

# 2023 Traffic Light System for Environmental Performance

September 2024

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## 1 ABOUT THE DOCUMENT

- 1 The traffic light system for environmental performance (Traffic Light System) forms part of the PRB annual monitoring process. This report presents the results of the Traffic Light System for the year 2023 and the scorecards, which visualise the 2023 environmental performance of Member States.
- 2 The Traffic Light System presents the information relating to environmental performance captured within the Commission Implementing Regulation (EU) 2019/317 (hereafter the Regulation) in a simplified manner.<sup>1</sup> It rates the performance of the horizontal flight efficiency (KEA) for each Member State against the Union-wide targets and assesses the performance in the terminal zone and taxi-out phases of operation.
- 3 The objective of the Traffic Light System is to alert each Member State to environmental performance and to highlight areas where ANSPs can potentially improve. This is a useful tool to promote discussion.
- 4 The Traffic Light System assesses environmental performance from 2016 to 2023 and compares the output of the indicators within the environment Key Performance Area (KPA) established in the Regulation rather than considering specific actions taken to influence environmental performance. The result of the Traffic Light System is an environmental score based on the actual performance observed for each Member State in 2023.
- 5 The methodology and approach of the Traffic Light System remain unchanged from the previous report published in 2022.<sup>2</sup>

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<sup>1</sup> Commission Implementing Regulation (EU) 2019/317 of 11 February 2019 laying down a performance and charging scheme in the Single European Sky.

<sup>2</sup> Please refer to the methodologies set out in the [PRB 2021 monitoring: Traffic Light System for environmental performance](#) and the [PRB 2022 monitoring: Traffic Light System for environmental performance](#) for the updated methodology.

## 2 THE TRAFFIC LIGHT SYSTEM

### 2.1 *Current measures of performance*

- 6 The horizontal en route flight efficiency is defined as a deviation from the shortest route (measured as the great-circle distance). Focusing on the shortening of the horizontal route, the target aims to encourage the minimisation of extra miles flown and excess fuel burn.
- 7 The Union-wide targets set for KEA acknowledge that zero deviation is not possible or desirable, because external factors (such as meteorological conditions and airspace circumnavigation due to military activities) influence the actual routes flown. These factors are considered in setting the targets. These and other external factors are taken into consideration by airspace users when making decisions of the routes to be flown. In its Annual Monitoring, the PRB reports on how Member States contribute to achieving the Union-wide targets for horizontal flight efficiency.
- 8 Member States can implement financial incentives for achieving the environmental targets in reference period 3 (RP3) but are under no obligation to do so. To date, no Member State has implemented any such incentive arrangement; perhaps because some elements of horizontal en route flight efficiency lie outside the control of those being incentivised.
- 9 In addition to the en route phase, the Traffic Light System considers the other phases of the flight for which data is reported annually. This enhances the scope of the Traffic Light System to provide a broader coverage of performance.

### 2.2 *Principles of the Traffic Light System*

- 10 The PRB has defined the following key principles which underpin the Traffic Light System:
  - To cover gate-to-gate flight stages as far as possible based on available data for Key Performance Indicators (KPIs) and Performance Indicators (PIs) reported under the Regulation;

- To analyse environmental performance of Member States by comparing their own performance and identifying potential for improvement;
- To assess performance compared to the expected contribution to the Union-wide targets for KEA, where possible; and
- To consider, as far as possible, a Member State's and an ANSP's ability to influence performance.

### 2.3 *Geographical scope*

- 11 The Traffic Light System uses the same geographical scope as the PRB Annual Monitoring Report (i.e. the Member States of the Single European Sky, which includes the 27 Member States of the European Union plus Norway and Switzerland).

### 2.4 *Data used*

- 12 The Traffic Light System includes data from 2016 to 2023. The data between 2016 and 2019 is based on the reporting under RP2 of the performance and charging scheme. From 2020 it is based on the data reported in RP3. The impact of an assessment spanning two reference periods with different scopes was discussed in the Traffic Light System report for 2021.<sup>3</sup>
- 13 As in previous reports, for the 2023 Traffic Light System report, the PRB used data on en route KEA additional taxi-out time (AXOT), additional time spent in the arrival sequencing and metering area (ASMA) and on the percentage of flights performing continuous descent operations (CDO) published by Eurocontrol.<sup>4</sup>
- 14 Additionally, the PRB has made use of the free route airspace and flexible use of airspace implementation data provided by the Eurocontrol's NMD/INF Planning and Support Unit and by the SESAR Deployment Manager (SDM) to describe the current status of implementation.

<sup>3</sup> [Section 3.4 of the 2021 Traffic Light System](#): For RP2 the reference values were for each functional airspace block rather than per Member State. Therefore, for 2015 – 2019 the traffic light system assesses FAB performance, with each Member of the FAB achieving the same score for performance of en route horizontal flight efficiency. For RP3 (2020 onwards) reference values and performance are reported per Member State.

<sup>4</sup> [Ansperformance.eu](#).

### 3 RESULTS FOR 2023

- 15 The results of the Traffic Light System for 2023 are shown in Figure 1 (next page). These results are presented to facilitate discussions about the variation in performance of specific Member States. A more in-depth analysis on the performance of each Member State is included in the PRB Annual Monitoring Report for 2023.
- 16 The results also include information on the Member States that have implemented enhanced free route airspace (FRA) (indicated by the colour and shape of the data points).
- 22 Alongside the deterioration of KEA, Member States have also experienced a deterioration of terminal environmental actual performance in 2023 compared to 2022. In most European airports there has been an increase in additional time in the ASMA and AXOT compared to 2022 in addition to a reduction in the percentage of arrivals performing CDOs. The results of ASMA, AXOT, and CDO had varying impacts on the traffic lights of individual Member States, and this is further analysed in the following paragraphs.

