



Performance review body  
of the single european sky



# Review of the reporting of search and rescue costs for air navigation services

December 2023

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## 1 INTRODUCTION

- 1 This document analyses the reporting of the costs of search and rescue (SAR) services eligible for inclusion in the air navigation services (ANS) cost bases within the performance plans for Member States of the Single European Sky (SES).<sup>1</sup>
- 2 The comprehension and transparency of the cost bases of air navigation service providers (ANSPs) is a prerequisite for target setting, performance planning, consultation, and monitoring of costs outlined in Commission Implementing Regulation (EU) 2019/317 (hereafter, the “Regulation”).<sup>2</sup> To date, the Member States have provided varying degrees of transparency and detail when reporting the costs of SAR services in the ANS cost bases. Furthermore, not all Member States choose to include SAR costs in the ANS cost bases in the performance plans.
- 3 To support the analysis of the costs of SAR services, the PRB sent a common questionnaire on 12<sup>th</sup> May 2023 to the Member States. Detailed answers on the way SAR costs are reported were provided on 16<sup>th</sup> June. In addition, a series of meetings with a selected group of national supervisory authorities (NSAs) were held between 19<sup>th</sup> October and 3<sup>rd</sup> November 2023 (hereafter, the “follow-up meetings”).
- 4 The scope of this report covers the reporting of costs of SAR services attributable to the ANS cost bases within the performance plans of the Member States. The PRB has engaged with the NSAs to understand how to improve the reporting of costs of SAR services in preparation for future reference periods (RPs).
- 5 The objectives of this report are to:
  - Provide a clear and comprehensive overview of the regulatory background related to reporting requirements;
  - Understand and document the current, approaches to SAR reporting in different Member States;
  - Identify and highlight the inconsistencies in the data provided by Member States caused by variations in reporting practices; and
  - Establish recommendations for future reporting to improve data quality and relevance.
- 6 This report is divided into five sections:
  - Section 1 (the current one) provides an introductory overview of the scope and objectives of the analysis;
  - Section 2 summarises the methodology applied in this report;
  - Section 3 describes the current regulatory requirements to establish the costs of SAR services for air navigation;
  - Section 4 provides an overview of the SAR service provision within the Member States; and
  - Section 5 identifies recommendations to improve the future reporting on SAR costs included in the ANS cost bases and provides a summary of the conclusions obtained by the PRB in this report.
- 7 The report is complemented by an Annex which summarises the responses received to the questionnaire. The PRB would like to thank the NSAs for their collaboration and the information they provided through the questionnaire and follow-up meetings.

<sup>1</sup> EU Member States, Norway, and Switzerland, hereafter referred to as the Member States.

<sup>2</sup> Implementing Regulation (EU) 2019/317 laying down a performance and charging scheme in the single European sky and repealing Implementing Regulations (EU) No 390/2013 and (EU) No 391/2013, OJ L 56, 25.2.2019, p. 1–67.

## 2 METHODOLOGY

8 This section outlines the methodology used to conduct the analysis on the reporting of the costs of SAR services eligible for inclusion in the ANS cost bases included in the performance plans of the Member States. It sets out the four key activities conducted by the PRB, including:

- A documentation review of the European and international legislative framework and guidance to establish the costs of SAR services for air navigation and how they are allocated between en route and terminal services;
- Data collection from the NSAs to understand the organisation of SAR service provision and cost reporting;
- Comparison of the data collected with the reporting of SAR costs through Member State submissions as part of the performance and charging scheme; and
- Fact-verification with selected NSAs to corroborate the data and clarify any identified gaps.

### 2.1 Documentation review

9 To better understand the existing rules to establish the costs of SAR services and their allocation between en route and terminal services, the PRB conducted a review of the European and international legislative framework and guidance available on the reporting of SAR costs.

10 The documentation considered in this review included:

- Regulation (EU) No 549/2004 (hereafter, the “SES Framework Regulation”);<sup>3</sup>
- Regulation (EU) No 550/2004 (hereafter, the “SES Service Provision Regulation”);<sup>4</sup>

- Performance and Charging Scheme Regulation;
- Convention on the international civil aviation organization (ICAO);<sup>5</sup>
- Annex 12 of the Convention on ICAO;<sup>6</sup>
- ICAO Doc 9082;<sup>7</sup>
- ICAO Doc 9161;<sup>8</sup>
- Eurocontrol guidance on route charges, 2012 report;<sup>9</sup>
- Eurocontrol principles for establishing the cost base for en route charges and calculation of unit rates, 2020 report;<sup>10</sup> and
- Supporting material on cost bases and unit rates and supporting material for the development of third reference period (RP3) performance plans.<sup>11</sup>

### 2.2 Data collection

11 The PRB designed a questionnaire, titled “Questionnaire for NSAs on the reporting on costs of MET and SAR for ANS”, to better understand how Member States define the share of SAR costs allocated to civil aviation and recovered through ANS charges. Out of the 29 NSAs, 28 provided responses, with only Belgium missing.

