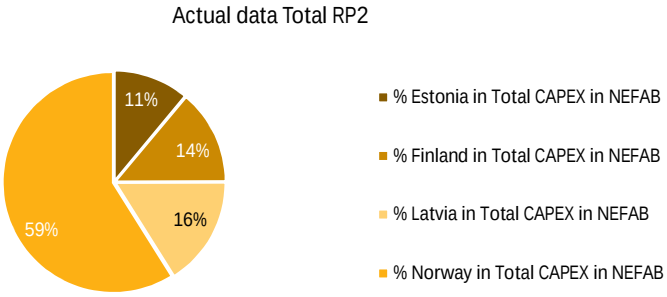
Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**26.74**	**27.06**	**44.71**	**30.81**	**40.80**	**170.12**
- Main CAPEX	22.44	21.31	41.02	26.98	36.45	148.19
- *% Main into Total CAPEX*	*84%*	*79%*	*92%*	*88%*	*89%*	*87%*
- Other CAPEX	4.30	5.75	3.70	3.83	4.35	21.93
- *% Other into Total CAPEX*	*16%*	*21%*	*8%*	*12%*	*11%*	*13%*
- Estonia in Total CAPEX in NEFAB	3.49	1.15	5.40	5.79	2.96	18.79
- *% Estonia in Total CAPEX in NEFAB*	*13%*	*4%*	*12%*	*19%*	*7%*	*11%*
- Finland in Total CAPEX in NEFAB	4.80	5.05	6.81	2.94	4.08	23.67
- *% Finland in Total CAPEX in NEFAB*	*18%*	*19%*	*15%*	*10%*	*10%*	*14%*
- Latvia in Total CAPEX in NEFAB	3.37	6.13	5.17	4.91	7.81	27.40
- *% Latvia in Total CAPEX in NEFAB*	*13%*	*23%*	*12%*	*16%*	*19%*	*16%*
- Norway in Total CAPEX in NEFAB	15.08	14.73	27.33	17.16	25.95	100.25
- *% Norway in Total CAPEX in NEFAB*	*56%*	*54%*	*61%*	*56%*	*64%*	*59%*

Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(24.53)**	**(19.00)**	**2.24**	**(4.78)**	**12.65**	**(33.42)**
- Main CAPEX	(21.02)	(15.72)	6.25	(1.62)	14.44	(17.68)
- Other CAPEX	(3.51)	(3.28)	(4.02)	(3.16)	(1.78)	(15.74)
Total CAPEX (%)	***-48%***	***-41%***	***5%***	***-13%***	***45%***	***-16%***
- *Main CAPEX (%)*	*-48%*	*-42%*	*18%*	*-6%*	*66%*	*-11%*
- *Other CAPEX (%)*	*-45%*	*-36%*	*-52%*	*-45%*	*-29%*	*-42%*

OVERALL INVESTMENTS NEFAB







During RP2, the total actual investments in CAPEX for NEFAB have been lower than determined in the performance plan due to most countries under-spending. Actual investments were made for a total amount of 170.12M€$_{2009}$, while in the performance plan they were set out to be worth 203.54M €$_{2009}$, a difference of 46.07M€$_{2009}$ or 26%. In 2015, the actual expenses were 24.53M€$_{2009}$ (or 48%) lower than anticipated. In 2016, the actual expenses were also lower by 19M€$_{2009}$ (or 41%). In 2017, the actual expenses were higher than anticipated by 2.24M€$_{2009}$ (or 5%). 2018 saw actual investments of 4.78M€$_{2009}$ (or 13%) lower than anticipated. In the last year of the period, the actual investments were 12.65M€$_{2009}$ (or 45%) higher than planned for the year.

In terms of planned expenses, Norway represented 55% of the expenses, Latvia represented 14%, Finland represented 25% and Estonia represented 6%. The percentages in actual expenses became Norway 59%, Latvia 16%, Finland 14% and Estonia 11% due to Finland underspending and Estonia overspending with respect to the values anticipated in the performance plan.

4.7.1 Estonia - EANS

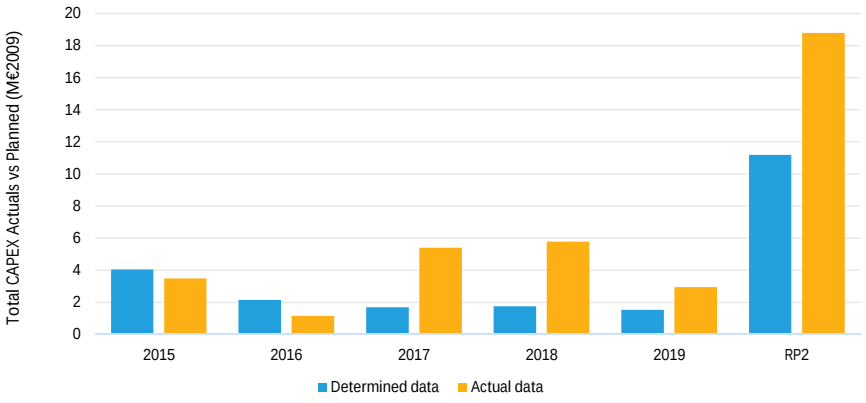
Over RP2, Estonia overspent 7M€$_{2009}$ (+68%) with respect to the performance plan. Despite having overinvested over the period, Estonia overcharged +1M€$_{2009}$ over RP2 in cost of capital and depreciation respect to the actual values. Estonia planned six main projects for RP2 to date: three projects have been completed, representing to 17M€$_{2009}$, while the remaining three have been started and to be completed by the end of RP3, representing 2M€$_{2009}$.

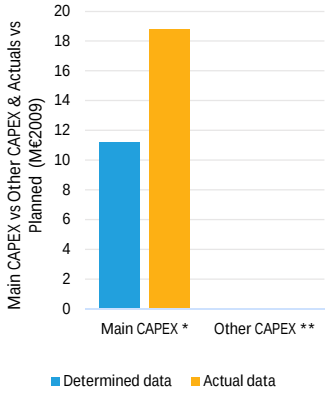
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**4.05**	**2.15**	**1.70**	**1.75**	**1.54**	**11.19**
- Main CAPEX *	4.05	2.15	1.70	1.75	1.54	11.19
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX **	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**3.49**	**1.15**	**5.40**	**5.79**	**2.96**	**18.79**
- Main CAPEX	3.49	1.15	5.40	5.79	2.96	18.79
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(0.56)**	**(1.00)**	**3.70**	**4.05**	**1.42**	**7.61**
- Main CAPEX	(0.56)	(1.00)	3.70	4.05	1.42	7.61
- Other CAPEX	-	-	-	-	-	-
Total CAPEX (%)	***-14%***	***-47%***	***218%***	***232%***	***92%***	***68%***
- *Main CAPEX (%)*	*-14%*	*-47%*	*218%*	*232%*	*92%*	*68%*
- *Other CAPEX (%)*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*





The total actual capital expenditure for RP2 is 18.79M€$_{2009}$. For RP2, Estonia spent 7.61M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 68% higher than determined and there is no other CAPEX.

In 2015 and 2016, Estonia underspent 0.56M€$_{2009}$ and 1.00M€$_{2009}$ respectively. For 2017, 2018 and 2019, Estonia overspent 3.70M€$_{2009}$ (+218%), 4.05M€$_{2009}$ (+232%) and 1.42M€$_{2009}$ (+92%), respectively.

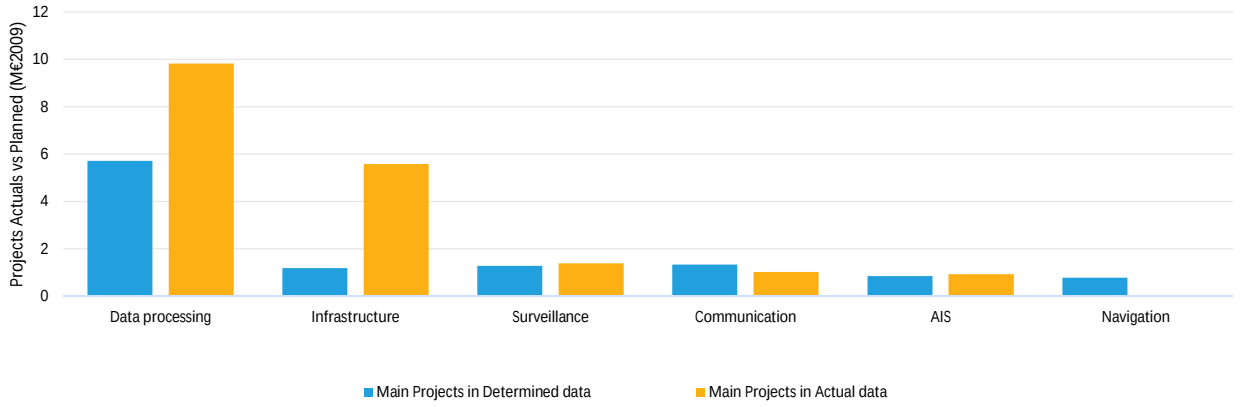
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Estonia - EANS

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	Data processing	2.15	0.74	0.88	1.10	0.85	5.72
2	Infrastructure	0.19	0.73	0.27	-	-	1.19
3	Surveillance	0.98	0.03	0.02	0.13	0.13	1.29
4	Communication	0.38	0.21	0.25	0.30	0.19	1.34
5	AIS	0.30	0.05	0.09	0.09	0.32	0.85
6	Navigation	0.05	0.39	0.18	0.12	0.05	0.79

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	Data processing	2.17	0.97	3.33	1.32	2.04	9.83
2	Infrastructure	0.03	0.06	1.34	3.66	0.50	5.59
3	Surveillance	0.87	0.05	0.18	0.11	0.19	1.40
4	Communication	0.42	0.07	0.15	0.33	0.06	1.03
5	AIS	-	0.00	0.40	0.38	0.15	0.93
6	Navigation	-	-	-	-	0.01	0.01

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	Data processing	0.02	0.24	2.45	0.21	1.20	4.11
2	Infrastructure	(0.16)	(0.67)	1.07	3.66	0.50	4.40
3	Surveillance	(0.10)	0.02	0.16	(0.02)	0.06	0.11
4	Communication	0.04	(0.14)	(0.11)	0.03	(0.13)	(0.31)
5	AIS	(0.30)	(0.05)	0.31	0.29	(0.17)	0.08
6	Navigation	(0.05)	(0.39)	(0.18)	(0.12)	(0.04)	(0.78)

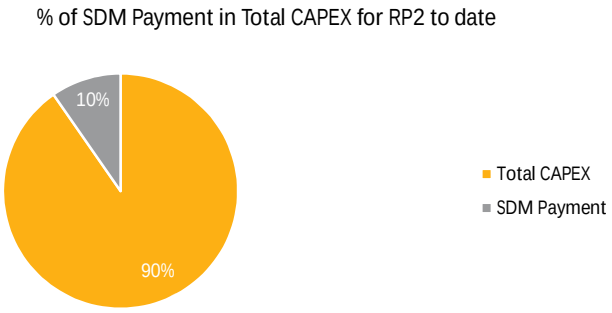


For RP2, the main project is "Data processing" which received a steady flow of investment throughout the period, adding up to a total of 9.83M€$_{2009}$ (4.11M€$_{2009}$ more than determined). The second major project in terms of investment, is "Infrastructure", receiving allocations every year, amounting to 5.59M€$_{2009}$, more than fourfold the investment planned.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Estonia - EANS

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
	-	-	-	-	-	-

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	-	-	-	-	-
SDM Payment	0.05	0.78	0.14	-	0.84	1.82

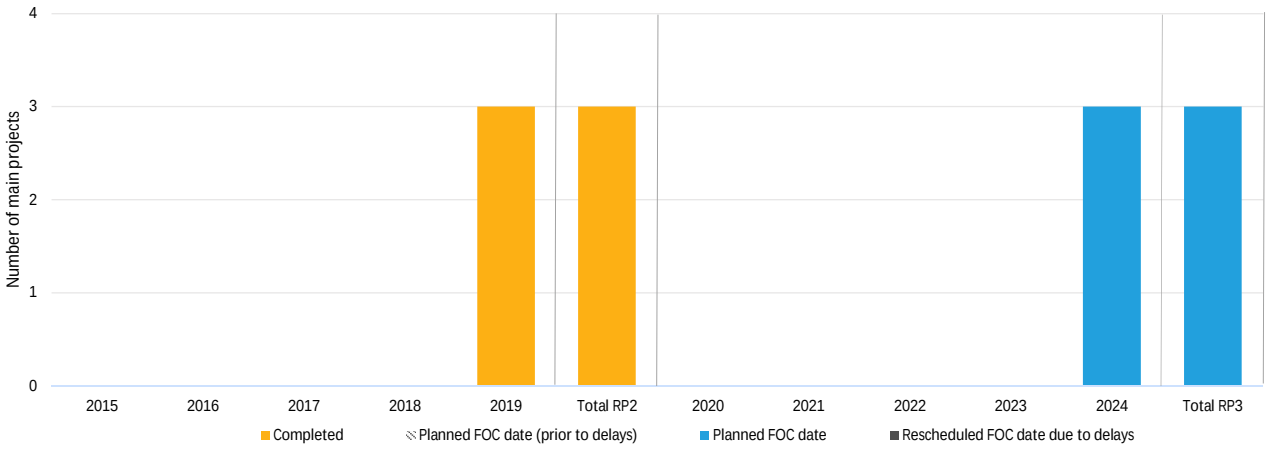


Although no funding was reported in the Monitoring Report of Estonia, data reveals SDM payment amounting to 1.82M€$_{2009}$ throughout RP2, representing 10% of the actual total CAPEX.

Estonia received 2.83M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "2015_227_AF3_B Borealis - FRA Implementation (Part 2)" (2.2M€), "DLS Implementation Project - Path 1 "Ground" stakeholders (GND)" (0.41M€) and "Implementation Project 2.6 - Borealis Free Route Airspace (Part 1)" (0.16M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Estonia - EANS

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	Data processing	Completed	2019						
2	Infrastructure	Completed	2019	x	x	x	x		
3	Surveillance	Completed	2019	x	x	x	x		
4	Communication	Ongoing	2024		x		x		
5	AIS	Ongoing	2024	x	x	x			
6	Navigation	Ongoing	2024	x		x	x		



Estonia planned six main projects for RP2 to date: three projects have been completed, representing to 16.82M€$_{2009}$, while the remaining three have been started, representing 1.97M€$_{2009}$. The FOC of projects #4, #5 and #6 was not indicated, therefore 2024 has been used as default.

The priorities were equal with four out of six different projects being expected to bring benefits to safety, environment, capacity and cost-efficiency. "Data Processing" is not expected to benefit any of the KPAs.

None of the projects were linked to the Pilot Common Project or included in the Network Operations Plan.

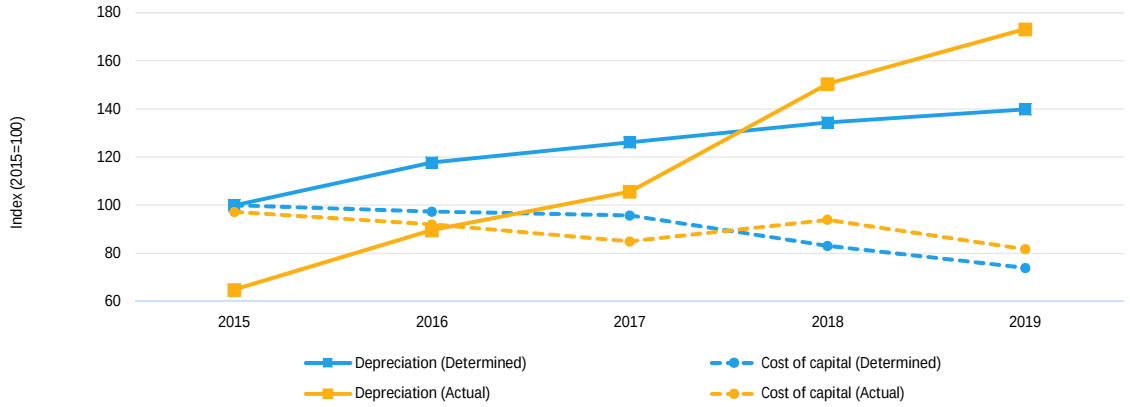
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Estonia - EANS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**2.85**	**3.36**	**3.60**	**3.83**	**3.99**	**17.64**
- En route	2.42	2.86	3.08	3.29	3.44	15.08
- Terminal	0.44	0.50	0.52	0.54	0.55	2.56
Cost of Capital	**1.39**	**1.36**	**1.33**	**1.16**	**1.03**	**6.27**
- En route	1.20	1.17	1.12	0.99	0.86	5.33
- Terminal	0.19	0.19	0.22	0.17	0.17	0.94
Total	**4.25**	**4.72**	**4.93**	**4.99**	**5.02**	**23.91**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**1.85**	**2.56**	**3.02**	**4.29**	**4.94**	**16.66**
- En route	1.61	2.07	2.55	3.74	4.32	14.28
- Terminal	0.25	0.49	0.46	0.56	0.63	2.38
Cost of Capital	**1.35**	**1.28**	**1.18**	**1.31**	**1.14**	**6.27**
- En route	1.14	1.08	0.96	1.13	0.94	5.26
- Terminal	0.21	0.20	0.23	0.18	0.19	1.01
Total	**3.21**	**3.84**	**4.20**	**5.60**	**6.08**	**22.93**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(1.00)**	**(0.80)**	**(0.58)**	**0.46**	**0.95**	**(0.98)**
- En route	(0.81)	(0.79)	(0.53)	0.45	0.88	(0.80)
- Terminal	(0.19)	(0.01)	(0.06)	0.01	0.07	(0.18)
Cost of Capital	**(0.04)**	**(0.07)**	**(0.15)**	**0.15**	**0.11**	**(0.00)**
- En route	(0.06)	(0.08)	(0.16)	0.14	0.08	(0.07)
- Terminal	0.02	0.01	0.01	0.01	0.03	0.07
Total	**(1.04)**	**(0.88)**	**(0.73)**	**0.61**	**1.06**	**(0.98)**



Over RP2, the actual CAPEX was 68% higher than determined (overspent). Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 0.98M€$_{2009}$.

Throughout RP2, the actual depreciation was lower than determined by 0.98M€$_{2009}$. This was mainly due to delays in investments (CPDLC, WAM etc). Only in 2018 and 2019, actual depreciation was higher than determined by 0.46M€$_{2009}$ and 0.95M€$_{2009}$, respectively, because of new investments (software of ATM system and DLS).

Throughout RP2, the actual cost of capital was equal to the determined one.

4.7.2 Finland - ANS Finland

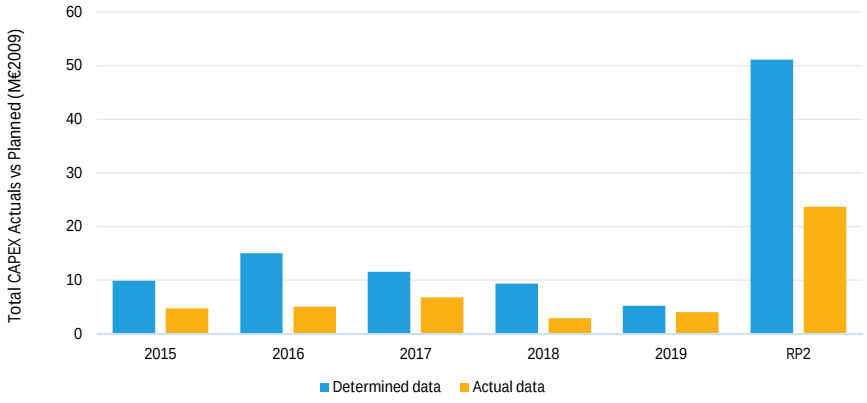
Over RP2, Finland underspent 27M€$_{2009}$ (-54%) with respect to the performance plan. As a result of the underinvestment, Finland overcharged +10.8M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Finland planned 13 main projects for RP2: ten projects have been completed, representing 22M€$_{2009}$, and three have been started, being expected to continue through RP3 and representing 4M€$_{2009}$.

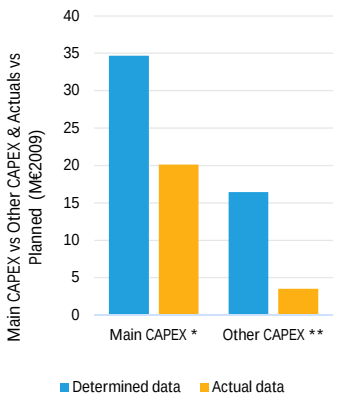
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**9.93**	**15.06**	**11.55**	**9.34**	**5.23**	**51.12**
- Main CAPEX *	6.34	9.69	8.26	6.78	3.61	34.68
- *% Main into Total CAPEX*	*64%*	*64%*	*72%*	*73%*	*69%*	*68%*
- Other CAPEX **	3.60	5.37	3.29	2.56	1.62	16.44
- *% Other into Total CAPEX*	*36%*	*36%*	*28%*	*27%*	*31%*	*32%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**4.80**	**5.05**	**6.81**	**2.94**	**4.08**	**23.67**
- Main CAPEX	3.35	4.20	6.28	2.53	3.77	20.14
- *% Main into Total CAPEX*	*70%*	*83%*	*92%*	*86%*	*93%*	*85%*
- Other CAPEX	1.45	0.85	0.53	0.41	0.30	3.53
- *% Other into Total CAPEX*	*30%*	*17%*	*8%*	*14%*	*7%*	*15%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(5.14)**	**(10.02)**	**(4.74)**	**(6.40)**	**(1.15)**	**(27.44)**
- Main CAPEX	(2.99)	(5.49)	(1.98)	(4.24)	0.17	(14.54)
- Other CAPEX	(2.150)	(4.522)	(2.76)	(2.15)	(1.32)	(12.91)
Total CAPEX (%)	***-52%***	***-66%***	***-41%***	***-68%***	***-22%***	***-54%***
- *Main CAPEX (%)*	*-47%*	*-57%*	*-24%*	*-63%*	*5%*	*-42%*
- *Other CAPEX (%)*	*-60%*	*-84%*	*-84%*	*-84%*	*-81%*	*-79%*





The total actual capital expenditure for RP2 is 23.67M€$_{2009}$. For RP2, Finland spent 27.44M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 42% lower than determined, while other CAPEX is 79% lower.

