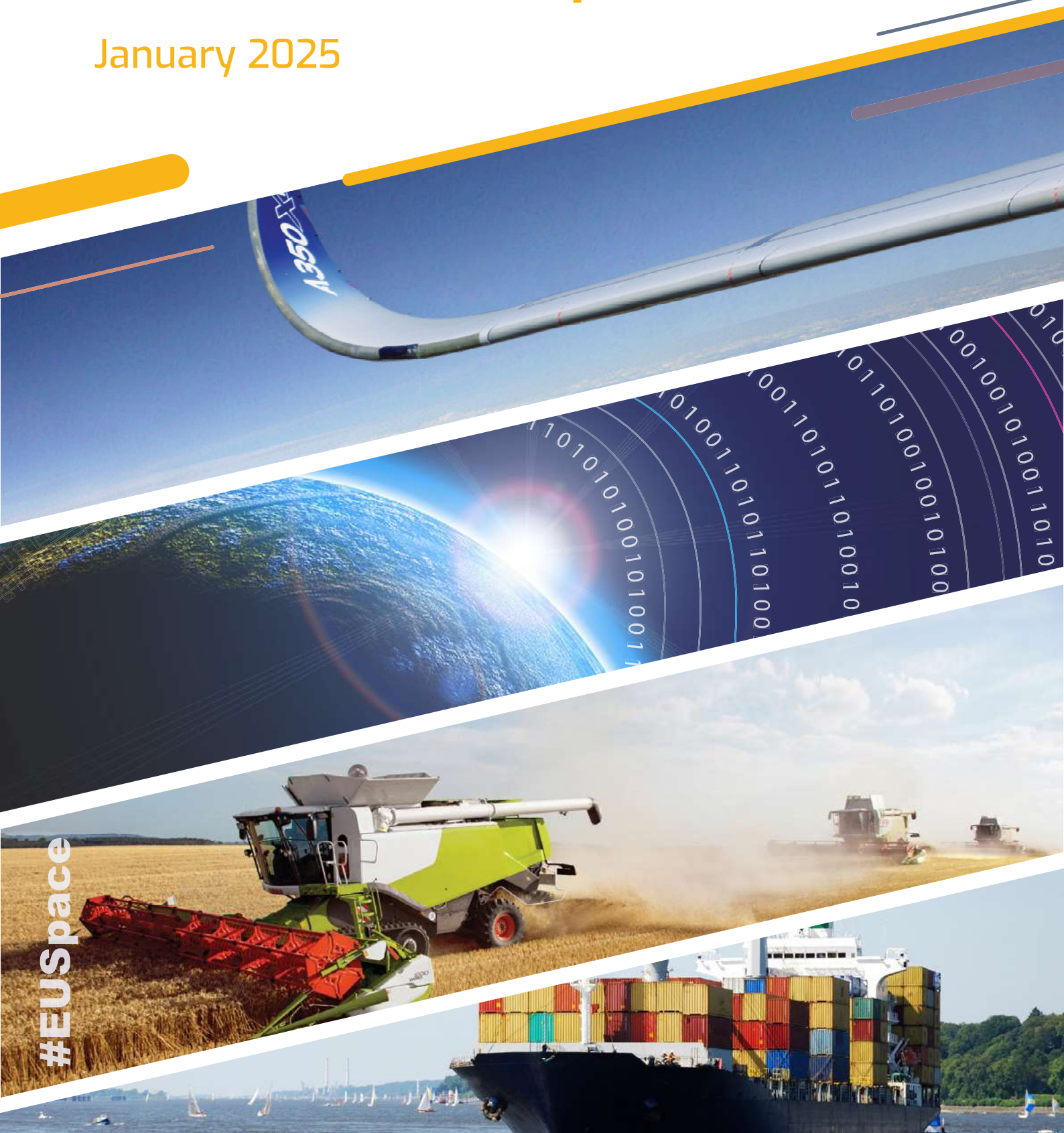
PROGRAMME OF THE
EUROPEAN UNION

EGNOS

EGNOS Monthly Performance Report

January 2025



TERMS OF USE AND DISCLAIMERS

Authorised use and scope of use

All data and information (hereinafter the "Data") provided within this document are for informational purposes only. This document does not provide the ESSP interpretation of the Data.

The European Union, as owner of EGNOS, and ESSP SAS, as EGNOS services provider, disclaim all warranties of any kind (whether express or implied) to any party and/or for any use of the Data including, but not limited to, their accuracy, integrity, reliability and fitness for a particular purpose or user requirements.

By using the Data, the user agrees that the European Union and ESSP SAS shall not be held liable for any direct or indirect or consequential loss or damage (such as loss of profits, business, contracts, anticipated savings, goodwill or revenue) resulting from the use, misuse or inability to use the Data.

Text and pictures that are part of the Data may be protected by property rights. Any use shall require the prior written agreement of ESSP SAS.

DOCUMENT CHANGE RECORD

REASON FOR CHANGE	ISSUE	REVISION	DATE
First version of the document	1	0	January 2025

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION

This document is the EGNOS Services Monthly Performance Report for January 2025. The public issues of the EGNOS Services "Service Definition Documents" ([RD-1], [RD-2], [RD-3], [RD-4]) are the reference documents for the present performance report.

This document reports on the EGNOS Services performance parameters with respect to the performance specified in the SDDs.

The document comprises the following sections:

Section 1: Is an introduction to this report.

Section 2: Provides an executive summary of the achieved performance.

Section 3: Presents the EGNOS SiS availability.

Section 4: Presents the performance of the EGNOS Open Service.

Section 5: Presents the performance of the Safety-of-Life Service for aviation.

Section 6: Presents the performance of the EGNOS Data Access Service.

Section 7: Presents the performance of the EGNOS Time Service.

Section 8: Lists the reference documents.

The document is completed by annexes:

- Annex A provides additional information on the monitoring network.
- Annex B provides the EGNOS APV-I Performance at airports.
- Annex C provides the EGNOS LPV-200 Performance at airports.
- Annex D provides list of acronyms.
- Annex E provides the VNSE histograms data extrapolated at 10^{-7}/150s for each RIMS location.

FOR MORE INFORMATION

To get more information about EGNOS performance:

Please visit the EGNOS User Support website:

https://egnos.gsc-europa.eu

To get more information about EDAS and EGNOS SoL assisted service for Maritime Users (ESMAS) performance:

Please visit the EDAS and Maritime User Support website:

https://edas-maritime.gsc-europa.eu/

or

Contact the EGNOS helpdesk:

helpdesk@egnos.gsc-europa.eu

Contact the EDAS and Maritime Helpdesk:

helpdesk@edas-maritime.gsc-europa.eu

+34 911 236 555

Or

Download the EGNOS app from the App Store or Google Play

2 EXECUTIVE SUMMARY

This report presents the EGNOS services performance during January 2025. The report contains global results for the reported period, including maps and tables with the performance observed at different locations in Europe using GEO-combined values for EGNOS operational GEOs. A list of the stations analysed in this report, including their location, can be found in Annex A . Additional and more detailed information about EGNOS performance can be found at the EGNOS User Support website (https://egnos.gsc-europa.eu).

Safety of Life Service (SoL)

The percentage[1] of ECAC landmasses covered by APV-I and LPV200 Availability (99%) performance was 91.13% for APV-I (section 5.2.1) and 82.38% for LPV200 (section 5.3.1). The achieved coverage for Continuity ($5x10^{-4}$/15s) against the SDD commitment was 93.05% for APV-I (section 5.2.2) and 83.58% for LPV200 (section 5.3.2).

The performance at all airports with approach operations based on the APV-I or LPV200 service levels (Annex B and Annex C) presented Availability and Continuity values in line with their respective commitments as defined in the SoL SDD [RD-2] except for:

- **APV-I**: 12 airports in Availability and 11 airports in Continuity.
- **LPV200:** 5 airports in Availability and 4 airports in Continuity.

The Horizontal Safety Index remained below 0.37 and Vertical Safety Index remained below 0.44 for both APV-I (section 5.2.3) and LPV200 (section 5.3.3) service levels at all the analysed sites, which represents a good integrity margin.

NPA Availability above 99% (section 5.1.1) was delivered in the 100% of the NPA service area (limited by the boundaries defined by MT27).

Open Service

The monitored stations presented an Open Service Availability higher than 99% for this month (section 4) except RIMS JME (97.91%), EGI (98.97%), RKK (98.00%), TRO (98.18%) and KIR (98.16%).

The horizontal and vertical accuracy results for all the sites remained below 3 meters (95% HPE) and 4 meters (95% VPE) respectively.

EDAS Service

In terms of availability and latency, the observed performance for all the EDAS services fulfilled the targets except for the latency of SL0 Service (section 6) [RD-3].

ESMAS Service

The EGNOS SoL assisted service for Maritime Users (ESMAS) SiS commitment is based on a SiS availability of 100% (as described in ESMAS SDD [RD-4]). SiS combined availability this month has been 100%.

EGNOS Time Service

The EGNOS Time Service was unavailable from January 1st until 27th. Since January 27th, when the Service was recovered, the availability presented for the combination of both operational GEOs was 100%.

The offset between the EGNOS Network Time and GPS time remained below 28 nanoseconds over the three previous months: October to December 2024.

[1] The coverage percentages presented represent the ratio of area after applying the mapping projection, there may be a difference compared to the actual geographical area.

3 EGNOS SIS AVAILABILITY

*In this document, **EGNOS SIS Availability** is defined as the percentage of time in the month during which at least one geostationary satellite broadcasts EGNOS messages.*

In addition to the individual SIS Availability for PRN123 and PRN136, the following values are also reported:

- percentage of time in the month during which at least one geostationary satellite broadcasts EGNOS messages (PRN123 or PRN136);
- percentage of time in the month during which both operational geostationary satellites broadcast EGNOS messages.

EGNOS SIS monitoring for EGNOS Services Monthly Performance Report January-2025, reports the following reception percentage of an SBAS message:

- SIS – PRN123 or PRN136: **100%**
- SIS – PRN123 and PRN136: **99.99%**
- PRN123 Availability: **99.99%**
- PRN136 Availability: **99.99%**

The following Figure 1 presents the Availability of the signal in both EGNOS GEO satellites (PRN123 and PRN136). Red lines correspond to unavailability periods.

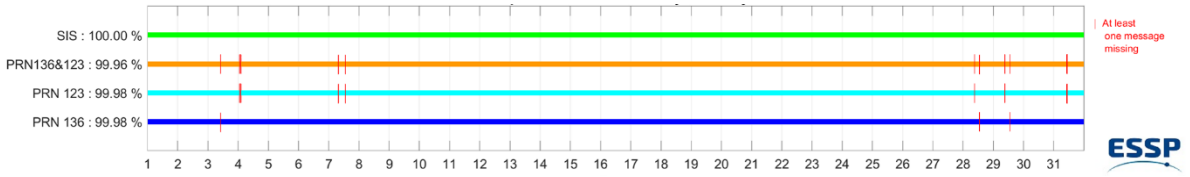


Figure 1 - EGNOS SIS & PRN Availability for January 2025

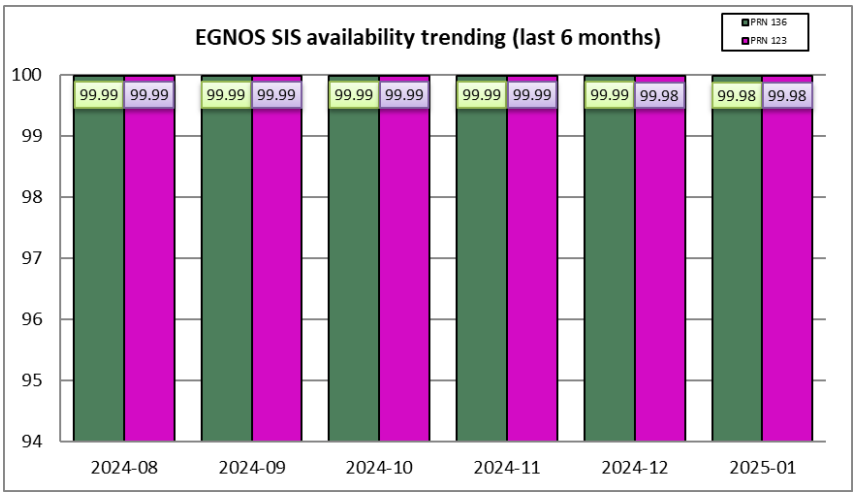


Figure 2 – Trend of EGNOS SIS Availability per GEO for the past 6 months (in green PRN 136; in purple PRN 123)

Availability (%)	2024-08	2024-09	2024-10	2024-11	2024-12	2025-01
PRN123	99.99	99.99	99.99	99.99	99.98	99.98
PRN136	99.99	99.99	99.99	99.99	99.99	99.98
At least one EGNOS GEO satellite	100	100	100	100	100	100

Table 1 – EGNOS SIS Availability (%) on EGNOS GEO satellites

4 EGNOS OPEN SERVICE (OS)

4.1 Open Service Horizontal and Vertical Accuracy

Accuracy is a measure of the position error, which is the difference between the estimated navigation position and the actual position.

EGNOS OS Horizontal (resp. Vertical) Accuracy *is reported as the 95th percentile of the Horizontal (resp. Vertical) Navigation System Error – HNSE (resp. VNSE) over the month, at the monitored sites when applying EGNOS messages.*

The Table 2 provides the values of accuracy (95%) in meters measured for this month. See Annex A for details of the stations where OS Accuracy is reported.

Station	HNSE 95% (m)	VNSE 95% (m)
Aalborg	0.9	1.7
Athens	1.0	1.5
Berlin	1.0	1.6
Catania	1.1	1.5
Cork	0.9	1.5
Egilsstadir	1.3	2.3
Gavle	0.9	1.9
Glasgow	0.9	1.7
Jan Mayen	1.7	3.0
Kirkenes	1.5	2.7
Kuusamo	1.2	2.2
Lappeenranta	1.0	1.9
Lisboa	1.3	1.7
Malaga	1.4	1.5
Palma de Mallorca	0.9	1.4
Reykjavik	1.7	2.8
Roma	0.9	1.5
Santiago de Compostela	1.1	1.4
Sofia	1.3	1.9
Swanwick	1.0	1.5
Toulouse	0.9	1.4
Tromsoe	1.5	2.8
Trondheim	0.9	2.0
Warsaw	0.9	1.5
Zurich	0.9	1.5

Table 2 - EGNOS Open Service accuracy (95%)

The Figure 3 and Figure 4 show the histograms and cumulative distribution functions of HNSE (Horizontal Navigation System Error) and VNSE (Vertical Navigation System Error) computed at the RIMS listed in Table 2 for each second of the reported month.