12 The questionnaire had one part related to SAR costs which contained three questions to clarify the responsible entities for SAR provision, cross-border arrangements for SAR services, and the rationale behind including or excluding SAR costs in the RP3 performance plans of the Member States. The full list of questions and the exact answers provided by NSAs are provided in the Annex of this report. It should be noted that NSAs were

<sup>3</sup> Regulation (EC) No 549/2004 laying down the framework for the creation of the Single European Sky, OJ L 96, 31.3.2004, p.1 - 8.

<sup>4</sup> Regulation (EC) No 550/2004 on the provision of air navigation services in the Single European Sky, OJ L 96, 31.3.2004, p.10 - 19.

<sup>5</sup> Convention on International Civil Aviation, Doc 7300/9, Ninth Edition – 2006.

<sup>6</sup> Annex 12 to the Convention on International Civil Aviation – Search and Rescue, this edition incorporates all amendments adopted by the Council prior to 24 February 2004 and supersedes, on 25 November 2004, all previous edition of Annex 12 – Eighth Edition, July 2004, International Civil Aviation Organization.

<sup>7</sup> Doc 9082, “ICAO’s Policies on Charges for Airports and Air Navigation Services”, approved by the Council and published under its decision – Ninth Edition, 2012, International Civil Aviation Organization.

<sup>8</sup> Doc 9161, “Manual on Air Navigation Services Economics”, approved by the Secretary General and published under his authority – Fifth Edition, 2013, International Civil Aviation Organization.

<sup>9</sup> Eurocontrol, Central Route Charges Office: “Guidance on the route charges system”, June 2012.

<sup>10</sup> Eurocontrol, Central Route Charges Office: “Principles for Establishing the cost Base for En-Route Charges and the Calculation of the Unit Rates” (Doc. 20.60.01), January 2020.

<sup>11</sup> “Supporting Material on Cost Bases for Charges and Unit Rates for Air Navigation Services” and “Supporting Material for the Development of Draft RP3 Performance Plans”, developed by EY and Egis upon request of the European Commission Directorate-General for Mobility and Transport (DG MOVE), May 2021.

responsible for coordinating the responses with the SAR service provider.

### 2.3 Comparison with reported data

- 13 In addition to the responses to the questionnaire, the study also analysed relevant data from the adopted performance plans and reporting tables submitted on 1<sup>st</sup> June 2023 by Member States (hereafter, “reporting tables”). By looking at different data sources, this report aims to provide a better understanding of the prevailing landscape concerning the establishment, allocation, and reporting of costs related to SAR service provision.
- 14 In this report, the figures extracted from the reporting tables relate exclusively to the en route service area unless otherwise stated. Based on the reporting tables, Ireland and Norway were the only Member States that allocated SAR costs to the terminal service area in 2022. Given the small amounts associated with these allocations, only en route costs are analysed in this report.<sup>12</sup>
- 15 For most Member States dedicated tables exclusively for SAR provision are unavailable. As a result it has not been possible to calculate real-term values. Hence, all numerical figures in this report are presented in nominal terms.

### 2.4 Fact-verification

- 16 To clarify and confirm the responses received from the SAR questionnaire and the data reviewed in the reporting tables, the PRB conducted follow-up meetings with a pre-selected group of NSAs. These were NSAs that represented different approaches taken with respect to the reporting of search and rescue costs. The NSAs involved in this step are listed in Section 5 of the Annex. In these meetings, the NSAs could be accompanied by the SAR provider(s) to help provide further explanation on the data provided. The PRB wrote minutes for each meeting and agreed the record with the NSAs. This record was used as a source of information for this report. Where a meeting was not able to be arranged in time, certain NSAs provided the PRB with a written response to a series of follow-up questions.

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<sup>12</sup> Norway allocated the entire sum of SAR costs to the terminal area, which amounted to 8,000€, while Ireland allocated 17% of the SAR costs to the terminal in 2022, equalling to 26,000€.

### 3 CURRENT REGULATORY FRAMEWORK AND GUIDANCE MATERIAL

17 This section describes the current regulatory requirements and existing guidance material to establish the costs of SAR services for air navigation and the allocation between en route and terminal services.

#### 3.1 SAR service provision

18 The ICAO framework provides a definition of SAR services where Chapter 1 of Annex 12 reads:

- *"Search and rescue service. The performance of distress monitoring, communication, coordination, and search and rescue functions, initial medical assistance or medical evacuation, utilizing both public and private resources, including cooperating aircraft, vessels, and other installations".*

19 The ICAO framework also provides an explanation of how SAR services should be organised. Chapter 2, point 2.1.1.2 of Annex 12 reads:

- *"The Contracting States shall, individually or in cooperation with other States, arrange for the establishment and prompt provision of search and rescue services within their territories to ensure that assistance is rendered to persons in distress".*

20 Chapter 2, point 2.1.1.2 of Annex 12 reads:

- *"Basic elements of search and rescue services shall include a legal framework, a responsible authority, organised available resources, communication facilities and a workforce skilled in coordination and operational functions".*

21 Neither the SES Framework Regulation nor the SES Service Provision Regulation do not explicitly refer to SAR services. However, the Regulation outlines procedures for the reporting of SAR costs, where applicable, as outlined in section 3.2 below.