Finland invested less than initially determined, in every year of RP2 to date: 5.14M€$_{2009}$ less in 2015, 10.02M€$_{2009}$ less in 2016, 4.74M€$_{2009}$ less in 2017, 6.40M€$_{2009}$ less in 2018 and 1.15M€$_{2009}$ less in 2019.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

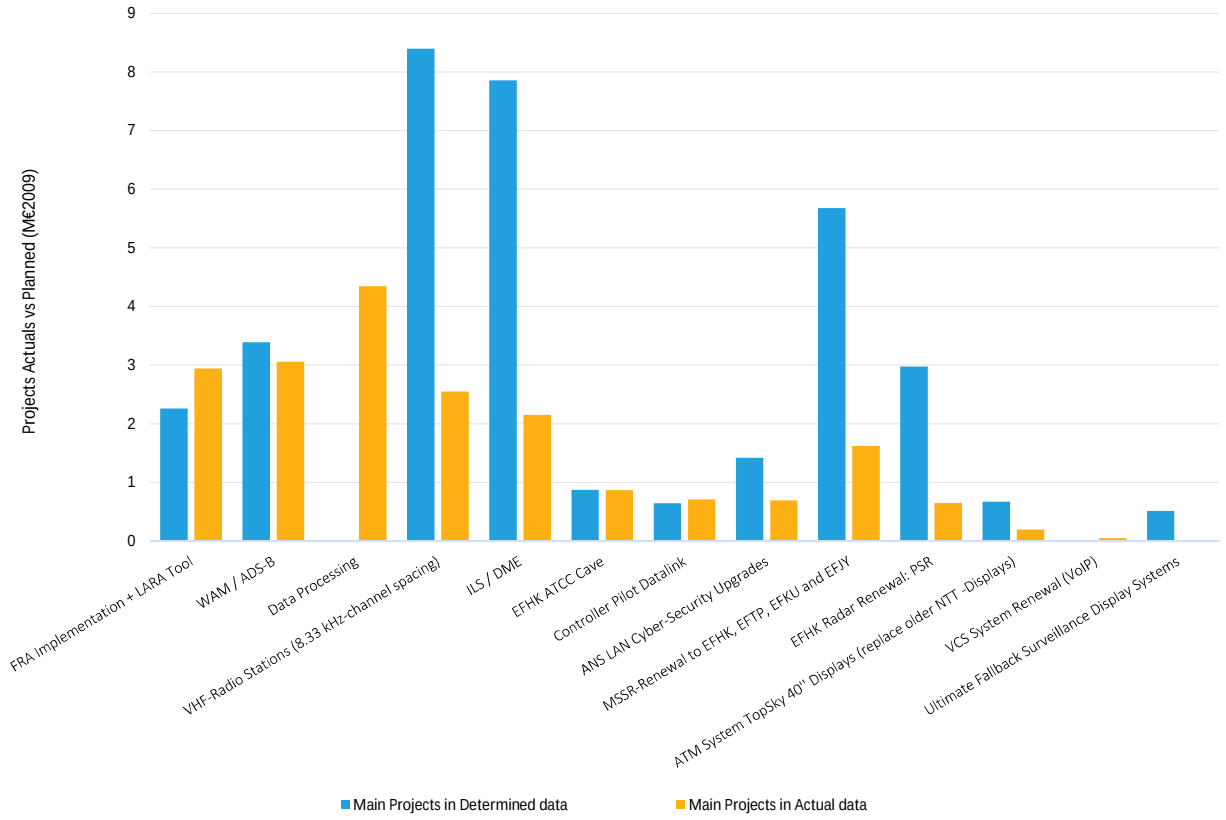
INVESTMENTS PER MAIN PROJECT Finland - ANS Finland

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	FRA Implementation + LARA Tool	1.66	0.60	-	-	-	2.26
2	WAM / ADS-B	1.66	0.26	-	0.66	0.81	3.39
3	Data Processing	-	-	-	-	-	-
4	VHF-Radio Stations (8.33 kHz-channel spacing)	-	1.72	3.37	3.31	-	8.40
5	ILS / DME	1.70	1.93	1.43	1.41	1.38	7.85
6	EFHK ATCC Cave	0.87	-	-	-	-	0.87
7	Controller Pilot Datalink	-	0.64	-	-	-	0.64
8	ANS LAN Cyber-Security Upgrades	0.44	0.77	0.17	-	0.04	1.42
9	MSSR-Renewal to EFHK, EFTP, EFKU and EFJY	-	1.46	1.43	1.41	1.38	5.68
10	EFHK Radar Renewal: PSR	-	1.29	1.69	-	-	2.98
11	ATM System TopSky 40" Displays (replace older NTT -Displays)	-	0.67	-	-	-	0.67
12	VCS System Renewal (VoIP)	-	-	-	-	-	-
13	Ultimate Fallback Surveillance Display Systems	-	0.34	0.17	-	-	0.51

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	FRA Implementation + LARA Tool	1.27	1.56	0.09	0.01	0.02	2.94
2	WAM / ADS-B	0.33	0.39	1.62	0.32	0.41	3.06
3	Data Processing	-	0.71	1.53	0.37	1.73	4.34
4	VHF-Radio Stations (8.33 kHz-channel spacing)	-	0.00	1.82	0.58	0.14	2.55
5	ILS / DME	1.15	0.34	0.59	0.07	-	2.15
6	EFHK ATCC Cave	-	0.73	0.14	-	-	0.87
7	Controller Pilot Datalink	0.59	-	-	0.11	-	0.71
8	ANS LAN Cyber-Security Upgrades	0.01	0.24	0.41	0.03	0.00	0.69
9	MSSR-Renewal to EFHK, EFTP, EFKU and EFJY	-	-	-	0.64	0.98	1.62
10	EFHK Radar Renewal: PSR	-	-	-	0.40	0.25	0.65
11	ATM System TopSky 40" Displays (replace older NTT -Displays)	-	0.20	-	-	-	0.20
12	VCS System Renewal (VoIP)	-	0.03	0.03	-	0.25	0.31
13	Ultimate Fallback Surveillance Display Systems	-	-	0.05	-	-	0.05

#	Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
1	FRA Implementation + LARA Tool	(0.39)	0.96	0.09	0.01	0.02	0.68
2	WAM / ADS-B	(1.33)	0.13	1.62	(0.34)	(0.40)	(0.33)
3	Data Processing	-	0.71	1.53	0.37	1.73	4.34
4	VHF-Radio Stations (8.33 kHz-channel spacing)	-	(1.71)	(1.55)	(2.73)	0.14	(5.85)
5	ILS / DME	(0.55)	(1.59)	(0.84)	(1.34)	(1.38)	(5.70)
6	EFHK ATCC Cave	(0.87)	0.73	0.14	-	-	(0.01)
7	Controller Pilot Datalink	0.59	(0.64)	-	0.11	-	0.06
8	ANS LAN Cyber-Security Upgrades	(0.42)	(0.54)	0.25	0.03	(0.04)	(0.73)
9	MSSR-Renewal to EFHK, EFTP, EFKU and EFJY	-	(1.46)	(1.43)	(0.76)	(0.40)	(4.06)
10	EFHK Radar Renewal: PSR	-	(1.29)	(1.69)	0.40	0.25	(2.33)
11	ATM System TopSky 40" Displays (replace older NTT -Displays)	-	(0.47)	-	-	-	(0.47)
12	VCS System Renewal (VoIP)	-	0.03	0.03	-	0.25	0.31
13	Ultimate Fallback Surveillance Display Systems	-	(0.34)	(0.12)	-	-	(0.46)

INVESTMENTS PER MAIN PROJECT Finland - ANS Finland



For RP2, the main project is "Data Processing" which was initially not included in the Performance Plan but received investment by 4.34M€$_{2009}$.The second major project is "WAM / ADS-B" which received almost the same amount as determined.

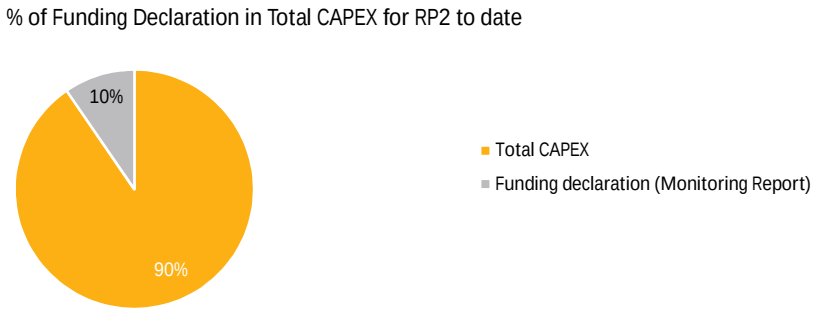
For projects "VHF-Radio Stations (8.33 kHz-channel spacing)", "ILS / DME" and "EFHK Radar Renewal: PSR" substantial investments were planned, however, less than half of the investments were made.

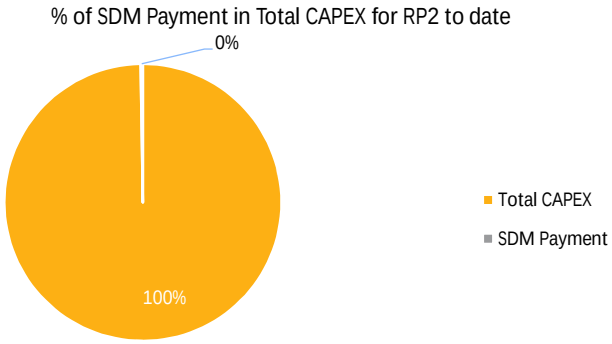
The unplanned CAPEX for Finland amounts to 4.65M€$_{2009}$ (or 20% of total CAPEX) over RP2, from 2016 to 2019, distributed in the following projects "Data processing" and "VCS systel renewal (VoIP)".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Finland - ANS Finland

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	0.00	3.15	(0.11)	-	(0.78)	2.27

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.00	3.15	(0.11)	-	(0.78)	2.27
SDM Payment	-	-	0.02	-	0.04	0.06





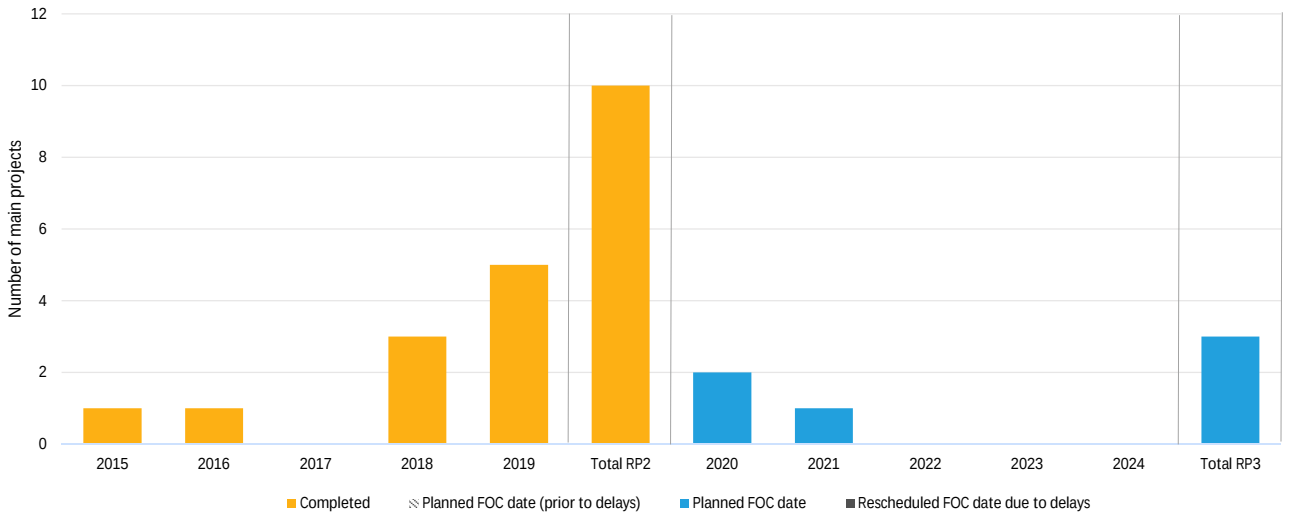
Throughout RP2, Finland received grants through seven different funding schemes, however, the investments could not be linked to specific funds.

The total amount declared by Finland in RP2 is 2.27M€$_{2009}$, which represents 10% of the actual total CAPEX.
The total SDM payments amount to 0.06M€$_{2009}$, which covers 0.3% of the actual total CAPEX invested during RP2.

Finland received 11.86M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "2015_227_AF3_A Borealis - FRA Implementation (Part 2)" (11.66M€), "SWIM Common PKI and policies & procedures for establishing a Trust framework" (0.09M€) and "Deploy SWIM governance" (0.04M€). One of these projects corresponds to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Finland - ANS Finland

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	FRA Implementation + LARA Tool	Completed	2015		x		x	x	x
2	WAM / ADS-B	Ongoing	2020	x	x	x	x		x
3	Data Processing	Completed	2019	x	x	x	x	x	
4	VHF-Radio Stations (8.33 kHz-channel spacing)	Completed	2018						
5	ILS / DME	Completed	2019	x			x		
6	EFHK ATCC Cave	Completed	2018	x					
7	Controller Pilot Datalink	Completed	2018	x		x	x	x	x
8	ANS LAN Cyber-Security Upgrades	Completed	2019	x					
9	MSSR-Renewal to EFHK, EFTP, EFKU and EFJY	Completed	2019	x			x		
10	EFHK Radar Renewal: PSR	Ongoing	2020	x					
11	ATM System TopSky 40" Displays (replace older NTT -Displays)	Completed	2016	x			x		
12	VCS System Renewal (VoIP)	Completed	2019	x	x	x	x	x	
13	Ultimate Fallback Surveillance Display Systems	Ongoing	2021	x					



Finland planned 13 main projects for RP2: ten projects have been completed, representing 21.87M€$_{2009}$, and three have been started, being expected to continue through RP3 and representing 3.76M€$_{2009}$.

The main priority was safety with 11 projects expected to bring benefits. The second priority was cost-efficiency where eight projects are expected to bring benefits. "VHF-Radio Stations (8.33 kHz-channel spacing)" is not expected to bring benefits to any of the KPAs.

The actual investment in RP2 for the four projects that were linked to the Pilot Common Project is 13.53M€$_{2009}$. This amount represents 57% of the actual total CAPEX. Three projects were included in the Network Operations Plan.

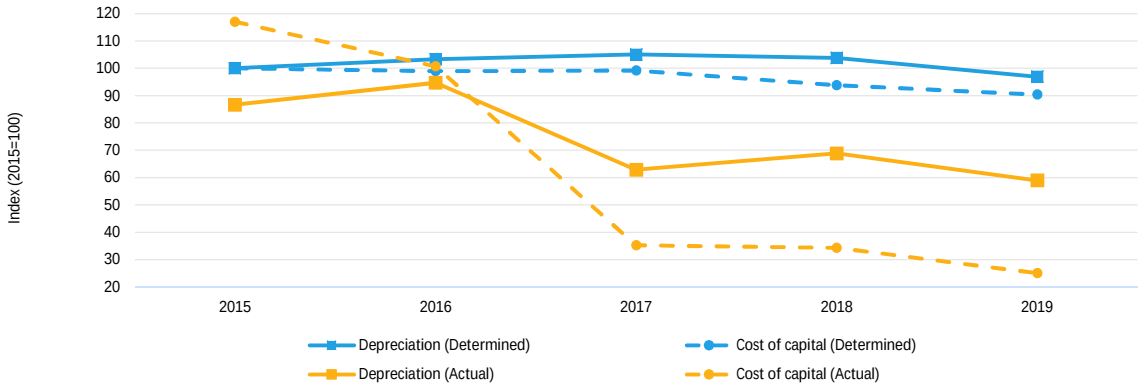
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Finland - ANS Finland

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**5.48**	**5.66**	**5.76**	**5.69**	**5.31**	**27.89**
- En route	4.13	4.28	4.37	4.36	3.98	21.12
- Terminal	1.35	1.38	1.38	1.33	1.33	6.77
Cost of Capital	**1.94**	**1.92**	**1.92**	**1.82**	**1.75**	**9.34**
- En route	1.49	1.51	1.50	1.44	1.41	7.35
- Terminal	0.44	0.41	0.42	0.38	0.34	1.99
Total	**7.41**	**7.58**	**7.68**	**7.50**	**7.06**	**37.23**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**4.75**	**5.19**	**3.45**	**3.77**	**3.23**	**20.39**
- En route	3.53	3.94	2.71	3.03	2.70	15.91
- Terminal	1.22	1.25	0.74	0.75	0.53	4.48
Cost of Capital	**2.27**	**1.95**	**0.68**	**0.66**	**0.49**	**6.05**
- En route	1.76	1.55	0.55	0.56	0.41	4.83
- Terminal	0.51	0.40	0.13	0.11	0.07	1.22
Total	**7.01**	**7.14**	**4.13**	**4.44**	**3.72**	**26.44**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.73)**	**(0.47)**	**(2.31)**	**(1.91)**	**(2.08)**	**(7.50)**
- En route	(0.60)	(0.34)	(1.67)	(1.33)	(1.28)	(5.21)
- Terminal	(0.13)	(0.13)	(0.64)	(0.58)	(0.80)	(2.29)
Cost of Capital	**0.33**	**0.03**	**(1.24)**	**(1.15)**	**(1.26)**	**(3.29)**
- En route	0.26	0.04	(0.95)	(0.88)	(0.99)	(2.52)
- Terminal	0.07	(0.01)	(0.29)	(0.27)	(0.27)	(0.77)
Total	**(0.40)**	**(0.43)**	**(3.55)**	**(3.06)**	**(3.34)**	**(10.79)**



Over RP2, 54% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 10.79M€$_{2009}$ (or 30%) for investments that have not been materialised in RP2.

Throughout RP2, the actual depreciation was lower than determined by 7.50M€$_{2009}$. In 2015 and 2016, lower depreciation was mainly due to delayed investments. In 2017, lower depreciation was caused by changes in the cost base (ANS assets at the airports (APP / TWR) are mainly owned by the airport operator Finavia and ANS Finland pays a so-called fixed asset fee for the use these assets). In 2018 and 2019, the main reasons for lower depreciation were project implementation delays and the allocation of investment costs to operating costs.

Throughout RP2, the cost of capital was 3.29M€$_{2009}$ lower than determined. In 2015 and 2016, cost of capital was higher than anticipated due to a different capital structure than planned, increasing the WACC. In 2017, 2018 and 2019, cost of capital was lower than determined because of a lower than determined fixed asset base (caused by structural changes) coupled with a decrease in actual WACC compared to determined.

4.7.3 Latvia - LGS

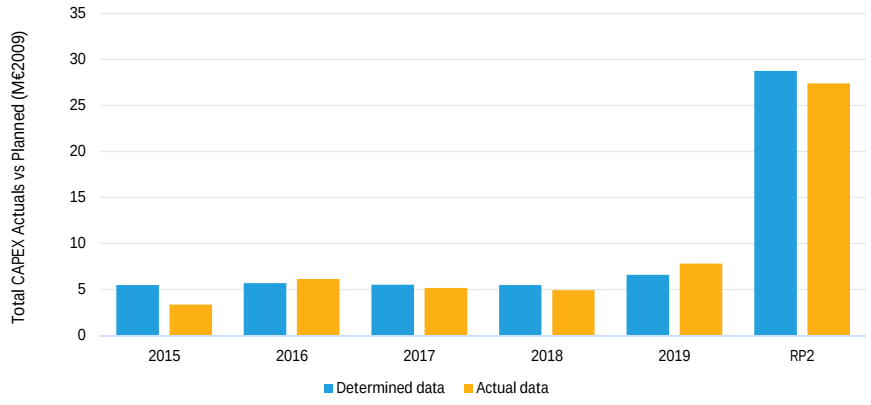
Over RP2, Latvia underspent 1M€$_{2009\ (-5\%)}$ with respect to the performance plan, despite catching up with the planned investments in 2019. As a result of the underinvestment, Latvia overcharged +8M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Latvia planned five main projects for RP2: all projects have been started and are expected to be completed through RP3.

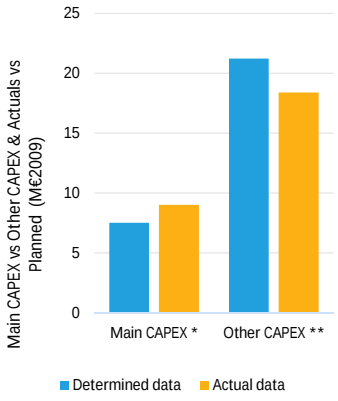
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**5.49**	**5.67**	**5.50**	**5.48**	**6.61**	**28.75**
- Main CAPEX *	1.28	2.02	1.08	1.05	2.09	7.52
- *% Main into Total CAPEX*	*23%*	*36%*	*20%*	*19%*	*32%*	*26%*
- Other CAPEX **	4.21	3.65	4.42	4.43	4.52	21.23
- *% Other into Total CAPEX*	*77%*	*64%*	*80%*	*81%*	*68%*	*74%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**3.37**	**6.13**	**5.17**	**4.91**	**7.81**	**27.40**
- Main CAPEX	0.52	1.23	2.00	1.49	3.76	9.01
- *% Main into Total CAPEX*	*15%*	*20%*	*39%*	*30%*	*48%*	*33%*
- Other CAPEX	2.85	4.90	3.17	3.42	4.05	18.40
- *% Other into Total CAPEX*	*85%*	*80%*	*61%*	*70%*	*52%*	*67%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(2.12)**	**0.46**	**(0.32)**	**(0.57)**	**1.20**	**(1.35)**
- Main CAPEX	(0.76)	(0.79)	0.93	0.44	1.67	1.49
- Other CAPEX	(1.36)	1.25	(1.25)	(1.00)	(0.47)	(2.84)
Total CAPEX (%)	***-39%***	***8%***	***-6%***	***-10%***	***18%***	***-5%***
- *Main CAPEX (%)*	*-59%*	*-39%*	*86%*	*42%*	*80%*	*20%*
- *Other CAPEX (%)*	*-32%*	*34%*	*-28%*	*-23%*	*-10%*	*-13%*





The total actual capital expenditure for RP2 is 27.40M€$_{2009}$. For RP2, Latvia spent 1.35M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 20% higher than determined, while other CAPEX is 13% lower.