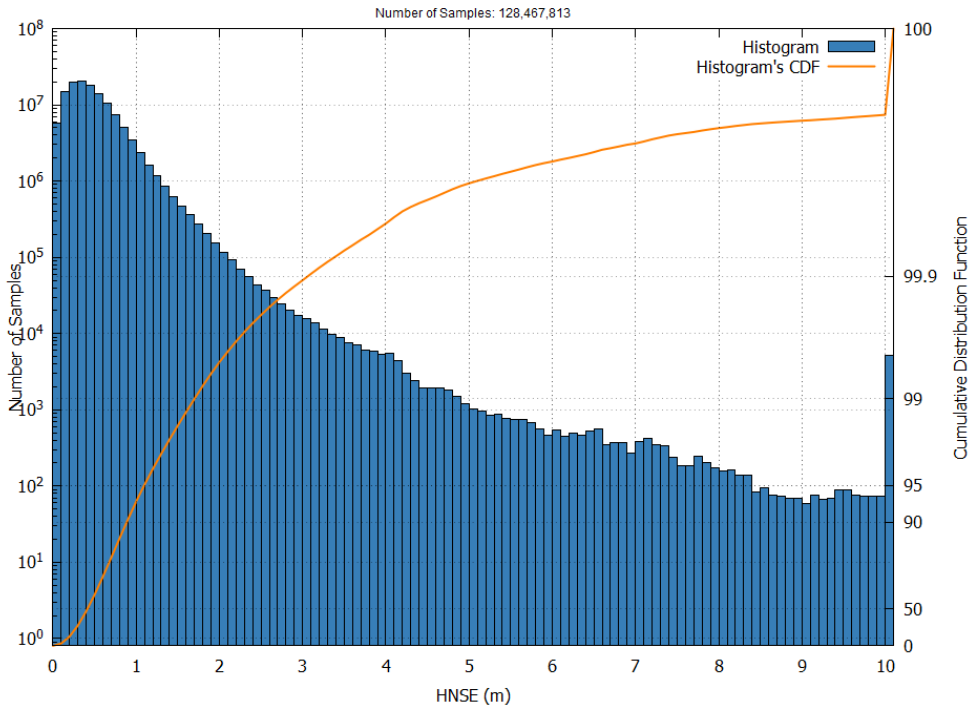


Figure 3 – EGNOS Open Service HNSE Histogram and Cumulative Probability in January 2025

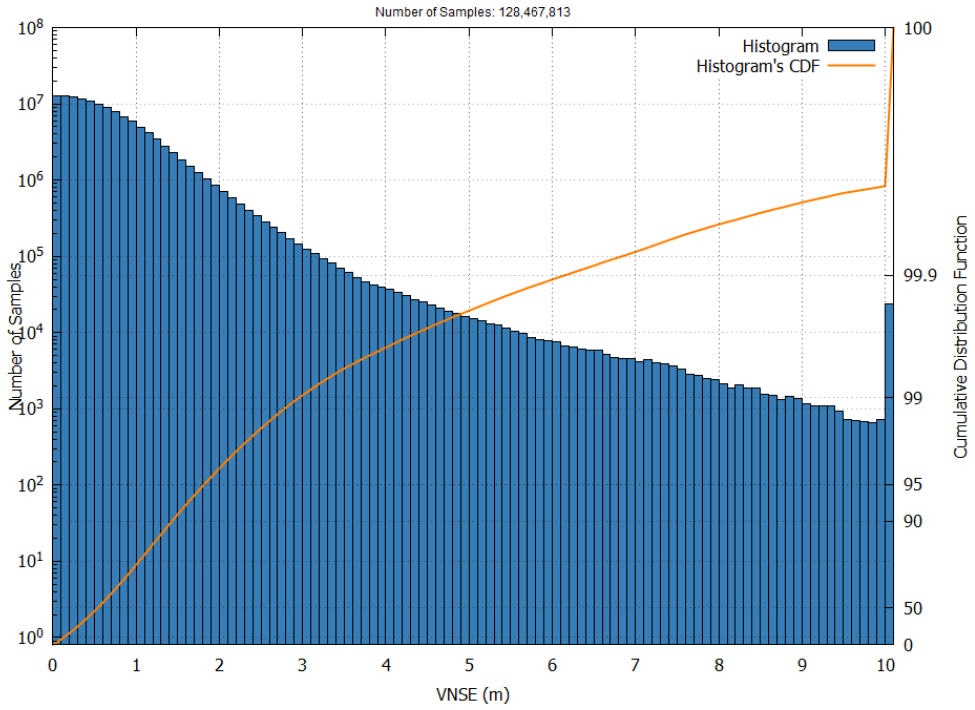


Figure 4 – EGNOS Open Service VNSE Histogram and Cumulative Probability in January 2025

4.2 EGNOS Open Service Availability

EGNOS OS Availability performance *is defined in the present document as the percentage of time when the instantaneous HNSE is lower than 3 meters and the instantaneous VNSE is lower than 4 meters over the total number of samples with valid PA navigation solution.*

The following Figure 5 presents the Open Service Availability measured by the monitoring stations for the reported month (RIMS sites with OS Availability lower than 99%, if any, are in red and RIMS sites with no data are in blue). See Annex A for further details of the stations where OS Accuracy is reported.

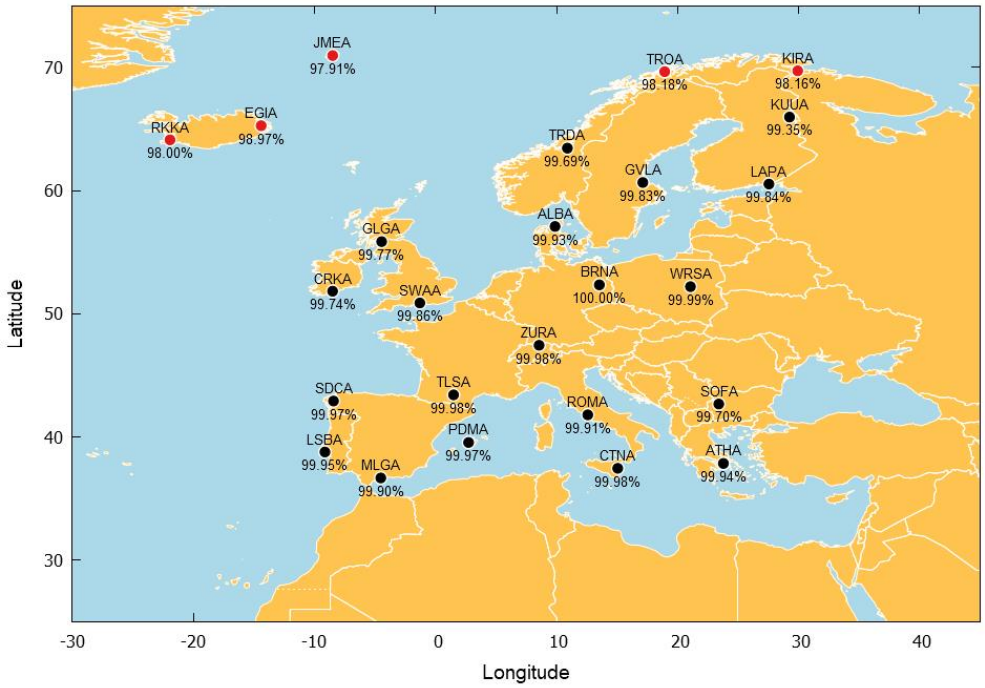


Figure 5 – EGNOS Open Service Availability at reference stations in January 2025

5 EGNOS SAFETY-OF-LIFE SERVICE (SOL)

5.1 EGNOS Non-Precision Approach (NPA)

5.1.1 EGNOS NPA Availability

EGNOS NPA Availability *is defined as the percentage of samples in which the Horizontal Protection Level is below Alert Limit for NPA (HPL below 556m) over the total period. This value corresponds to the performance obtained under fault-free conditions using all satellites in view.*

The Figure 6 presents EGNOS NPA Availability over the reported month. It must be noted that NPA Availability considering RAIM is not considered in this report.

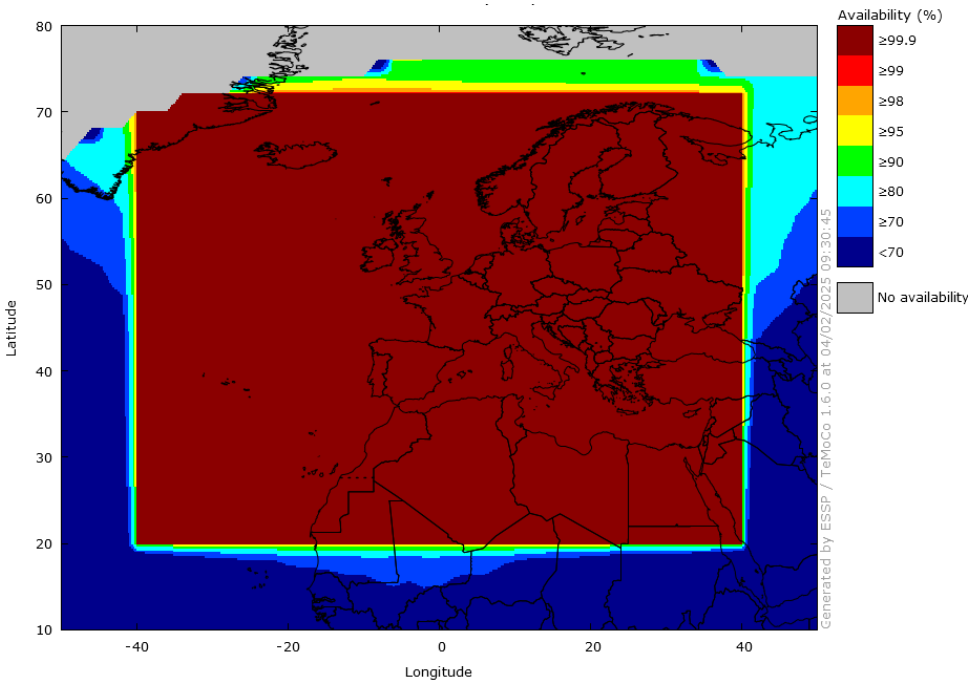


Figure 6 – EGNOS NPA Availability in January 2025

5.1.2 EGNOS NPA Continuity

EGNOS NPA Continuity *is reported as the result of dividing the total number of single continuity events using a time-sliding window of 1 hour by the number samples with valid and available NPA navigation solution. A single continuity event occurs if the system is available at the start of the operation and in at least one second inside the following time-sliding window of 1 hour the system becomes not available. This value corresponds to the performance obtained under fault-free conditions using all satellites in view.*

The Figure 7 presents the EGNOS NPA Continuity Risk measured for the last 6 months (in order to observe the minimum NPA Continuity performance committed in the SoL SDD -1×10^{-3}/hour-, at least 6 months of data need to be evaluated due to the discrete nature of discontinuity events). It must be noted that NPA Continuity is computed in this report using only the EGNOS NPA solution and not considering the GPS RAIM solution when the EGNOS one is not available.

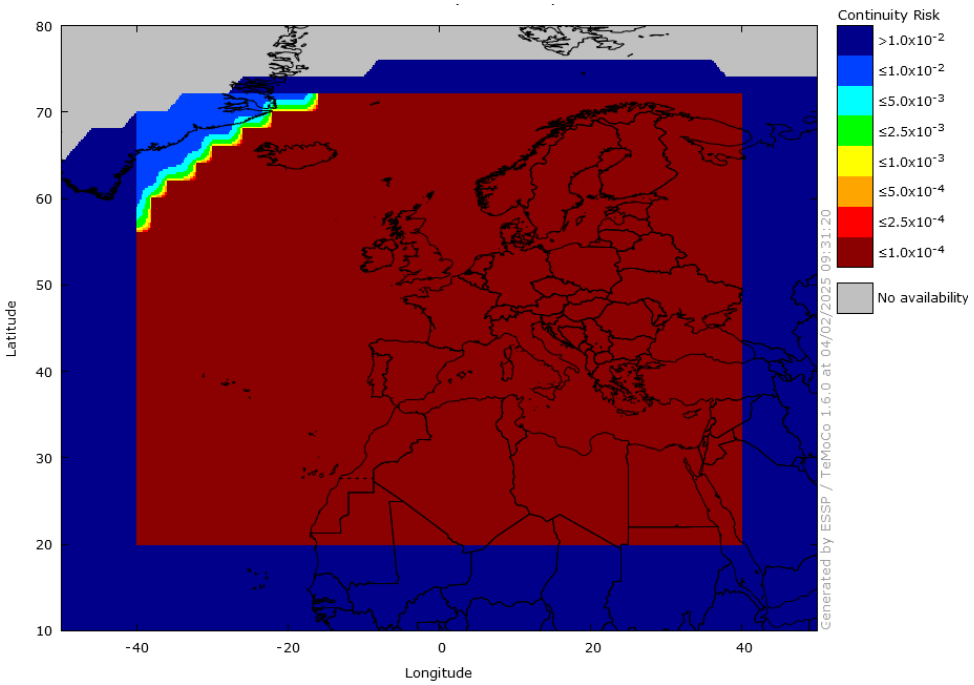


Figure 7 – EGNOS NPA Continuity over the last 6 months

5.1.3 EGNOS NPA Integrity Events

EGNOS NPA Integrity Event *is defined as an event when the Navigation System Error is greater or equal to the corresponding Protection Level for NPA.*

No integrity event was detected during the reported month.

Safety Index *is defined as the relation between Navigation System Error and Protection Level (assuming NPA algorithms to compute xNSE and xPL) for each second. Case of ratio xNSE/xPL is over 1, it indicates that a Misleading Information situation has occurred.*

The Figure 8 shows the distribution of HSI (Horizontal Safety Index), which is computed at the different EGNOS stations for each second over the reported month. This histogram considers the epochs in which the NPA service was available (Protection Level < NPA Alarm Limit).

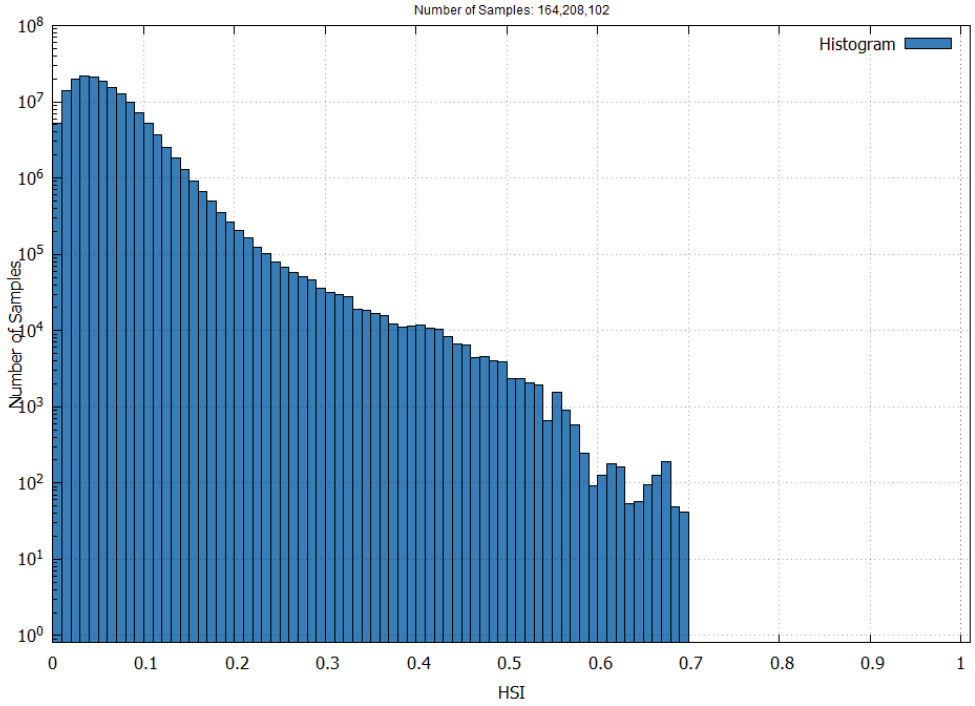


Figure 8 – EGNOS NPA Horizontal Safety Index in January 2025

5.1.4 EGNOS NPA Accuracy

EGNOS NPA Accuracy *is reported as the 95th percentile of the Horizontal Navigation System Error (HNSE) over the month, at the monitored sites when the NPA service is available (HPL below 556 m).*

The Figure 3 shows the NPA Accuracy values in meters. See Annex A for further details of the stations where NPA Accuracy is reported.

Station	HNSE 95% (m)	% of samples in NPA available
Aalborg	0.9	100.00%
Agadir	7.1	100.00%
Athens	1.0	100.00%
Azores	3.3	100.00%
Berlin	0.9	100.00%
Canary Islands	5.9	100.00%
Catania	1.2	100.00%
Cork	0.9	100.00%
Djerba	3.0	100.00%
Egilsstadir	1.3	100.00%
Gavle	0.9	100.00%
Glasgow	0.9	100.00%
Golbasi	1.2	100.00%
Jan Mayen	1.7	100.00%
Haifa[2]	N/A	N/A
Kirkenes	1.5	100.00%
Kuusamo	1.2	100.00%
Lappeenranta	1.0	100.00%
Lisboa	1.4	100.00%
Madeira	3.2	100.00%
Malaga	1.6	100.00%
La Palma	5.4	100.00%
Palma de Mallorca	1.0	100.00%
Reykjavik	1.7	100.00%
Roma	0.9	100.00%
Santiago de Compostela	1.1	100.00%
Sofia	1.2	100.00%
Swanwick	1.0	100.00%
Toulouse	0.9	100.00%
Tromsoe	1.5	100.00%
Trondheim	0.9	100.00%
Warsaw	0.9	100.00%
Zurich	0.9	100.00%

Table 3 - EGNOS NPA Horizontal Accuracy[2] (95%) and percentage of time in NPA available

[2] RIMS Haifa is not operational since October 2023 and the asset will remain in that state until further notice.