#### 3.2 SAR cost allocation

22 As outlined in section 3.1, the SES Service Provision Regulation does not mention SAR costs. However, Article 15(1) of the Regulation is relevant and reads:

- *"The charging scheme shall be based on the account of costs for air navigation services incurred by service providers for the benefit of*

*airspace users. The scheme shall allocate these costs among categories of users"*

23 The Eurocontrol 2020 report outlines the principles that define how Eurocontrol Member States should establish the costs incurred in the provision of aviation services.<sup>10</sup> As such, the report contains a definition of SAR costs, identifying them as expenses related to *"search and rescue services provided to civil aviation by any permanent establishment of facilities and personnel maintained for the purposes of providing such services"*.

24 Furthermore, Annex 12 of the Convention on ICAO and the Eurocontrol 2020 report provides examples of SAR facilities and services which are designated primarily or exclusively for civil aviation, or which are available to perform aeronautical SAR functions when required, including:

- Rescue coordination centres (RCC(s) or ARCC(s));
- Rescue sub-centres (RSC(s) if any);
- Long, medium, and short-range aircraft (including helicopters and ultra-long range or extralong range aircraft);
- Rescue boats and vessels; and/or
- Mountain rescue units and any other units, forces or facilities.

25 ICAO Doc 9161 provides a definition of SAR costs as well, stating that the costs encompass expenses associated with search and rescue services specifically provided to civil aviation.<sup>8</sup> This includes the costs for maintaining permanent establishments, facilities, and personnel dedicated to offering such services. The facilities may consist of RCCs and, if applicable, RSCs. Additionally, SAR costs also cover the use of various types of aircraft such as long, medium, and short-range aircraft, helicopters, ultra-long or extra-long-range aircraft, as well as rescue boats and vessels, mountain rescue units, and other units, forces, or facilities designated primarily or exclusively to perform aeronautical search and rescue functions when required.

26 Recognising that these facilities can also be used to provide search and rescue to other sectors, the Eurocontrol 2012 report provides some guidance for allocating between ANS and other sectors, as follows:

- *“Incremental costs may be included provided that they were specifically incurred for civil aviation rescue missions which were carried-out during a given financial year. This would apply to permanent establishments and possibly to seconded resources which were engaged in these missions”.*
  - *“The fixed costs incurred by any permanent establishment with a view to maintaining a capability to perform SAR missions may be taken into account on the basis of the average actual use of this capability for civil aviation rescue missions. This average should be calculated for a significant period of time, e.g. the last 10 years”.*
- 27 Some Member States have referenced the use of a principle in ICAO Doc 9082 to split costs between ANS and other sectors. This principle (Section III, point 6(viii)) states *“Charges should be levied in such a way that no facility or service is charged for twice with respect to the same utilization. In cases where certain facilities or services have a dual role (for example, approach and aerodrome control as well as en-route air traffic control), their cost should be equitably allocated for charging purposes.”*
- 28 Concerning the allocation of SAR costs between en route and terminal services, the Eurocontrol 2012 report highlights the absence of specific guidelines for such a methodology. Specifically, the guidance reports that *“neither the Principles nor the ICAO manual provide specific guidelines for allocating SAR costs between en route and aerodrome/approach control services. The phase of operation where accidents occur does not seem to be relevant in the allocation of SAR costs. In absence of further indication, all SAR costs as defined in accordance with the Principles may be allocated to en route services.”*
- 29 The Regulation gives Member States the flexibility to decide to incorporate SAR costs into the ANS cost bases. If SAR costs are included, the costs must be diligently reported, in the performance plan, reporting tables, annual monitoring reports, and cost risk-sharing reports, if applicable.<sup>13</sup>
- 30 It is important to note that even when a Member State chooses to include SAR costs within the ANS cost base, Article 31(3), point (d) and Article 31(5) of the Regulation ensure that SAR flights are exempted from en route charges and, optionally, from terminal charges.
- 31 Additionally, if SAR costs are provided by the NSA or the Member State, determined SAR costs are exempted from the traffic risk sharing mechanism as per Article 27(6), point (a) of the Regulation i.e. the traffic risk is fully borne by airspace users and leads to adjustments in year n+2 based on the difference between the traffic forecast and actual traffic.<sup>14</sup> Conversely, traffic risk sharing applies to SAR costs if included under the cost base of an ANSP.
- 32 SAR costs are, however, subject to the cost risk sharing mechanism laid down in Article 28 of the Regulation. Article 28(3) points (a), (c), (d) and (e) are applicable to SAR costs if included under an ANSP cost base, while Article 28(3), point (b) is applicable if SAR costs are included under NSA cost base. In this context, the inclusion of SAR costs either in the ANSP cost base or in the NSA cost base results in a different application of the cost risk sharing mechanism for the same service.
- 33 Specifically, if SAR costs apply to any of the criteria outlined in Article 28(3), points (a), (c), (d), and (e) of the Regulation, the cost difference should be distributed between the ANSP or Member State and airspace users. Conversely, if SAR costs fall under Article 28(3) point (b) *“incurred by a competent authority or qualified entity”*, the entire cost difference is passed on to airspace users, in accordance with Article 28(5).