In 2015, Latvia spent 2.12M€$_{2009}$ less than planned. In 2016, actual CAPEX is 0.46M€$_{2009}$ higher than determined. For 2017 and 2018, Latvia underspent 0.32M€$_{2009}$ and 0.57M€$_{2009}$, respectively. In 2019, actual CAPEX is 1.20M€$_{2009}$ higher than determined.

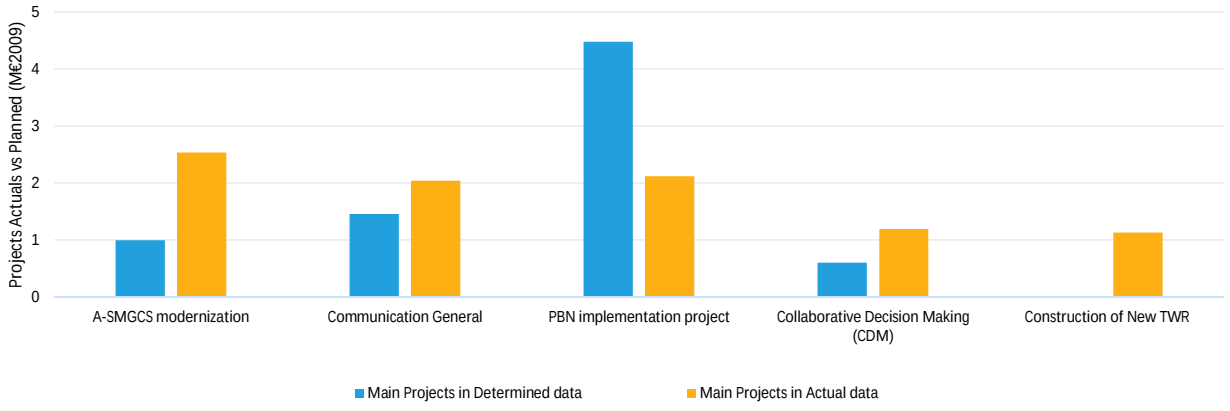
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT Latvia - LGS

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	A-SMGCS modernization	0.08	0.04	0.04	0.04	0.79	0.99
2	Communication General	0.14	0.11	0.08	0.03	1.09	1.45
3	PBN implementation project	1.06	1.78	0.87	0.77	-	4.48
4	Collaborative Decision Making (CDM)	-	0.09	0.09	0.21	0.21	0.60
5	Construction of New TWR	-	-	-	-	-	-

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	A-SMGCS modernization	0.09	0.24	0.50	0.75	0.96	2.53
2	Communication General	0.23	0.28	0.39	0.53	0.62	2.04
3	PBN implementation project	0.20	0.61	0.52	-	0.79	2.12
4	Collaborative Decision Making (CDM)	-	-	0.46	0.21	0.52	1.19
5	Construction of New TWR	-	0.11	0.15	-	0.87	1.13

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	A-SMGCS modernization	0.01	0.20	0.46	0.71	0.17	1.54
2	Communication General	0.09	0.16	0.31	0.50	(0.47)	0.59
3	PBN implementation project	(0.86)	(1.17)	(0.35)	(0.77)	0.79	(2.36)
4	Collaborative Decision Making (CDM)	-	(0.09)	0.37	0.00	0.31	0.59
5	Construction of New TWR	-	0.11	0.15	-	0.87	1.13



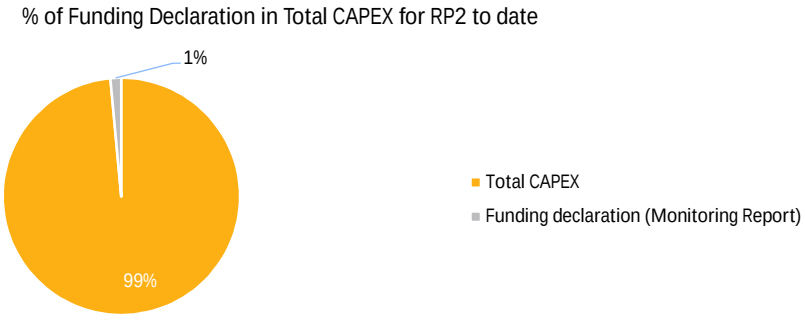
For RP2, the main project is "A-SMGCS Modernisation" which received 1.54M€$_{2009}$ more than initially planned amounting 2.53M€$_{2009}$. The second largest actual investment was made in project " PBN Implementation Project " which received a total of 2.12M€$_{2009}$ instead of 4.48M€$_{2009}$ which was initially determined.

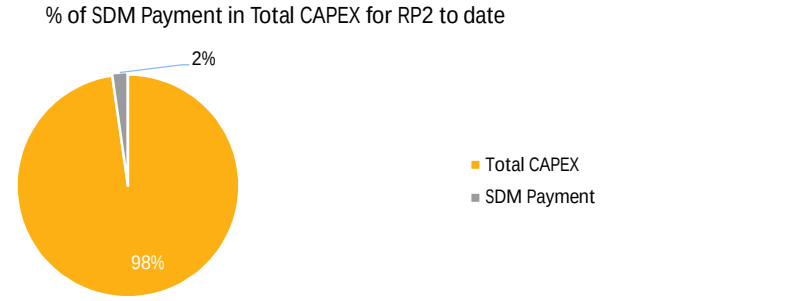
The unplanned CAPEX for Latvia amounts to 1.13M€$_{2009}$ (or 4% of total CAPEX) over RP2, in 2016, 2017 and 2019, distributed in the following project "Construction of New TWR", as the need for a new tower building became urgent due to the rapid expansion of the Riga Airport.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Latvia - LGS

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	-	-	0.30	-	0.11	0.41

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	-	0.30	-	0.11	0.41
SDM Payment	0.12	0.05	0.42	-	0.03	0.62





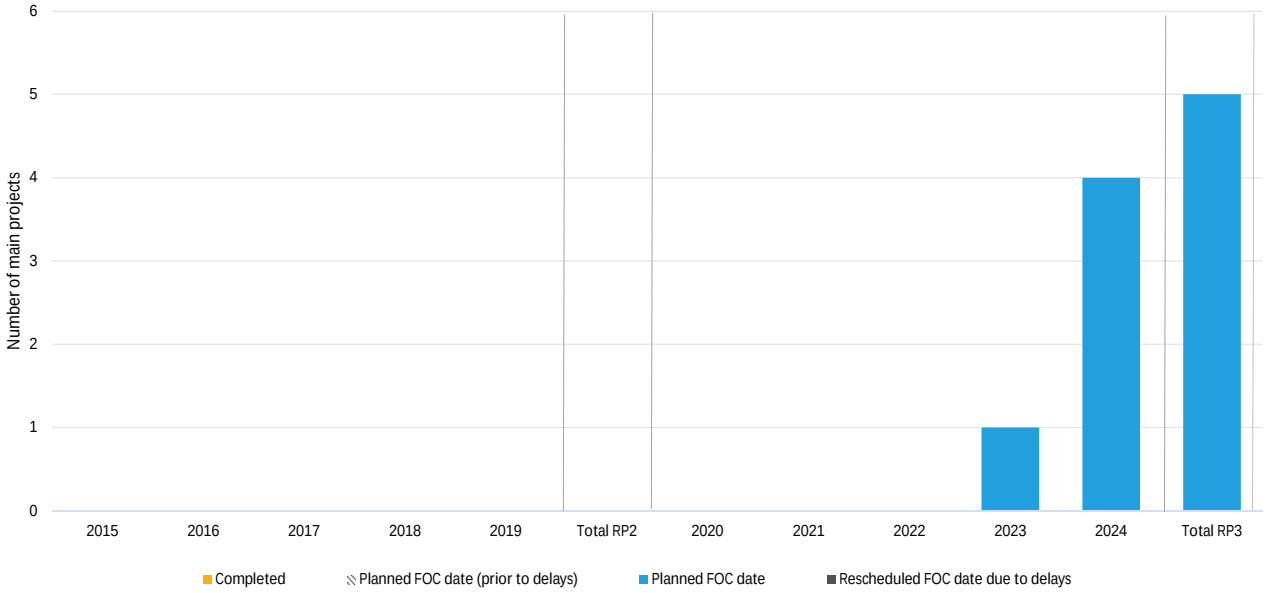
Latvia received grants amounting to 0.41M€$_{2009}$, in 2017 and 2019, representing 1% of the actual total CAPEX. However, with the information provided, the funds could be linked to a specific project.

The total amound of EU funding declared by Latvia for RP2 is 0.41M€$_{2009}$, which represents 1% of the actual total CAPEX.
However, the total SDM payments amount to 0.62M€$_{2009}$, which cover 2% of the actual total CAPEX invested during RP2.

Latvia received 1.59M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "CPDLC Implementation in the Riga FIR" (0.48M€), "2015_227_AF3_A Borealis - FRA Implementation (Part 2)" (0.37M€) and "DLS Implementation Project - Path 1 "Ground" stakeholders (GND)" (0.36M€).

EXPECTED BENEFIT PER PROJECT Latvia - LGS

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	A-SMGCS modernization	Ongoing	2024	x	x	x	x	x	
2	Communication General	Ongoing	2024			x		x	
3	PBN implementation project	Ongoing	2024		x		x		
4	Collaborative Decision Making (CDM)	Ongoing	2024						
5	Construction of New TWR	Ongoing	2023						



Latvia planned five main projects for RP2: all projects have been started and are expected to continue in RP3. The FOC date of projects #1, #2, #3 and #4 was not indicated, therefore 2024 has been used as default.

According to the information provided by Latvia through their annual Monitoring Report, two out of five projects are expected to have a positive impact on environment, capacity and cost efficiency, while only one project is expected to benefit safety. Projects "Collaborative Decision Making (CDM)" and "Construction of New TWR" are not expected to impact any of the KPAs.

The actual investment made in RP2 for the two projects that were linked to the Pilot Common Project is 4.57M€$_{2009}$. This amount represents 17% of the actual total CAPEX. No project was included in the Network Operations Plan.

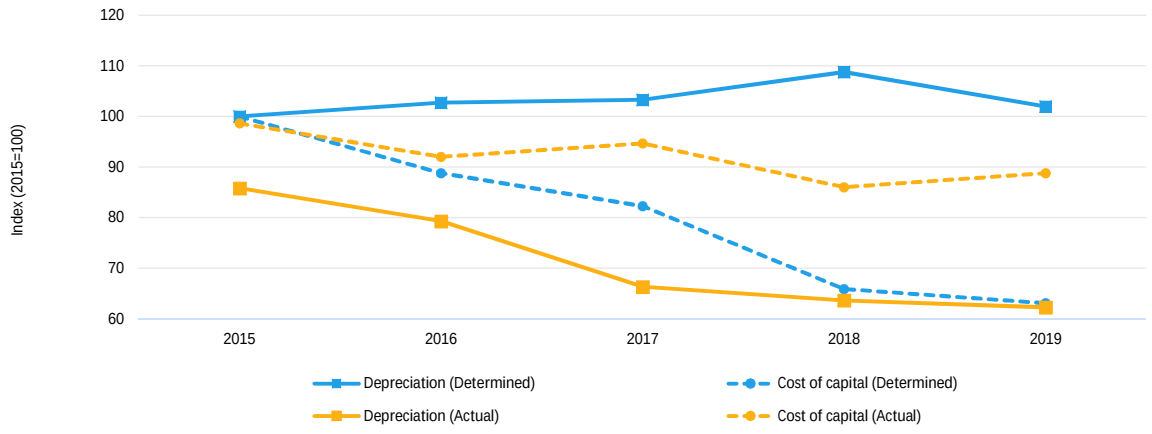
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Latvia - LGS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**5.68**	**5.83**	**5.87**	**6.18**	**5.79**	**29.34**
- En route	3.70	3.82	3.89	4.01	3.67	19.10
- Terminal	1.97	2.02	1.97	2.17	2.12	10.25
Cost of Capital	**1.22**	**1.09**	**1.01**	**0.81**	**0.77**	**4.89**
- En route	0.90	0.85	0.78	0.71	0.69	3.92
- Terminal	0.32	0.24	0.23	0.10	0.08	0.97
Total	**6.90**	**6.92**	**6.87**	**6.98**	**6.56**	**34.24**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**4.87**	**4.50**	**3.77**	**3.61**	**3.54**	**20.29**
- En route	3.36	3.03	2.53	2.49	2.22	13.64
- Terminal	1.51	1.48	1.23	1.12	1.31	6.65
Cost of Capital	**1.21**	**1.13**	**1.16**	**1.05**	**1.09**	**5.63**
- En route	0.90	0.89	0.94	0.94	0.96	4.63
- Terminal	0.31	0.24	0.22	0.11	0.12	0.99
Total	**6.08**	**5.63**	**4.92**	**4.67**	**4.62**	**25.92**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(0.80)**	**(1.33)**	**(2.10)**	**(2.56)**	**(2.25)**	**(9.05)**
- En route	(0.34)	(0.79)	(1.36)	(1.52)	(1.45)	(5.46)
- Terminal	(0.46)	(0.54)	(0.74)	(1.05)	(0.80)	(3.59)
Cost of Capital	**(0.02)**	**0.04**	**0.15**	**0.25**	**0.31**	**0.73**
- En route	(0.00)	0.04	0.16	0.24	0.28	0.71
- Terminal	(0.01)	0.00	(0.01)	0.01	0.04	0.03
Total	**(0.82)**	**(1.29)**	**(1.95)**	**(2.32)**	**(1.94)**	**(8.32)**



Over RP2, 5% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 8.32M€$_{2009}$ (or 24%) for investments that have not been materialised in RP2.

Throughout RP2, actual depreciation was lower than determined by 9.05M€$_{2009}$. This was mainly due to project delays, end of useful life of fixed assets that were not put into operation and lower than anticipated investments.

Throughout RP2, cost of capital was 0.73M€$_{2009}$ higher than determined. This was due to a shift in net value fixed assets (WACC remained the same); the actual net asset base for Latvia was higher than the determined. This increase in the net book value can be explained by a decline in the fixed asset base's depreciation as a result of several investments that are not operational yet and the end of useful life of several investments made.

4.7.4 Norway - Avinor

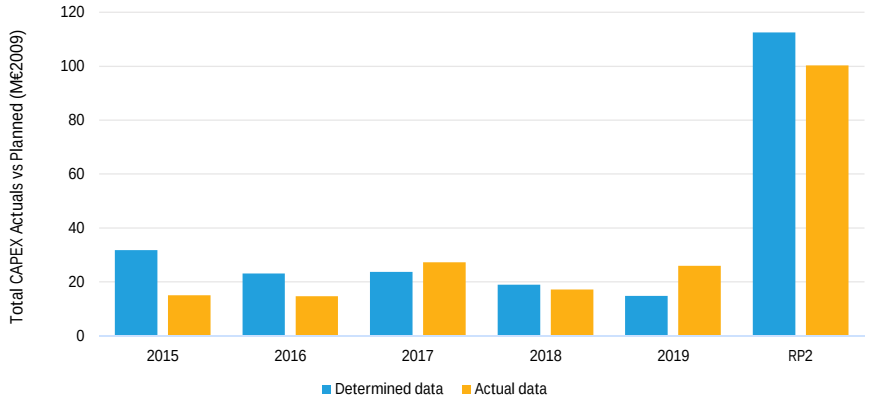
Over RP2, Norway underspent 12M€$_{2009}$ (-11%) with respect to the performance plan, despite catching up with the planned investments in 2019. As a result of the underinvestment, Norway overcharged +24M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Norway planned 14 main projects for RP2: eight projects have been completed, representing 51M€$_{2009}$, and five have been started, being expected to continue through RP3 and representing 44M€$_{2009}$. One project does not provide enough information concerning the status, representing 5M€$_{2009}$.

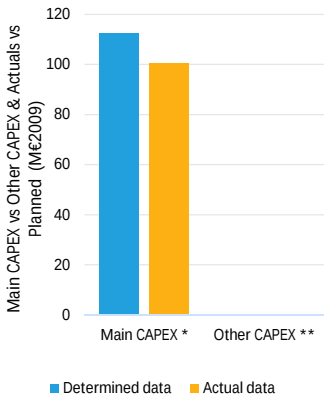
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**31.80**	**23.18**	**23.73**	**19.02**	**14.77**	**112.49**
- Main CAPEX *	31.80	23.18	23.73	19.02	14.77	112.49
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX **	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**15.08**	**14.73**	**27.33**	**17.16**	**25.95**	**100.25**
- Main CAPEX	15.08	14.73	27.33	17.16	25.95	100.25
- *% Main into Total CAPEX*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
- Other CAPEX	-	-	-	-	-	-
- *% Other into Total CAPEX*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(16.72)**	**(8.45)**	**3.61**	**(1.86)**	**11.18**	**(12.24)**
- Main CAPEX	(16.72)	(8.45)	3.61	(1.86)	11.18	(12.24)
- Other CAPEX	-	-	-	-	-	-
Total CAPEX (%)	***-53%***	***-36%***	***15%***	***-10%***	***76%***	***-11%***
- *Main CAPEX (%)*	*-53%*	*-36%*	*15%*	*-10%*	*76%*	*-11%*
- *Other CAPEX (%)*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*





The total actual capital expenditure for RP2 is 100.25M€$_{2009}$. For RP2, Norway spent 12.24M€$_{2009}$ less CAPEX than originally determined. For RP2, the main CAPEX is 11% lower than determined and there is no other CAPEX.

In 2015 and 2016, Norway underspent 16.72M€$_{2009}$ and 8.45M€$_{2009}$, respectively. In 2017, Norway spent 3.61M€$_{2009}$ more than planned. In 2018, actual CAPEX is 1.86M€$_{2009}$ lower than planned. In 2019, Norway overspend 11.18M€$_{2009}$ than planned (+76%).

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

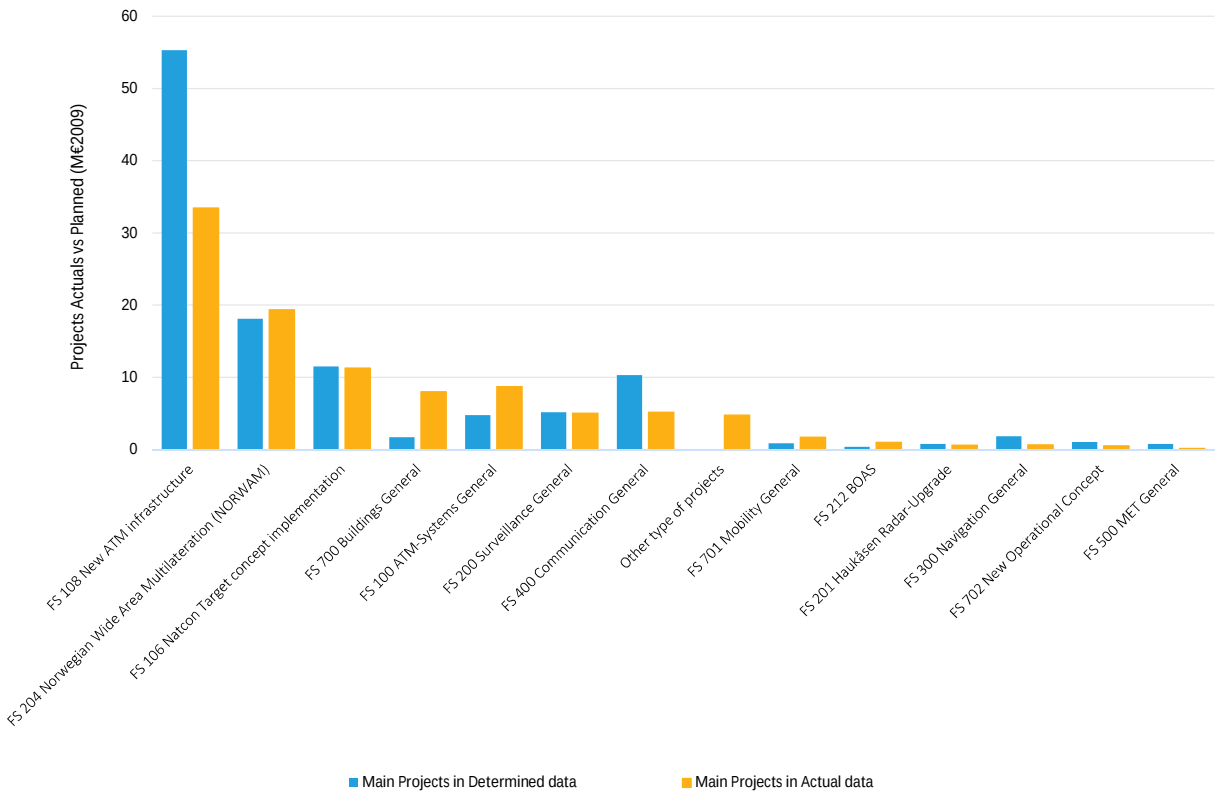
INVESTMENTS PER MAIN PROJECT Norway - Avinor