The following Figure 9 shows the histogram and cumulative probability function of HNSE (Horizontal Navigation System Error) computed at RIMS sites listed in Table 3 for each second of the reported month.

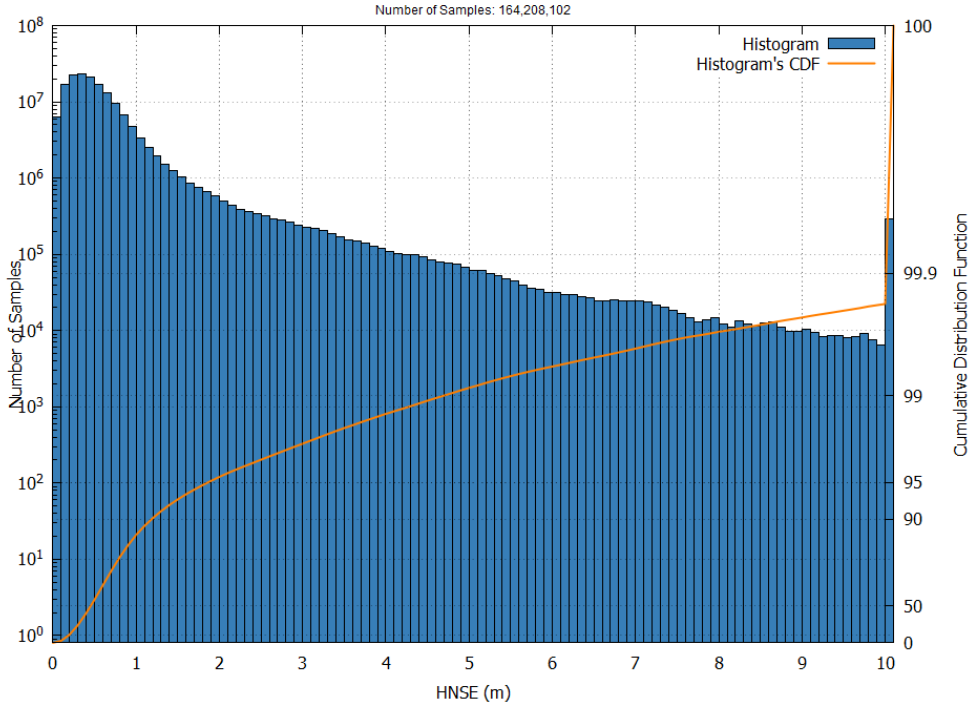


Figure 9 – EGNOS NPA HNSE Histogram and Cumulative Probability in January 2025

5.2 EGNOS Approach with Vertical guidance (APV-I)

5.2.1 EGNOS APV-I Availability

EGNOS APV-I Availability *is defined as the percentage of epochs in a month in which the Protection Level are below Alert Limits for this APV-I service (HPL<40m and VPL<50m) over the total period. This value corresponds to the performance obtained under fault-free conditions using all satellites in view.*

The following Figure 10 presents the EGNOS APV-I Availability over the reported month using GEO-combined maps for the operational EGNOS GEOs.

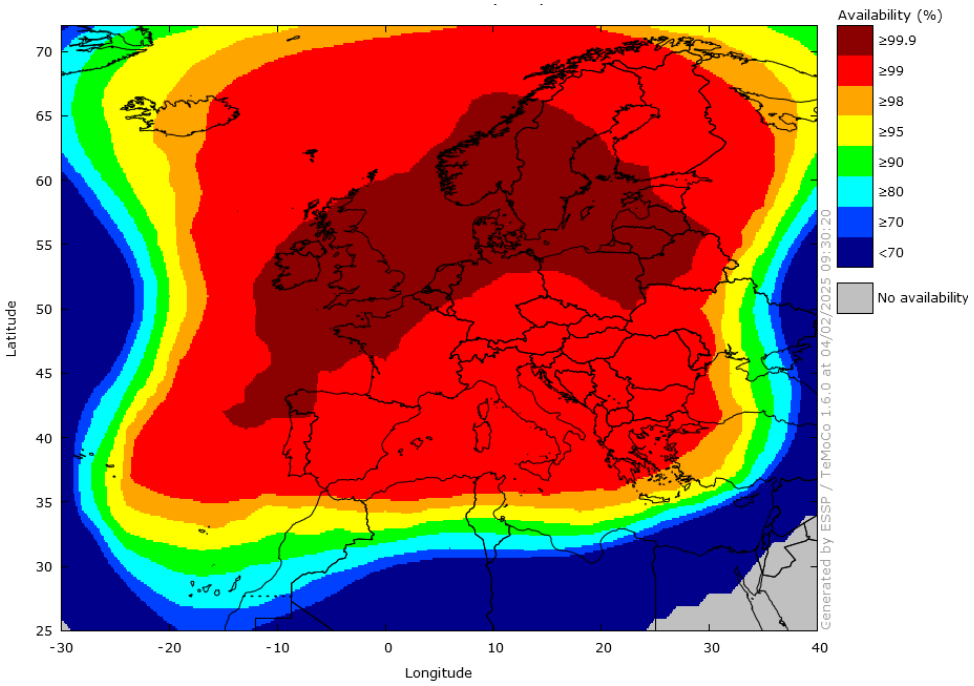


Figure 10 – EGNOS APV-I Availability in January 2025

Figure 11 here below presents the evolution of the daily APV-I Availability (99%) compliance area. The percentage is computed with respect to ECAC Landmasses as specified in the EGNOS Safety of Life SDD [RD-2]. The information is presented for the last 3 months.

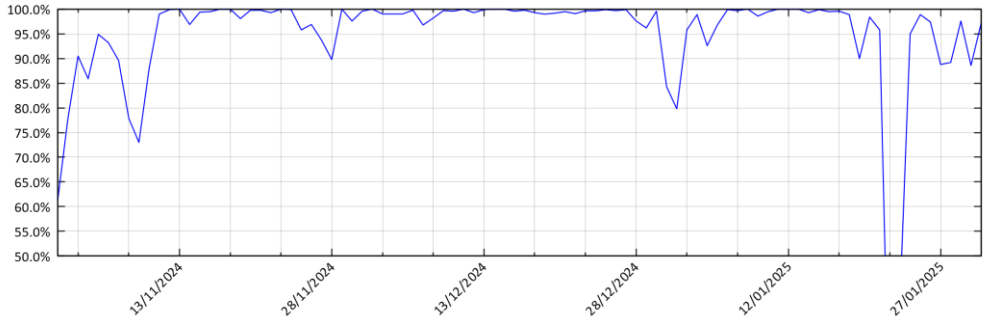


Figure 11 – EGNOS APV-I Availability compliance trend (compliance area percentage with regards to ECAC landmasses)

5.2.2 EGNOS APV-I Continuity Risk

EGNOS APV-I Continuity Risk *is defined as the result of dividing the total number of single continuity events using a time-sliding window of 15 seconds by the number of samples with valid and available APV-I navigation solution. A single continuity event occurs if the system is available at the start of the operation and in at least one of the following 15 seconds the system becomes not available. This value corresponds to the performance obtained under fault-free conditions using all satellites in view.*

The following Figure 12 presents the EGNOS APV-I Continuity over the reported month using GEO-combined maps for the operational EGNOS GEOs.

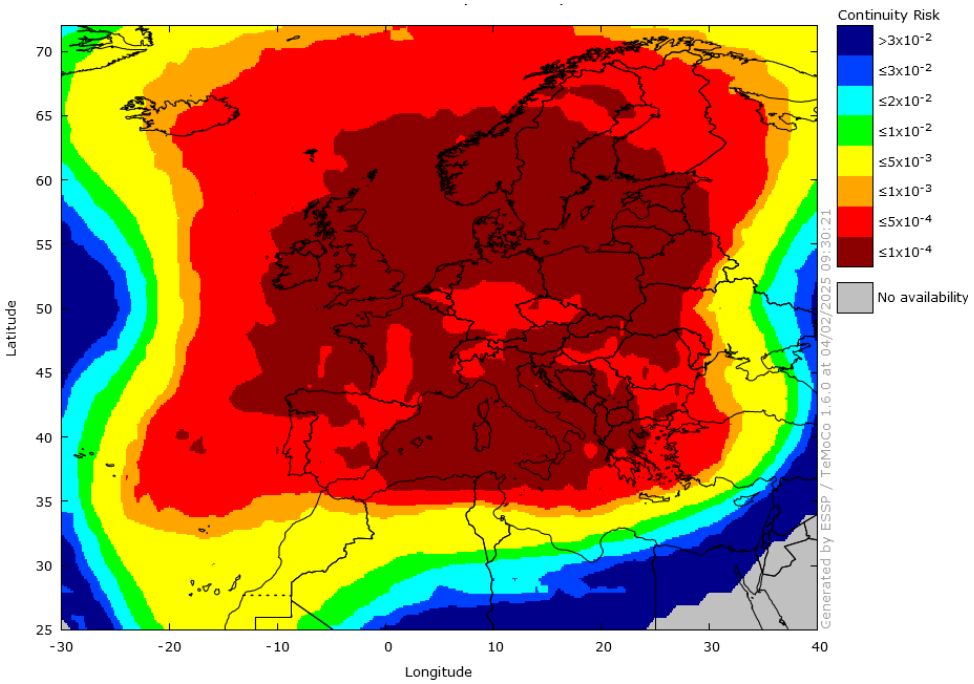


Figure 12 – EGNOS APV-I Continuity in January 2025

5.2.3 EGNOS APV-I Integrity

EGNOS APV-I Integrity Event is defined as an event when the Navigation System Error is greater or equal to the corresponding Protection Level for APV-I.

No integrity event was detected during the reported month.

Safety Index is defined as the relation between Navigation System Error versus Protection Level (assuming PA algorithms to compute xNSE and xPL) for each second. In case of ratio xPE/xPL is over 1; it indicates that a Misleading Information situation has occurred.

The Figure 13 and Figure 14, here after, provide the histogram for HSI (Horizontal Safety Index) and VSI (Vertical Safety Index) for each second when accumulating measurements from the different EGNOS stations over the reported month. Only those samples whose Protection Level is below the APV-I Alarm Limit have been considered in the histograms.

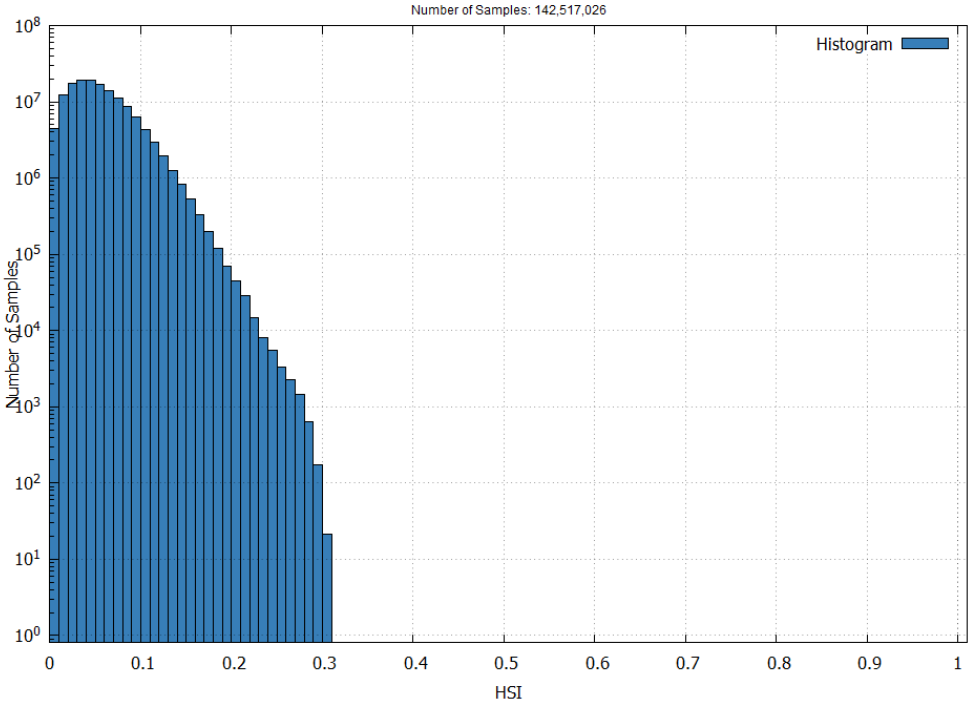


Figure 13 – EGNOS APV-I Horizontal Safety Index in January 2025

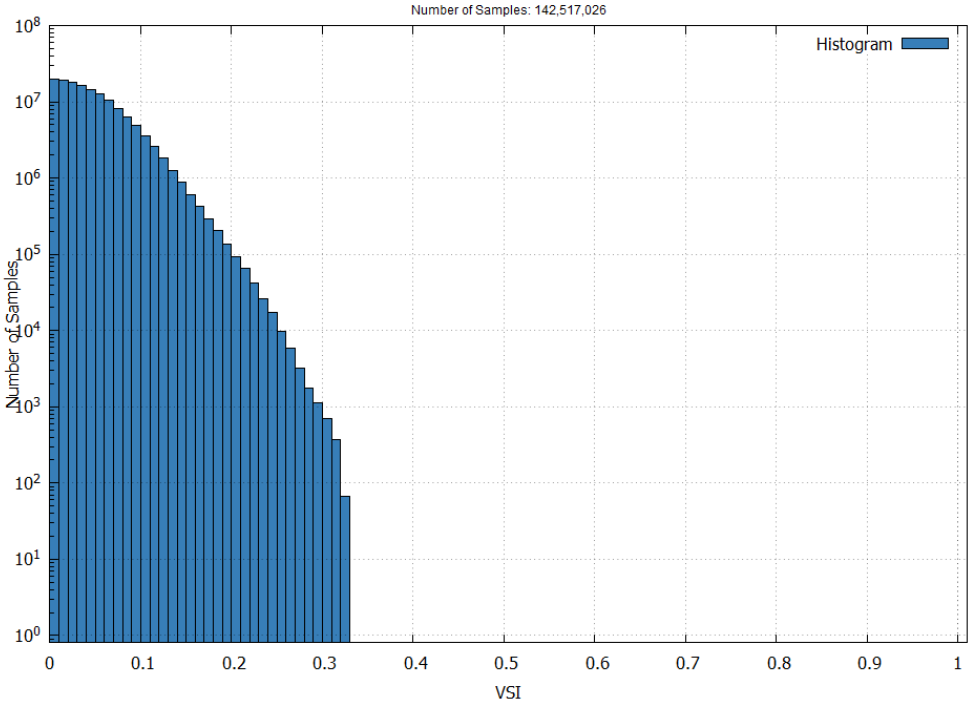


Figure 14 – EGNOS APV-I Vertical Safety Index in January 2025

5.2.4 EGNOS APV-I Accuracy

EGNOS APV-I Accuracy *is reported as the 95th percentile of the Horizontal and Vertical Navigation System Error over the month, at the monitored sites when the APV-I service is available (HPL<40m and VPL<50m).*

The following Table 4 shows the monthly APV-I Accuracy values in meters for the combined GEO satellite signal. See Annex A for further details of the stations where APV-I Accuracy is reported.