#### 3.1 Union-wide assessment

- 17 In 2023, the Union-wide environmental performance has deteriorated. The results show that:
- Three Member States are in the green category;
  - 18 Member States are in the amber category; and
  - Seven Member States are in the red category.
- 18 Similar to last year, this continued decline in performance is likely due to factors including the continued impact of Russia's war of aggression against Ukraine and issues resulting from a lack of capacity.
- 19 Traffic in Europe has increased in 2023 reaching 91% of the 2019 levels. Despite the lower levels of traffic compared to pre-COVID19, the Union-wide KEA performance target of 2.40% has not been met and overall performance has deteriorated to a KEA of 2.99%.
- 20 2023 marks the first full year of Russia's war of aggression against Ukraine, and this has contributed to the continued decline in KEA performance. Member States with airspace in the proximity of closed airspace in Belarus, Ukraine, and Russia have experienced a continued loss in overflights from Middle Eastern and Asian traffic, which has rerouted via South-Eastern Member States. Further detail on the 2023 impact of Russia's war of aggression against Ukraine can be found in the 2023 Annual Monitoring Report.
- 21 In addition to the challenging conditions as a result of airspace closures, the European network still observed high air traffic flow management delays relating to the continuing increase of traffic and subsequent capacity constraints.

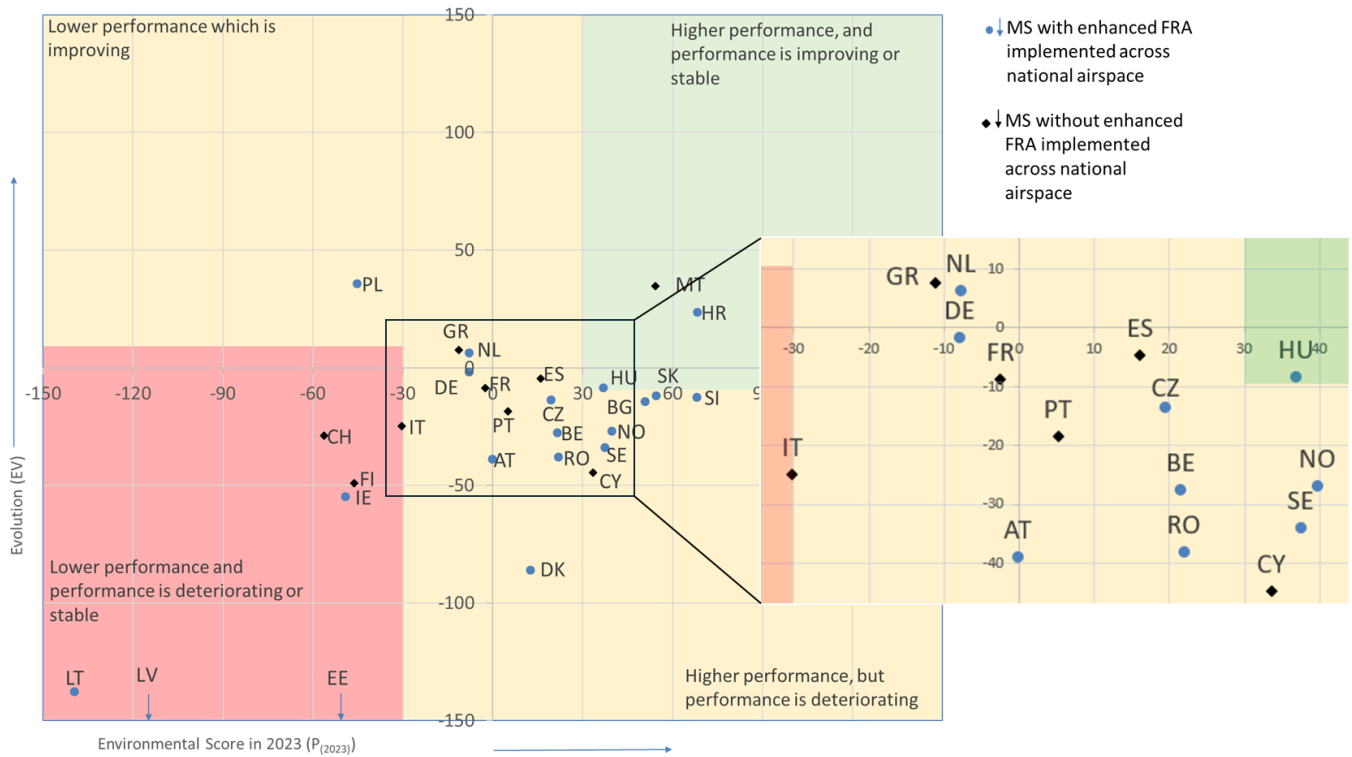


Figure 1 - Results of the Traffic Light System 2023, showing seven Member States in the red category, three in the green, and the remainder amber. Arrows indicate that a Member State's performance score is outside of the limits of the chart (source: PRB elaboration). Included is a zoom of the central cluster of Member States for ease of viewing.