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	FS 108 New ATM infrastructure	10.46	10.28	14.50	8.84	11.22	55.31
2	FS 204 Norwegian Wide Area Multilateration (NORWAM)	6.05	4.11	4.03	3.93	-	18.12
3	FS 106 Natcon Target concept implementation	7.61	3.89	-	-	-	11.49
4	FS 700 Buildings General	0.37	0.36	0.35	0.34	0.29	1.71
5	FS 100 ATM-Systems General	2.06	1.67	(0.18)	0.81	0.40	4.75
6	FS 200 Surveillance General	0.10	0.10	1.91	2.36	0.67	5.15
7	FS 400 Communication General	2.09	1.91	2.28	2.22	1.78	10.28
8	Other type of projects	-	-	-	-	-	-
9	FS 701 Mobility General	0.18	0.18	0.18	0.17	0.17	0.88
10	FS 212 BOAS	0.39	-	-	-	-	0.39
11	FS 201 Haukåsen Radar-Upgrade	0.77	-	-	-	-	0.77
12	FS 300 Navigation General	0.52	0.51	0.50	0.20	0.10	1.83
13	FS 702 New Operational Concept	1.05	-	-	-	-	1.05
14	FS 500 MET General	0.16	0.15	0.15	0.15	0.14	0.75

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	FS 108 New ATM infrastructure	1.35	2.68	12.12	5.01	12.29	33.45
2	FS 204 Norwegian Wide Area Multilateration (NORWAM)	2.13	3.09	6.36	3.36	4.43	19.36
3	FS 106 Natcon Target concept implementation	6.26	4.79	0.23	0.00	0.00	11.27
4	FS 700 Buildings General	0.92	1.52	2.43	1.45	1.69	8.01
5	FS 100 ATM-Systems General	0.62	0.25	2.03	2.96	2.83	8.70
6	FS 200 Surveillance General	1.18	0.47	1.17	1.73	0.47	5.01
7	FS 400 Communication General	0.50	1.12	1.41	0.96	1.15	5.14
8	Other type of projects	-	-	1.12	1.01	2.62	4.76
9	FS 701 Mobility General	0.12	0.32	0.39	0.44	0.43	1.69
10	FS 212 BOAS	0.83	0.15	-	-	-	0.98
11	FS 201 Haukåsen Radar-Upgrade	0.49	0.12	-	-	-	0.60
12	FS 300 Navigation General	0.17	0.13	0.05	0.24	0.02	0.62
13	FS 702 New Operational Concept	0.51	-	-	-	-	0.51
14	FS 500 MET General	0.02	0.11	-	-	0.02	0.14

#	Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
1	FS 108 New ATM infrastructure	(9.11)	(7.61)	(2.38)	(3.83)	1.07	(21.86)
2	FS 204 Norwegian Wide Area Multilateration (NORWAM)	(3.92)	(1.03)	2.33	(0.58)	4.43	1.25
3	FS 106 Natcon Target concept implementation	(1.35)	0.90	0.23	0.00	0.00	(0.22)
4	FS 700 Buildings General	0.56	1.16	2.08	1.10	1.40	6.30
5	FS 100 ATM-Systems General	(1.44)	(1.42)	2.21	2.16	2.43	3.95
6	FS 200 Surveillance General	1.07	0.37	(0.74)	(0.63)	(0.21)	(0.14)
7	FS 400 Communication General	(1.60)	(0.80)	(0.86)	(1.26)	(0.63)	(5.15)
8	Other type of projects	-	-	1.12	1.01	2.62	4.76
9	FS 701 Mobility General	(0.07)	0.14	0.21	0.27	0.26	0.81
10	FS 212 BOAS	0.44	0.15	-	-	-	0.60
11	FS 201 Haukåsen Radar-Upgrade	(0.29)	0.12	-	-	-	(0.17)
12	FS 300 Navigation General	(0.35)	(0.38)	(0.45)	0.05	(0.07)	(1.21)
13	FS 702 New Operational Concept	(0.54)	-	-	-	-	(0.54)
14	FS 500 MET General	(0.14)	(0.05)	(0.15)	(0.15)	(0.13)	(0.61)

INVESTMENTS PER MAIN PROJECT Norway - Avinor



For RP2, the main project is the "FS 108 New ATM infrastructure". In the performance plan, this project was foreseen to receive 55.31M€$_{2009,}$ however, it received 33.45M€$_{2009}$. This is due to a change of project scope and a slower start than expected, resulting in a lower actual investment. One other main project: the "FS 106 Natcon Target concept implementation" is also falling short of 0.22M€$_{2009}$.

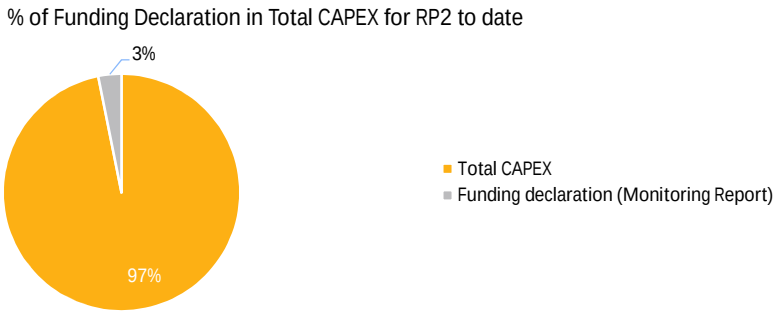
All projects have received investments over RP2, however, the project "FS 700 Buildings General" received a higher investment than originally determined, resulting in an overspending of 6.30M€$_{2009}$ of almost five times more than determined.

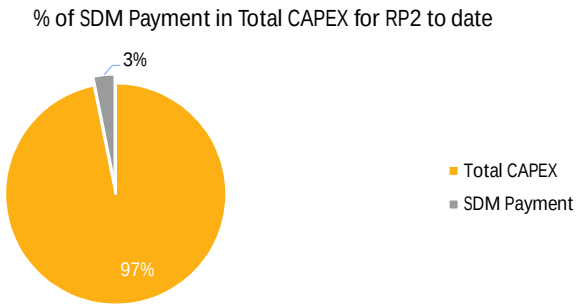
The unplanned CAPEX for Norway amounts to 4.76M€$_{2009}$ (or 5% of total CAPEX) over RP2, from 2017 to 2019, distributed in the following project "Other type of projects".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Norway - Avinor

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
3 FS 106 Natcon Target concept implementation	1.24	0.46	1.46	-	-	3.15
						-

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	1.24	0.46	1.46	-	-	3.15
SDM Payment	1.24	0.46	1.46	-	-	3.15





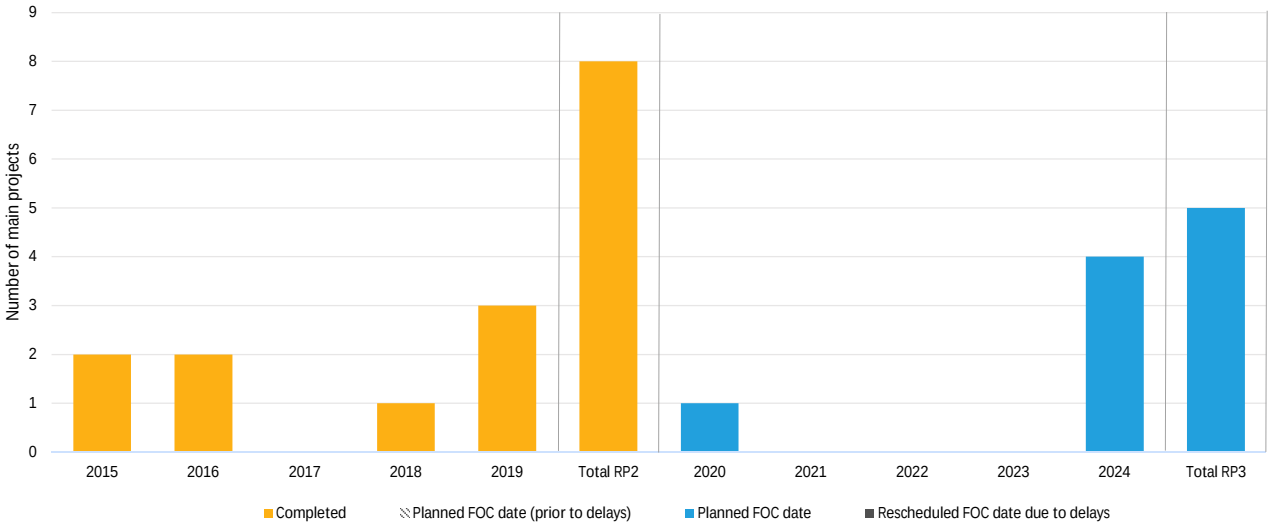
Although Norway is not a part of the European Union it obtained one funding via INEA/CEF/M2014/1037259 for the project “FS 106 Natcon Target concept implementation”.

The total amount of EU funding declared by Norway for RP2 is 3.15M$€_{2009}$, which represents 3% of the actual total CAPEX. This amount corresponds to the SDM payments received.

Norway received 4.51M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The project which was awarded the funds is "Implementation Project 2.6 - Borealis Free Route Airspace (Part 1)". This project does not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Norway - Avinor

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	FS 108 New ATM infrastructure	Ongoing	2020	x	x	x	x	x	x
2	FS 204 Norwegian Wide Area Multilateration (NORWAM)	Completed	2018	x	x	x	x		
3	FS 106 Natcon Target concept implementation	Completed	2016	x	x	x	x		
4	FS 700 Buildings General	Completed	2019						
5	FS 100 ATM-Systems General	Completed	2019	x	x	x	x		x
6	FS 200 Surveillance General	Ongoing	2024	x	x	x	x		
7	FS 400 Communication General	Ongoing	2024	x		x			
8	Other type of projects	Unknown	Unknown	x					
9	FS 701 Mobility General	Completed	2019	x	x	x	x		
10	FS 212 BOAS	Completed	2016	x					
11	FS 201 Haukåsen Radar-Upgrade	Completed	2015	x	x	x	x		
12	FS 300 Navigation General	Ongoing	2024	x	x	x	x		
13	FS 702 New Operational Concept	Completed	2015	x			x		
14	FS 500 MET General	Ongoing	2024	x			x		



Norway planned 14 main projects for RP2: eight projects have been completed, representing 51.14M€$_{2009}$, and five have been started, being expected to continue through RP3 and representing 44.36M€$_{2009}$. The FOC date of projects #6, #7, #12 and #14 was not indicated, therefore 2024 was used as default. One project does not provide enough information concerning the status, representing 4.76M€$_{2009}$.

All but one project will have a positive impact on safety; ten out of 14 projects are expected to benefit cost-efficiency; nine are expected to benefit capacity and eight are expected to benefit environment. One project, "Buildings General" is expected not to benefit any KPA.

The actual investment in RP2 for the one project that was linked to the Pilot Common Project is 33.45M€$_{2009}$. This amount represents 33% of the actual total CAPEX. Two projects were included in the Network Operations Plan.

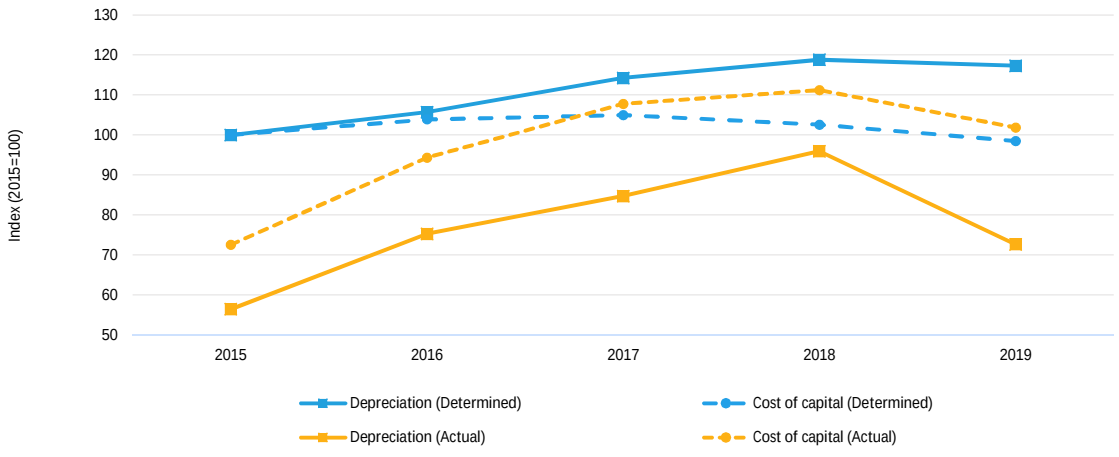
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Norway - Avinor

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**13.10**	**13.86**	**14.98**	**15.57**	**15.37**	**72.88**
- En route	7.65	8.81	9.58	10.13	9.80	45.97
- Terminal	5.45	5.05	5.39	5.44	5.57	26.91
Cost of Capital	**8.64**	**8.97**	**9.07**	**8.86**	**8.51**	**44.04**
- En route	5.95	6.37	6.50	6.43	6.19	31.44
- Terminal	2.68	2.60	2.57	2.43	2.31	12.60
Total	**21.74**	**22.83**	**24.04**	**24.43**	**23.88**	**116.92**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**7.40**	**9.87**	**11.10**	**12.57**	**9.52**	**50.47**
- En route	5.28	5.78	6.12	7.86	6.59	31.64
- Terminal	2.12	4.09	4.98	4.71	2.93	18.83
Cost of Capital	**6.27**	**8.14**	**9.31**	**9.61**	**8.80**	**42.12**
- En route	4.72	4.81	5.66	6.08	6.27	27.54
- Terminal	1.55	3.33	3.64	3.52	2.53	14.58
Total	**13.67**	**18.02**	**20.41**	**22.18**	**18.32**	**92.59**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(5.71)**	**(3.99)**	**(3.87)**	**(3.00)**	**(5.85)**	**(22.41)**
- En route	(2.37)	(3.03)	(3.46)	(2.27)	(3.21)	(14.33)
- Terminal	(3.34)	(0.96)	(0.42)	(0.73)	(2.64)	(8.08)
Cost of Capital	**(2.37)**	**(0.83)**	**0.24**	**0.74**	**0.29**	**(1.92)**
- En route	(1.23)	(1.56)	(0.83)	(0.35)	0.07	(3.90)
- Terminal	(1.13)	0.73	1.07	1.09	0.22	1.98
Total	**(8.07)**	**(4.81)**	**(3.63)**	**(2.25)**	**(5.56)**	**(24.33)**



Over RP2, 11% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 24.33M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, actual depreciation was lower than determined by 22.41M€$_{2009}$. This was due to a lower than planned level of investments during RP2.

Throughout RP2, cost of capital was 1.92M€$_{2009}$ lower than determined. This was mainly due to a lower than determined net value of the fixed assets as a result of delays in the investments.

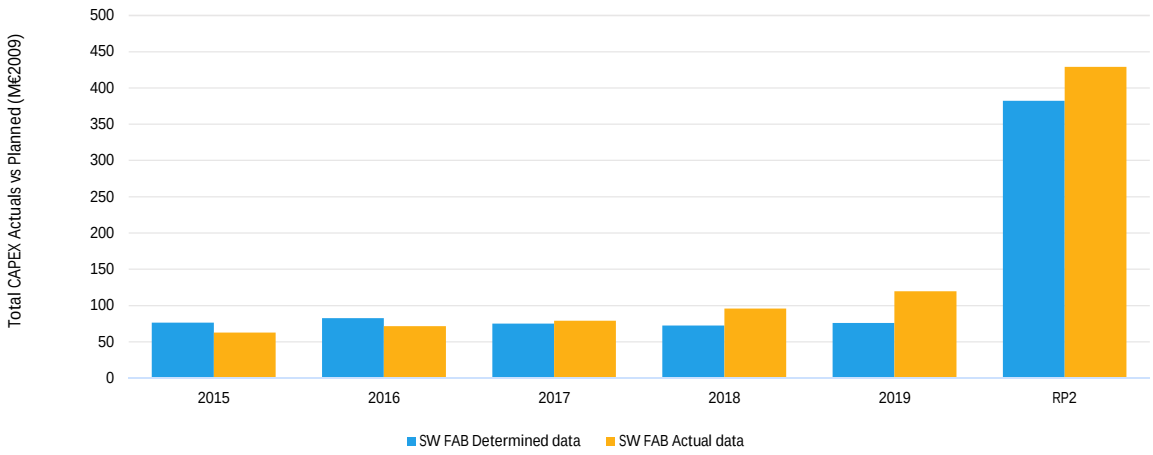
4.8 SW FAB

OVERALL INVESTMENTS

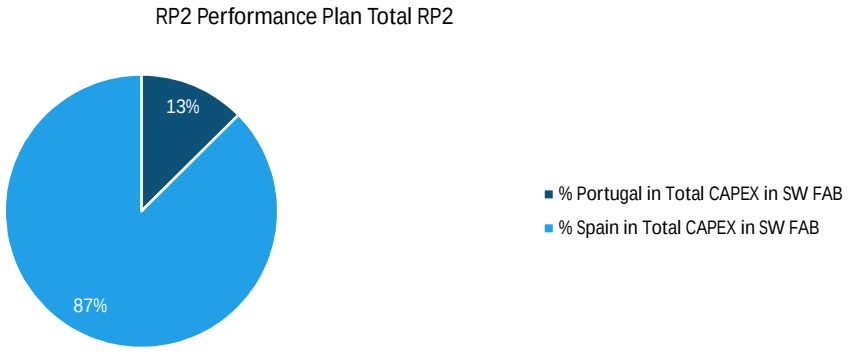
Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**76.28**	**82.47**	**75.30**	**72.34**	**75.76**	**382.15**
- *Main CAPEX*	52.88	59.16	52.70	50.08	53.78	268.60
- *% Main into Total CAPEX*	*69%*	*72%*	*70%*	*69%*	*71%*	*70%*
- Other CAPEX	23.40	23.30	22.60	22.26	21.98	113.55
- *% Other into Total CAPEX*	*31%*	*28%*	*30%*	*31%*	*29%*	*30%*
- Protugal in Total CAPEX in SW FAB	7.96	14.80	8.70	6.20	10.37	48.03
- *% Portugal in Total CAPEX in SW FAB*	*10%*	*18%*	*12%*	*9%*	*14%*	*13%*
- Spain in Total CAPEX in SW FAB	68.31	67.67	66.60	66.14	65.39	334.11
- *% Spain in Total CAPEX in SW FAB*	*90%*	*82%*	*88%*	*91%*	*86%*	*87%*

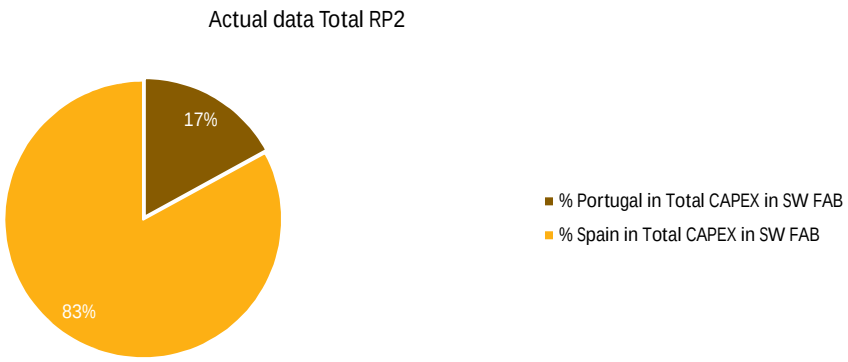
Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**62.87**	**71.57**	**79.02**	**96.00**	**119.66**	**429.12**
- Main CAPEX	41.56	46.87	53.59	67.66	87.84	297.53
- *% Main into Total CAPEX*	*66%*	*65%*	*68%*	*70%*	*73%*	*69%*
- Other CAPEX	21.31	24.70	25.43	28.33	31.82	131.59
- *% Other into Total CAPEX*	*34%*	*35%*	*32%*	*30%*	*27%*	*31%*
- Portugal in Total CAPEX in SW FAB	9.54	6.90	8.83	18.06	29.76	73.08
- *% Portugal in Total CAPEX in SW FAB*	*15%*	*10%*	*11%*	*19%*	*25%*	*17%*
- Spain in Total CAPEX in SW FAB	53.33	64.67	70.19	77.93	89.90	356.03
- *% Spain in Total CAPEX in SW FAB*	*85%*	*90%*	*89%*	*81%*	*75%*	*83%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(13.40)**	**(10.90)**	**3.72**	**23.65**	**43.90**	**46.97**
- Main CAPEX	(11.32)	(12.29)	0.89	17.58	34.06	28.92
- Other CAPEX	(2.09)	1.39	2.83	6.07	9.84	18.05
Total CAPEX (%)	***-18%***	***-13%***	***5%***	***33%***	***58%***	***12%***
- *Main CAPEX (%)*	*-21%*	*-21%*	*2%*	*35%*	*63%*	*11%*
- *Other CAPEX (%)*	*-9%*	*6%*	*13%*	*27%*	*45%*	*16%*



OVERALL INVESTMENTS SW FAB





The total actual CAPEX over RP2 in the SW FAB is 429.12M€$_{2009}$, 46.97M€$_{2009}$ (or 12%) higher than planned due to both member states overspending with respect to the initial planned amounts. In 2015, the actual CAPEX was 13.4M€$_{2009}$ (-18%) lower than planned. For 2016, the actual CAPEX was 10.9M€$_{2009}$ (-13%) less than planned. 2017 saw an actual CAPEX of 3.72M€$_{2009}$ (+5%) more than planned. In 2018, a large increase in total actual CAPEX occured, this being 23.65M€$_{2009}$ (+33%) more than planned. In the last year of the period, the actual CAPEX was 43.90M€$_{2009}$ (or 58%) higher than planned.

In terms of planned expenses, Portugal represented 13%, with the share of Spain amounting for 87% of the planned expenses. The percentage in actual expenses became Portugal 17% and Spain 83%.