Station	HNSE 95% (m)	VNSE 95% (m)	% of samples with APV-I service available
Aalborg	0.9	1.7	99.98%
Athens	1.0	1.5	99.22%
Berlin	0.9	1.6	99.88%
Catania	1.1	1.5	99.25%
Cork	0.9	1.5	100.00%
Djerba	1.7	1.7	95.75%
Egilsstadir	1.3	2.2	99.23%
Gavle	0.9	1.9	99.94%
Glasgow	0.9	1.7	99.96%
Golbasi	1.0	1.8	97.80%
Jan Mayen	1.6	2.8	98.65%
Kirkenes	1.5	2.6	98.68%
Kuusamo	1.2	2.1	99.52%
Lappeenranta	0.9	1.9	99.86%
Lisboa	1.3	1.7	99.82%
Madeira	2.3	1.8	97.68%
Malaga	1.4	1.5	99.49%
Palma de Mallorca	0.9	1.4	99.47%
Reykjavik	1.5	2.5	97.85%
Roma	0.9	1.5	99.32%
Santiago de Compostela	1.1	1.4	99.92%
Sofia	1.2	1.9	99.67%
Swanwick	1.0	1.5	99.97%
Toulouse	0.9	1.4	99.68%
Tromsoe	1.5	2.8	99.67%
Trondheim	0.9	2.0	99.93%
Warsaw	0.9	1.5	99.91%
Zurich	0.9	1.5	99.70%

Table 4 - EGNOS APV-I Accuracy (95%) and percentage of time in APV-I mode at reference stations

The Figure 15 and Figure 16, here after, show the histogram and cumulative distribution function of HNSE (Horizontal Navigation System Error) and VNSE (Vertical Navigation System Error) computed at the RIMS listed in Table 4 for each second of the reported month.

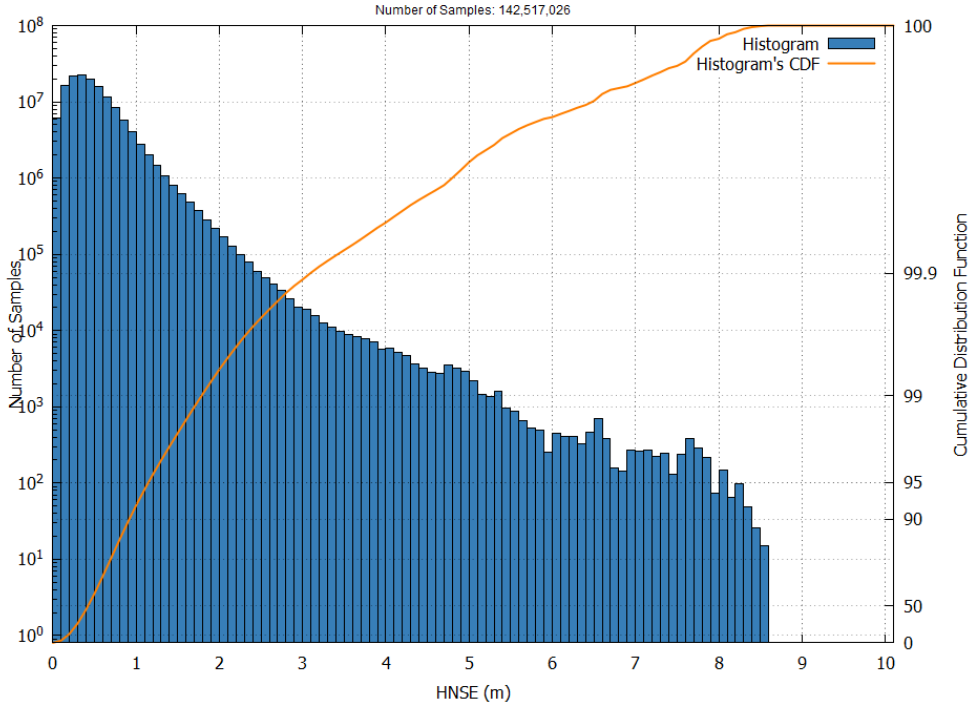


Figure 15 – EGNOS APV-I HNSE Histogram and Cumulative Probability in January 2025

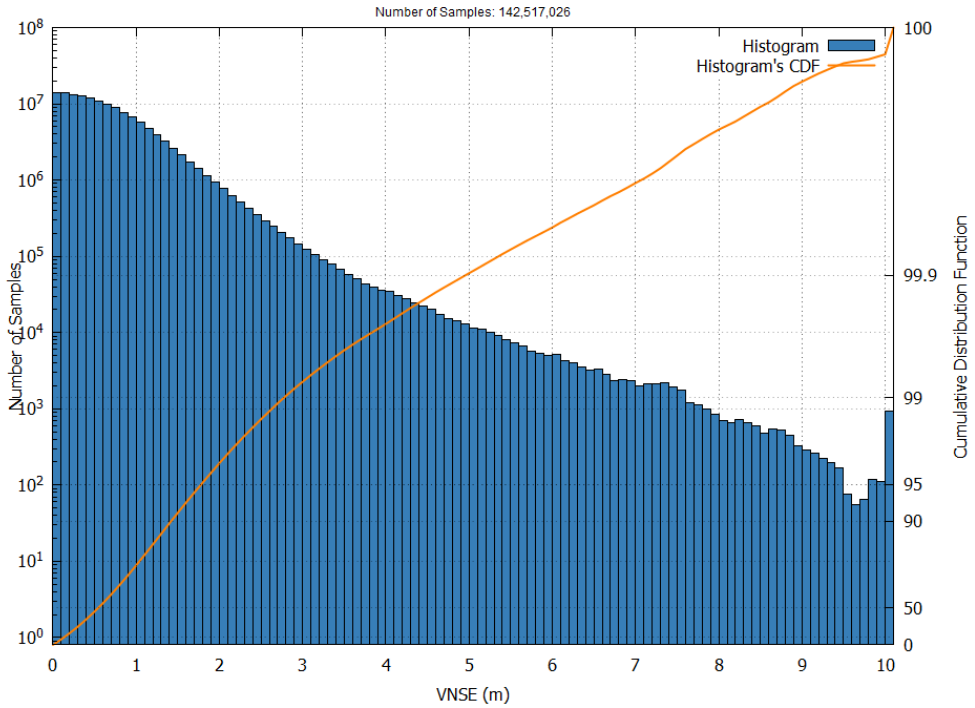


Figure 16 – EGNOS APV-I VNSE Histogram and Cumulative Probability in January 2025

5.2.5 EGNOS APV-I Performance at airports

For the reported month, the Availability at airports with EGNOS-based procedures for APV-I service is shown in Figure 17 and the number of outages is shown in Figure 18.

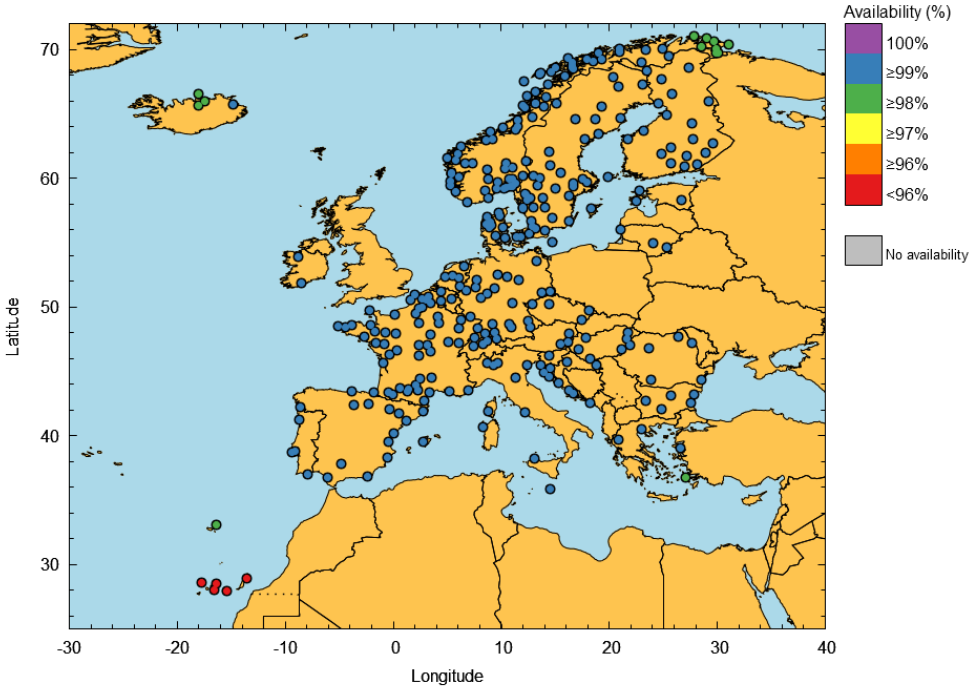


Figure 17 – EGNOS APV-I Availability at airports in January 2025

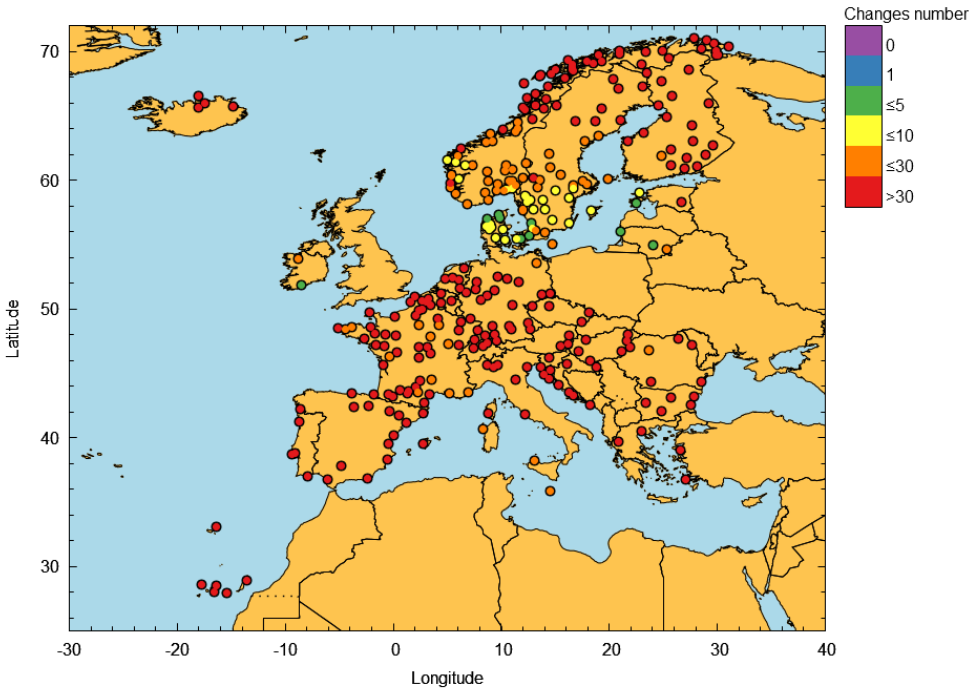


Figure 18 – EGNOS APV-I outages in January 2025

See Annex B for details of the APV-I Availability and Continuity at airports with published procedures using EGNOS.

5.3 EGNOS Localizer Performance with Vertical Guidance to a decision altitude of 200ft (LPV-200)

5.3.1 EGNOS LPV-200 Availability

EGNOS LPV-200 Availability *is defined as the percentage of epochs in a month in which the Protection Level are below Alert Limits for this LPV-200 service (HPL<40m and VPL<35m) over the total period. This value corresponds to the performance obtained under fault-free conditions using all satellites in view.*

The following Figure 19 presents the EGNOS LPV-200 Availability over the reported month using GEO-combined maps for the operational EGNOS GEOs.

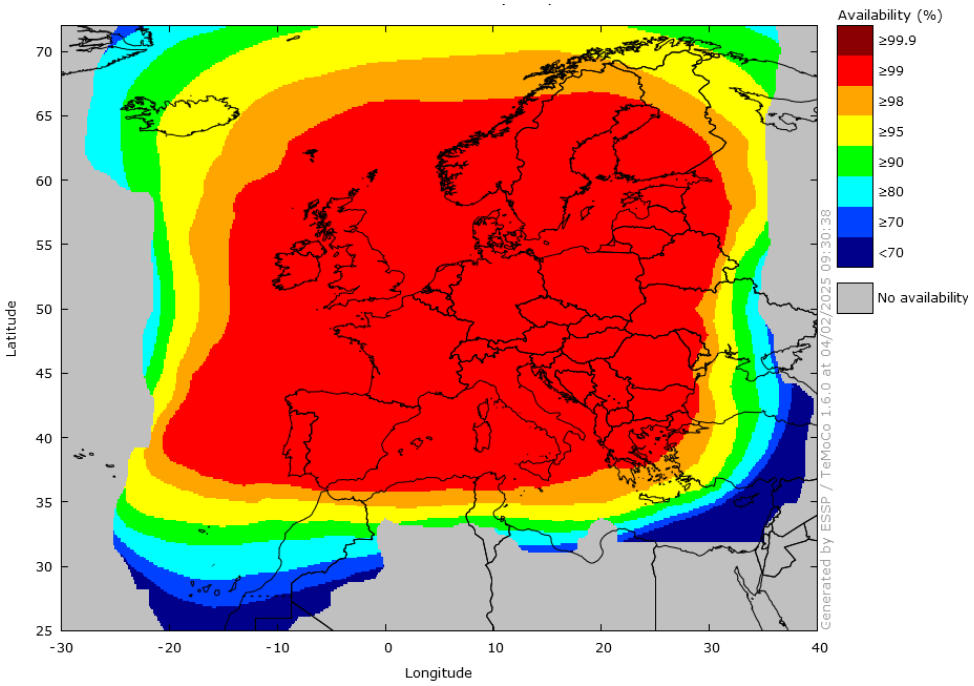


Figure 19 – EGNOS LPV-200 Availability in January 2025

Below, the evolution of the daily LPV200 Availability (99%) compliance area is presented. The percentage is computed with respect to ECAC Landmasses as specified in the EGNOS Safety of Life SDD [RD-2]. The information is presented for the last 3 months. .

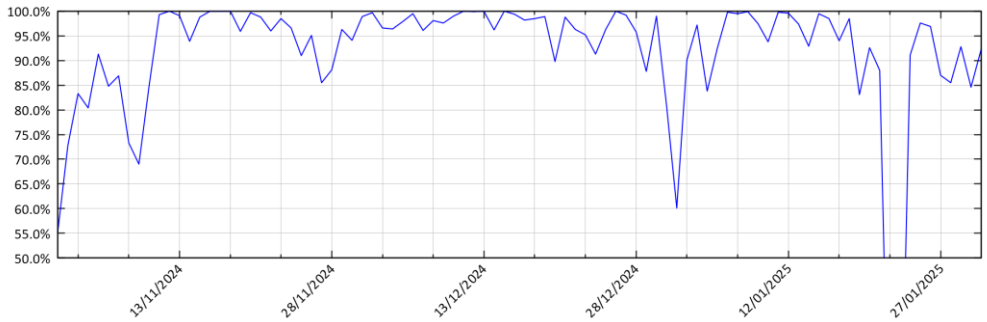


Figure 20 – EGNOS LPV200 Availability compliance trend (compliance area percentage with regards to ECAC landmasses)

5.3.2 EGNOS LPV-200 Continuity Risk

EGNOS LPV-200 Continuity Risk *is defined as the result of dividing the total number of single continuity events using a time-sliding window of 15 seconds by the number of samples with valid and available LPV-200 navigation solution. A single continuity event occurs if the system is available at the start of the operation and in at least one of the following 15 seconds the system becomes not available. This value corresponds to the performance obtained under fault-free conditions using all satellites in view.*

The following Figure 21 presents the EGNOS LPV-200 Continuity over the reported month using GEO-combined maps for the operational EGNOS GEOs.