### 3.2 Member State results

- 23 When analysing the environmental scores of 2023 (x-axis), three performance observations emerge:
- The five Member States with the highest scores are: Bulgaria, Croatia, Malta, Slovakia, and Slovenia.
  - The eight Member States with the lowest scores are: Estonia, Finland, Ireland, Italy, Latvia, Lithuania, Poland, and Switzerland.
  - There are 15 Member States with scores placing them in the centre of the axis: Austria, Belgium, Cyprus, Czech Republic, Denmark, France, Germany, Greece, Hungary, the Netherlands, Norway, Portugal, Romania, Spain and Sweden.
- 24 However, when comparing the performance of the Member States in 2023 against 2022 (i.e. the evolution shown on the y-axis), three performance observations emerge:
- The environmental score of three Member States shows a positive Evolution (EV): Croatia, Malta and Poland.
- The EV of 21 Member States' score is stable or with minor degradation: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and Switzerland.
  - The environmental score of four Member States has shown a strongly negative EV: Denmark, Estonia, Latvia, and Lithuania.
- 25 By the end of 2023, all Member States had implemented initial FRA across their national airspace and 19 Member States had implemented enhanced FRA (noting that implementation is mandated by the end of 2025).
- 26 Croatia, Malta, and Hungary have higher performance which is improving or stable and are in the green area. Like in 2022, for Malta, this may partially result from the extension of FRA at the end of 2021.<sup>5</sup> Seven Member States have comparatively lower performance and are in the red area:

<sup>5</sup> The lower limit of FRA was extended from FL315 to FL195. It is worth noting, that the implementation of FRA varies considerably between Member States, for example, by flight levels, times of operation, and cross-border operations.

Estonia, Ireland, Italy, Finland, Latvia, Lithuania, and Switzerland. The remaining 18 Member States are in the Amber area. Compared to 2022, five Member States have changed their traffic light colour (one of which moved from red to amber, one from amber to red, two from amber to green and one from green to amber).

### 3.3 Individual indicator results

- 27 In total, 13 Member States have improved their KEA score. Bulgaria, Finland, Germany, Greece, Hungary, Lithuania, Malta, the Netherlands, Poland, Slovakia, Spain, Sweden and Switzerland have displayed an improvement in KEA scores. The KEA score has deteriorated for 15 Member States with Cyprus, Denmark, Estonia, Ireland and Latvia showing the highest deterioration.
- 28 When it comes to the scores of the terminal indicators, the Member States with the highest improvements and deteriorations are the same as in 2022. In fact, like in 2022's Traffic Light System, Denmark has had the highest deterioration in ASMA followed by Switzerland and Austria, while Croatia, Ireland, and Poland, in contrast, have the most significant improvement in their respective scores. Cyprus and Lithuania did not report their ASMA times for 2023.<sup>6</sup> Further analysis of the factors impacting terminal performance can be found in the 2023 Annual Monitoring Report.
- 29 For CDOs, Denmark, Malta, and Italy show the most marked deterioration. By contrast, Portugal, Cyprus, and Croatia showed the most significant improvement in their respective scores.
- 30 Austria showed the highest deterioration in AXOT score followed by Norway and Switzerland, while Ireland, Estonia and Greece showed the highest improvement in their respective scores. As in the case of additional ASMA time, Cyprus and Lithuania did not report their AXOT times for 2023 (see footnote 6).
- 31 Table 1 (next page) presents a commentary on the main drivers of change in the Traffic Light System results for 2022 and 2023 for each Member State.

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<sup>6</sup> According to the Regulation, airports below 80,000 IFR movements average during the 2016-2018 period are not monitored.



Member State	2022	2023	Main changes to performance scores in 2023
Austria	●	●	KEA score is better than SES average and has remained stable in 2022. The AXOT score is worse than the SES average and has deteriorated significantly.
Belgium	●	●	KEA score is similar to SES average and has remained stable compared to 2022, while the AXOT and ASMA time scores deteriorated.
Bulgaria	●	●	KEA score is similar to SES average and has remained stable compared to 2022. The AXOT and ASMA time scores have also improved.
Croatia	●	●	KEA score is similar to SES average and remained stable compared to 2022, while the ASMA time score improved significantly.
Cyprus	●	●	KEA score is similar to SES average and deteriorated marginally compared to 2022. The CDO score is better than SES average and improved in 2023.
Czech Republic	●	●	KEA score is similar to SES average and remained stable compared to 2022, while the ASMA time score improved. The AXOT score deteriorated.
Denmark	●	●	KEA and ASMA time scores are similar to SES average and deteriorated compared to 2022. The CDO score is better than SES average and deteriorated.
Estonia	●	●	KEA score is worse than SES average and deteriorated compared to 2022. The AXOT score is better than the SES average and has improved significantly.
Finland	●	●	KEA score is worse than SES average but improved compared to 2022. CDO score is better than SES average and has improved slightly.
France	●	●	KEA score is similar to SES average and remained stable compared to 2022 whilst, the AXOT score is worse than the SES average and has degraded in 2023.
Germany	●	●	KEA score is similar to SES average and remained stable compared to 2022. The AXOT score has deteriorated while ASMA time score has also improved.
Greece	●	●	KEA score is similar to SES average and remained stable compared to 2022. The AXOT score has also improved in 2023 whilst both CDO and ASMA time scores improved marginally.
Hungary	●	●	KEA score is similar to SES average and marginally improved compared to 2022, and while the AXOT score improved significantly and the ASMA time score deteriorated, both are better than the SES average.
Ireland	●	●	KEA score is similar to SES average and deteriorated compared to 2022. AXOT and ASMA time scores are worse than SES average but have improved.
Italy	●	●	KEA score is similar to SES average and has remained stable compared to 2022. In 2023, the AXOT and CDO scores have deteriorated.
Latvia	●	●	KEA score is worse than SES average and deteriorated compared to 2022. AXOT score has improved while the ASMA time score, which is better than the SES average, has deteriorated.
Lithuania	●	●	KEA score is worse than SES average but has slightly improved compared to 2022.
Malta	●	●	KEA score is better than SES average and has remained stable compared to 2022. In 2023, the CDO score deteriorated, while the ASMA time score has improved marginally.
The Netherlands	●	●	KEA score is similar to SES average and has remained stable compared to 2022, and while the AXOT score has deteriorated, the ASMA time score has improved.
Norway	●	●	KEA score is better than SES average and has remained stable compared to 2022. In 2023, the ASMA time and AXOT scores have deteriorated.
Poland	●	●	KEA score is worse than SES average but has improved compared to 2022. In 2023, the ASMA time score has also improved whilst the AXOT score deteriorated.
Portugal	●	●	KEA score is better than SES average and has remained stable compared to 2022. The AXOT and ASMA time scores have deteriorated whilst the CDO score has improved.
Romania	●	●	KEA score is similar to SES average and has remained stable compared to 2022. In 2023, the ASMA time score has marginally improved.
Slovakia	●	●	KEA score is similar to SES average and improved marginally compared to 2022. CDO score has marginally deteriorated.
Slovenia	●	●	KEA score is similar to SES average and has remained stable compared to 2022 whilst the AXOT score has improved.
Spain	●	●	KEA score is better than SES average and has remained stable compared to 2022 whilst the AXOT score has improved and the CDO score has marginally improved.
Sweden	●	●	KEA score is similar to SES average and has slightly improved compared to 2022. AXOT and ASMA time scores are better than SES average but have deteriorated.
Switzerland	●	●	KEA score is similar to SES average and remained stable compared to 2022. AXOT and ASMA time scores have deteriorated.