4.8.1 Portugal - NAV Portugal

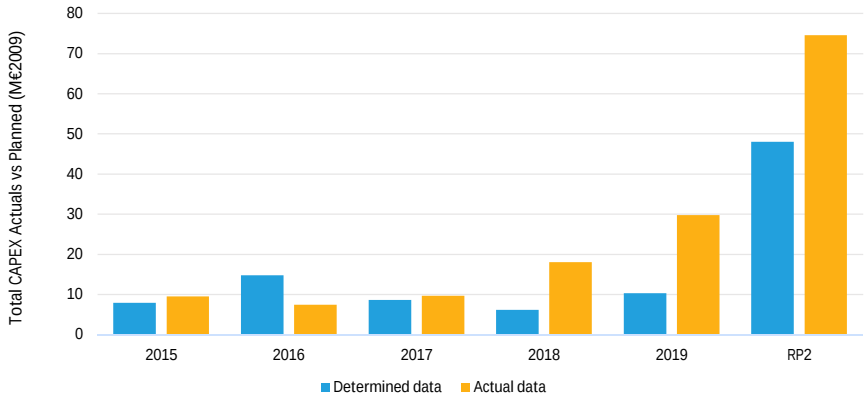
Over RP2, Portugal overspent 26M€$_{2009}$ (+55%) with respect to the performance plan, partly due to the new system in Lisbon ACC. However, the other source of the overspending is "other CAPEX" (+13M€$_{2009}$), without specifying the destinations of the amounts. Portugal planned nine main projects for RP2: five project has been completed, representing 23M€$_{2009}$, one has been delayed from 2017 to RP3, without CAPEX associated, and three have been started, being expected to continue through RP3 and representing 37M€$_{2009}$.

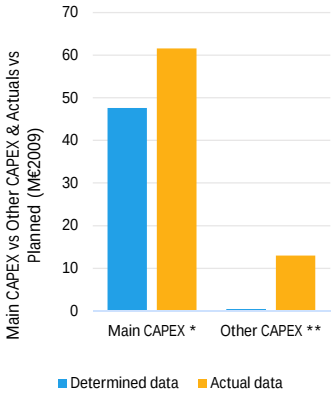
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**7.96**	**14.80**	**8.70**	**6.20**	**10.37**	**48.03**
- Main CAPEX *	7.87	14.53	8.70	6.20	10.28	47.59
- *% Main into Total CAPEX*	*99%*	*98%*	*100%*	*100%*	*99%*	*99%*
- Other CAPEX **	0.09	0.27	-	-	0.09	0.45
- *% Other into Total CAPEX*	*1%*	*2%*	*0%*	*0%*	*1%*	*1%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**9.54**	**7.46**	**9.73**	**18.06**	**29.76**	**74.55**
- Main CAPEX	7.27	5.49	6.91	15.83	26.02	61.53
- *% Main into Total CAPEX*	*76%*	*74%*	*71%*	*88%*	*87%*	*83%*
- Other CAPEX	2.27	1.97	2.81	2.23	3.74	13.02
- *% Other into Total CAPEX*	*24%*	*26%*	*29%*	*12%*	*13%*	*17%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**1.58**	**(7.34)**	**1.03**	**11.86**	**19.39**	**26.51**
- Main CAPEX	(0.60)	(9.04)	(1.78)	9.63	15.73	13.94
- Other CAPEX	2.176	1.699	2.81	2.23	3.66	12.57
Total CAPEX (%)	***20%***	***-50%***	***12%***	***191%***	***187%***	***55%***
- *Main CAPEX (%)*	*-8%*	*-62%*	*-21%*	*155%*	*153%*	*29%*
- *Other CAPEX (%)*	*2404%*	*635%*	-	-	-	*2824%*





The total actual capital expenditure for RP2 is 73.08M€$_{2009}$. For RP2, Portugal spent 25.05M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 26% higher than determined, while other CAPEX is 2824% higher.

In 2015, Portugal spent 1.58M€2009 more than planned. In 2016, actual CAPEX is 7.90M€$_{2009}$ lower than planned. For 2017, 2018 and 2019, Portugal overspent 0.13M€$_{2009}$, 11.86M€$_{2009}$ (+191%) and 19.39M€$_{2009}$ (+187%), respectively.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

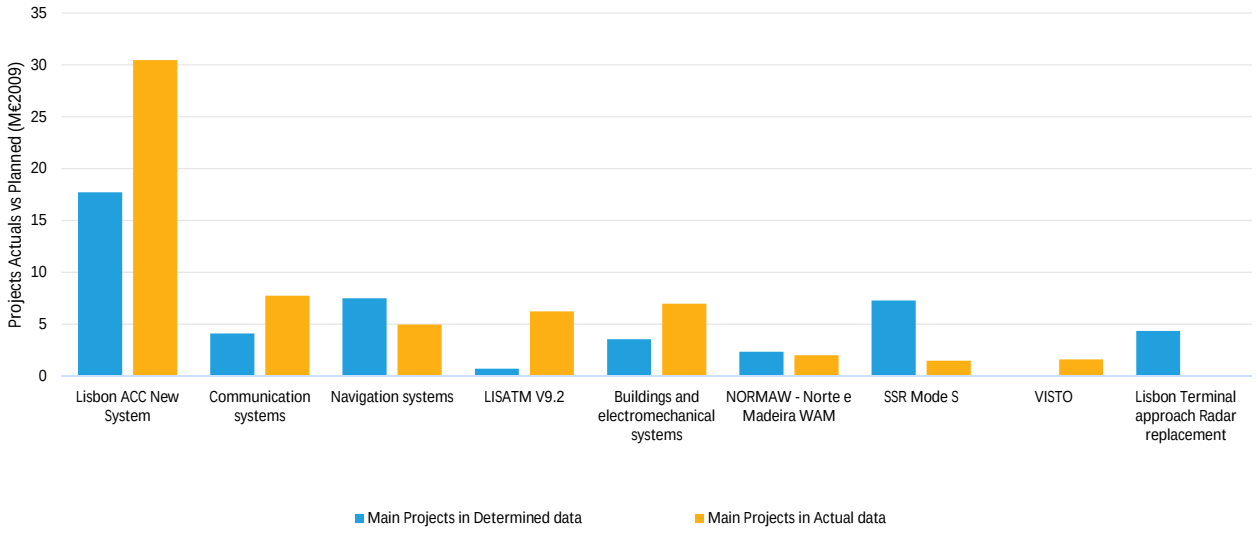
INVESTMENTS PER MAIN PROJECT Portugal - NAV Portugal

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	Lisbon ACC New System	-	6.60	3.95	1.51	5.67	17.72
2	Communication systems	1.90	1.25	0.44	0.27	0.26	4.12
3	Navigation systems	1.45	-	1.23	1.68	3.14	7.50
4	LISATM V9.2	0.54	-	0.18	-	-	0.72
5	Buildings and electromechanical systems	0.81	1.52	0.53	0.35	0.35	3.56
6	NORMAW - Norte e Madeira WAM	2.35	-	-	-	-	2.35
7	SSR Mode S	0.36	3.39	0.26	2.39	0.87	7.28
8	VISTO	-	-	-	-	-	-
9	Lisbon Terminal approach Radar replacement	0.45	1.78	2.11	-	-	4.34

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	Lisbon ACC New System	0.01	0.00	0.60	11.37	18.48	30.45
2	Communication systems	1.55	1.84	1.54	0.79	2.04	7.75
3	Navigation systems	1.47	0.70	1.25	1.40	0.15	4.97
4	LISATM V9.2	0.92	1.21	1.29	1.37	1.45	6.24
5	Buildings and electromechanical systems	1.26	0.95	0.94	0.57	3.26	6.98
6	NORMAW - Norte e Madeira WAM	1.64	0.19	0.10	0.09	0.00	2.02
7	SSR Mode S	0.43	0.03	0.29	0.18	0.56	1.49
8	VISTO	-	0.56	0.90	0.08	0.08	1.62
9	Lisbon Terminal approach Radar replacement	-	-	-	-	-	-

#	Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
1	Lisbon ACC New System	0.01	(6.60)	(3.35)	9.86	12.81	12.73
2	Communication systems	(0.35)	0.59	1.10	0.52	1.78	3.64
3	Navigation systems	0.02	0.70	0.02	(0.28)	(2.99)	(2.53)
4	LISATM V9.2	0.38	1.21	1.11	1.37	1.45	5.52
5	Buildings and electromechanical systems	0.44	(0.56)	0.42	0.21	2.91	3.42
6	NORMAW - Norte e Madeira WAM	(0.71)	0.19	0.10	0.09	0.00	(0.33)
7	SSR Mode S	0.07	(3.36)	0.03	(2.21)	(0.31)	(5.78)
8	VISTO	-	0.56	0.90	0.08	0.08	1.62
9	Lisbon Terminal approach Radar replacement	(0.45)	(1.78)	(2.11)	-	-	(4.34)

INVESTMENTS PER MAIN PROJECT Portugal - NAV Portugal



For RP2, the main project is "Lisbon ACC New System" which received investments throughout the period amounting to 30.45M€$_{2009}$ (12.73M€$_{2009}$ more than determined). The second major project is "Communication systems" which received also more investment than initially determined (+3.64M €$_{2009}$). "LISATM V9.2" received almost nine times more the initial investment.

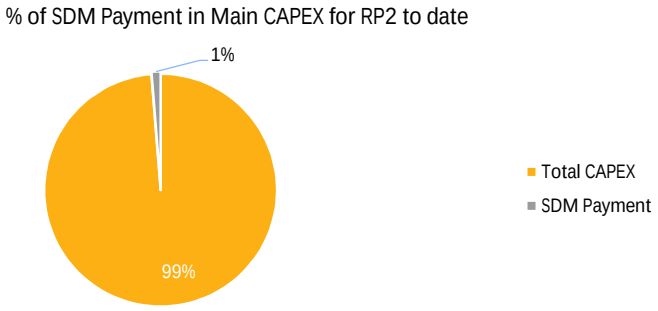
Project "SSR Mode S" received only 1.49M€$_{2009}$, compared to the 7.28M€$_{2009}$ initially planned. Portugal also planned 4.34M€$_{2009}$ for the project "Lisbon Terminal Approach Radar Replacement", but no investment was actually made. Project “Visto” received 0.16M€$_{2009}$, however no investments were planned for it during RP2.

The unplanned CAPEX for Portugal amounts to 1.62M€$_{2009}$ (or 2% of total CAPEX) over RP2, in 2015, 2017, 2018 and 2019, distributed in "Several projects".

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Portugal - NAV Portugal

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
3 Navigation Systems	-		-	-	-	-

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	-	-	-	-	-	-
SDM Payment	0.03	0.04	0.71	-	0.16	0.94



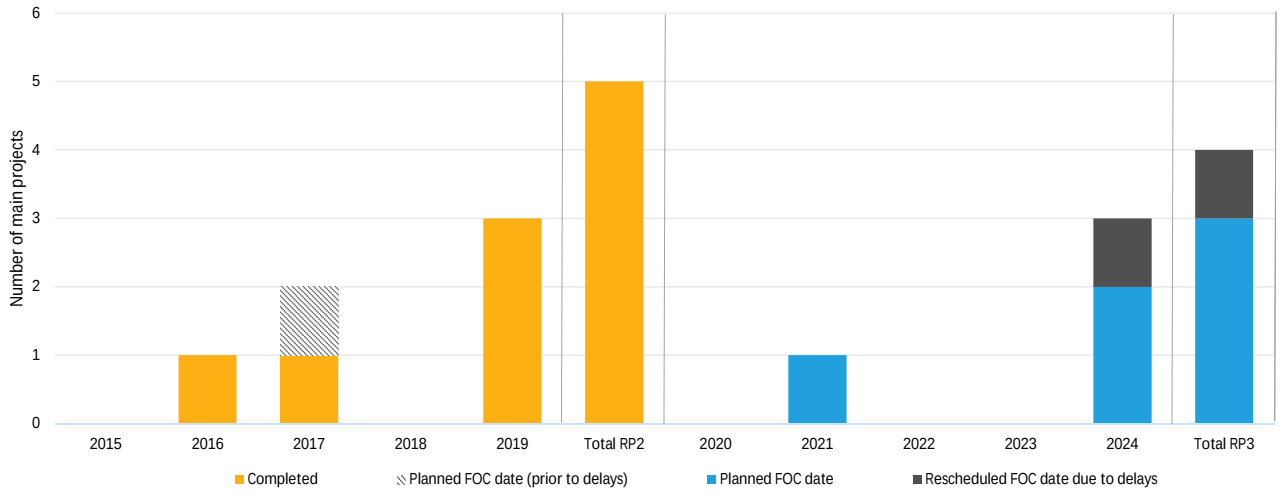
"Navigation Systems" was funded through INEA/CEF/TRAN/M2015/1125723. However, there was no information regarding the year(s) in which this project received funds or the amount granted.

The funding declaration shows no grants received; however, data reveals there is an SDM Payment of 0.94M$€_{2009}$, representing 1% of the actual total CAPEX.

Portugal received 3.37M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "5.3.1 NAV Portugal - Implementation of a solution for eletronic Terrain and Obstacle Data management" (1.53M€), "DLS Implementation Project - Path 1 "Ground" stakeholders (GND)" (0.87M€) and "IP1 - DLS European Target Solution assessment" (0.36M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Portugal - NAV Portugal

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	Lisbon ACC New System	Ongoing	2021	x	x	x	x	x	x
2	Communication systems	Completed	2019	x	x	x	x	x	
3	Navigation systems	Ongoing	2024	x	x	x	x	x	
4	LISATM V9.2	Completed	2017	x	x	x	x	x	
5	Buildings and electromechanical systems	Completed	2019						
6	NORMAW - Norte e Madeira WAM	Completed	2016						
7	SSR Mode S	Ongoing	2024				x		
8	VISTO	Completed	2019	x		x	x		
9	Lisbon Terminal approach Radar replacement	Delayed	2024						



Portugal planned nine main projects for RP2: five project have been completed, representing 23.16M€$_{2009}$, one has been delayed from 2017 to RP3, without CAPEX associated, and three have been started, being expected to continue through RP3 and representing 36.91M€$_{2009}$. The FOC date of projects #3, #7 and #9 was not indicated, therefore 2024 was used as default.

The main priority was cost-efficiency with six projects expected to benefit this KPA. For safety and capacity, five projects are expected to bring benefits, while for environment, only four projects are expected to bring benefits.

The actual investment made in RP2 for the four projects that were linked to the Pilot Common Project is 49.41M€$_{2009}$. This amount represents 66% of the actual total CAPEX. One project was included in the Network Operations Plan.

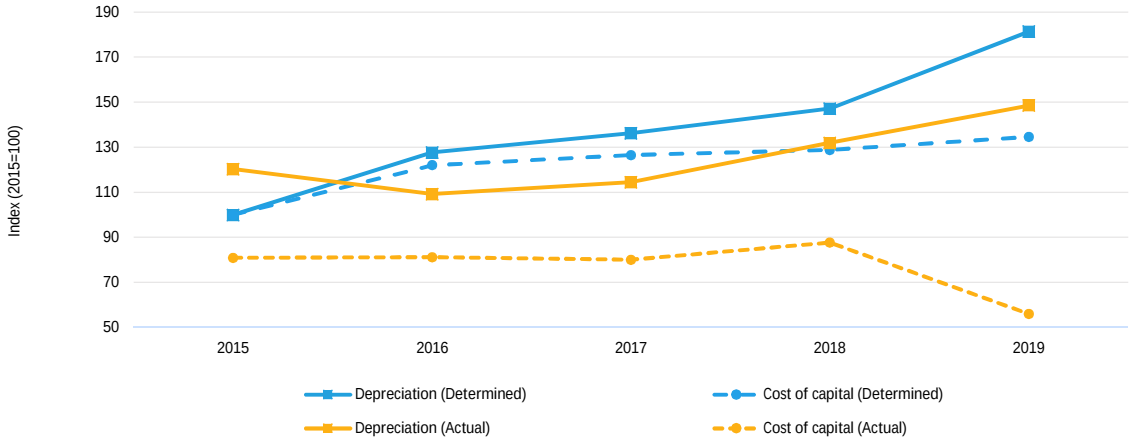
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Portugal - NAV Portugal

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**5.98**	**7.63**	**8.14**	**8.80**	**10.84**	**41.39**
- En route	4.00	5.60	6.02	6.54	7.65	29.82
- Terminal	1.97	2.03	2.13	2.26	3.18	11.57
Cost of Capital	**3.46**	**4.22**	**4.38**	**4.45**	**4.65**	**21.16**
- En route	2.57	3.20	3.22	3.24	3.49	15.73
- Terminal	0.88	1.02	1.16	1.21	1.16	5.43
Total	**9.43**	**11.85**	**12.52**	**13.25**	**15.49**	**62.55**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**7.19**	**6.53**	**6.84**	**7.89**	**8.88**	**37.33**
- En route	4.48	4.45	4.65	5.45	6.15	25.17
- Terminal	2.71	2.08	2.20	2.44	2.73	12.16
Cost of Capital	**2.80**	**2.81**	**2.77**	**3.03**	**1.94**	**13.34**
- En route	2.26	2.14	1.97	2.14	1.14	9.65
- Terminal	0.54	0.67	0.79	0.89	0.80	3.69
Total	**9.99**	**9.33**	**9.61**	**10.92**	**10.81**	**50.67**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**1.21**	**(1.10)**	**(1.30)**	**(0.91)**	**(1.96)**	**(4.06)**
- En route	0.47	(1.15)	(1.37)	(1.09)	(1.50)	(4.65)
- Terminal	0.74	0.05	0.07	0.18	(0.46)	0.58
Cost of Capital	**(0.66)**	**(1.41)**	**(1.61)**	**(1.42)**	**(2.72)**	**(7.82)**
- En route	(0.31)	(1.06)	(1.25)	(1.10)	(2.35)	(6.08)
- Terminal	(0.35)	(0.35)	(0.36)	(0.32)	(0.36)	(1.74)
Total	**0.56**	**(2.52)**	**(2.91)**	**(2.33)**	**(4.68)**	**(11.88)**



Over RP2, the actual CAPEX is 55% higher than determined (overspent). Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and charged to airspace users. This implies that users have financed 11.88M€$_{2009}$ for investments that have been materialised in RP2.

Throughout RP2, actual depreciation was lower than determined by 4.06M€$_{2009}$. This was mainly due to implementation date deferrals coming from previous years.

Throughout RP2, cost of capital was 7.82M€$_{2009}$ lower than determined. This was due to a lower than determined net value of the fixed assets as a result of implementation date deferrals coming from previous years.

4.8.2 Spain - ENAIRE

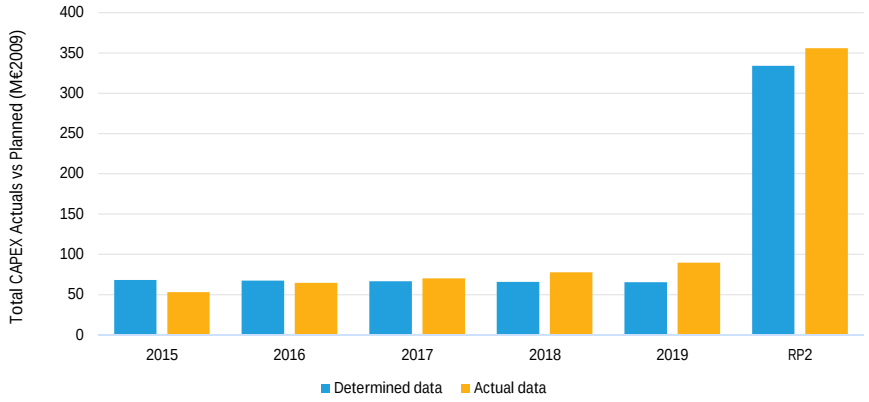
Over RP2, Spain overspent 22M€$_{2009}$ (+7%) with respect to the performance plan. Despite the overinvestment, Spain overcharged +37M€$_{2009}$ over RP2 in cost of capital more than planned (due to a lower than expected asset base). Spain planned 11 main projects for RP2: five projects have been completed, representing 181M€$_{2009,}$ while six have been started and are expected to continue through RP3, representing 56M€$_{2009}$.

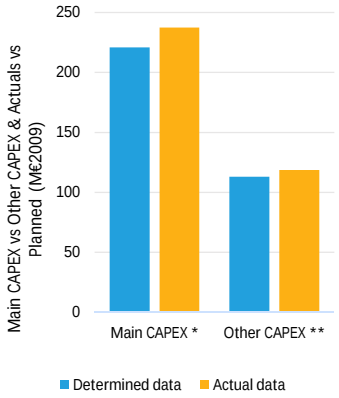
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**68.31**	**67.67**	**66.60**	**66.14**	**65.39**	**334.11**
- Main CAPEX *	45.00	44.63	44.01	43.88	43.49	221.01
- *% Main into Total CAPEX*	*66%*	*66%*	*66%*	*66%*	*67%*	*66%*
- Other CAPEX **	23.31	23.04	22.60	22.26	21.90	113.10
- *% Other into Total CAPEX*	*34%*	*34%*	*34%*	*34%*	*33%*	*34%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**53.33**	**64.67**	**70.19**	**77.93**	**89.90**	**356.03**
- Main CAPEX	34.29	41.94	47.58	51.83	61.82	237.46
- *% Main into Total CAPEX*	*64%*	*65%*	*68%*	*67%*	*69%*	*67%*
- Other CAPEX	19.05	22.73	22.62	26.10	28.08	118.58
- *% Other into Total CAPEX*	*36%*	*35%*	*32%*	*33%*	*31%*	*33%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(14.98)**	**(2.99)**	**3.59**	**11.79**	**24.51**	**21.92**
- Main CAPEX	(10.72)	(2.69)	3.57	7.95	18.33	16.44
- Other CAPEX	(4.26)	(0.31)	0.02	3.84	6.18	5.48
Total CAPEX (%)	***-22%***	***-4%***	***5%***	***18%***	***37%***	***7%***
- *Main CAPEX (%)*	*-24%*	*-6%*	*8%*	*18%*	*42%*	*7%*
- *Other CAPEX (%)*	*-18%*	*-1%*	*0%*	*17%*	*28%*	*5%*





The total actual capital expenditure for RP2 is 356.03M€$_{2009}$. For RP2, Spain spent 21.92M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 7% higher than determined, while other CAPEX is 5% higher.