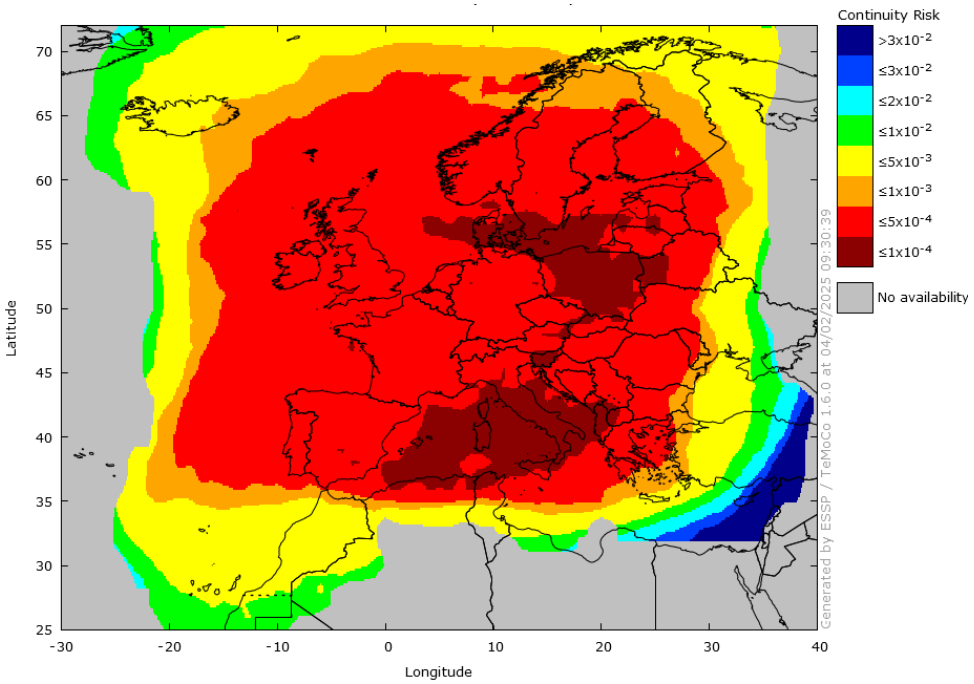


Figure 21 – EGNOS LPV-200 Continuity[3] in January 2025

5.3.3 EGNOS LPV-200 Integrity

EGNOS LPV-200 Integrity Event *is defined as an event when the Navigation System Error is greater or equal to the corresponding Protection Level for LPV-200.*

No integrity event was detected during the reported month.

Safety Index *is defined as the relation between Navigation System Error versus Protection Level (assuming PA algorithms to compute xNSE and xPL) for each second. In case of ratio xPE/xPL is over 1; it indicates that a Misleading Information situation has occurred.*

The Figure 22 and Figure 23, here after, provide the histograms for HSI (Horizontal Safety Index) and VSI (Vertical Safety Index) for each second when accumulating measurements from the different EGNOS stations over the reported month. Only those samples whose Protection Level is below the LPV-200 Alarm Limit have been considered in the histograms.

[3] The lack of additional performance levels in grey areas is due to the non-compliance in this region with the accuracy requirements imposed to LPV-200 service level. For more details, please refer to section 6.3.3.1 of the EGNOS Safety of Life SDD [RD-2].

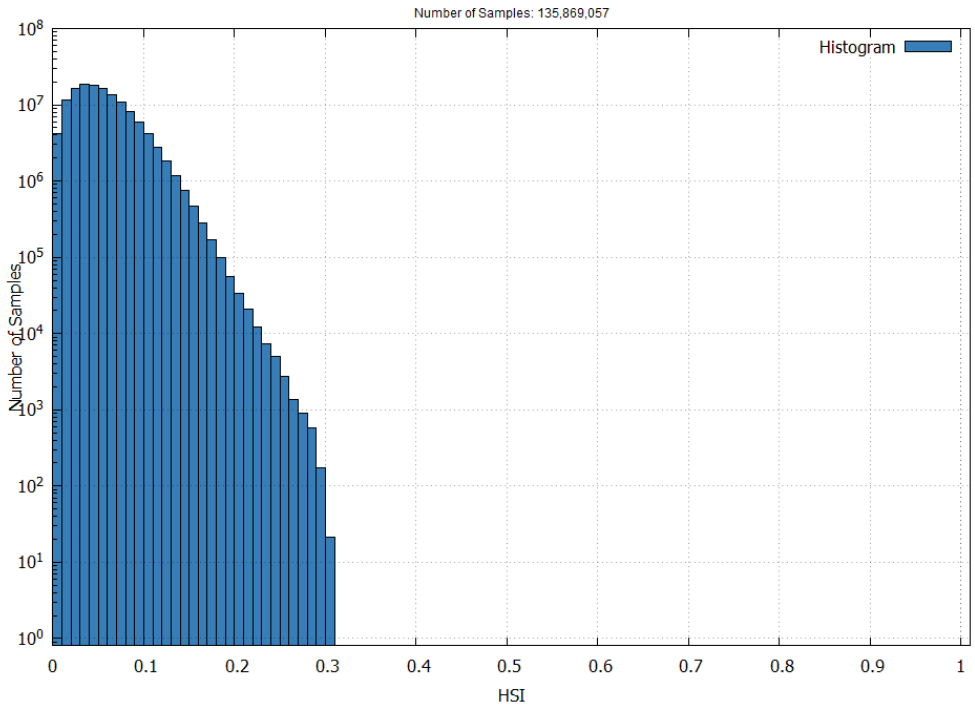


Figure 22 – EGNOS LPV-200 Horizontal Safety Index in January 2025

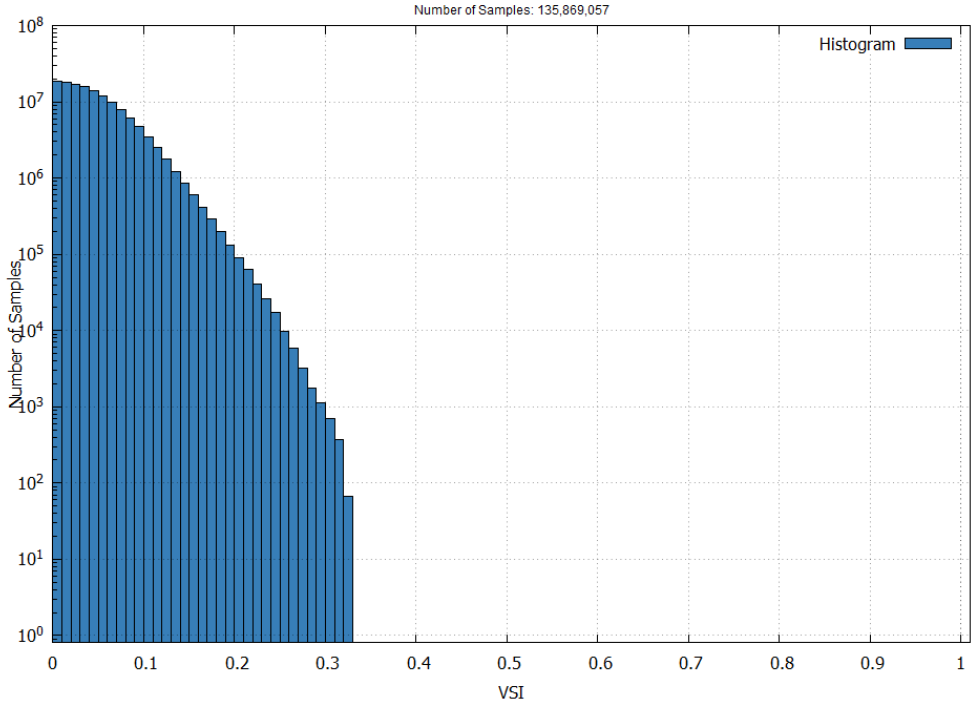


Figure 23 – EGNOS LPV-200 Vertical Safety Index in January 2025

5.3.4 EGNOS LPV-200 Accuracy

EGNOS LPV-200 Accuracy *is reported as the 95th percentile of the Horizontal and Vertical Navigation System Error over the month, at the monitored sites when the LPV-200 service is available (HPL<40m and VPL<35m).*

The following table shows the monthly LPV-200 Accuracy values in meters for the combined GEO satellite signal. See Annex A for further details of the stations where LPV-200 Accuracy are reported.

Station	HNSE 95% (m)	VNSE 95% (m)	% of samples with LPV-200 service available
Aalborg	0.8	1.7	99.74%
Athens	1.0	1.5	99.10%
Berlin	0.9	1.6	99.72%
Catania	1.1	1.5	99.14%
Cork	0.9	1.5	99.52%
Djerba	1.6	1.7	95.24%
Egilsstadir	1.2	2.2	97.76%
Gavle	0.9	1.9	99.68%
Glasgow	0.9	1.6	99.53%
Golbasi	1.0	1.8	94.05%
Jan Mayen	1.6	2.7	95.69%
Kirkenes	1.4	2.3	95.45%
Kuusamo	1.1	2.1	98.06%
Lappeenranta	0.9	1.9	99.37%
Lisboa	1.3	1.7	99.50%
Malaga	1.4	1.5	99.22%
Palma de Mallorca	0.9	1.4	99.25%
Reykjavik	1.4	2.3	93.76%
Roma	0.9	1.5	99.23%
Santiago de Compostela	1.1	1.4	99.49%
Sofia	1.2	1.8	99.43%
Swanwick	1.0	1.5	99.69%
Toulouse	0.9	1.4	99.42%
Tromsoe	1.4	2.7	97.97%
Trondheim	0.9	2.0	99.48%
Warsaw	0.9	1.5	99.75%
Zurich	0.9	1.5	99.55%

Table 5 – EGNOS LPV-200 Accuracy (95%) and percentage of time in LPV-200 mode at reference stations

The Figure 24 and Figure 25, here after, show the histogram and cumulative distribution function of HNSE (Horizontal Navigation System Error) and VNSE (Vertical Navigation System Error) computed at the RIMS sites of Table 5 for each second of the reported month.

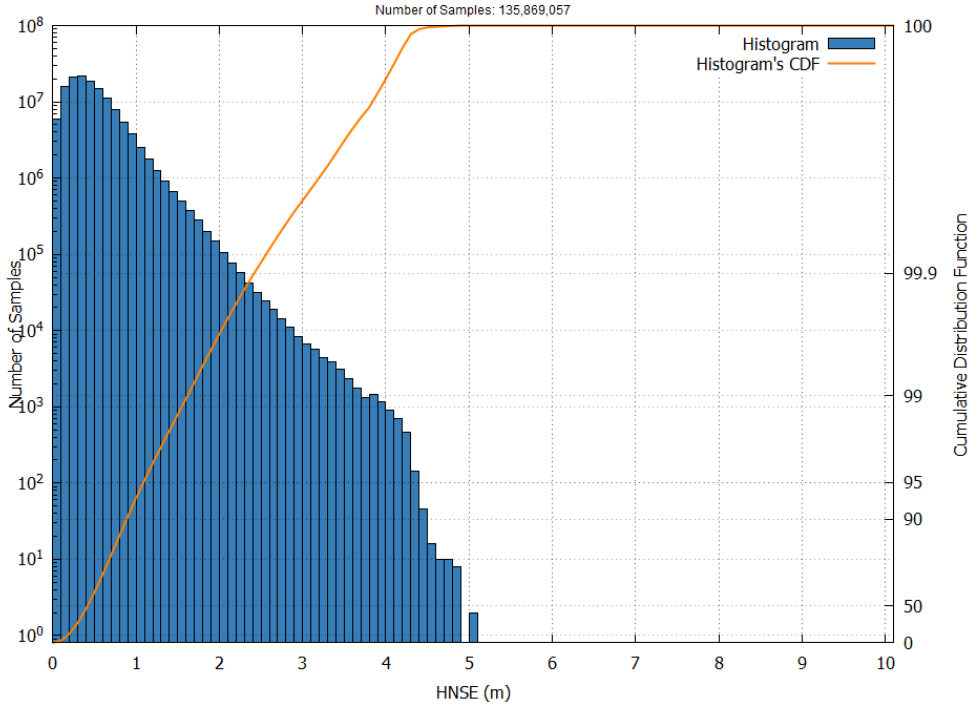


Figure 24 – EGNOS LPV-200 HNSE Histogram and Cumulative Probability in January 2025

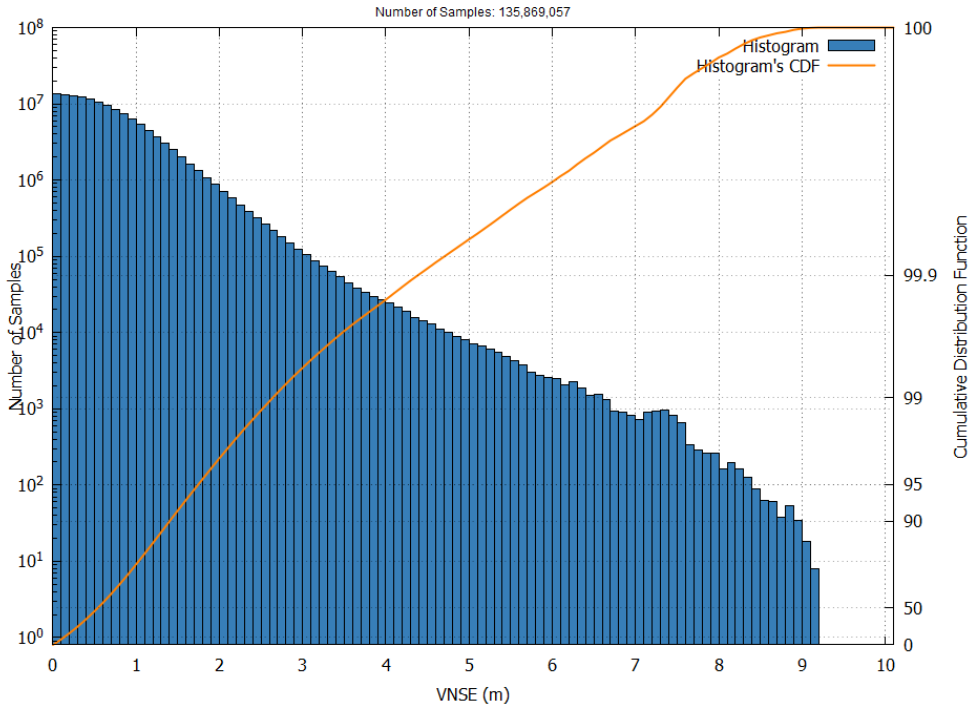


Figure 25 – EGNOS LPV-200 VNSE Histogram and Cumulative Probability in January 2025

5.3.5 EGNOS LPV-200 Performance at airports

For the reported month the Availability at airports with EGNOS-based procedures for LPV-200 service is shown in Figure 26 and the number of outages is shown in Figure 27

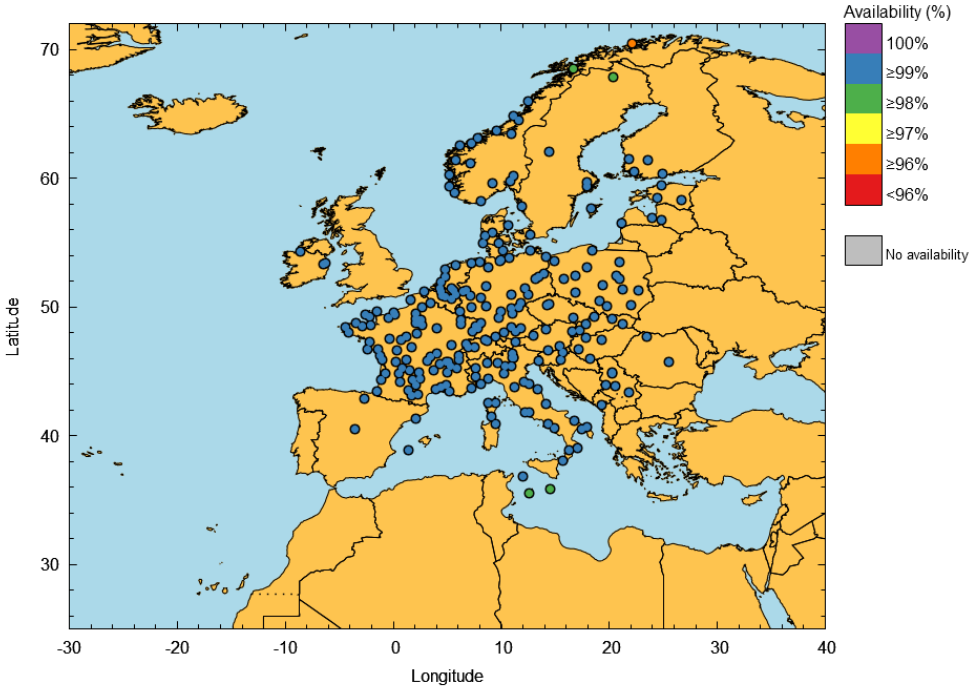


Figure 26 – EGNOS LPV-200 Availability at airports in January 2025

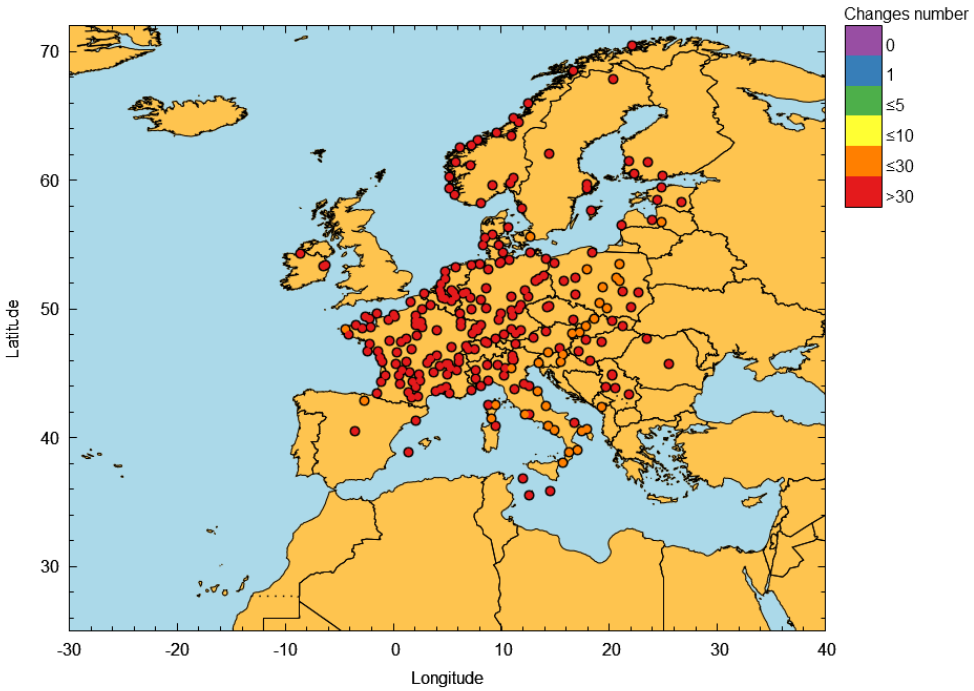


Figure 27 – EGNOS LPV-200 outages in January 2025

See Annex C for details of the LPV-200 Availability and Continuity at airports with published procedures using EGNOS.