Table 1 – Commentary on the evolution of Member State performance in the Traffic Light System from 2022 to 2023 (source: PRB elaboration).

## 4 CONCLUSION

- 32 Following on from the deterioration in performance seen in 2022, the 2023 Traffic Light System results reflect a continued Union-wide deterioration of environmental performance resulting from factors including the continuation of Russia's war of aggression against Ukraine, and capacity-related issues. These are analysed in more detail in the PRB Annual Monitoring Report 2023.
- 33 **Conclusion 1:** Most Member States have similar trends in performance in 2023 compared to 2022.
- 34 2023 sees three Member States with a green traffic light colour, 18 Member States with an amber colour while seven Member States have a red colour. Compared to 2022, five Member States have changed their traffic light colour (one of which moved from red to amber, one from amber to red, two from amber to green and one from green to amber). The majority of Member States are concentrated in the middle, amber area of the chart indicating that most Member States have similar trends in performance compared to the previous year.
- 35 **Conclusion 2:** The deterioration in KEA scores from 2022 to 2023 has negatively impacted the environmental performance of most Member States in the Traffic Light System.
- 36 In 2023, KEA continued to deteriorate to a value of 2.99% compared to 2.96% in 2022. This increase is mainly due to (i) the continued impact of Russia's war of aggression against Ukraine, marking the first full year of its negative effects on environmental performance caused by airspace closures; and (ii) capacity constraints within the network such as ATC capacity, ATM systems implementation, summer season traffic, and other non-ATC constraints (e.g. staff shortages at European airports). Given that the en route phase is the most intense stage of the flight in respect to CO<sub>2</sub> emission, the deterioration in KEA scores from 2022 to 2023 has negatively impacted the environmental performance of most Member States in the Traffic Light System.
- 37 **Conclusion 3:** The overall terminal environmental performance at European airports has deteriorated in 2023 and has followed the same trends as in 2022.
- 38 The highest deterioration of AXOT score remains in Austria, Norway, and Switzerland, while for

ASMA time score, the highest deterioration remains in Denmark, Switzerland, and Austria. Finally, Bulgaria, Ireland, and Norway have the highest deterioration in CDO scores.

## A. MEMBER STATES SCORECARDS

### *Reader's guide*

- 39 This section provides the Member States' scorecards that visualise the 2023 performance based on the items listed below.
- 40 The **main ANSP(s)** are those known to provide a significant amount of air navigation services (en route and terminal) within the Member State concerned.
- 41 The **traffic lights** cover years from 2016 to 2023 and have been determined based on the methodology in the 2021 Traffic Light System report, with some minor updates to the methodology highlighted in the 2022 Traffic Light System report.
- 42 The **2023 performance scores** are represented with a coloured dot. These scores are not based on absolute values, but on the standardised scores obtained based on the methodology defined in Section 3.4 of the 2021 Traffic Light System report.
- 43 A score of zero represents the average of the series for 2023 for AXOT, ASMA, and CDO, while KEA is compared to the average deviation from the Network Manager reference value. The colours have been assigned according to the standard deviation for each indicator, with the amber band being 0.5 standard deviations either side of the mean for the indicators and the standard deviation for the overall score being 25.52.
- 44 The **performance of 2022 and 2023** graph represents the weighted scores of years 2022 and 2023 based on the methodology defined in the 2021 Traffic Light System report. The performance in 2022 is indicated with a blue rhombus, while 2023 performance is indicated with a bar. A grey rhombus indicates that a Member State has not reported the indicator. No visible bar indicates a score close or equal to the SES average unless indicated otherwise.
- 45 The free route airspace table represents the implementation status and gives more detail on the

level of FRA implementation including requirements set out in the CP1 regulation such as airspace management (ASM), and advanced flexible use of airspace (A-FUA). A checkmark indicates that the corresponding item has been implemented, a cross means that the item is yet to be implemented.