### 3.3 SAR cost reporting

- 29 The Regulation gives Member States the flexibility to decide to incorporate SAR costs into the ANS cost bases. If SAR costs are included, the costs must be diligently reported, in the performance

<sup>13</sup> When SAR costs are to be recovered from airspace users, these costs should be reported in line 2.5 of Table 1, as stipulated in Annex VII of the Performance and Charging Scheme Regulation. Furthermore, in the additional information from the reporting table, comprehensive details must be provided regarding the computation of these costs and the methodology employed for the allocation between civil aviation and other sectors.

<sup>14</sup> As per point (b) of Article 15(2) of Regulation (EC) No 550/2004.



## 4 SAR SERVICE ANALYSIS

34 This section summarises the findings on the SAR service provision and cost reporting across the Member States, as assessed using information from the questionnaire, reporting tables, and the performance plans.

35 Figure 1 illustrates the trend in SAR en route costs in nominal terms. Since 2016, SAR costs have exhibited a steady increase, with an annual average growth rate of +7%. Notably, from 2019 to 2022, SAR costs increased by +26%, from 60M€ to 76M€. By 2024, Member States planned to reach a total of 74M€ in determined SAR costs.

36 The rise of SAR costs in 2021 and 2022 may be partially attributed to the increase of inflation observed during those years. Across the EU Member States, the Harmonised Index of Consumer Prices (HICP) exhibited a growth rate of 2.9% in 2021 and to 9.2% in 2022. In Switzerland, the HICP growth rate was 0.5% in 2021 and increased to 2.7% in 2022. Similarly, Norway recorded a HICP growth rate of 3.9% in 2021, rising to 6.2% in 2022.<sup>15</sup>

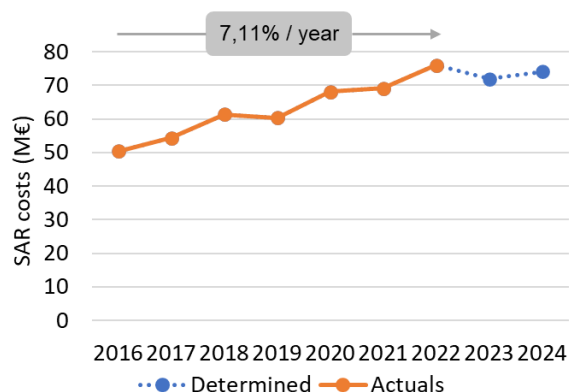


Figure 1 – Union-wide SAR costs from 2016 to 2024 in nominal terms, based on the en route actual costs and determined costs reported by the Member States (source: PRB elaboration on the reporting tables).

37 Despite this increase, Figure 2 shows that the proportion of SAR-related costs in the ANS en route total costs at Union-wide level is expected to stabilise at approximately 1.1%.

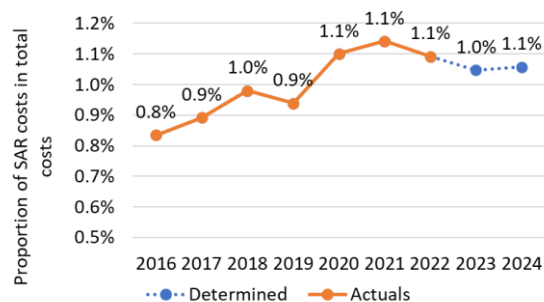


Figure 2 – Union-wide proportion of SAR costs in total costs from 2016 to 2024 in nominal terms, based on the actual costs and determined costs reported by the Member States (source: PRB elaboration on the reporting tables).

### 4.1 Types of SAR service providers

38 According to the replies to the questionnaire, the provision of SAR services in civil aviation involves a collaborative effort among multiple entities. Table 1 presents an overview of the various legal arrangements governing SAR service provision, which typically fall into the following categories:

- The ANSPs that provide air traffic services, also provides SAR services as part of its ANS offering;
- Several institutions (including military), collaborate closely to provide SAR services; and
- SAR services are provided by a collaboration between the ANSP(s) and national public bodies.

Member States with SAR services provided by:		
ANSPs	Public entities	Collaboration between the ANSPs and public entities
Finland and Luxembourg	Croatia, Cyprus, Denmark, Estonia, Germany, Greece, Hungary, Ireland, Italy, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain, Sweden and Switzerland.	Austria, Bulgaria, Czech Republic, France, Latvia, Lithuania, Romania and Slovenia.

Table 1 – Configurations in place to provide SAR services (source: PRB elaboration on the questionnaire).

39 In Finland and Luxembourg, the ANSPs provide SAR services. In Luxembourg, the national ANSP functions as the Rescue Sub Centre, while in

<sup>15</sup> Source of data: Eurostat (online data code: PRC\_HICP\_AIND\_\_custom\_2523854).

Finland, Fintraffic ANS/ARCC Helsinki is tasked with providing aeronautical SAR services in accordance with the Aviation Act in Finland. Fintraffic ANS/ARCC Helsinki assumes responsibilities such as gathering pertinent information, notifying cooperative authorities and assisting organisations, coordinating actions among participating units, planning and executing airborne search activities, and pinpointing distressed aircraft. Following the location of an aircraft in distress, ARCC ensures that rescue services reach the scene of the accident to initiate the final rescue operation.