5.3.6 EGNOS LPV-200 accuracy extrapolated at 10^{-7}/150s

This section presents the results of extrapolating the accuracy results for every station to 10^{-7}/150 sec. This consists on the characterization of the accuracy distribution tails by means of a Gaussian extrapolation applied to the vertical navigation error.

The following results present the values obtained from 1st July 2024 to 31st December 2024. For this period, not all the RIMS within LPV200 commitment map present extrapolated accuracy values within the requirement: Pr (VNSE > 10m) < 10^{-7}/150s. The exceptions are RIMS EGIA, JMEA, RKKA, TROA, TRDA, KIRA, KUUA, GVLA, LAPA, MLGA, CTNA, ATHA and DJAA.

Annex E presents the VNSE Histograms data extrapolated at 10^{-7}/150s for each RIMS Location.

Next map shows this information from a geographical point of view:

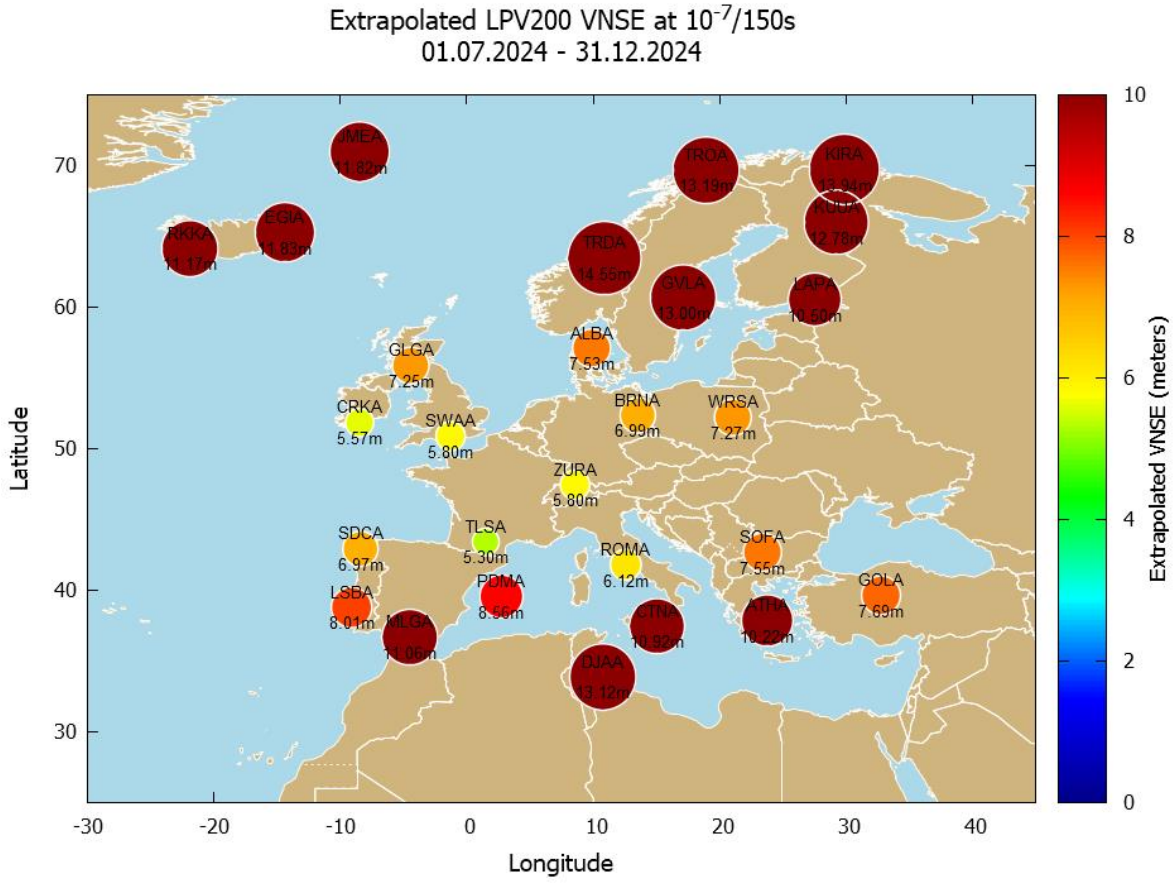


Figure 28 - Extrapolated VNSE at 10^{-7}/150s in the RIMS within the LPV200 commitment

6 EGNOS DATA ACCESS SERVICE (EDAS)

EDAS (EGNOS Data Access Service) offers internet-based access to EGNOS data [RD-3]. It is the single point of access for the data collected and generated by the EGNOS infrastructure composed of ground stations distributed over Europe and North Africa.

The main data provided by EDAS are:

- Raw GPS, GLONASS and EGNOS GEO observations and navigation data collected by the entire network of Ranging and Integrity Monitoring Stations (RIMS) and Navigation Land Earth Stations (NLES).
- EGNOS augmentation messages, as normally received by users via the EGNOS Geostationary satellites.

These data are provided through different EDAS Services, and in different formats, to satisfy the complete set of applications and needs. For a description of the EDAS services, please refer to the EDAS SDD [RD-3].

Additional information on the EDAS services is available in the EDAS section of the EDAS User Support website (https://edas-maritime.gsc-europa.eu) including the EDAS services status in real-time.

Table 6 presents the performance of EDAS Services (please refer to the EDAS SDD [RD-3] for definition details) corresponding to EGNOS Services Monthly Performance Report January-2025:

- Availability: Percentage of time during which the service provides the data according to the specifications.
- Latency: Average of the percentile 95% latencies monitored for every 5 minutes period within the month.

EDAS Service		Availability	Latency (ms)
Service Level 0	-	100.00%	1344.65
Service Level 2	-	100.00%	1346.23
Ntrip Service	-	100.00%	617.97
SISNeT Service	GEO Operational 1	99.96%	64.97
	GEO Operational 2	99.98%	65.26
Data Filtering Service	RIMS A	100.00%	1342.71
	Central	99.99%	486.17
	MEDA	100.00%	508.00
	North-East	100.00%	180.74
	North-West	100.00%	500.26
	South-West	100.00%	1342.35
FTP Service	-	100.00%	N/A

Table 6 – Performance of EDAS Services

7 EGNOS TIME SERVICE

The EGNOS Time Service supports timing application by providing specific corrections that allow the tracing of EGNOS Network Time (ENT) to the physical realisation of the Coordinated Universal Time by Observatoire de Paris, UTC.

*The **EGNOS Time Service Availability**[4] is computed as the percentage of time per day in which it is possible to obtain the time solution referred to UTC scale by applying a valid offset between the EGNOS Network Time (ENT) and the UTC scale, provided through the EGNOS Message Type 12.*

The EGNOS Time Service was unavailable from January 1st until 27th. Since January 27th, when the Service was recovered, the availability presented for the combination of both operational GEOs was 100%.

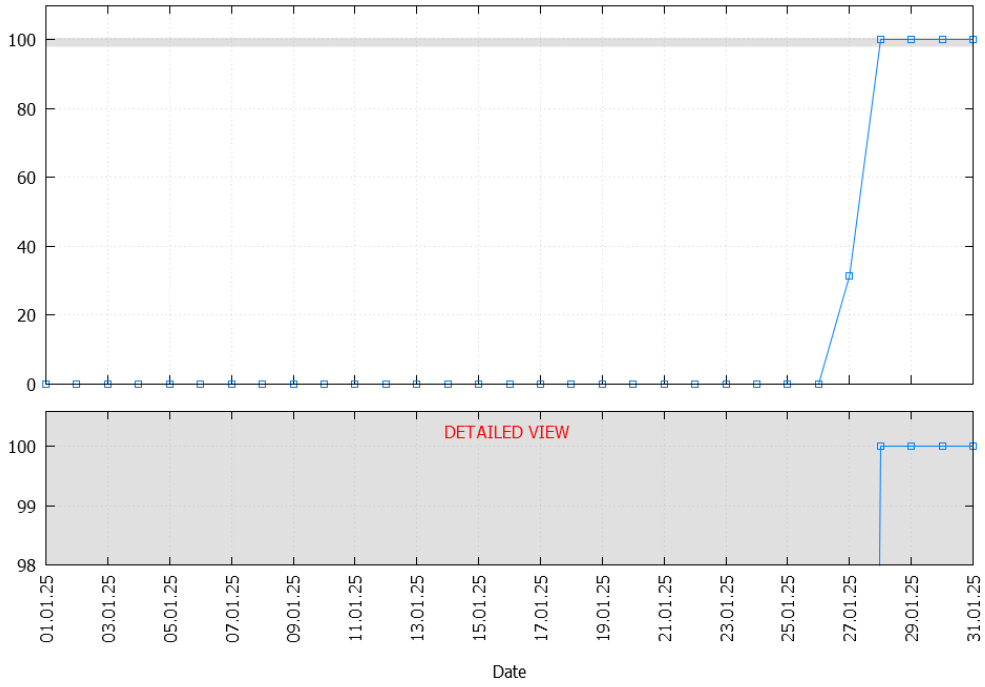


Figure 29 – EGNOS Time Service Availability in January 2025

The EGNOS Network Time is computed assuring its alignment with the GPS timescale. Due to this requirement, the offset between both timescales is below 50ns. The Figure 30 shows the relative consistency of both ENT and GPS timescales for the three months previous to the reported months, i.e., from October to December 2024. It can be observed that the offset between them remains below 28 nanoseconds.

4 EGNOS Time Service Availability is computed taking into account that it is not possible to obtain the time solution if the navigation solution cannot be computed. Therefore, if a SiS outage longer than 3 seconds happens the MT12 data will be set as invalid in order to simulate the unavailability of the receiver to compute the PVT solution and no Time Service will be available until a new valid MT12 is received. In order to take into account the user capability of switching from one operational GEO to the other in case of SiS outage, the EGNOS Time Service availability is computed over the combination of both GEOs.

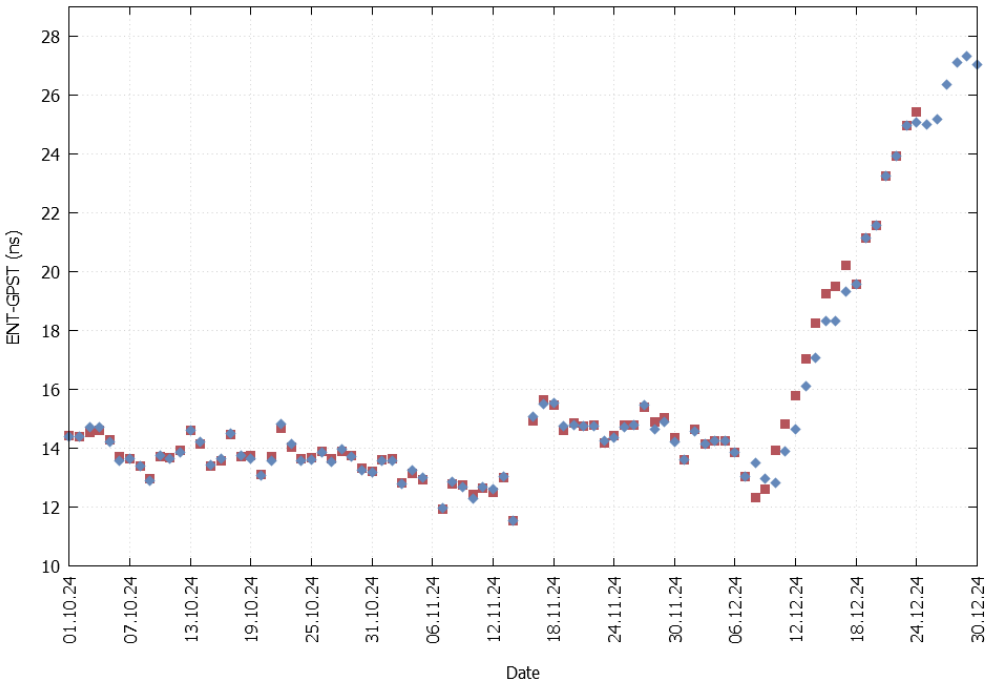


Figure 30 – ENT-GPS offset evolution from October to December 2024 (red PRN 123; blue PRN 136)

8 LIST OF REFERENCES

[RD-1] Open Service Definition Document, EGN-SDD-OS; v.03-00 (https://egnos.gsc-europa.eu/sites/default/files/documents/egnos_os_sdd_in_force.pdf)

[RD-2] Safety Of Life Definition Document, EGN-SDD-SoL; v.03-06 (https://egnos.gsc-europa.eu/sites/default/files/documents/egnos_sol_sdd_in_force.pdf)

[RD-3] EGNOS Data Access Service (EDAS) Service Definition Document, EGN-SDD-EDAS; v.03-00 (https://edas-maritime.gsc-europa.eu/sites/default/files/documents/egnos_edas_sdd_in_force.pdf)

[RD-4] EGNOS SoL assisted service for Maritime Users (ESMAS) Service Definition Document, EGN-SDD-ESMAS; v.01-00 (https://edas-maritime.gsc-europa.eu/sites/default/files/documents/egnos_esmas_sdd_in_force.pdf)

Annex A Receiver Montoring network

The receiver network used to report EGNOS performances in this document is based on the EGNOS monitoring stations (RIMS).