- 46 This report makes use of the following definitions from the SDM Deployment Program (2022):
- **Initial FRA:** FRA implementation with some limitations, for example laterally and vertically or during specific time periods; and
  - **Enhanced FRA:** It eliminates the structural limitations that are permissible for Initial FRA in terms of timing limitations (night FRA, weekend FRA, seasonal FRA) and lateral and vertical limitations including the link with Terminal areas (TMA) and cross-border FRA, which is implemented with at least one neighbouring State where possible, based on the data available.
- 47 The box at the bottom of the scorecard includes a brief qualitative analysis of the 2023 performance scores, the 2022 and 2023 performance graphs and, finally, an explanation of reasons for improvement/degradation of the scores, where possible (based on Member States Monitoring reports).

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<sup>7</sup> When describing the 2023 overall performance of a Member State, a score of 0 to +/-10 is counted as 'Similar', a score of +/- 10 to +/-25 is counted as 'slightly better/worse', and a score of +/-26 and above/below is counted as 'better/worse'. When describing the change in performance in each performance area, a change of 0 to 0.05 is considered 'stable', a change of 0.06 to 0.1 is considered a 'slight change', a change of 0.11 to 0.50 is considered a 'change' and a change of 0.51 and above is considered a 'significant change'.

Austria

<b>Member State</b> <b>Austria</b>	<b>ANSPs</b> <b>Austro Control</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ GND – FL660 Cross-border ✓ SECSI FRA (Slovenia, Croatia, Bosnia and Hercegovina, Serbia, Montenegro, Albania and North Macedonia) Planned for Czech Republic, Slovakia, Hungary and Italy <b>ASM and A-FUA</b> ✓
In 2023, the overall performance of Austria is similar to the SES average. Compared to 2022, the AXOT score deteriorated significantly whilst the ASMA time score deteriorated and the KEA and CDO scores remained stable.		

Belgium

<b>Member State</b> <b>Belgium</b>	<b>ANSPs</b> <b>skeyes, MUAC</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL245 – FL660 Cross-border ✓ Denmark, Sweden Planned for France, Germany, United Kingdom <b>ASM and A-FUA</b> ✓
In 2023, the overall performance of Belgium is slightly better than the SES average. Compared to 2022, the KEA and CDO scores remained stable, while the AXOT and ASMA time score deteriorated.		

Bulgaria

<b>Member State</b> <b>Bulgaria</b>	<b>ANSPs</b> <b>BULATSA</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL175 – FL660 Cross-border ✓ Czech Republic, Hungary, Moldova, Romania, Slovakia <b>ASM and A-FUA</b> ✓
In 2023, the overall performance of Bulgaria is better than the SES average. Compared to 2022, the KEA and CDO scores remained stable whilst the AXOT and ASMA time scores improved.		

Croatia

<b>Member State</b> <b>Croatia</b>	<b>ANSPs</b> <b>Croatia Control</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL205 – FL660 Cross-border ✓ Albania, Austria, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, Slovenia Planned for Czech Republic, Italy <b>ASM and A-FUA</b> ✓
In 2023, the overall performance of Croatia is better than the SES average. Compared to 2022, The ASMA time score improved significantly whilst the AXOT score improved and the KEA and CDO scores remained stable.		

Cyprus

<b>Member State</b> <b>Cyprus</b>	<b>ANSPs</b> <b>DCAC Cyprus</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✗ FRA H 24/7 - yet to be implemented Flight level ✓ FL205 to FL660 Cross-border ✓ Greece <b>ASM and A-FUA</b> ✓
In 2023, the overall performance of Cyprus is better than the SES average. Compared to 2022, the KEA score deteriorated marginally whilst the CDO score improved. ASMA and AXOT were not reported.		

Czech Republic

<b>Member State</b> <b>Czech Republic</b>	<b>ANSPs</b> <b>ANS CR</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL095 – FL660 Cross-border ✓ Slovakia Planned for Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Lithuania, Moldova, Romania, Slovenia <b>ASM and A-FUA</b> ✓
In 2023, the overall performance of the Czech Republic is slightly better than the SES average. Compared to 2022, the AXOT score deteriorated whilst the ASMA time score improved. The KEA and CDO scores remained stable.		

Denmark

<b>Member State</b> <b>Denmark</b>	<b>ANSPs</b> <b>NAVIAIR</b>	
<b>2023 performance scores</b> <ul style="list-style-type: none"> <li><b>AXOT</b> (Orange dot): Similar to SES average</li> <li><b>KEA</b> (Orange dot): Similar to average deviation from NM reference value</li> <li><b>CDO</b> (Green dot): Better than SES average</li> <li><b>ASMA</b> (Orange dot): Similar to SES average</li> </ul>	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL285 – FL660 Cross-border ✓ Germany, Norway, Sweden ASM and A-FUA ✓
In 2023, the overall performance of Denmark is slightly better than the SES average. Compared with 2022, the KEA, CDO, AXOT and ASMA time scores deteriorated.		

Estonia

<b>Member State</b> <b>Estonia</b>	<b>ANSPs</b> <b>EANS</b>	
<b>2023 performance scores</b> <ul style="list-style-type: none"> <li><b>AXOT</b> (Green dot): Better than SES average</li> <li><b>KEA</b> (Red dot): Worse than average deviation from NM reference value</li> <li><b>CDO</b> (Green dot): Better than SES average</li> <li><b>ASMA</b> (Green dot): Better than SES average</li> </ul>	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL095 – FL660 (excl. Tallin TMA and Helsinki TMA) Cross-border ✓ Finland, Latvia, Sweden ASM and A-FUA ✓
In 2023, the overall performance of Estonia is worse than the SES average. Compared to 2022, the KEA score deteriorated while AXOT score improved significantly. Additionally, the ASMA time score also improved and the CDO score remained stable.		