#### 4.2 SAR cost allocation

- 40 Based on the information gathered from the reporting tables, 19 out of the 29 Member States include SAR costs in their ANS cost bases included in the performance plans. Among these Member States, nine include SAR costs in the ANSP cost bases, while ten Member States include them in NSA cost bases.<sup>16</sup> The additional information provided in the reporting tables shows that most Member States where SAR costs are included in the ANS cost base did not provide specific details regarding the allocation methodology for SAR costs between civil aviation and other sectors. The PRB used the follow-up meetings to obtain more information on the SAR allocation methodologies of Cyprus, Greece, Hungary, Latvia, and Spain.
- 41 Where reported, the allocation methodologies show significant diversity in approaches taken. However, where a sharing key is used between ANS and other sectors, the ratio of 50/50 tends to be used. Some Member States justified this allocation by pointing to alignment with a broad principle in ICAO Doc 9082 (detailed in section 3.2 above), although it should be noted that this principle advocates for the equitable, not necessarily equal, cost allocation of facilities or services with dual roles.
- 42 For example, Cyprus reported a 50% allocation of its SAR costs to the ANS cost base, considering the large area covered by the Nicosia FIR. These costs include outsourced services from other governmental departments and are split equally between aviation and maritime. In the follow-up meeting, Cyprus clarified that the 50/50 allocation between ANS and maritime is not based on specific calculations. In their view, the significance is not primarily determined by the number of SAR events, but rather by the probability of these incidents occurring and the readiness of a SAR service to offer support if necessary.
- 43 Hungary that reported a 50/50 allocation is used to separate aviation with SAR services provided to other areas. A written response to a series of follow-up questions clarified the use of a two-tier allocation system where, within the SAR services allocated to aviation, there is a 90/10 allocation split between civil and non-civil aviation. Therefore, in total 45% of SAR costs in Hungary are allocated to civil aviation.
- 44 Greece is another Member State that reported a 50/50 allocation key. The follow-up meeting clarified that 50% of the total SAR costs of the Hellenic Air Force were allocated to civil aviation. The other 50% remaining is allocated to other sectors. Greece further clarified that – as the Hellenic Coast Guards also provide SAR support to the Air Force, 12.9% of the total cost of the Coast Guards was also allocated to civil aviation.
- 45 On the other hand, there are other Member States that follow different methodologies. For example, Spain and Latvia follow the guidance provided in the Eurocontrol 2012 report (summarised in section 3.2).
- 46 In the case of Spain, during the follow-up meeting the representatives from the Spanish Air Force explained that they use the CANOA systems to allocate SAR services in the Continental and Canarias charging zones. This system designates each SAR unit as a centre based on three pillars: Traffic, activity (percentage SAR activity dedicated to civil purposes), and SAR commitment (equipment dedicated to civil SAR). The distribution of costs varies according to mission type, with maritime missions assigned to maritime costs and aeronautical missions to aeronautical costs. During the years 2020-2021, 118 out of a total of 733 hours were dedicated to civil commercial aviation SAR.
- 47 In Latvia, a written response to a series of follow-up questions explained that SAR staff costs are allocated to civil aviation based on hourly rates to ensure radiotelephony communications 24 hours a day, while the costs of operating helicopters for practical training are allocated based on cost per flight hour. Expenses associated with the Air

<sup>16</sup> While Ireland is one of the 19 Member States that reported SAR costs in the reporting tables, SAR costs are only reported from 2022 onwards.

Traffic Controller System for Riga Area Control Centre (ATRACC) are also allocated to civil aviation. For Latvia, SAR costs have only been incorporated into the performance plan starting from 2022.

- 48 Finally, Croatia reported that SAR costs related to civil aviation are mainly financed by the State budget and those included in the cost base entail the purchase of goods and services used by the National Protection and Rescue Directorate responsible for SAR.
- 49 With respect to the allocation of costs between the en route and terminal charging zones, the majority of Member States who report SAR costs, allocate them to en route based on the Eurocontrol 2012 guidance. From information in the reporting tables, Ireland and Norway were the only Member States that allocated SAR costs to the terminal service area in 2022. Norway allocated all SAR costs to terminal, while Ireland allocated 17% of SAR costs to terminal in 2022. It is worth noting that, in 2022, the majority of accidents and serious incidents took place in the take-off, approach and landing phase of a flight.<sup>17</sup>

#### 4.3 Analysis of SAR total costs at Union-wide level

- 50 To expand on the allocation of SAR costs examined in the previous section, this section explores the SAR data derived from the reporting tables.
- 51 The figures on the next page (Figure 3 and Figure 4) present a view of the SAR actual costs in 2022 for all Member States who reported SAR costs. Figure 3 (next page) shows the SAR actual costs in

2022 in absolute terms, while Figure 4 (next page) shows these as a percentage of the total ANS actual costs of each Member State.