The map of Figure 31 shows the location of this receiver monitoring network, used in this report to present the EGNOS performances:

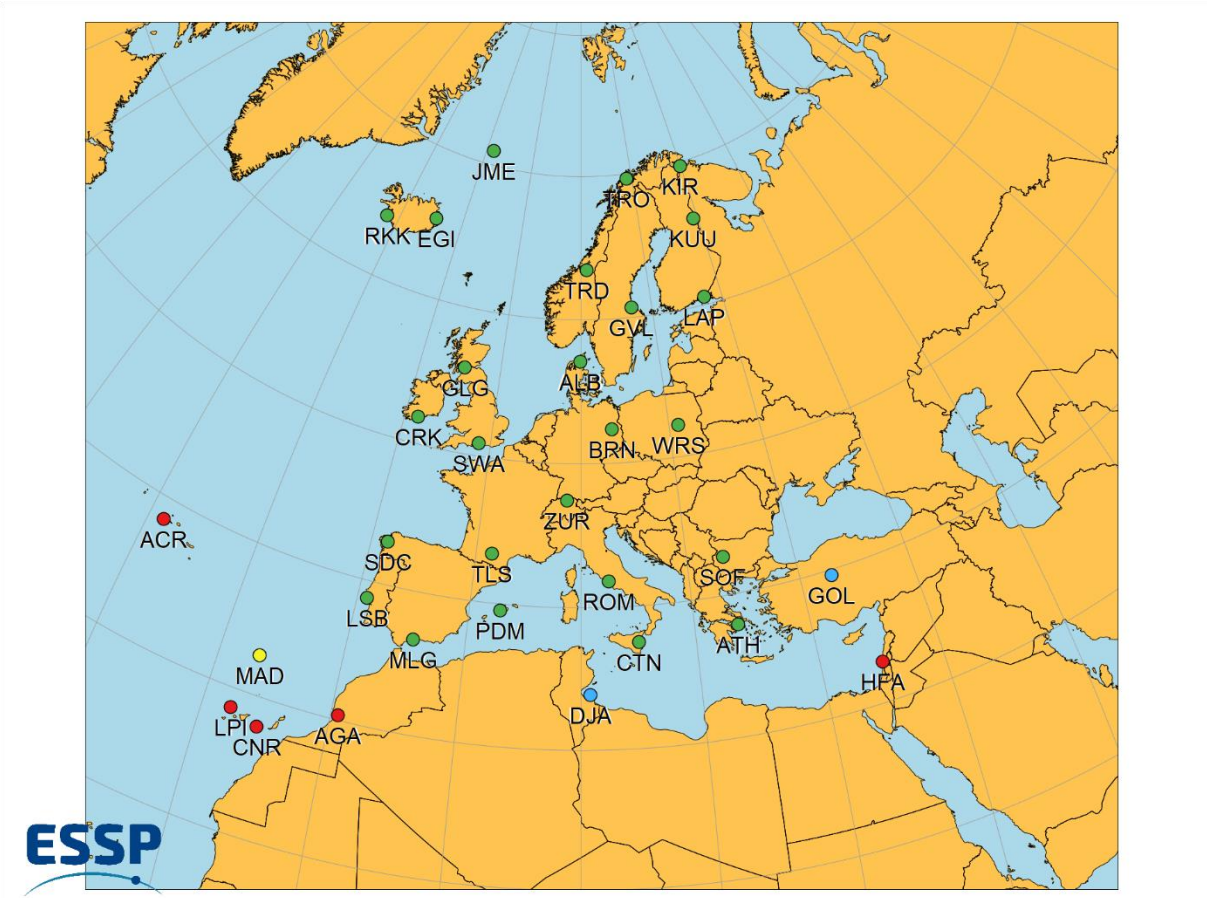


Figure 31 – EGNOS RIMS sites used in this report

The stations in green are used to report LPV-200, APV-I, NPA and Open Service results.

The stations in blue are used to report LPV-200, APV-I and NPA results.

The stations in yellow are used to report APV-I and NPA results.

The stations in red are used to report NPA results.

In Table 7, the name and location of each one of the stations is reported along with the service for which they are used.

Id	Location name	Country	APV-I	LPV-200	OS	NPA
ACR	RIMS Azores	Portugal				X
ALB	RIMS Aalborg	Denmark	X	X	X	X
AGA	RIMS Agadir	Morocco				X
ATH	RIMS Athens	Greece	X	X	X	X
BRN	RIMS Berlin	Germany	X	X	X	X
CNR	RIMS Canary Isl.	Spain				X
CRK	RIMS Cork	Ireland	X	X	X	X
CTN	RIMS Catania	Italy	X	X	X	X
DJA	RIMS Djerba	Tunisia	X	X		X
EGI	RIMS Egilsstadir	Iceland	X	X	X	X
GLG	RIMS Glasgow	United Kingdom	X	X	X	X
GOL	RIMS Golbasi	Turkey	X	X		X
GVL	RIMS Gavle	Sweden	X	X	X	X
HFA	RIMS Haifa[5]	Israel				X
JME	RIMS Jan Mayen	Norway	X	X	X	X
KIR	RIMS Kirkenes	Norway	X	X	X	X
KUU	RIMS Kuusamo	Finland	X	X	X	X
LAP	RIMS Lappeenranta	Finland	X	X	X	X
LPI	RIMS La Palma	Spain				X
LSB	RIMS Lisbon	Portugal	X	X	X	X
MAD	RIMS Madeira	Portugal	X			X
MLG	RIMS Malaga	Spain	X	X	X	X
PDM	RIMS Palma de Mallorca	Spain	X	X	X	X
RKK	RIMS Reykjavik	Iceland	X	X	X	X
ROM	RIMS Rome	Italy	X	X	X	X
SDC	RIMS S. de Compostela	Spain	X	X	X	X
SOF	RIMS Sofia	Bulgaria	X	X	X	X
SWA	RIMS Swanwick	United Kingdom	X	X	X	X
TLS	RIMS Toulouse	France	X	X	X	X
TRD	RIMS Trondheim	Norway	X	X	X	X
TRO	RIMS Tromsoe	Norway	X	X	X	X
WRS	RIMS Warsaw	Poland	X	X	X	X
ZUR	RIMS Zurich	Switzerland	X	X	X	X

Table 7 – List of sites where performances are reported.

Note that for the computation of the different histograms presented in this document, some periods may have been discarded. These periods correspond to periods of time during which stations presented bad quality of data due to local environment.

[5] RIMS Haifa is not operational since October 2023 and the asset will remain in that state until further notice.

Annex B EGNOS APV-I Performance at airports

The Table 8 reports APV-I Availability and Continuity at airports with published procedures using EGNOS. These values correspond to the performance obtained under fault-free conditions using all satellites in view:

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
BIAR / Akureyri	Iceland	98.74%	5.58e-04	280	21/05/2020	98.85%	5.85e-04
BIGR / Grimsey	Iceland	98.58%	6.86e-04	333	22/04/2021	98.75%	6.12e-04
BIHU / Husavik	Iceland	98.80%	5.47e-04	297	28/03/2019	98.99%	5.46e-04
BIVO / Vopnafjordur	Iceland	99.18%	3.19e-04	130	22/04/2021	99.37%	3.13e-04
EBAW / Antwerpen	Belgium	99.94%	8.97e-05	49	10/12/2015	99.99%	8.44e-06
EBCI / Charleroi / Brussels South	Belgium	99.92%	9.53e-05	49	31/03/2016	99.99%	7.30e-06
EBKT / Kortrijk/Wevelgem	Belgium	99.95%	9.79e-05	61	09/11/2017	99.99%	8.65e-06
EBLG / Liège	Belgium	99.91%	9.19e-05	50	13/10/2016	99.99%	7.42e-06
EDAB / Bautzen	Germany	99.84%	9.65e-05	77	15/12/2011	99.95%	1.40e-05
EDBM / Magdeburg/City	Germany	99.88%	9.57e-05	65	15/12/2011	99.95%	1.40e-05
EDBN / Neubrandenburg	Germany	99.91%	4.33e-05	26	02/04/2015	99.99%	1.08e-05
EDDC / Dresden	Germany	99.84%	1.00e-04	78	15/12/2011	99.95%	1.33e-05
EDDG / Münster/Osnabrück	Germany	99.92%	8.03e-05	84	15/12/2011	99.95%	1.28e-05
EDDL / Düsseldorf	Germany	99.92%	1.06e-04	95	15/12/2011	99.95%	1.14e-05
EDDR / Saarbrücken	Germany	99.81%	1.44e-04	106	01/03/2018	99.99%	8.07e-06
EDDS / Stuttgart	Germany	99.77%	1.24e-04	125	15/12/2011	99.93%	1.71e-05
EDDV / Hannover	Germany	99.92%	7.92e-05	66	15/12/2011	99.95%	1.35e-05
EDFQ / Allendorf/Eder	Germany	99.88%	1.26e-04	110	15/12/2011	99.95%	1.17e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
EDGS / Siegerland	Germany	99.88%	1.38e-04	123	12/10/2017	99.99%	8.80e-06
EDLV / Niederrhein	Germany	99.93%	9.56e-05	83	23/06/2016	99.99%	8.09e-06
EDLW / Dortmund	Germany	99.92%	9.04e-05	94	15/12/2011	99.95%	1.21e-05
EDMA / Augsburg	Germany	99.79%	1.01e-04	74	15/12/2011	99.95%	1.42e-05
EDME / Eggenfelden	Germany	99.75%	1.22e-04	85	15/12/2011	99.95%	1.52e-05
EDMS / Straubing	Germany	99.79%	1.43e-04	124	15/12/2011	99.95%	1.34e-05
EDPR / Donauwörth	Germany	99.80%	1.15e-04	104	08/12/2016	99.99%	8.84e-06
EDQC / Coburg-Brandensteinsebene	Germany	99.82%	1.25e-04	97	15/12/2011	99.95%	1.07e-05
EDTD / Donaueschingen-Villingen	Germany	99.73%	8.54e-05	80	15/12/2011	99.95%	1.35e-05
EDTL / Lahr	Germany	99.76%	1.13e-04	97	23/06/2016	99.99%	9.34e-06
EDTM / Mengen-Hohentengen	Germany	99.73%	7.97e-05	73	15/12/2011	99.95%	1.42e-05
EDVE / Braunschweig-Wolfsburg	Germany	99.90%	8.52e-05	64	15/12/2011	99.95%	1.37e-05
EDVK / Kassel-Calden	Germany	99.88%	1.21e-04	99	04/04/2013	99.98%	9.49e-06
EEKA / Kärdla	Estonia	99.91%	2.17e-05	7	31/01/2019	99.97%	2.16e-05
EEKE / Kuressaare	Estonia	99.92%	2.24e-05	4	02/03/2017	99.97%	1.99e-05
EETU / Tartu	Estonia	99.89%	6.69e-05	47	18/07/2019	99.94%	3.98e-05
EFET / Enontekiö	Finland	99.69%	2.18e-04	123	07/12/2017	99.72%	1.72e-04
EFHA / Halli	Finland	99.88%	7.44e-05	25	03/12/2020	99.90%	5.18e-05
EFIV / Ivalo	Finland	99.31%	4.68e-04	265	07/12/2017	99.41%	3.87e-04
EFJO / Joensuu	Finland	99.79%	1.38e-04	80	12/12/2013	99.74%	1.61e-04
EFJY / Jyväskylä	Finland	99.87%	1.28e-04	104	07/12/2017	99.89%	6.73e-05
EFKE / Kemi-Tornio	Finland	99.79%	1.31e-04	87	07/12/2017	99.84%	1.19e-04
EFKI / Kajaani	Finland	99.79%	1.52e-04	105	07/12/2017	99.80%	1.38e-04

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
EFKK / Kokkola - Pietarsaari	Finland	99.85%	1.48e-04	109	07/12/2017	99.91%	6.02e-05
EFKS / Kuusamo	Finland	99.52%	3.77e-04	229	07/12/2017	99.54%	3.30e-04
EFKT / Kittilä	Finland	99.69%	2.10e-04	98	07/12/2017	99.71%	1.82e-04
EFKU / Kuopio	Finland	99.80%	1.27e-04	72	07/12/2017	99.83%	1.06e-04
EFLA / Lahti-Vesivehmaa	Finland	99.89%	9.19e-05	37	26/01/2023	99.87%	5.87e-05
EFLP / Lappeenranta	Finland	99.85%	1.23e-04	65	07/12/2017	99.85%	8.78e-05
EFMA / Mariehamn	Finland	99.93%	3.70e-05	17	28/03/2019	99.96%	1.95e-05
EFMI / Mikkeli	Finland	99.86%	1.62e-04	99	27/01/2022	99.85%	7.36e-05
EFOU / Oulu	Finland	99.80%	1.28e-04	92	07/12/2017	99.85%	1.02e-04
EFRO / Rovaniemi	Finland	99.75%	2.18e-04	136	07/12/2017	99.75%	1.75e-04
EFSA / Savonlinna	Finland	99.82%	1.20e-04	76	07/12/2017	99.81%	1.14e-04
EFUT / Utti	Finland	99.87%	9.98e-05	77	28/01/2021	99.89%	6.41e-05
EFVA / Vaasa	Finland	99.88%	7.96e-05	43	07/12/2017	99.93%	4.53e-05
EGJA / Alderney	Guernsey	99.96%	5.57e-05	35	07/12/2011	99.95%	1.25e-05
EHAM / Amsterdam	Netherlands	99.95%	9.75e-05	55	21/06/2018	99.99%	9.54e-06
EHGG / Eelde	Netherlands	99.95%	7.84e-05	82	13/11/2014	99.99%	1.06e-05
EHLE / Lelystad	Netherlands	99.95%	9.38e-05	72	05/12/2019	99.99%	8.04e-06
EHTE / Teuge	Netherlands	99.94%	8.22e-05	74	13/11/2014	99.99%	9.04e-06
EICK / Cork Airport	Ireland	99.99%	1.12e-05	2	16/08/2018	99.97%	2.30e-05
EIKN / Ireland West Airport	Ireland	99.94%	5.04e-05	22	25/03/2021	99.99%	1.26e-05
EKAL / Ålborg hospital	Denmark	99.98%	2.28e-05	5	03/11/2022	99.99%	1.16e-05
EKHS / Saltum heliport	Denmark	99.98%	1.72e-05	4	03/11/2022	99.99%	1.08e-05
EKKA / Karup	Denmark	99.97%	2.84e-05	6	02/04/2015	99.99%	1.15e-05
EKKH / Kolding Hospital	Denmark	99.95%	3.17e-05	9	03/11/2022	99.99%	1.04e-05
EKNH / Holsterbro Hems	Denmark	99.97%	2.84e-05	6	03/11/2022	99.99%	1.24e-05
EKOH / Odense Hospital	Denmark	99.95%	2.73e-05	9	03/11/2022	99.99%	1.09e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
EKRG / Gødstrup hospital	Denmark	99.97%	2.84e-05	6	03/11/2022	99.99%	1.18e-05
EKRH / Rigshosptalet København	Denmark	99.95%	1.72e-05	4	03/11/2022	99.99%	1.07e-05
EKRN / Bornholm/Roenne	Denmark	99.93%	3.77e-05	21	22/02/2024	99.99%	5.91e-06
EKRS / Ringsted Hems	Denmark	99.95%	1.72e-05	4	03/11/2022	99.99%	1.07e-05
EKSE / Slagelse Hospital	Denmark	99.95%	2.84e-05	10	03/11/2022	99.99%	1.11e-05
EKSH / Skejby Ålborg hospital	Denmark	99.96%	2.84e-05	6	03/11/2022	99.99%	1.07e-05
EKSK / SKive Hems	Denmark	99.98%	2.84e-05	6	03/11/2022	99.99%	1.24e-05
EKTH / Thisted hospital	Norway	99.98%	1.72e-05	4	24/04/2023	99.99%	1.33e-05
ENAN / Andoya/Andenes	Norway	99.73%	2.52e-04	140	02/04/2015	99.77%	1.24e-04
ENAR / Arendal hospital	Norway	99.97%	3.92e-05	13	20/05/2021	99.99%	9.50e-06
ENAT / Alta	Norway	99.42%	4.06e-04	233	08/09/2022	99.23%	3.20e-04
ENAX / Alesund	Norway	99.94%	8.37e-05	46	18/05/2023	99.97%	2.50e-05
ENBG / Bergen Gronneviksoren	Norway	99.92%	4.86e-05	14	20/05/2021	99.99%	1.23e-05
ENBL / Forde/Aringeland	Norway	99.95%	4.41e-05	8	28/05/2015	99.97%	2.00e-05
ENBN / Bronnoysund/Bronnoy	Norway	99.93%	1.02e-04	62	08/12/2016	99.93%	5.10e-05
ENBO / Bodo	Norway	99.86%	9.20e-05	47	06/12/2018	99.86%	8.60e-05
ENBS / Båtsfjord	Norway	98.35%	6.68e-04	332	02/12/2021	98.43%	7.17e-04
ENBV / Berlevåg	Norway	98.33%	6.56e-04	309	02/12/2021	98.43%	7.22e-04
ENBX / Haukeland Hospital Bergen	Norway	99.92%	5.16e-05	17	07/09/2023	99.98%	2.26e-05
ENDU / Bardufoss	Norway	99.74%	2.20e-04	119	26/04/2018	99.75%	1.40e-04