Finland

<b>Member State</b> <b>Finland</b>	<b>ANSPs</b> <b>Fintraffic ANS</b>	
<b>2023 performance scores</b> <ul style="list-style-type: none"> <li><b>AXOT</b> (Red dot): Worse than SES average</li> <li><b>KEA</b> (Red dot): Worse than average deviation from NM reference value</li> <li><b>CDO</b> (Green dot): Better than SES average</li> <li><b>ASMA</b> (Orange dot): Similar to SES average</li> </ul>	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL095 – FL660 Cross-border ✓ Estonia, Latvia, Norway, Denmark and Sweden FL285 to FL660 Planned for Iceland and United Kingdom ASM and A-FUA ✓
In 2023, the overall score of Finland is worse than the SES average. Compared to 2022, the KEA score improved whilst the AXOT score deteriorated marginally. Additionally, the ASMA time score deteriorated and the CDO score improved marginally.		

France

<b>Member State</b> <b>France</b>	<b>ANSPs</b> <b>DSNA</b>	
<b>2023 performance scores</b> <ul style="list-style-type: none"> <li><b>AXOT</b>  Similar to SES average</li> <li><b>KEA</b>  Similar to average deviation from NM reference value</li> <li><b>CDO</b>  Worse than SES average</li> <li><b>ASMA</b>  Similar to SES average</li> </ul>	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL195 + Cross-border ✗ Planned for Maastricht UAC, Switzerland ASM and A-FUA ✓
In 2023, the overall performance of France is similar to the SES average. Compared to 2022, the AXOT score deteriorated whilst the ASMA time score improved. The KEA score remained stable and the CDO score improved marginally.		

Germany

<b>Member State</b> <b>Germany</b>	<b>ANSPs</b> <b>DFS, MUAC</b>	
<b>2023 performance scores</b> <ul style="list-style-type: none"> <li><b>AXOT</b>  Similar to SES average</li> <li><b>KEA</b>  Similar to average deviation from NM reference value</li> <li><b>CDO</b>  Worse than SES average</li> <li><b>ASMA</b>  Similar to SES average</li> </ul>	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL245 – FL660 Cross-border ✓ Austria, Denmark, Maastricht UAC, Sweden, Switzerland Planned for Czech Republic, France ASM and A-FUA ✓
In 2023, the overall performance of Germany is similar to the SES average. Compared to 2022, the ASMA time scores improved whilst the AXOT score deteriorated. The CDO and KEA scores remained stable.		

Greece

<b>Member State</b> <b>Greece</b>	<b>ANSPs</b> <b>HASP</b>	
<b>2023 performance scores</b> <ul style="list-style-type: none"> <li><b>AXOT</b>  Worse than SES average</li> <li><b>KEA</b>  Similar to average deviation from NM reference value</li> <li><b>CDO</b>  Similar to SES average</li> <li><b>ASMA</b>  Worse than SES average</li> </ul>	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL305 – FL660 Cross-border ✗ Planned for Albania, Austria, Bosnia and Herzegovina, Croatia, Cyprus, Italy, Malta, North Macedonia, Serbia, Slovenia ASM and A-FUA ✓
In 2023, the overall performance of Greece is slightly worse than the SES average. Compared to 2022, the KEA score remained stable whilst the CDO and ASMA time scores improved marginally. Additionally, the AXOT score improved.		

Hungary

<b>Member State</b> <b>Hungary</b>	<b>ANSPs</b> <b>HungaroControl</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b>
<ul style="list-style-type: none"> <li><b>AXOT</b>  Better than SES average</li> <li><b>KEA</b>  Similar to average deviation from NM reference value</li> <li><b>CDO</b>  Worse than SES average</li> <li><b>ASMA</b>  Better than SES average</li> </ul>		<ul style="list-style-type: none"> <li>Implementation of initial FRA ✓ H 24/7</li> <li>Flight level ✓ FL095 – FL660</li> <li>Cross-border ✓ Bulgaria, Lithuania, Moldova, Poland, Romania, Slovakia Planned for Czech Republic, Ukraine</li> <li>ASM and A-FUA ✓</li> </ul>
<p>In 2023, the overall performance of Hungary is better than the SES average. Compared to 2022, the KEA and CDO scores improved marginally whilst the AXOT score improved significantly and the ASMA time score deteriorated.</p>		

Ireland

<b>Member State</b> <b>Ireland</b>	<b>ANSPs</b> <b>AirNav Ireland</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b>
<ul style="list-style-type: none"> <li><b>AXOT</b>  Worse than SES average</li> <li><b>KEA</b>  Similar to average deviation from NM reference value</li> <li><b>CDO</b>  Similar to SES average</li> <li><b>ASMA</b>  Worse than SES average</li> </ul>		<ul style="list-style-type: none"> <li>Implementation of initial FRA ✓ H 24/7</li> <li>Flight level ✓ FL075 – FL660</li> <li>Cross-border ✓ United Kingdom Planned for Denmark, Estonia, Finland, Iceland, Latvia, Norway, Sweden</li> <li>ASM and A-FUA ✓</li> </ul>
<p>In 2023, the overall performance of Ireland is worse than the SES average. Compared to 2022, the AXOT score improved significantly whilst the KEA score deteriorated and the CDO score improved marginally. Additionally, the ASMA time scores improved.</p>		