- 52 In absolute terms, Spain had the highest SAR costs, amounting to approximately 23M€. <sup>18</sup> However, when considering the relative impact of SAR expenses on total ANS actual costs, Cyprus attributed some 20% to SAR, followed by Estonia (12%) and Greece (6%). Conversely, Ireland, France, and Poland reported SAR related costs as near 0% of the total actual en route costs.
- 53 In the reporting tables, Cyprus highlighted that SAR and ancillary services operate 24/7 to cover the vast Nicosia FIR, which mainly consists of high seas and extends beyond the national airspace, which could account for the relatively high SAR cost as a proportion of total ANS cost. Interestingly, Cyprus highlighted a reduction in SAR costs during RP3 compared to 2019 (variation of -9.4% in SAR actual costs between 2019 and 2022), which resulted from a modification in the cost assumptions associated with State entities participating in the national SAR provision.
- 54 In the follow-up meeting, Greece suggested that the high SAR costs could be due to the wide aeronautical area with numerous islands covered by the Hellenic SAR services that requires ten helicopters and two airplanes spread out over 11 bases. Greece further explained that the continental area is mountainous and includes 35 airports – some of them with international operations, meaning the authorities must cover a wider area than other Member States, resulting in greater SAR-related assets than other SES Member States.

<sup>17</sup> EASA 2023 Annual Safety Review.

<sup>18</sup> According to the reporting tables, the Spanish NSA clarified that there are planned investments scheduled between 2020 and 2024, which are attributed to the introduction of a new aircraft for SAR operations.

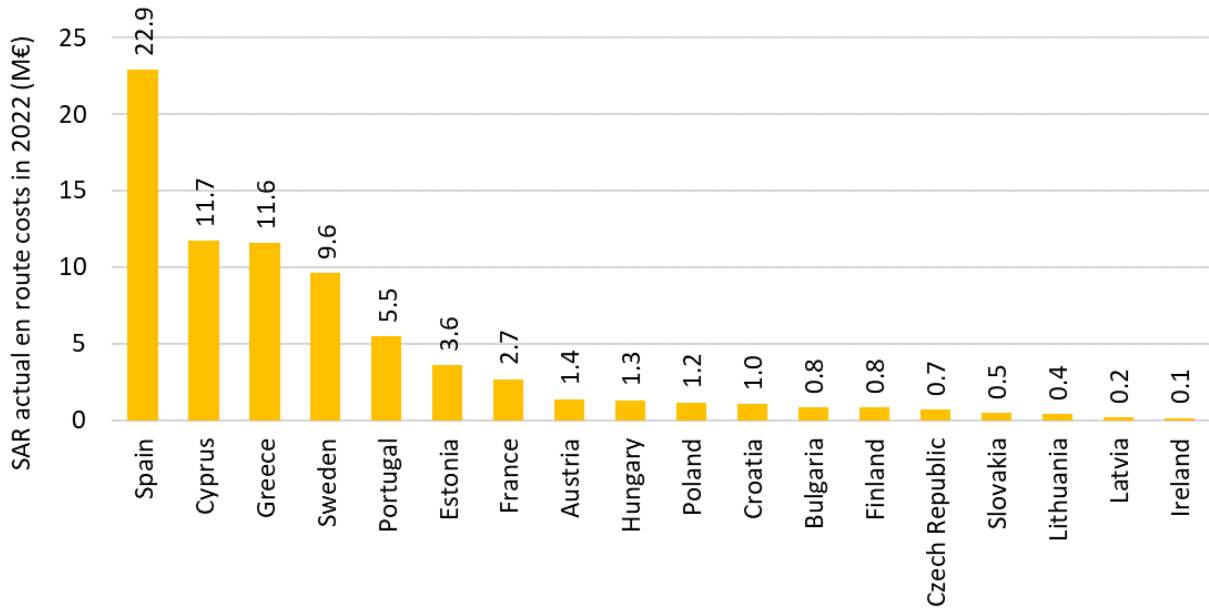


Figure 3 – SAR actual costs in 2022, in million euros (source: PRB elaboration on reporting tables).