In 2015 and 2016, Spain underspent 14.98M€$_{2009}$ and 2.99M€$_{2009}$, respectively. For 2017, 2018 and 2019, actual CAPEX is overspent by 3.59M€$_{2009}$, 11.79M€$_{2009}$ and 24.51M€$_{2009}$, respectively.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

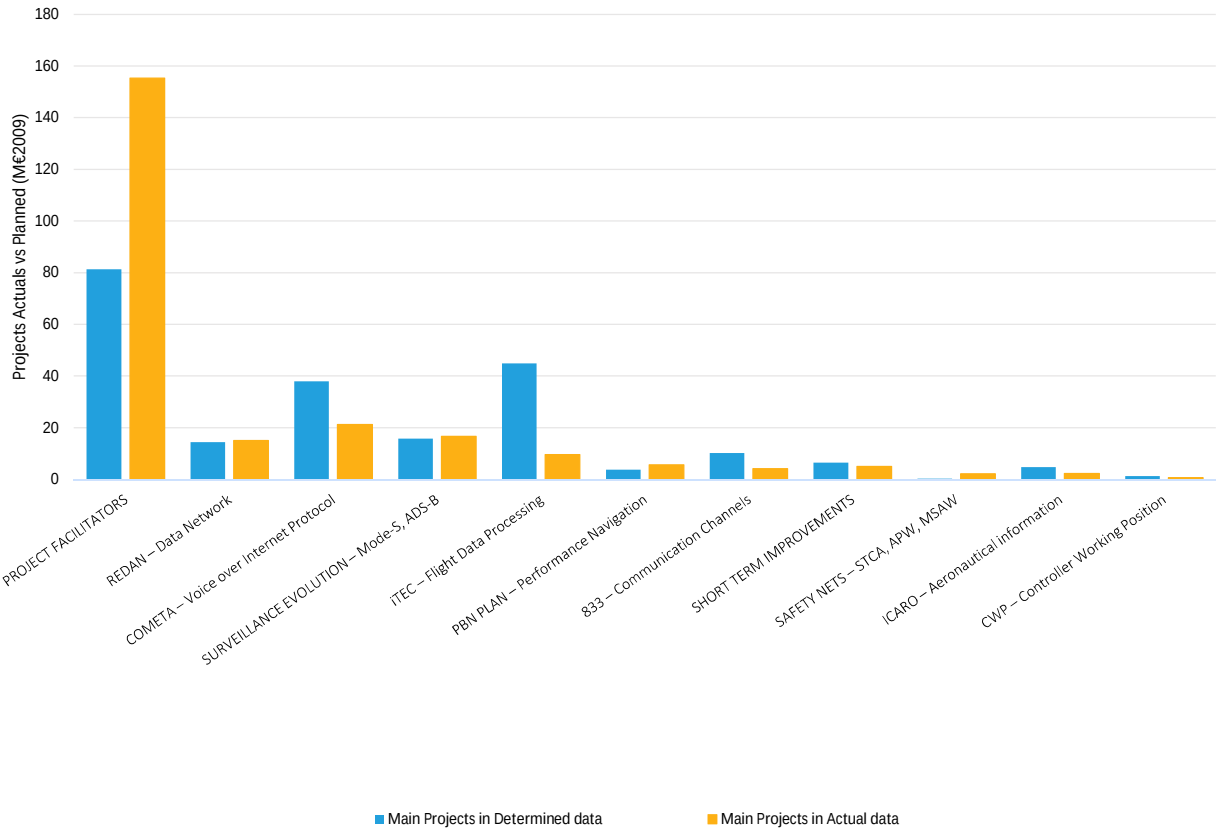
INVESTMENTS PER MAIN PROJECT Spain - ENAIRE

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	PROJECT FACILITATORS	19.72	14.80	14.04	15.20	17.49	81.26
2	REDAN – Data Network	4.99	4.10	4.16	0.68	0.49	14.42
3	COMETA – Voice over Internet Protocol	4.37	9.59	8.25	8.02	7.66	37.89
4	SURVEILLANCE EVOLUTION – Mode-S, ADS-B	2.35	3.41	3.11	3.36	3.53	15.76
5	iTEC – Flight Data Processing	3.99	7.18	9.38	12.02	12.28	44.85
6	PBN PLAN – Performance Navigation	0.95	0.68	0.67	0.73	0.77	3.81
7	833 – Communication Channels	1.65	2.86	3.07	2.57	-	10.15
8	SHORT TERM IMPROVEMENTS	5.74	0.78	-	-	-	6.51
9	SAFETY NETS – STCA, APW, MSAW	0.07	0.07	0.07	0.07	0.06	0.33
10	ICARO – Aeronautical information	1.17	1.17	0.84	0.84	0.73	4.74
11	CWP – Controller Working Position	-	-	0.40	0.40	0.49	1.29

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	PROJECT FACILITATORS	21.30	28.31	28.24	36.41	41.08	155.33
2	REDAN – Data Network	4.67	3.67	3.35	1.94	1.34	14.97
3	COMETA – Voice over Internet Protocol	1.13	0.70	7.87	3.76	7.70	21.17
4	SURVEILLANCE EVOLUTION – Mode-S, ADS-B	3.98	1.36	2.35	3.39	5.57	16.66
5	iTEC – Flight Data Processing	0.04	3.78	2.40	1.44	1.89	9.55
6	PBN PLAN – Performance Navigation	1.08	0.67	0.70	1.87	1.30	5.62
7	833 – Communication Channels	0.45	1.28	1.25	0.91	0.22	4.11
8	SHORT TERM IMPROVEMENTS	0.46	0.55	0.96	1.13	1.88	4.99
9	SAFETY NETS – STCA, APW, MSAW	0.45	1.01	0.29	0.33	0.04	2.12
10	ICARO – Aeronautical information	0.52	0.27	0.01	0.66	0.80	2.26
11	CWP – Controller Working Position	0.21	0.32	0.15	-	-	0.68

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	PROJECT FACILITATORS	1.58	13.51	14.19	21.21	23.59	74.07
2	REDAN – Data Network	(0.32)	(0.43)	(0.81)	1.26	0.86	0.55
3	COMETA – Voice over Internet Protocol	(3.23)	(8.88)	(0.38)	(4.26)	0.04	(16.72)
4	SURVEILLANCE EVOLUTION – Mode-S, ADS-B	1.62	(2.05)	(0.76)	0.03	2.04	0.89
5	iTEC – Flight Data Processing	(3.95)	(3.40)	(6.98)	(10.58)	(10.38)	(35.30)
6	PBN PLAN – Performance Navigation	0.12	(0.01)	0.03	1.14	0.53	1.82
7	833 – Communication Channels	(1.20)	(1.57)	(1.82)	(1.66)	0.22	(6.04)
8	SHORT TERM IMPROVEMENTS	(5.27)	(0.23)	0.96	1.13	1.88	(1.53)
9	SAFETY NETS – STCA, APW, MSAW	0.38	0.94	0.22	0.26	(0.02)	1.78
10	ICARO – Aeronautical information	(0.65)	(0.90)	(0.83)	(0.18)	0.07	(2.49)
11	CWP – Controller Working Position	0.21	0.32	(0.25)	(0.40)	(0.49)	(0.61)

INVESTMENTS PER MAIN PROJECT Spain - ENAIRE



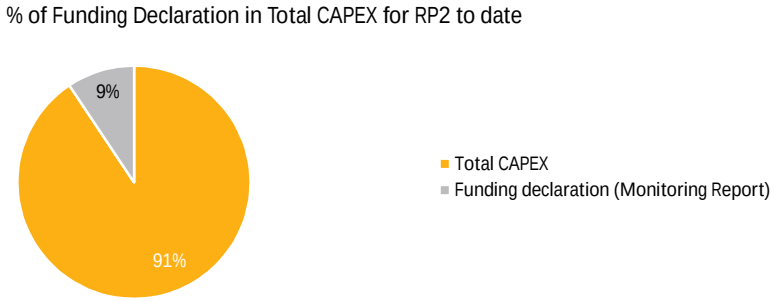
For RP2, the biggest investments have been for "Project facilitators" equivalent to 155.33M€$_{2009}$ or 65% of the actual "Main CAPEX" investments. This is 74.07M€$_{2009}$ more than initially foreseen in the performance plan causing allocation of lower investments to other projects.

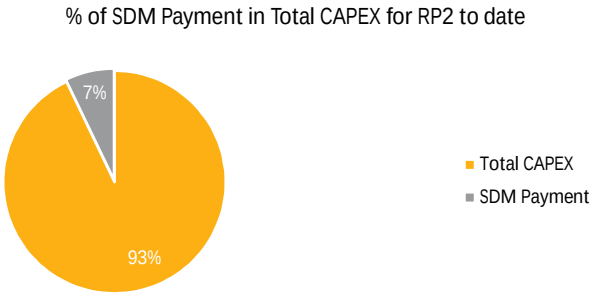
Project "REDAN – Data Network" received investments in line with the performance plan, however, the "COMETA" project received less than determined (-16.72M€$_{2009}$). Project "iTEC – Flight Data Processing" was the second main project in the performance plan with a foreseen investment of 44.85M€$_{2009}$, however, only 9.55M€$_{2009}$ have been placed during RP2.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Spain - ENAIRE

#	Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
3	COMETA – Voice over Internet Protocol	-	-	-	0.01	2.87	2.88
4	SURVEILLANCE EVOLUTION – Mode-S, ADS-B	-	-	-	0.64	1.00	1.63
11	CWP – Controller Working Position	-	-	-	0.48	-	0.48
	PROJECT FACILITATORS and multiple projects	5.06	5.82	8.47	6.07	2.93	28.35

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	5.06	5.82	8.47	7.20	6.80	33.34
SDM Payment	3.47	4.45	9.96	-	7.45	25.33





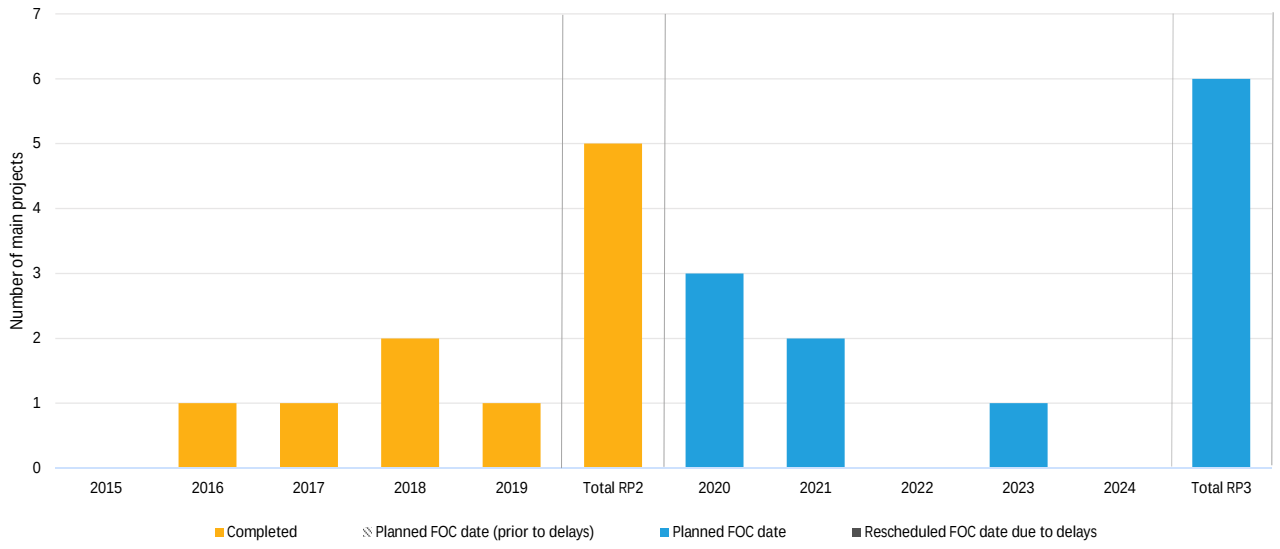
Spain received 33.34M€$_{2009}$ funding during RP2 from seven different sources: "FPA 1037259", "FPA 1132363", "FPA 1131871", "FPA 1349619", "1602559 UNDER FRAMEWORK PARTNERSHIP AGREEMENT No MOVE/E2-2014-717/SESAR FPA" and "1482884 UNDER FRAMEWORK PARTNERSHIP AGREEMENT No MOVE/E2-2014-717/SESAR FPA".
The grants were used to cover several projects.

The total amount of EU funding declared by Spain for RP2 is 33.34M€$_{2009}$, which represents 9% of the actual total CAPEX over RP2.
The total SDM payments amount to 25.33M€$_{2009}$, which represent 7% of the total CAPEX invested during RP2.

Spain received 16M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. However, according to the funding declaration, Spain received more funds. The projects which were awarded most funds are "Implementing harmonised SWIM (Y) solution in COOPANS ANSPs and general PCP compliance" (5.73M€), "AF3A Harmonisation of Tech ATM Platform in 5 ANSP inc suprt of FRA and prep of PCP program.(COOPANS B3.3 B3.4 and B3.5)" (4.12M€) and "Deployment of IP / VOIP technology to enable Management of Dynamic Airspace configurations" (1.88M€). These projects do not correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Spain - ENAIRE

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	PROJECT FACILITATORS	Completed	2016	x	x	x	x	x	
2	REDAN – Data Network	Ongoing	2017	x		x	x	x	
3	COMETA – Voice over Internet Protocol	Ongoing	2021			x	x		
4	SURVEILLANCE EVOLUTION – Mode-S, ADS-B	Ongoing	2023	x	x	x	x		
5	iTEC – Flight Data Processing	Ongoing	2020	x		x			
6	PBN PLAN – Performance Navigation	Ongoing	2020	x	x	x	x	x	
7	833 – Communication Channels	Completed	2018			x			
8	SHORT TERM IMPROVEMENTS	Completed	2018	x		x		x	
9	SAFETY NETS – STCA, APW, MSAW	Completed	2019	x				x	x
10	ICARO – Aeronautical information	Ongoing	2020	x		x		x	
11	CWP – Controller Working Position	Ongoing	2021	x		x	x	x	



Spain planned 11 main projects for RP2: five projects have been completed, representing 181.52M€$_{2009,}$ while six have been started and are expected to continue through RP3, representing 55.94M€$_{2009}$.

Ten projects are expected to benefit capacity, nine are expected to improve safety and six are expected to benefit cost-efficiency. Only three of the projects are expected to benefit the environment.

The actual investment in RP2 for the seven projects that were linked to the Pilot Common Project is 185.97M€$_{2009}$. This amount represents 52% of the actual total CAPEX. One project was included in the Network Operations Plan.

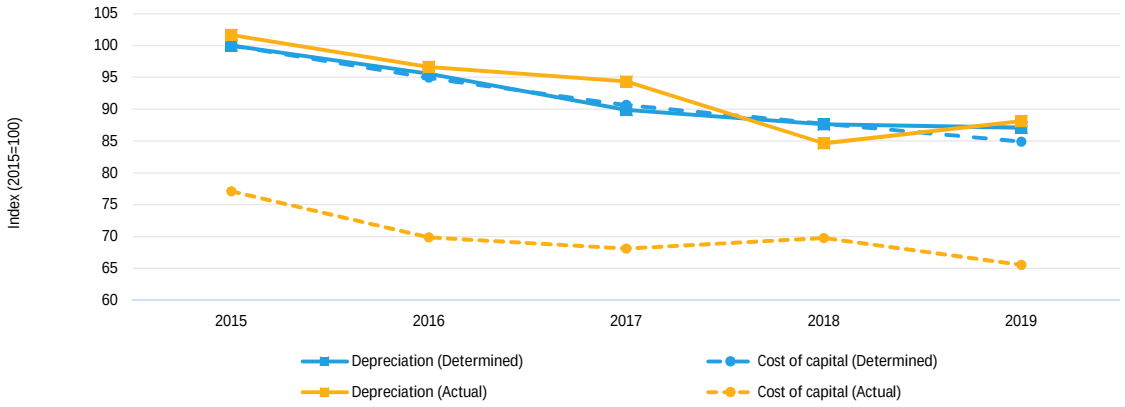
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Spain - ENAIRE

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**87.98**	**84.06**	**79.08**	**77.11**	**76.65**	**404.88**
- En route	81.36	77.70	73.63	71.95	71.56	376.19
- Terminal	6.62	6.37	5.45	5.16	5.09	28.68
Cost of Capital	**38.65**	**36.69**	**35.04**	**33.91**	**32.82**	**177.11**
- En route	36.02	34.22	32.66	31.62	30.59	165.10
- Terminal	2.63	2.48	2.38	2.29	2.23	12.01
Total	**126.62**	**120.76**	**114.12**	**111.02**	**109.47**	**581.98**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**89.43**	**85.02**	**83.01**	**74.48**	**77.54**	**409.48**
- En route	80.53	76.38	76.67	69.42	71.71	374.71
- Terminal	8.90	8.64	6.34	5.06	5.83	34.78
Cost of Capital	**29.81**	**27.01**	**26.33**	**26.96**	**25.34**	**135.45**
- En route	27.15	24.52	24.52	25.32	23.70	125.21
- Terminal	2.66	2.49	1.81	1.64	1.65	10.24
Total	**119.24**	**112.03**	**109.34**	**101.44**	**102.88**	**544.93**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**1.46**	**0.96**	**3.94**	**(2.63)**	**0.89**	**4.61**
- En route	(0.82)	(1.32)	3.04	(2.53)	0.14	(1.49)
- Terminal	2.28	2.28	0.89	(0.11)	0.74	6.09
Cost of Capital	**(8.84)**	**(9.68)**	**(8.71)**	**(6.94)**	**(7.48)**	**(41.66)**
- En route	(8.87)	(9.69)	(8.14)	(6.30)	(6.89)	(39.89)
- Terminal	0.03	0.01	(0.57)	(0.65)	(0.58)	(1.76)
Total	**(7.38)**	**(8.73)**	**(4.78)**	**(9.58)**	**(6.59)**	**(37.05)**



Over RP2, the actual CAPEX is 7% higher than determined (overspent). Despite this fact, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 37.05M€$_{2009}$ due to a lower than expected asset base.

Throughout RP2, actual depreciation was higher than determined by 4.61M€$_{2009}$. This was mainly due to the lower than planned level of investments.

Throughout RP2, cost of capital was 41.66M€$_{2009}$ lower than determined. This was mainly due to a lower than planned asset base and a lower than planned WACC (the interests on debt were slightly lower than in the performance plan). Furthermore, there was a rationalisation of the investment plan that resulted in a significant cost reduction.

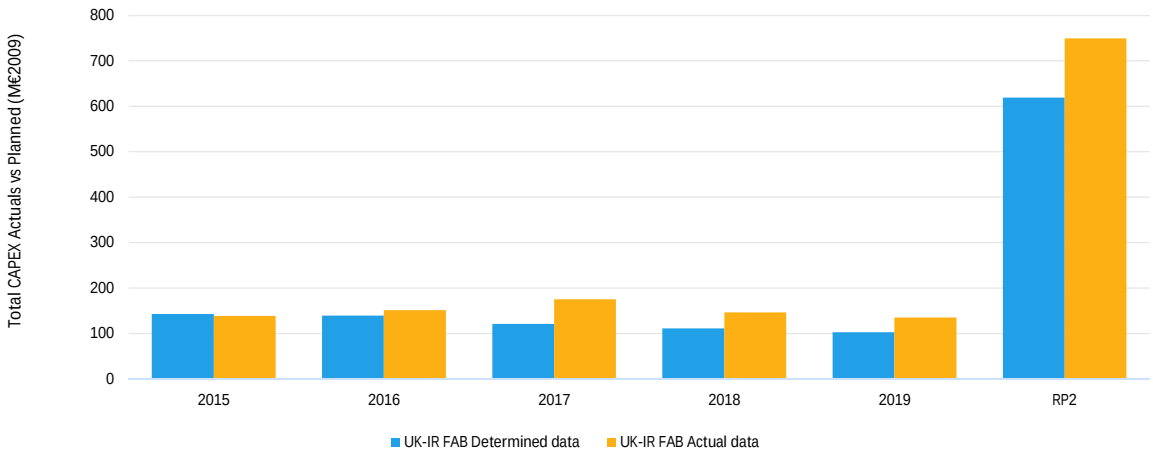
4.9 UK-IR FAB

OVERALL INVESTMENTS

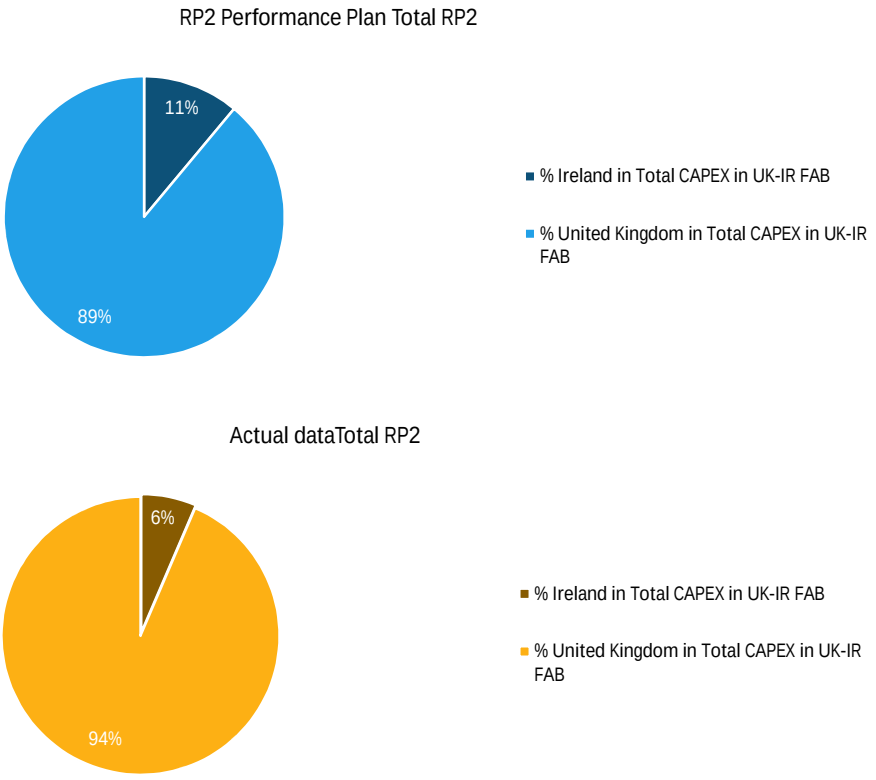
Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**143.36**	**139.39**	**121.57**	**111.71**	**102.93**	**618.96**
- *Main CAPEX*	124.35	122.86	106.09	96.27	84.49	534.05
- *% Main into Total CAPEX*	*87%*	*88%*	*87%*	*86%*	*82%*	*86%*
- Other CAPEX	19.01	16.53	15.49	15.44	18.44	84.91
- *% Other into Total CAPEX*	*13%*	*12%*	*13%*	*14%*	*18%*	*14%*
- Ireland in Total CAPEX in UK-IR FAB	13.69	13.69	13.69	13.69	13.69	68.45
- *% Ireland in Total CAPEX in UK-IR FAB*	*10%*	*10%*	*11%*	*12%*	*13%*	*11%*
- United Kingdom in Total CAPEX in UK-IR FAB	129.67	125.70	107.88	98.02	89.24	550.51
- *% United Kingdom in Total CAPEX in UK-IR FAB*	*90%*	*90%*	*89%*	*88%*	*87%*	*89%*

Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**139.23**	**151.72**	**175.97**	**147.01**	**135.78**	**749.71**
- Main CAPEX	120.47	141.05	158.55	125.91	119.92	665.89
- *% Main into Total CAPEX*	*87%*	*93%*	*90%*	*86%*	*88%*	*89%*
- Other CAPEX	18.76	10.67	17.42	21.11	15.86	83.82
- *% Other into Total CAPEX*	*13%*	*7%*	*10%*	*14%*	*12%*	*11%*
- Ireland in Total CAPEX in UK-IR FAB	10.25	10.25	10.25	10.25	7.16	48.18
- *% Ireland in Total CAPEX in UK-IR FAB*	*7%*	*7%*	*6%*	*7%*	*5%*	*6%*
- United Kingdom in Total CAPEX in UK-IR FAB	128.97	141.46	165.72	136.76	128.62	701.53
- *% United Kingdom in Total CAPEX in UK-IR FAB*	*93%*	*93%*	*94%*	*93%*	*95%*	*94%*

Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(4.14)**	**12.33**	**54.40**	**35.31**	**32.85**	**130.75**
- Main CAPEX	(3.88)	18.19	52.47	29.63	35.43	131.84
- Other CAPEX	(0.26)	(5.85)	1.93	5.67	(2.58)	(1.09)
Total CAPEX (%)	***-3%***	***9%***	***45%***	***32%***	***32%***	***21%***
- *Main CAPEX (%)*	*-3%*	*15%*	*49%*	*31%*	*42%*	*25%*
- *Other CAPEX (%)*	*-1%*	*-35%*	*12%*	*37%*	*-14%*	*-1%*



OVERALL INVESTMENTS UK-IR FAB



Over the period, the actual total CAPEX is 749.71M€$_{2009}$, 130.75M€$_{2009}$ (or 21%) higher than determined. 2015 was the only year of the period when the actual CAPEX was lower than planned, being 139.23M€$_{2009}$, 4.14M€$_{2009}$ (or 3%) lower than planned. In 2016, actual CAPEX was 151.72M€$_{2009}$, 12.33M€$_{2009}$ (or 9%) higher than determined. In 2017, the actual CAPEX was 175.97M€$_{2009}$, 54.40M€$_{2009}$ (or 45%) higher than determined. 2018 saw an actual CAPEX of 147.01M€$_{2009}$, 35.31M€$_{2009}$ (or 32%) higher than detedmined. The trend continued in the last year of the period, with 2019 registering an actual CAPEX of 135.78M€$_{2009}$, 32.85M€$_{2009}$ (or 32%) higher than planned.

The United Kingdom is responsible for the biggest portion of the CAPEX. The United Kingdom represented 89% of the determined CAPEX and 94% of the actual CAPEX, overspending over the period. The actual share of Ireland is lower than determined, due to their lower than planned CAPEX and the higher than planned CAPEX from the United Kingdom.

4.9.1 Ireland - IAA

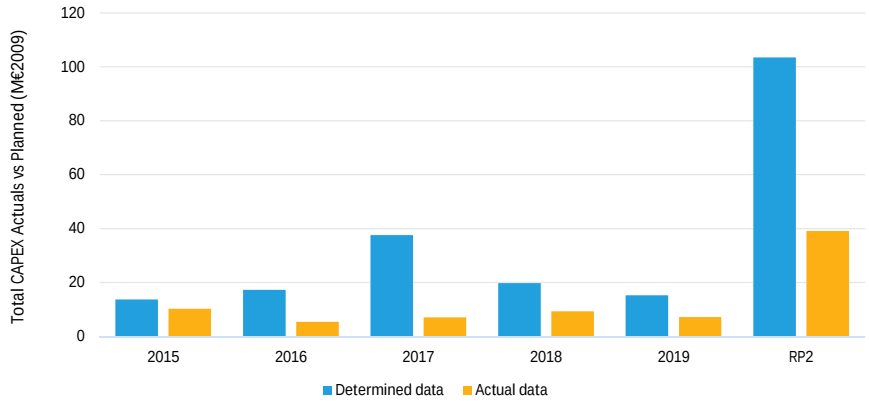
Over RP2, Ireland underspent 64M€$_{2009}$ (-62%) with respect to the performance plan, due to staff redeployed from project development to operational roles to deal with the higher than expected traffic. Therefore, it is likely that some of the planned CAPEX for RP2 will be carried over to the start of RP3. As a result of the underinvestment, Ireland overcharged +10M€$_{2009}$ over RP2 in cost of capital and depreciation for investments not materialised. Ireland planned ten main projects for RP2: one has been completed, representing 1M€$_{2009}$, and nine have been delayed from RP2 to the beginning of RP3, representing 25M€$_{2009}$.

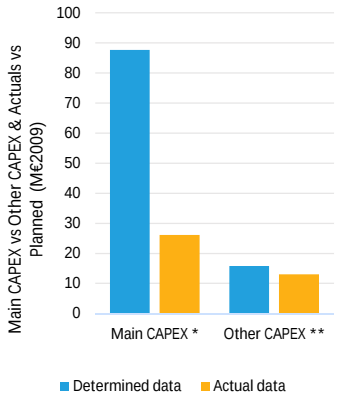
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**13.69**	**17.21**	**37.57**	**19.75**	**15.22**	**103.44**
- Main CAPEX *	7.77	10.92	35.32	19.36	14.31	87.67
- *% Main into Total CAPEX*	*57%*	*63%*	*94%*	*98%*	*94%*	*85%*
- Other CAPEX **	5.92	6.29	2.26	0.39	0.90	15.76
- *% Other into Total CAPEX*	*43%*	*37%*	*6%*	*2%*	*6%*	*15%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**10.25**	**5.40**	**7.07**	**9.27**	**7.16**	**39.16**
- Main CAPEX	7.75	3.27	3.77	6.75	4.61	26.15
- *% Main into Total CAPEX*	*76%*	*61%*	*53%*	*73%*	*64%*	*67%*
- Other CAPEX	2.51	2.13	3.31	2.53	2.55	13.02
- *% Other into Total CAPEX*	*24%*	*39%*	*47%*	*27%*	*36%*	*33%*

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(3.44)**	**(11.81)**	**(30.50)**	**(10.48)**	**(8.06)**	**(64.28)**
- Main CAPEX	(0.02)	(7.64)	(31.55)	(12.61)	(9.70)	(61.53)
- Other CAPEX	(3.41)	(4.17)	1.05	2.13	1.65	(2.75)
Total CAPEX (%)	***-25%***	***-69%***	***-81%***	***-53%***	***-53%***	***-62%***
- *Main CAPEX (%)*	*0%*	*-70%*	*-89%*	*-65%*	*-68%*	*-70%*
- *Other CAPEX (%)*	*-58%*	*-66%*	*47%*	*542%*	*183%*	*-17%*





The total actual capital expenditure for RP2 is 39.16M€$_{2009}$. For RP2, Ireland spent 64.28M€$_{2009}$ (-62%) less CAPEX than originally determined. For RP2, the main CAPEX is 70% lower than determined, while other CAPEX is 17% lower.

Ireland invested less than initially planned, in every year of RP2, 3.44M€$_{2009}$ less in 2015, 11.81M€$_{2009}$ less in 2016, 30.50M€$_{2009}$ less in 2017 (-81%), 10.48M€$_{2009}$ less in 2018 and 8.06M€$_{2009}$ less in 2019.

** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

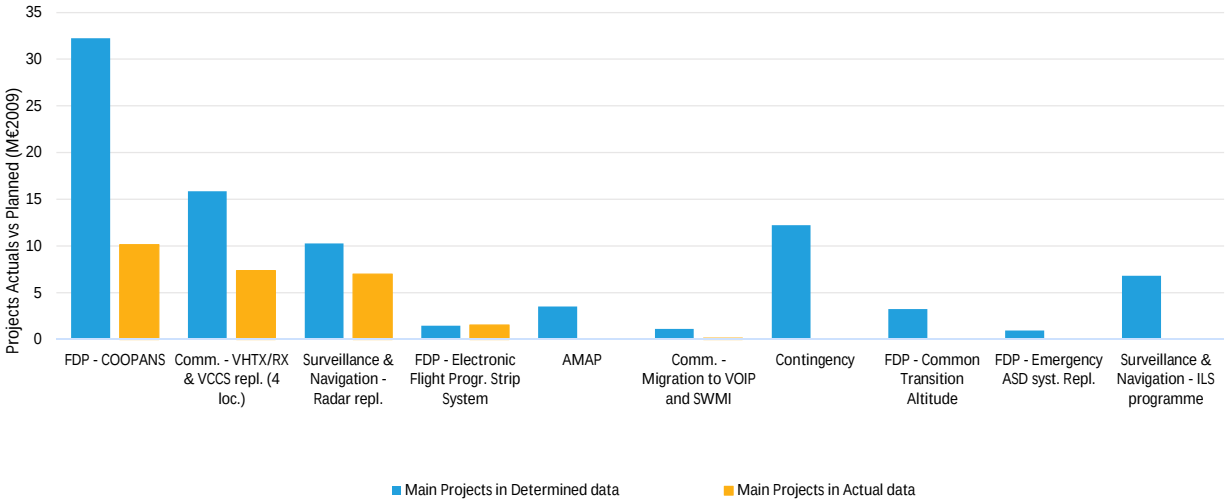
INVESTMENTS PER MAIN PROJECT Ireland - IAA

#	Main Projects in Determined data (M€2009)	2015D	2016D	2017D	2018D	2019D	RP2
1	FDP - COOPANS	0.87	8.40	11.46	3.79	7.72	32.24
2	Comm. - VHTX/RX & VCCS repl. (4 loc.)	3.66	0.76	7.52	3.51	0.42	15.87
3	Surveillance & Navigation - Radar repl.	-	-	3.48	3.42	3.36	10.26
4	FDP - Electronic Flight Progr. Strip System	1.45	-	-	-	-	1.45
5	AMAP	1.79	0.80	0.65	0.28	-	3.52
6	Comm. - Migration to VOIP and SWMI	-	-	-	-	1.13	1.13
7	Contingency	-	-	12.21	-	-	12.21
8	FDP - Common Transition Altitude	-	-	-	3.23	-	3.23
9	FDP - Emergency ASD syst. Repl.	-	0.95	-	-	-	0.95
10	Surveillance & Navigation - ILS programme	-	-	-	5.13	1.68	6.81

#	Main Projects in Actual data (M€2009)	2015A	2016A	2017A	2018A	2019A	RP2
1	FDP - COOPANS	2.64	0.35	0.95	3.84	2.37	10.15
2	Comm. - VHTX/RX & VCCS repl. (4 loc.)	2.95	2.06	2.27	0.09	-	7.37
3	Surveillance & Navigation - Radar repl.	2.15	0.87	0.55	1.29	2.11	6.97
4	FDP - Electronic Flight Progr. Strip System	-	-	-	1.53	-	1.53
5	AMAP	-	-	-	-	-	-
6	Comm. - Migration to VOIP and SWMI	-	-	-	-	0.13	0.13
7	Contingency	-	-	-	-	-	-
8	FDP - Common Transition Altitude	-	-	-	-	-	-
9	FDP - Emergency ASD syst. Repl.	-	-	-	-	-	-
10	Surveillance & Navigation - ILS programme	-	-	-	-	-	-

#	Difference between Actuals and Determined (M€2009)	2015	2016	2017	2018	2019	RP2
1	FDP - COOPANS	1.77	(8.05)	(10.51)	0.05	(5.35)	(22.09)
2	Comm. - VHTX/RX & VCCS repl. (4 loc.)	(0.71)	1.30	(5.25)	(3.42)	(0.42)	(8.50)
3	Surveillance & Navigation - Radar repl.	2.15	0.87	(2.93)	(2.13)	(1.25)	(3.29)
4	FDP - Electronic Flight Progr. Strip System	(1.45)	-	-	1.53	-	0.08
5	AMAP	(1.79)	(0.80)	(0.65)	(0.28)	-	(3.52)
6	Comm. - Migration to VOIP and SWMI	-	-	-	-	(1.00)	(1.00)
7	Contingency	-	-	(12.21)	-	-	(12.21)
8	FDP - Common Transition Altitude	-	-	-	(3.23)	-	(3.23)
9	FDP - Emergency ASD syst. Repl.	-	(0.95)	-	-	-	(0.95)
10	Surveillance & Navigation - ILS programme	-	-	-	(5.13)	(1.68)	(6.81)

INVESTMENTS PER MAIN PROJECT Ireland - IAA



For RP2, the main project is "FDP - COOPMANS" and it has received steady funding throughout RP2, 22.09M€$_{2009}$ less than determined.

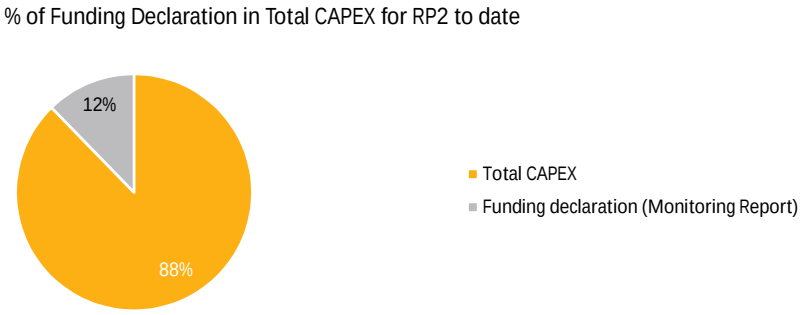
Five projects have received no investments during RP2, namely "AMAP", "Contingency", "FDP - Common Transition Altitude", "FDP - Emergency ASD syst. Repl." and "Surveillance & Navigation - ILS Programme".

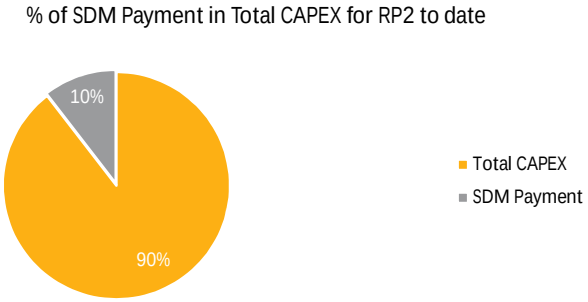
Project "FDP - Electronic Flight Programme Strip System" received 0.08M€$_{2009}$ more than determined.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) Ireland - IAA

#	Actual funding declaration (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	FDP - COOPANS	0.60	1.45	-	-	1.18	3.24
4	FDP - Electronic Flight Progr. Strip System	-	0.27	-	-	0.29	0.56
5	AMAP	-	-	0.47	-	-	0.47
6	Comm. - Migration to VOIP and SWMI	-	0.48	-	-	(0.32)	0.16
	Several projects	0.18	0.71	(0.10)	-	(0.53)	0.27

Actual funding declaration vs Payments (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	0.78	2.91	0.49	-	0.62	4.81
SDM Payment	0.33	1.99	0.80	-	0.99	4.10





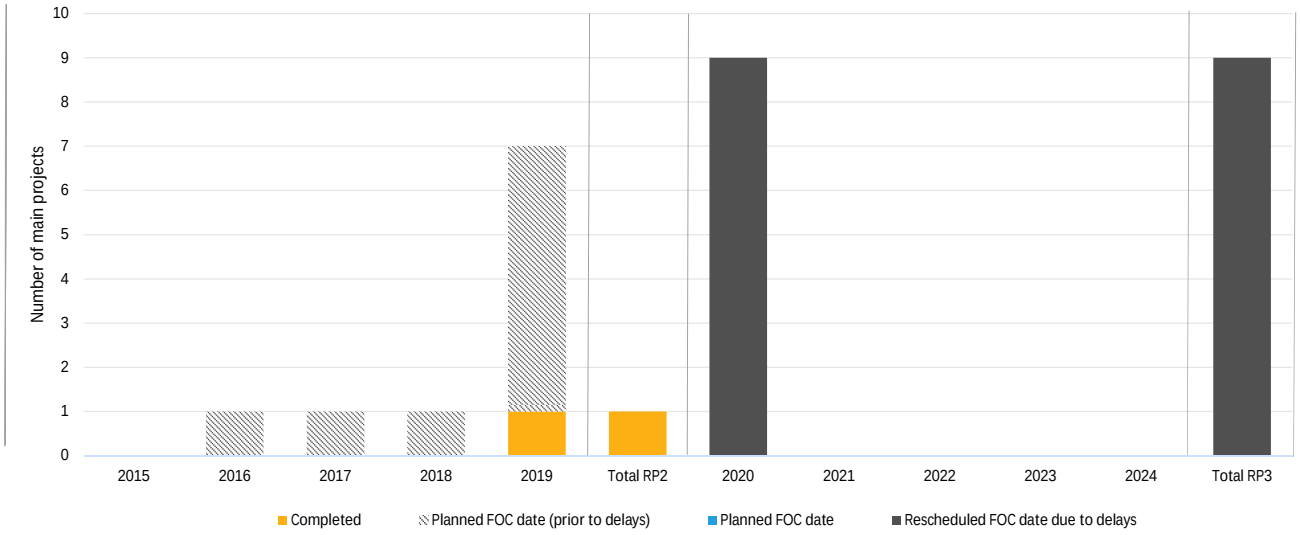
Ireland obtained funding for multiple projects via the TEN-T/CEF funding program, receiving grants in 2015, 2016 and 2017 from 12 different funds. However, with the provided information, not all projects could not be linked to a specific fund.

The total amount of EU funding declared by Ireland for RP2 is 4.81M€$_{2009,}$ which represents 12% of the actual total CAPEX.
The total SDM payments amount to 4.10M€$_{2009}$, which represent 10% of the toatal CAPEX invested during RP2.

Ireland received 16.01M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Implementing harmonised SWIM (Y) solution in COOPANS ANSPs and general PCP compliance" (5.73M€), "AF3A Harmonisation of Tech ATM Platform in 5 ANSP inc suprt of FRA and prep of PCP program (COOPANS B3.3 B3.4 and B3.5)" (4.12M€) and "Deployment of IP / VOIP technology to enable Management of Dynamic Airspace configurations" (1.88M€). Two of these projects correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT Ireland - IAA

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	FDP - COOPANS	Delayed	2020	x	x	x	x		
2	Comm. - VHTX/RX & VCCS repl. (4 loc.)	Delayed	2020	x		x	x		
3	Surveillance & Nagivation - Radar repl.	Delayed	2020	x			x		
4	FDP - Electronic Flight Progr. Strip System	Completed	2019	x	x	x	x	x	
5	AMAP	Delayed	2020	x					
6	Comm. - Migration to VOIP and SWMI	Delayed	2020	x			x		
7	Contingency	Delayed	2020	x		x	x		
8	FDP - Common Transition Altitude	Delayed	2020	x	x		x		
9	FDP - Emergency ASD syst. Repl.	Delayed	2020	x		x	x		
10	Surveillance & Navigation - ILS programme	Delayed	2020	x		x			



Ireland planned ten main projects for RP2: one have been completed, representing 1.53M€$_{2009}$, and nine have been delayed from RP2 to the beginning of RP3, representing 24.62M€$_{2009}$. As a result of the operational pressures of significantly higher than forecast traffic, as well as lower technology engineers than planned. Staff that were earmarked for project deployment have been redeployed to operational roles (e.g. maintenance or removed from project support), delaying project deployment. Staff numbers available to deliver projects have increased in 2018 and allowed for projects to be prioritised. However, it is likely that some of the planned projects for RP2 will be carried over to the start of RP3. The rescheduled FOC date due to delays has been assumed to be 2020, i.e. start of RP3.

All projects are expected to improve safety; eight out of ten are expected to benefit cost-efficiency and six are expected to benefit capacity. Only three projects are expected to have a positive impact on environment.

The actual investment made in RP2 for the one project that was linked to the Pilot Common Project is 1.53M€$_{2009}$. This amount represents 4% of the actual total CAPEX. No project was included in the Network Operations Plan.