Italy

<b>Member State</b> <b>Italy</b>	<b>ANSPs</b> <b>ENAV</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b>
<ul style="list-style-type: none"> <li><b>AXOT</b>  Worse than SES average</li> <li><b>KEA</b>  Similar to average deviation from NM reference value</li> <li><b>CDO</b>  Worse than SES average</li> <li><b>ASMA</b>  Worse than SES average</li> </ul>		<ul style="list-style-type: none"> <li>Implementation of initial FRA ✓ H 24/7</li> <li>Flight level ✓ FL305 – FL660</li> <li>Cross-border ✗ Planned for Albania, Austria, Bosnia and Herzegovina, Croatia, Malta, Montenegro, Serbia, Slovenia</li> <li>ASM and A-FUA ✓</li> </ul>
<p>In 2023, the overall performance of Italy is worse than the SES average. Compared to 2022, the KEA and ASMA time scores remained stable whilst the CDO and AXOT scores deteriorated.</p>		



Latvia

<b>Member State</b> <b>Latvia</b>	<b>ANSPs</b> <b>LGS</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL095 – FL660 Cross-border ✓ Estonia, Finland, Norway, Sweden Planned for Iceland, Ireland, United Kingdom ASM and A-FUA ✓
In 2023, the overall performance of Latvia is worse than the SES average. Compared to 2022, the KEA and ASMA time scores deteriorated while the AXOT time score improved. The CDO score remained stable.		

Lithuania

<b>Member State</b> <b>Lithuania</b>	<b>ANSPs</b> <b>SE Oro Navigacija</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL095 – FL660 Cross-border ✓ Poland Planned for Estonia, Finland, Latvia and Norway ASM and A-FUA ✓
In 2023, the overall performance of Lithuania is worse than SES average. Compared to 2022, the KEA score improved, while the CDO score remained stable. ASMA and AXOT were not reported.		

Malta

<b>Member State</b> <b>Malta</b>	<b>ANSPs</b> <b>MATS</b>	
<b>2023 performance scores</b> 	<b>Performance of 2022 and 2023</b> 	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL195 – FL660 Cross-border ✗ Planned for Italy ASM and A-FUA ✓
In 2023, the overall performance of Malta is better than the SES average. Compared to 2022, the KEA and ASMA time scores improved marginally whilst the CDO score deteriorated. Additionally, the AXOT score remained stable.		

### The Netherlands

<b>Member State</b> <b>The Netherlands</b>	<b>ANSPs</b> <b>LVNL, MUAC</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL245 – FL660 Cross-border ✓ Denmark, Sweden Planned for France, Germany, United Kingdom <b>ASM and A-FUA</b> ✓
✈️ <b>AXOT</b> (red) Worse than SES average ✈️ <b>KEA</b> (orange) Similar to average deviation from NM reference value ✈️ <b>CDO</b> (red) Worse than SES average ✈️ <b>ASMA</b> (orange) Similar to SES average		In 2023, the overall performance of the Netherlands is similar to the SES average. Compared to 2022, whilst the ASMA time score improved, the KEA and CDO scores remained stable and AXOT score deteriorated.

### Norway

<b>Member State</b> <b>Norway</b>	<b>ANSPs</b> <b>Avinor ANS</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ No limitation Cross-border ✓ Denmark, Finland, Sweden <b>ASM and A-FUA</b> ✓
✈️ <b>AXOT</b> (red) Worse than SES average ✈️ <b>KEA</b> (green) Better than average deviation from NM reference value ✈️ <b>CDO</b> (green) Better than SES average ✈️ <b>ASMA</b> (orange) Similar to SES average		In 2023, the overall performance of Norway is better than the SES average. Compared to 2022, AXOT and ASMA time scores deteriorated whilst the KEA and CDO scores remained stable.

### Poland

<b>Member State</b> <b>Poland</b>	<b>ANSPs</b> <b>PANSA</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL095 – FL660 Cross-border ✓ Lithuania, Slovakia Planned for Czech Republic, Sweden, Ukraine (no target date) <b>ASM and A-FUA</b> ✓
✈️ <b>AXOT</b> (orange) Similar to SES average ✈️ <b>KEA</b> (red) Worse than average deviation from NM reference value ✈️ <b>CDO</b> (orange) Similar to SES average ✈️ <b>ASMA</b> (red) Worse than SES average		In 2023, the overall performance of Poland is worse than the SES average. Compared to 2022, the KEA and ASMA time scores improved. The AXOT time score deteriorated whilst the CDO score remained stable.

Portugal

<b>Member State</b> <b>Portugal</b>	<b>ANSPs</b> <b>NAV Portugal</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL245 – FL660 Cross-border ✓ Spain Planned for Morocco <b>ASM and A-FUA</b> ✓
✈️ <b>AXOT</b> <span style="color: orange;">●</span> Similar to SES average 🛫 <b>KEA</b> <span style="color: green;">●</span> Better than average deviation from NM reference value ✈️ <b>CDO</b> <span style="color: green;">●</span> Better than SES average 🛫 <b>ASMA</b> <span style="color: red;">●</span> Worse than SES average		In 2023, the overall performance of Portugal is similar to SES average. Compared to 2022, the KEA score remained stable whilst the AXOT and ASMA time scores deteriorated. Additionally, the CDO score improved.