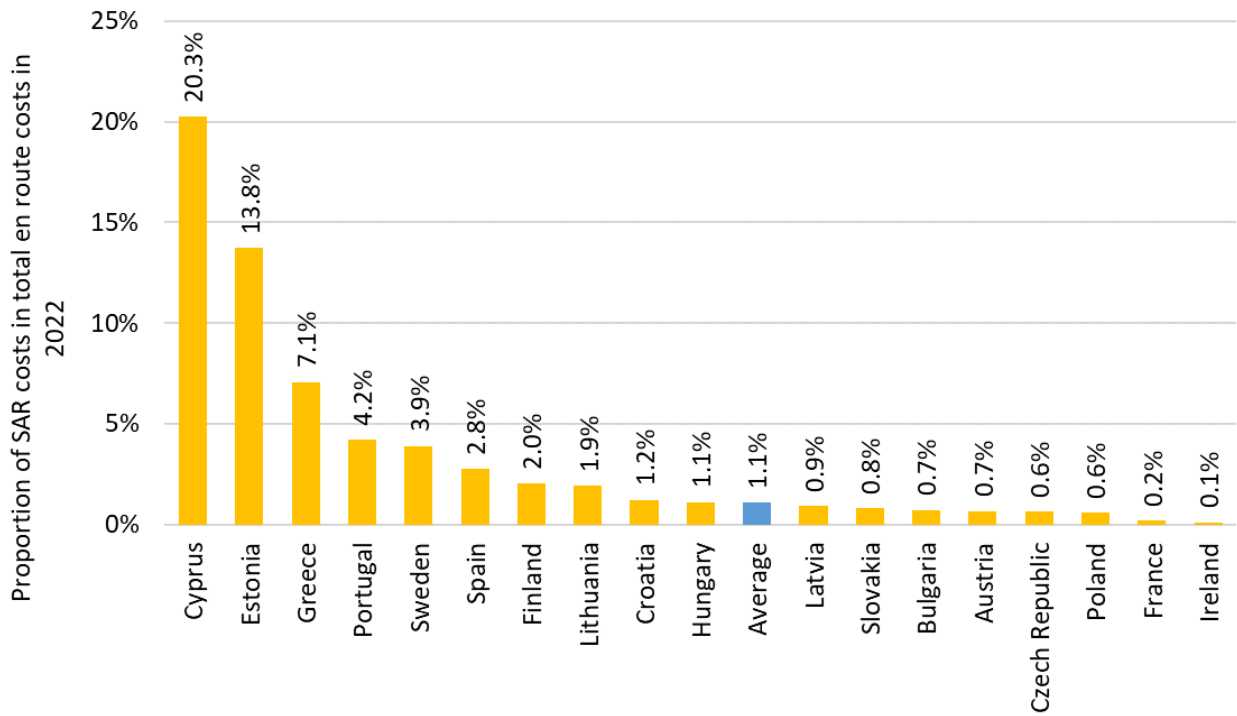


Figure 4 – SAR actual costs in 2022 as a percentage of total ANS actual costs (source: PRB elaboration on reporting tables).

55 Table 2 presents the annual growth of SAR total costs from 2018 to 2022, as reported by the Member States in the reporting tables.<sup>19</sup> During this period, Latvia experienced the highest average growth rate of SAR costs (+56%), followed by Bulgaria with +24%. At the same time, Poland and Hungary showed the most significant yearly reduction in SAR costs, with decreases of approximately -24% and -19%, respectively. These four Member States stand as outliers, significantly surpassing the majority of the Member States whose growth rates fall within the range of -7% to 7%.

Member State	Annual average growth (2018-2022)
Latvia	+56%
Bulgaria	+24%
Cyprus	+7%
Spain	+4%
Sweden	+2%
Portugal	+2%
Greece*	+2%
Croatia	+2%
Finland	+2%
Czech Republic	+1%
Average**	+1%
Estonia	0%
Lithuania	-1%
Norway	-2%
Austria	-2%
France	-5%
Slovakia	-7%
Hungary	-19%
Poland	-24%

Table 2 – Annual growth of SAR total actual costs between 2018 and 2022, in nominal terms (source: PRB elaboration on reporting tables).

\* Greece has reported SAR costs for the first time in RP3 performance plan (from 2020 onwards).

\*\* Excluding Greece.

56 The significant variations in SAR costs may be partly attributed to the relatively small amounts involved. For instance, Latvia experienced a relatively small increase in absolute terms of SAR costs, rising from 30K€ to 0.2M€ between 2018 and 2022. In a written response to a series of follow-up questions, Latvia attributed this

predominantly to the restructuring of the alerting SAR function in RP2 which increased costs during that period. Prior to this, the alerting function was a stand-alone function but the restructure merged it within ATC. Latvia further noted that during the height of the pandemic, the large drop in income meant that these functions were paid by the State budget and not recovered from airspace users.

57 Conversely, Poland and Hungary witnessed substantial reductions in SAR costs over the years. In 2018, both States had SAR costs of 3.5M€ and 3.0M€, respectively, which significantly decreased to 1.2M€ and 1.3M€ in 2022.

58 In a written response to a series of follow-up questions, Hungary explained that the drop in costs was mostly due to the sanctions imposed against Russia. The Hungarian Ministry of Defence was unable to procure spare parts for the helicopters in service due to their Russian origin. Additionally, maintenance costs were reduced by decreasing SAR exercises to the safety minimum. The procurement of new helicopters started in 2016 in order to provide SAR services from 2023/2024. This, led to reduced costs in 2022 as spending on the old fleet was not considered reasonable.

59 Poland also provided a written response to a series of follow-up questions where the reduction of SAR costs was attributed to the transition of SAR service responsibility from PANSA to a Civil-Military Air Search and Rescue Coordination Centre (ARCC Polska). Initially, higher costs between 2018 and 2020 were incurred due to the establishment and development of the SAR coordination function within PANSA with air traffic controllers (ATCOs) being allocated to SAR. However, once the Civil-Military Air Search and Rescue Coordination Center (ARCC Polska) was fully established and gained its own resources, knowledge, and expertise, it took over the responsibilities previously handled by the operational services of PANSA. This transition resulted in a decrease in costs, largely considering that higher-paid ATCOs were no longer being used to carry out SAR coordination activities.

#### 4.4 Cross-border arrangements

60 Part of the questionnaire requested the Member States to provide information on any cross-border

<sup>19</sup> In the table terminal SAR costs have been also considered to include the entire SAR costs of Norway. Ireland is not displayed in the table because SAR costs were only reported from 2022 onwards.

arrangements in place for SAR services to understand any associated impact on cost. It is common for neighbouring Member States to establish a regional SAR system through bilateral or multilateral agreements to collaboratively provide SAR services within a specific geographic area. By avoiding duplication of effort and facilities, the region subject to SAR agreements can enjoy more consistent and efficient SAR services.