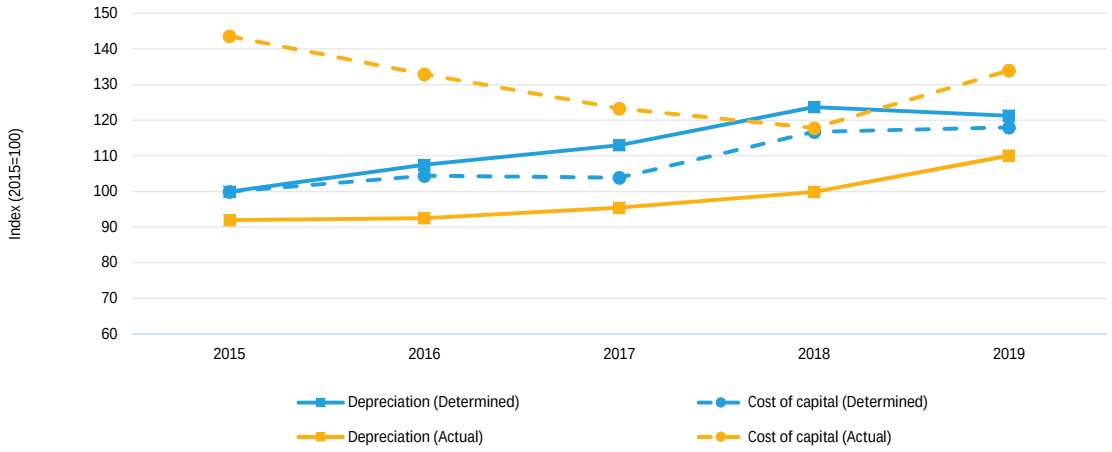
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL Ireland - IAA

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**13.30**	**14.30**	**15.03**	**16.45**	**16.13**	**75.20**
- En route	9.26	9.82	10.39	11.62	11.25	52.35
- Terminal	4.03	4.47	4.63	4.83	4.88	22.85
Cost of Capital	**6.52**	**6.81**	**6.77**	**7.61**	**7.69**	**35.39**
- En route	4.49	4.62	4.67	5.36	5.36	24.50
- Terminal	2.02	2.18	2.10	2.25	2.33	10.89
Total	**19.81**	**21.10**	**21.80**	**24.06**	**23.82**	**110.58**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**12.23**	**12.31**	**12.70**	**13.29**	**10.20**	**60.72**
- En route	8.50	8.54	8.89	9.53	7.35	42.81
- Terminal	3.73	3.77	3.81	3.76	2.85	17.91
Cost of Capital	**9.36**	**8.66**	**8.04**	**7.68**	**6.02**	**39.75**
- En route	6.50	5.97	5.59	5.44	4.21	27.70
- Terminal	2.86	2.69	2.45	2.24	1.81	12.05
Total	**21.59**	**20.97**	**20.73**	**20.97**	**16.21**	**100.47**

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(1.06)**	**(1.99)**	**(2.33)**	**(3.16)**	**(5.93)**	**(14.47)**
- En route	(0.76)	(1.29)	(1.50)	(2.09)	(3.90)	(9.54)
- Terminal	(0.30)	(0.70)	(0.83)	(1.08)	(2.03)	(4.94)
Cost of Capital	**2.84**	**1.86**	**1.27**	**0.07**	**(1.67)**	**4.36**
- En route	2.01	1.35	0.92	0.08	(1.16)	3.20
- Terminal	0.83	0.51	0.34	(0.01)	(0.51)	1.16
Total	**1.78**	**(0.13)**	**(1.06)**	**(3.09)**	**(7.60)**	**(10.11)**



Over RP2, 62% of planned CAPEX has not been materialised. However, the related planned costs (depreciation and cost of capital) were included in the determined costs and therefore charged to airspace users. This implies that users have financed 10.11M€$_{2009}$ for investments that have not been materialised in RP2.

Throughout RP2, actual depreciation was lower than determined in the performance plan by 14.47M€$_{2009}$. This was mainly due to lack of investments throughout the period, due to a redeployment of staff to deal with higher than planned traffic.

Throughout RP2, cost of capital was higher than determined by 4.36M€$_{2009}$. This was mainly due to a change in the capital structure from 50% equity and 50% debt in the performance plan to a fully equity capital structure in actual terms. This resulted in a higher than determined WACC and thus, a significant higher than determined cost of capital.

4.9.2 United Kingdom - NATS

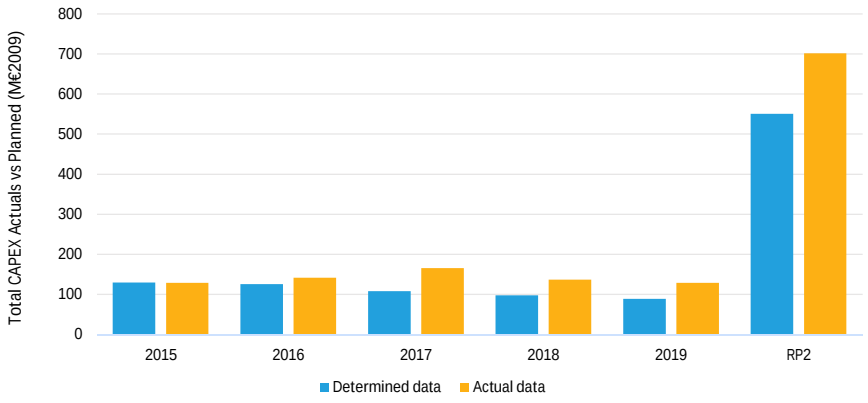
Over RP2, the United Kingdom overspent 151M€$_{2009\ (+27\%)}$ with respect to the performance plan, mainly due to iTEC investment. Due to this, the actual total depreciation and cost of capital were higher than determined (+5M€$_{2009}$). The United Kingdom planned seven main projects for RP2, all of them completed.

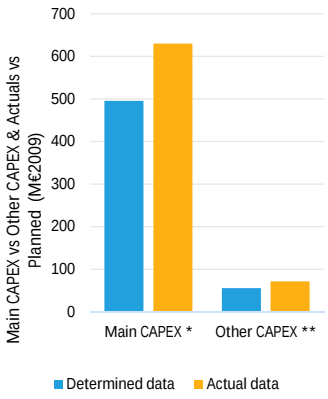
OVERALL INVESTMENTS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Total CAPEX	**129.67**	**125.70**	**107.88**	**98.02**	**89.24**	**550.51**
- Main CAPEX *	116.58	115.09	98.31	88.50	76.71	495.20
- *% Main into Total CAPEX*	*90%*	*92%*	*91%*	*90%*	*86%*	*90%*
- Other CAPEX **	13.09	10.61	9.57	9.52	12.52	55.31
- *% Other into Total CAPEX*	*10%*	*8%*	*9%*	*10%*	*14%*	*10%*

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total CAPEX	**128.97**	**141.46**	**165.72**	**136.76**	**128.62**	**701.53**
- Main CAPEX	112.72	133.30	150.80	118.16	115.31	630.29
- *% Main into Total CAPEX*	*87%*	*94%*	*91%*	*86%*	*90%*	*90%*
- Other CAPEX	16.25	8.17	14.91	18.60	13.31	71.24
- *% Other into Total CAPEX*	*13%*	*6%*	*9%*	*14%*	*10%*	*10%*

Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Total CAPEX	**(0.70)**	**15.77**	**57.83**	**38.74**	**39.38**	**151.02**
- Main CAPEX	(3.86)	18.21	52.49	29.66	38.60	135.09
- Other CAPEX	3.16	(2.44)	5.34	9.08	0.79	15.93
Total CAPEX (%)	***-1%***	***13%***	***54%***	***40%***	***44%***	***27%***
- *Main CAPEX (%)*	*-3%*	*16%*	*53%*	*34%*	*50%*	*27%*
- *Other CAPEX (%)*	*24%*	*-23%*	*56%*	*95%*	*6%*	*29%*





The total actual capital expenditure for RP2 is 701.53M€$_{2009}$. For RP2, the United Kingdom spent 151.02M€$_{2009}$ more CAPEX than originally determined. For RP2, the main CAPEX is 27% higher than determined, while other CAPEX is 29% higher.

In 2015, the United Kingdom spent 0.70M€$_{2009}$ less than planned. For 2016, 2017, 2018 and 2019, the United Kingdom overspent 15.77M€$_{2009}$, 57.83M€$_{2009}$ (+54%), 38.74M€$_{2009}$ and 39.38M€$_{2009}$, respectively.

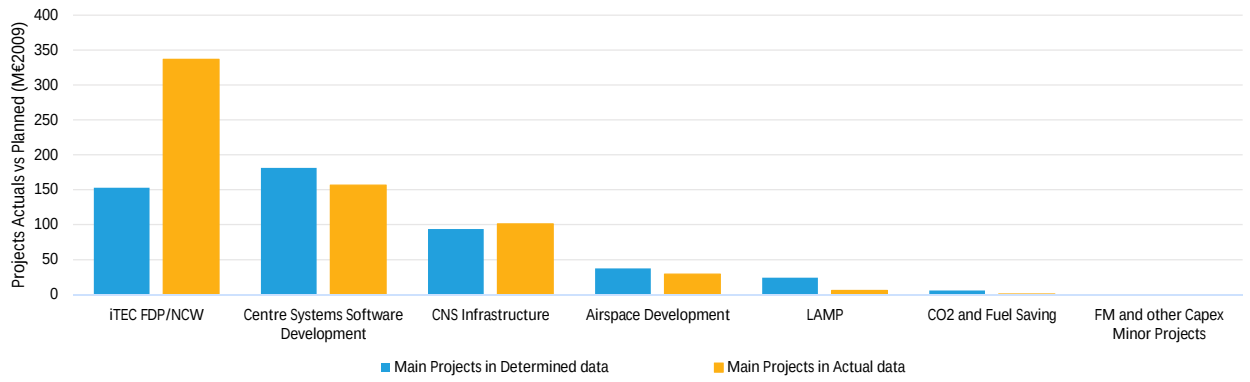
** Main CAPEX: investments in new ATM systems and major overhauls of existing ATM systems that contribute to achieving the performance targets.*
*** Other CAPEX: Investments including short-term projects and/or activities under a certain threshold.*

INVESTMENTS PER MAIN PROJECT United Kingdom - NATS

#	Main Projects in Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
1	iTEC FDP/NCW	31.83	34.91	30.14	27.89	28.15	152.93
2	Centre Systems Software Development	51.40	46.09	30.77	27.64	25.35	181.24
3	CNS Infrastructure	17.86	18.20	22.70	21.25	13.70	93.71
4	Airspace Development	8.22	8.42	6.92	6.17	7.56	37.29
5	LAMP	5.48	6.46	6.78	4.55	0.94	24.21
6	CO2 and Fuel Saving	1.79	1.01	1.00	1.01	1.01	5.83
7	FM and other Capex Minor Projects	-	-	-	-	-	-

#	Main Projects in Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
1	iTEC FDP/NCW	44.64	62.33	84.35	73.06	72.32	336.70
2	Centre Systems Software Development	37.49	42.64	37.31	21.18	18.12	156.73
3	CNS Infrastructure	21.72	23.90	21.72	17.43	16.37	101.14
4	Airspace Development	3.19	4.11	7.23	6.37	8.42	29.33
5	LAMP	5.34	0.30	(0.00)	0.00	-	5.64
6	CO2 and Fuel Saving	0.34	0.02	0.19	0.12	0.08	0.76
7	FM and other Capex Minor Projects	-	-	-	-	-	-

#	Difference between Actuals and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
1	iTEC FDP/NCW	12.81	27.42	54.20	45.17	44.17	183.77
2	Centre Systems Software Development	(13.91)	(3.44)	6.54	(6.46)	(7.23)	(24.51)
3	CNS Infrastructure	3.86	5.69	(0.97)	(3.82)	2.67	7.43
4	Airspace Development	(5.03)	(4.31)	0.31	0.21	0.86	(7.96)
5	LAMP	(0.14)	(6.16)	(6.78)	(4.55)	(0.94)	(18.57)
6	CO2 and Fuel Saving	(1.45)	(0.99)	(0.81)	(0.89)	(0.93)	(5.07)
7	FM and other Capex Minor Projects	-	-	-	-	-	-



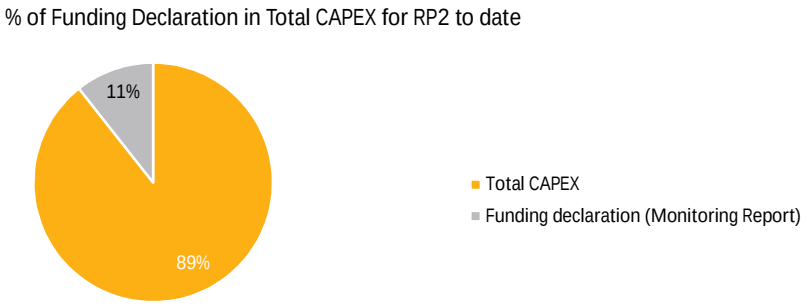
In RP2, the main project was " iTEC FDP / NCW" which received 336.70M€$_{2009}$, (183.77M€$_{2009}$ more than determined. The project "CNS Infrastructure" also received more actual investments than determined.

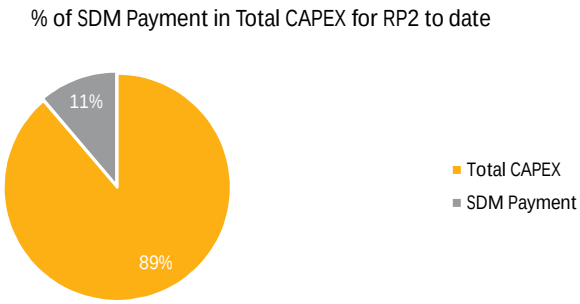
The remaining projects received less investments than determined in the performance plan, with the most significant underspending being in projects "Centre Systems Software Development" and "LAMP", which received 24.51M€$_{2009}$ and 18.57M€$_{2009}$, respectively, less than determined.

PUBLIC FUNDING GRANTED FOR TOTAL CAPEX (CEF/TEN-T) United Kingdom - NATS

# Actual funding declaration ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total ANSP	12.17	16.42	12.39	6.34	27.29	74.60

Actual funding declaration vs Payments ($M€_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Total included in the funding declaration (Monitoring Report)	12.17	16.42	12.39	6.34	27.29	74.60
SDM Payment	14.94	13.82	18.02	0.02	31.85	78.65





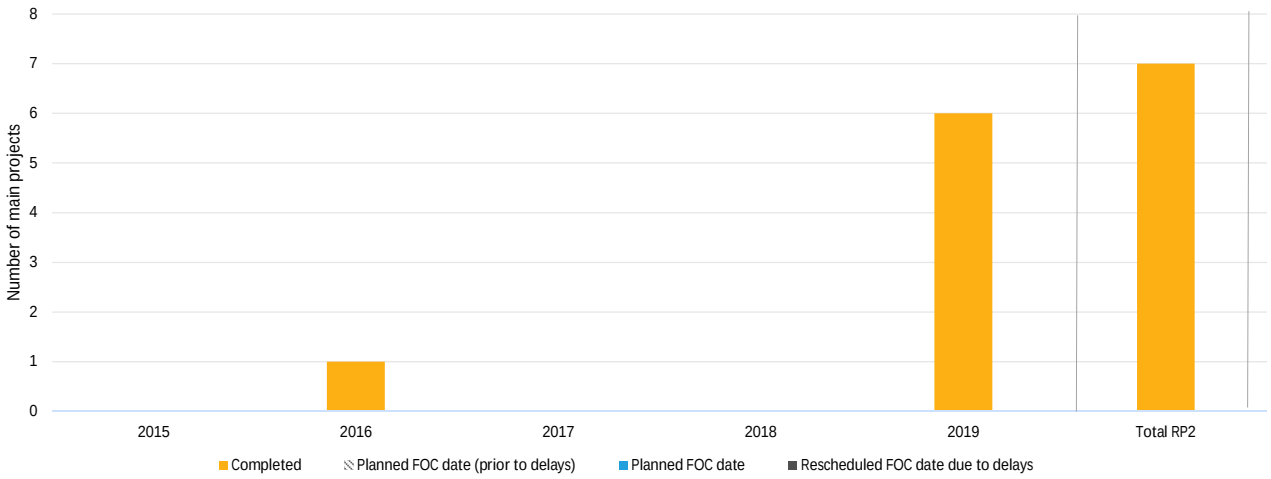
The United Kingdom received grants through seven different funding schemes, with grants received in every year of RP2. However, with the information provided, the funds could not be linked to specific projects.

The total amount of EU funding declared by the United Kingdom for RP2 is 74.60M€$_{2009}$, which represents 11% of the actual total CAPEX.
The total SDM payments amount to 78.65M€$_{2009}$, which represent 11% of the total actual CAPEX invested during RP2.

The United Kingdom received 92.42M€ in EU funding for projects/solutions, which were awarded in accordance to their duration. The projects which were awarded most funds are "Borealis - FRA Implementation (Part 2)" (43.2M€), "Implementation of Initial Capability SWIM across NATS" (21.5M€) and "London Airspace Management Programme (LAMP) - Part A" (11.0M€). Two of these projects correspond to the list of projects reported for RP2 under the Performance and Charging Regulation.

EXPECTED BENEFIT PER PROJECT United Kingdom - NATS

#	Main Projects	Status in 2019	FOC date*	Expected benefit per KPA				PCP	NOP
				SAF	ENV	CAP	CEF		
1	iTEC FDP/NCW	Completed	2019	x				x	x
2	Centre Systems Software Development	Completed	2019		x			x	
3	CNS Infrastructure	Completed	2019		x			x	
4	Airspace Development	Completed	2019	x	x			x	
5	LAMP	Completed	2016	x	x			x	x
6	CO2 and Fuel Saving	Completed	2019		x				
7	FM and other Capex Minor Projects	Completed	2019						



The United Kingdom planned seven main projects for RP2, all of which have been completed.

Five out of seven projects are expected to have a positive impact on the environment, while three will also improve safety. No project has been reported as being expected to benefit capacity or cost-efficiency.

The actual investment made in RP2 for the five projects that were linked to the Pilot Common Project is 629.54€$_{2009}$. This amount represents 90% of the actual total CAPEX. One project was included in the Network Operations Plan.

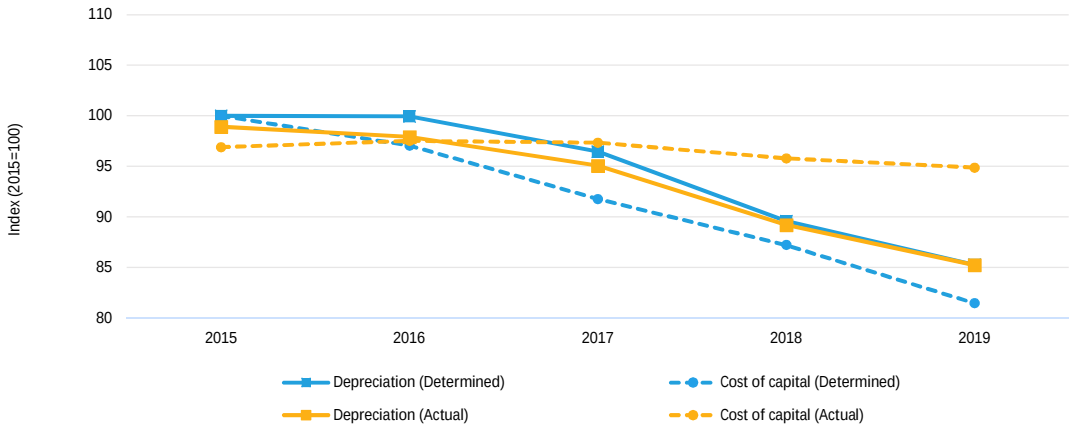
KPAs: SAF = Safety, ENV = Environment, CAP = Capacity, CEF = Cost-efficiency.
**FOC date: Full Operational Capability date (the planned date of entry into operation).*

INVESTMENTS VS DEPRECIATION AND COST OF CAPITAL United Kingdom - NATS

Determined data (M€$_{2009}$)	2015D	2016D	2017D	2018D	2019D	RP2
Depreciation	**158.61**	**158.50**	**152.97**	**142.08**	**135.26**	**747.41**
- En route	155.45	155.27	149.76	138.96	132.17	731.61
- Terminal	3.15	3.23	3.21	3.11	3.09	15.80
Cost of Capital	**50.36**	**48.88**	**46.22**	**43.93**	**41.03**	**230.42**
- En route	49.18	47.75	45.15	42.89	40.03	225.00
- Terminal	1.18	1.13	1.07	1.04	1.00	5.42
Total	**208.97**	**207.38**	**199.19**	**186.01**	**176.28**	**977.83**

Actual data (M€$_{2009}$)	2015A	2016A	2017A	2018A	2019A	RP2
Depreciation	**156.91**	**155.32**	**150.77**	**141.49**	**135.21**	**739.71**
- En route	153.61	152.10	147.70	138.47	132.23	724.11
- Terminal	3.30	3.22	3.07	3.02	2.98	15.59
Cost of Capital	**48.81**	**49.12**	**49.03**	**48.24**	**47.79**	**242.98**
- En route	47.80	48.10	48.02	47.20	46.73	237.85
- Terminal	1.00	1.02	1.01	1.04	1.06	5.13
Total	**205.71**	**204.44**	**199.80**	**189.73**	**183.00**	**982.68**

Difference between Actual and Determined (M€$_{2009}$)	2015	2016	2017	2018	2019	RP2
Depreciation	**(1.70)**	**(3.18)**	**(2.20)**	**(0.58)**	**(0.05)**	**(7.71)**
- En route	(1.84)	(3.17)	(2.06)	(0.49)	0.06	(7.50)
- Terminal	0.14	(0.01)	(0.14)	(0.09)	(0.11)	(0.21)
Cost of Capital	**(1.56)**	**0.24**	**2.81**	**4.31**	**6.76**	**12.56**
- En route	(1.38)	0.34	2.87	4.31	6.70	12.85
- Terminal	(0.18)	(0.11)	(0.07)	0.00	0.06	(0.29)
Total	**(3.26)**	**(2.94)**	**0.61**	**3.73**	**6.71**	**4.85**



Over RP2, the actual CAPEX is 27% higher than determined (overspent). Due to this, the related actual costs (depreciation and cost of capital) exceeded the determined costs and, therefore the difference of costs have been borne by the ANSP. The difference between these costs amounts to 4.85M€$_{2009}$.

Throughout RP2, actual depreciation was lower than determined by 7.71M€$_{2009}$. This was mainly due to project implementation delays, especially from 2016 onwards, due to the timing differences in the deployment of projects as a result of the implementation of the new SESAR programme.

Throughout RP2, cost of capital was higher than determined by 12.56M€$_{2009}$. This was mainly due to the higher fixed asset base due to a higher than planned level of investments during RP2.