Romania

<b>Member State</b> <b>Romania</b>	<b>ANSPs</b> <b>ROMATSA</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL105 – FL660 Cross-border ✓ Bulgaria, Hungary, Moldova, Slovakia Planned for Czech Republic <b>ASM and A-FUA</b> ✓
✈️ <b>AXOT</b> <span style="color: orange;">●</span> Similar to SES average 🛫 <b>KEA</b> <span style="color: orange;">●</span> Similar to average deviation from NM reference value ✈️ <b>CDO</b> <span style="color: orange;">●</span> Similar to SES average 🛫 <b>ASMA</b> <span style="color: green;">●</span> Better than SES average		In 2023, the overall performance of Romania is slightly better than the SES average. Compared to 2022, the KEA, CDO and AXOT scores remained stable whilst the ASMA time score improved marginally.

Slovakia

<b>Member State</b> <b>Slovakia</b>	<b>ANSPs</b> <b>LPS SR</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b> Implementation of initial FRA ✓ H 24/7 Flight level ✓ FL245 – FL660 Cross-border ✓ Bulgaria, Czech Republic, Hungary, Moldova, Poland, Romania Planned for Austria <b>ASM and A-FUA</b> ✓
✈️ <b>AXOT</b> <span style="color: green;">●</span> Better than SES average 🛫 <b>KEA</b> <span style="color: orange;">●</span> Similar to average deviation from NM reference value ✈️ <b>CDO</b> <span style="color: orange;">●</span> Similar to SES average 🛫 <b>ASMA</b> <span style="color: green;">●</span> Better than SES average		In 2023, the overall performance of Slovakia is better than the SES average. Compared to 2022, the KEA score improved marginally whilst the CDO score marginally deteriorated. Additionally, the AXOT and ASMA time scores remained stable.

Slovenia

<b>Member State</b> <b>Slovenia</b>	<b>ANSPs</b> <b>Slovenia Control</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b>
<ul style="list-style-type: none"> <li><b>AXOT</b>  Better than SES average</li> <li><b>KEA</b>  Similar to average deviation from NM reference value</li> <li><b>CDO</b>  Worse than SES average</li> <li><b>ASMA</b>  Better than SES average</li> </ul>		<ul style="list-style-type: none"> <li>Implementation of initial FRA ✓ H 24/7</li> <li>Flight level ✓ GND – FL660</li> <li>Cross-border ✓ Albania, Austria, Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia Planned for Czech Republic and Greece</li> <li>ASM and A-FUA ✓</li> </ul>
<p>In 2023, the overall performance of Slovenia is better than the the SES average. Compared to 2022, the KEA, CDO and ASMA time scores remained stable whilst the AXOT score improved.</p>		

Spain

<b>Member State</b> <b>Spain</b>	<b>ANSPs</b> <b>ENAIRE</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b>
<ul style="list-style-type: none"> <li><b>AXOT</b>  Similar to SES average</li> <li><b>KEA</b>  Better than average deviation from NM reference value</li> <li><b>CDO</b>  Similar to SES average</li> <li><b>ASMA</b>  Similar to SES average</li> </ul>		<ul style="list-style-type: none"> <li>Implementation of initial FRA ✓ H 24/7</li> <li>Flight level ✓ Canarias from FL305 - FL660. Madrid from FL245 - FL660. Barcelona from FL245 - FL660</li> <li>Cross-border ✗ Planned for Portugal, Morocco (no target date)</li> <li>ASM and A-FUA ✓</li> </ul>
<p>In 2023, the overall performance of Spain is slightly better than the SES average. Compared to 2022, the KEA and ASMA time scores remained stable whilst the AXOT score improved and the CDO score marginally improved.</p>		

Sweden

<b>Member State</b> <b>Sweden</b>	<b>ANSPs</b> <b>LFV</b>	
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>	<b>Free Route Airspace</b>
<ul style="list-style-type: none"> <li><b>AXOT</b>  Better than SES average</li> <li><b>KEA</b>  Similar to average deviation from NM reference value</li> <li><b>CDO</b>  Better than SES average</li> <li><b>ASMA</b>  Better than SES average</li> </ul>		<ul style="list-style-type: none"> <li>Implementation of initial FRA ✓ H 24/7</li> <li>Flight level ✓ FL285 – FL660</li> <li>Cross-border ✓ Denmark, Estonia, Finland, Germany, Latvia, Maastricht UAC, Norway Planned for Lithuania and Poland</li> <li>ASM and A-FUA ✓</li> </ul>
<p>In 2023, the overall performance of Sweden is better than the SES average. Compared to 2022, the KEA score remained stable whilst the CDO score marginally deteriorated. AXOT and ASMA time scores deteriorated.</p>		

Switzerland

Member State	ANSPs	2016	2017	2018	2019	2020	2021	2022	2023
<b>Switzerland</b>	<b>skyguide</b>	●	●	●	●	●	●	●	●
<b>2023 performance scores</b>	<b>Performance of 2022 and 2023</b>								
<p><b>AXOT</b> ● Similar to SES average</p> <p><b>KEA</b> ● Similar to average deviation from NM reference value</p> <p><b>CDO</b> ● Worse than SES average</p> <p><b>ASMA</b> ● Worse than SES average</p>									
		<p><b>Free Route Airspace</b></p> <p>Implementation of initial FRA ✓ H 24/7</p> <p>Flight level ✓ FL195 – FL660</p> <p>Cross-border ✓ Germany Planned for France</p> <p><b>ASM and A-FUA</b> ✓</p>							
<p>In 2023, the overall performance of Switzerland is worse than the SES average. Compared to 2022, the KEA and CDO scores remained stable whilst the AXOT and ASMA time scores deteriorated.</p>									