61 Some advantages of cross-border arrangements may include:

- Reducing the number of RCCs by supporting a single RCC with contributions from multiple Member States, leading to increased proficiency and cost-effectiveness while streamlining distress alert distribution.
- Consolidating communication databases and facilities, allowing a single facility to serve multiple Member States and larger areas, facilitating data access for other RCCs, equipment registration for users, and more affordable communications support for Member States.
- Conducting training on a regional basis, making it more extensive and cost-effective.
- Sharing of assets, some of which are potentially better equipped for SAR operation.

62 To gain a comprehensive understanding of the prevalence and extent of cross-border SAR agreements between Member States, the questionnaire requested respondents to provide details about the existing cross-border agreements and the operational implications.

63 The replies revealed that cross-border arrangements for SAR services varied among States. 20 Member States have established cross-border agreements with neighbouring States to ensure mutual support and coordination in SAR operations. A further breakdown of the answers to this question can be seen on Figure 5.<sup>20</sup>

64 Several Member States provided detailed information about cooperation arrangements with neighbouring States in SAR operations. For instance, Czech Republic has established direct telephone contact between its RCC and

neighbouring RCCs for cross-border coordination in searching for aircraft, and SAR helicopters maintain operational coordination with the RCC for search operations.

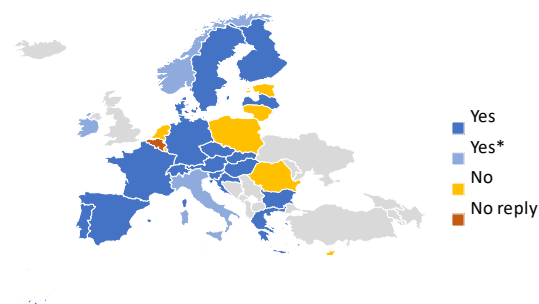


Figure 5 – Map of Member States with cross-border agreements in place (source: PRB elaboration).

65 Denmark mentioned involvement in SAR missions inside the search and rescue regions of other States or providing SAR assets for rescue missions.

66 Finland regularly shares information about the national resources available for cross-border operations with neighbouring States.

67 Under the SAR MED/OCC agreement between France, Spain, and Italy, each partner takes turns providing the secretariat for two years to facilitate mutual SAR operations, share best practices, and plan joint SAR exercises. In addition, Spain reported multiple international agreements that involve the provision of assistance in SAR operations, including across borders when necessary. These agreements contribute to effective coordination and mutual support in SAR efforts among the respective States.

68 Latvia supports neighbouring States with Coast Guard ships, while Lithuania, Estonia, and Sweden can provide support with SAR specific aircraft over the high seas.

69 Not all Member States have formal cross-border arrangements in place for the provision of SAR services, instead relying on national resources and legal requirements to handle SAR operations within the territories.

<sup>20</sup> Although Ireland, Italy, and Norway have responded negatively about the existence of SAR cross-border agreements, they are represented as “Yes\*” on the map. This is based on responses from other Member States asserting the presence of cross-border agreements with those Member States.

## 5 CONCLUSIONS AND RECOMMENDATIONS

- 70 The questionnaire and follow-up meetings have shown that Member States have interpreted the current regulatory framework and associated guidance material regarding SAR services in different ways. The PRB notes that the additional information of the reporting tables submitted by the Member States does not contain any specific question concerning SAR costs. NSAs respond based on the local SAR service organisation or include SAR-related methodologies within the broader context of ANS costs. This results in less detailed information being provided by Member States, leading to a lack of understanding about how SAR costs are calculated and accounted for across Member States.
- 71 The main guidance material on SAR cost allocation is contained in the Eurocontrol 2012 “Guidance on the route charges system”. When allocating between civil aviation and other sectors, many Member States do not follow this guidance, instead opting to use a broad sharing key that is often a 50/50 split between ANS and other sectors. Some Member States justified this allocation by pointing to alignment with a broad principle in ICAO Doc 9082 (Section III, point 6(viii)), although it should be noted that this principle advocates for the equitable, and not necessarily equal, cost allocation of facilities or services with dual roles.
- 72 Member States are, in addition, not specifically requested by the Regulation to provide data on national total SAR costs, resulting in difficulties in understanding exactly what is included as part of the ANS SAR costs.
- 73 Conversely, when allocating SAR costs between en route and terminal services, the majority of Member States followed the Eurocontrol 2012 guidance and allocated the costs to en route. At the same time, it should be noted that, in 2022, the majority of accidents and serious incidents took place in the take-off, approach and landing phase of a flight.
- 74 In conclusion, the diverse nature of SAR cost reporting in Member States underlines the necessity for improving the transparency and consistency of the information provided by Member States. In view of this, the PRB has the following recommendations:
- 75 **Recommendation 1:** Update the performance plan template to align and enhance the reporting by Member States of the methodologies employed to allocate SAR, without imposing excessive administrative burden.
- 76 **Recommendation 2:** Develop additional technical guidance material, building on the findings of this report, to clarify the methodology for providing SAR cost information. This would address, in particular, the following subjects:
- Clarification of the eligible costs;
  - Methodology of cost allocation between civil aviation and other sectors;
  - Methodology of cost allocation among charging zones for cases outside the scope of the Regulation; and
  - Establishment of transparent reporting procedures.