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
ENEV / Harstad/Narvik/ Evenes	Norway	99.79%	2.36e-04	167	30/03/2017	99.80%	1.16e-04
ENFL / Florø	Norway	99.95%	3.47e-05	7	02/04/2015	99.97%	2.15e-05
ENHR / Harstad	Norway	99.77%	2.11e-04	136	08/08/2024	99.75%	1.06e-04
ENHT / Hattfjelldal	Norway	99.92%	9.83e-05	59	20/05/2021	99.90%	6.26e-05
ENHX / Haugesund Hospital	Norway	99.97%	5.08e-05	22	17/06/2021	99.99%	1.24e-05
ENKR / Kirkenes/Hoybu ktmoen	Norway	98.68%	6.68e-04	348	27/04/2017	98.76%	6.99e-04
ENLH / Lillehammer Hospìtal	Norway	99.94%	4.37e-05	13	17/06/2021	99.98%	1.93e-05
ENLK / Leknes	Norway	99.82%	1.81e-04	120	02/02/2017	99.84%	9.76e-05
ENLX / Lorenskog	Norway	99.94%	4.15e-05	16	18/05/2023	99.99%	2.03e-05
ENMH / Mehamn	Norway	98.39%	7.00e-04	378	28/03/2019	98.63%	7.51e-04
ENMK / Mosjøen	Norway	99.92%	1.05e-04	70	17/06/2021	99.89%	6.33e-05
ENMS / Mosjoen/Kjarsta d	Norway	99.92%	1.04e-04	68	30/03/2017	99.92%	5.58e-05
ENMX / Mo I Rana Hospital	Norway	99.90%	1.03e-04	59	08/08/2024	99.88%	6.98e-05
ENNA / Lakselv/Banak	Norway	99.22%	5.09e-04	288	21/02/2022	99.18%	3.61e-04
ENNH / Namsos Hospital	Norway	99.93%	7.66e-05	29	17/06/2021	99.93%	3.74e-05
ENRS / Rost	Norway	99.86%	1.27e-04	65	06/03/2014	99.85%	9.14e-05
ENRY / Moss/Rygge	Norway	99.96%	3.77e-05	13	10/12/2015	99.98%	1.47e-05
ENSH / Svolvar/Helle	Norway	99.81%	1.72e-04	119	08/12/2016	99.83%	1.00e-04
ENSK / Stokmarknes/Sk agen	Norway	99.78%	2.08e-04	149	08/12/2016	99.81%	1.12e-04
ENSO / Stord/Sorstokke n	Norway	99.95%	8.07e-05	75	03/03/2016	99.98%	1.73e-05
ENSP / Kalnes Hospital	Norway	99.96%	4.03e-05	10	17/06/2021	99.99%	1.11e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
ENSR / Sorkjosen	Norway	99.61%	2.94e-04	179	20/05/2021	99.55%	2.19e-04
ENSS / VardØ/Svartnes	Norway	98.27%	8.79e-04	503	03/12/2020	98.37%	7.80e-04
ENSX / Stavenger	Norway	99.97%	4.63e-05	21	18/05/2023	99.99%	1.60e-05
ENTE / Skien Hospital	Norway	99.95%	3.88e-05	13	08/08/2024	99.99%	7.78e-06
ENTH / Tønsberg hospital	Norway	99.99%	5.14e-05	7	03/11/2022	99.99%	3.73e-06
ENTO / Sandefjord/Torp	Norway	99.96%	4.03e-05	15	20/08/2015	99.98%	1.43e-05
ENTU / Tromsø Univeristy Hospital	Norway	99.67%	2.63e-04	168	17/06/2021	99.61%	1.72e-04
ENUH / Ullevaal	Norway	99.94%	4.15e-05	15	20/05/2021	99.99%	1.15e-05
ENVD / Vadsø	Norway	98.53%	6.52e-04	348	23/03/2023	99.04%	4.61e-04
ENXXXZAE / Aenes	Norway	99.96%	4.11e-05	10	18/05/2023	99.99%	1.89e-05
ENXXXZAF / Aafjord	Norway	99.92%	6.91e-05	36	25/01/2024	99.97%	1.14e-05
ENXXXZBK / Bjarkoy	Norway	99.75%	2.06e-04	128	20/05/2021	99.70%	1.23e-04
ENXXXZES / Evenskjaer	Norway	99.78%	2.37e-04	163	20/05/2021	99.73%	1.26e-04
ENXXXZFI / Finnsnes	Norway	99.73%	2.35e-04	117	20/05/2021	99.67%	1.44e-04
ENXXXZFN / Fodnes	Norway	99.95%	4.33e-05	11	18/05/2023	99.98%	2.29e-05
ENXXXZFS / Farsund	Norway	99.98%	5.00e-05	19	20/04/2023	99.99%	1.46e-05
ENXXXZGS / Vega	Norway	99.93%	1.04e-04	75	25/01/2024	99.95%	3.14e-05
ENXXXZHI / Fillan Hitra	Norway	99.93%	5.94e-05	21	21/03/2024	99.97%	1.18e-05
ENXXXZHM / Hamar Hospital	Norway	99.94%	4.41e-05	15	17/06/2021	99.98%	1.69e-05
ENXXXZHO / Hov	Norway	99.94%	4.41e-05	14	03/11/2022	99.98%	2.28e-05
ENXXXZIH / Innhavet	Norway	99.83%	1.36e-04	67	17/06/2021	99.78%	1.09e-04
ENXXXZKA / Kautokeino	Norway	99.64%	2.64e-04	156	20/05/2021	99.58%	1.91e-04

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
ENXXXZKB / Kongsberg Hospital	Norway	99.95%	4.26e-05	14	17/06/2021	99.99%	1.05e-05
ENXXXZKG / Kongsvinger Hospital	Norway	99.94%	5.72e-05	24	17/06/2021	99.99%	1.88e-05
ENXXXZKK / Kirkenes	Norway	98.67%	6.69e-04	370	18/05/2023	99.18%	4.00e-04
ENXXXZKS / Karasjok	Norway	99.34%	4.50e-04	234	20/05/2021	99.36%	3.22e-04
ENXXXZLK / Lofoten Hospital	Norway	99.82%	1.80e-04	111	17/06/2021	99.80%	1.05e-04
ENXXXZLV / Lovund	Norway	99.92%	1.03e-04	71	18/05/2023	99.87%	6.65e-05
ENXXXZMY / Mysen	Norway	99.95%	5.23e-05	25	17/06/2021	99.99%	1.10e-05
ENXXXZNF / Nordfjordeid Hopital	Norway	99.95%	4.41e-05	12	25/01/2024	99.99%	7.08e-06
ENXXXZNK / Narvik	Norway	99.82%	1.80e-04	111	17/06/2021	99.80%	1.05e-04
ENXXXZRD / Rindal	Norway	99.93%	6.02e-05	22	20/04/2023	99.95%	3.47e-05
ENXXXZRJ / Rjukan	Norway	99.95%	4.15e-05	11	20/04/2023	99.99%	1.72e-05
ENXXXZRY / Rodoy	Norway	99.89%	1.20e-04	81	18/05/2023	99.86%	6.54e-05
ENXXXZSK / Steinkjer	Norway	99.93%	6.99e-05	24	20/04/2023	99.92%	3.77e-05
ENXXXZSL / Surnadal	Norway	99.93%	5.90e-05	21	20/04/2023	99.95%	3.13e-05
ENXXXZSO / Storsteinnes	Norway	99.71%	2.11e-04	103	20/05/2021	99.65%	1.56e-04
ENXXXZSV / Skjervoy	Norway	99.56%	3.77e-04	206	25/01/2024	99.78%	9.61e-05
ENXXXZTG / Treungen	Norway	99.96%	3.96e-05	17	18/05/2023	99.99%	1.78e-05
ENXXXZTL / Trysil	Norway	99.93%	4.33e-05	13	20/04/2023	99.96%	2.83e-05
ENXXXZTN / Trones	Norway	99.93%	7.88e-05	42	17/06/2021	99.92%	4.38e-05
ENXXXZTP / Torpomoen	Norway	99.95%	4.93e-05	11	07/09/2023	99.98%	2.45e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
ENXXXZVB / Vrangerbotn	Norway	98.66%	6.83e-04	301	18/05/2023	99.22%	3.71e-04
ENXXXZVG / Vangsnes	Norway	99.95%	4.37e-05	10	20/04/2023	99.98%	2.02e-05
ENYY / Levanger Hospital	Norway	99.93%	6.87e-05	27	17/06/2021	99.95%	3.03e-05
ESCM / Uppsala	Sweden	99.94%	4.33e-05	19	21/05/2020	99.97%	1.90e-05
ESEB / Boras Hospital	Sweden	99.96%	3.51e-05	10	01/12/2022	99.99%	1.33e-05
ESEN / Trollhattan / Nal sjukhus	Sweden	99.96%	2.88e-05	7	16/06/2022	99.99%	1.23e-05
ESGJ / Jönköping	Sweden	99.95%	3.44e-05	7	09/11/2017	99.99%	1.11e-05
ESGT / Trollhättan-Vänersborgs flygplats	Sweden	99.96%	2.95e-05	7	29/03/2018	99.99%	1.03e-05
ESHB / Gothenburg DSBUS Östra Hospital	Sweden	99.97%	4.82e-05	16	23/03/2023	99.99%	1.51e-05
ESHO / Skovde Hospital	Sweden	99.96%	2.84e-05	7	01/12/2022	99.99%	1.61e-05
ESHS / Sahlgrenska hospital heliport	Sweden	99.97%	3.32e-05	11	16/06/2022	99.99%	1.06e-05
ESIB / Satenas	Sweden	99.96%	2.88e-05	7	01/12/2022	99.99%	1.41e-05
ESJD / Backefors Hospital	Sweden	99.96%	2.88e-05	7	01/12/2022	99.99%	1.50e-05
ESKM / Mora/Siljan	Sweden	99.93%	5.42e-05	30	30/01/2020	99.98%	1.66e-05
ESMK / Kristianstad	Sweden	99.94%	3.62e-05	17	06/12/2018	99.99%	9.47e-06
ESMQ / Kalmar Öland Airport	Sweden	99.93%	3.21e-05	10	28/03/2019	99.99%	9.39e-06
ESMT / Halmstad	Sweden	99.95%	2.24e-05	4	08/11/2018	99.99%	8.76e-06
ESMX / Växjö Kronoberg	Sweden	99.94%	2.50e-05	8	25/04/2019	99.99%	9.82e-06
ESND / Sveg	Sweden	99.93%	4.63e-05	17	31/01/2019	99.96%	2.19e-05
ESNG / Lapland Airport	Sweden	99.82%	8.86e-05	46	20/06/2019	99.81%	1.14e-04

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
ESNK / Kramfors-Solleftea	Sweden	99.92%	6.17e-05	24	13/08/2020	99.94%	3.26e-05
ESNL / Lycksele Airport	Sweden	99.90%	1.32e-04	88	15/08/2019	99.91%	5.26e-05
ESNO / Örnsköldsvik	Sweden	99.91%	5.49e-05	20	07/12/2017	99.95%	3.19e-05
ESNQ / Kiruna	Sweden	99.79%	1.34e-04	78	25/01/2024	99.90%	4.04e-05
ESNS / Skelleftea Airport	Sweden	99.85%	1.13e-04	86	28/03/2019	99.89%	6.49e-05
ESNV / Vilhelmina	Sweden	99.92%	9.90e-05	62	27/02/2020	99.92%	5.28e-05
ESNX / Arvidsjaur	Sweden	99.85%	1.15e-04	90	05/12/2019	99.87%	7.61e-05
ESOE / Örebro Airport	Sweden	99.95%	2.69e-05	9	16/08/2018	99.98%	1.37e-05
ESOH / Hagfors	Sweden	99.95%	4.33e-05	13	30/01/2020	99.98%	1.61e-05
ESOK / Karlstad	Sweden	99.96%	3.74e-05	16	05/11/2020	99.99%	1.71e-05
ESOW / Stockholm/Västerås	Sweden	99.94%	3.59e-05	13	30/01/2020	99.98%	1.77e-05
ESSA / Stockholm/Arlanda	Sweden	99.94%	3.77e-05	17	02/11/2023	99.97%	1.22e-05
ESSD / Borlänge Dala	Sweden	99.94%	4.00e-05	16	05/11/2020	99.97%	1.82e-05
ESSP / Norrköping Kungsängen	Sweden	99.95%	2.95e-05	7	29/03/2018	99.98%	1.22e-05
ESST / Torsby	Sweden	99.94%	6.13e-05	32	23/05/2019	99.98%	1.67e-05
ESSU / Eskilstuna	Sweden	99.94%	2.69e-05	9	10/09/2020	99.98%	2.01e-05
ESSV / Visby	Sweden	99.93%	2.95e-05	9	17/06/2021	99.99%	1.22e-05
ESTA / Ängelholm	Sweden	99.95%	2.28e-05	7	19/07/2018	99.99%	9.36e-06
ESTL / Ljungbyhed	Sweden	99.95%	3.62e-05	16	07/12/2017	99.99%	1.34e-05
ESUP / Pajala	Sweden	99.78%	1.33e-04	76	31/12/2020	99.75%	1.18e-04
ESUT / Hemavan Tärnaby Airport AB	Sweden	99.91%	1.11e-04	72	11/10/2018	99.91%	6.07e-05
EYKA / Kaunas	Lithuania	99.93%	2.24e-05	4	09/09/2021	99.98%	1.47e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
EYPA / Palanga	Lithuania	99.93%	2.28e-05	5	25/03/2021	99.99%	1.23e-05
EYVI / Vilnius	Lithuania	99.92%	3.06e-05	15	16/07/2020	99.97%	2.36e-05
GCLA / La Palma	Spain	88.02%	2.32e-03	782	14/07/2022	89.27%	1.72e-03
GCLP / Gran Canaria	Spain	85.34%	2.35e-03	707	05/09/2024	80.62%	2.47e-03
GCRR / Lanzarote AD	Spain	88.05%	1.98e-03	659	23/05/2019	95.48%	7.30e-04
GCTS / Tenerife Sur	Spain	85.85%	2.37e-03	733	05/10/2023	85.91%	1.89e-03
GCXO / Tenerife Norte	Spain	87.33%	2.13e-03	661	03/10/2024	82.69%	2.11e-03
LBBG / Burgas	Bulgaria	99.70%	1.33e-04	58	04/11/2021	99.88%	1.52e-04
LBGO / Gorna Oryahovitsa	Bulgaria	99.74%	1.15e-04	61	04/11/2021	99.92%	8.18e-05
LBPD / Plovdiv	Bulgaria	99.69%	9.74e-05	40	04/11/2021	99.92%	8.63e-05
LBSF / Sofia	Bulgaria	99.67%	1.11e-04	51	21/03/2024	99.93%	1.35e-05
LBWN / Varna	Bulgaria	99.74%	1.13e-04	41	16/06/2022	99.89%	1.12e-04
LDDU / Dubrovnik	Croatia	99.47%	6.31e-05	44	10/12/2015	99.96%	2.50e-05
LDLO / Losinj	Croatia	99.55%	8.29e-05	56	22/02/2024	99.93%	1.27e-05
LDOS / Osijek/Klisa	Croatia	99.64%	2.00e-04	176	29/03/2018	99.97%	2.30e-05
LDPL / Pula	Croatia	99.58%	9.00e-05	60	26/04/2018	99.97%	1.49e-05
LDRI / Rijeka	Croatia	99.63%	6.52e-05	39	12/09/2019	99.97%	1.32e-05
LDSB / Brac	Croatia	99.49%	5.67e-05	32	05/12/2019	99.95%	1.89e-05
LDSP / Split/Kastela	Croatia	99.48%	7.69e-05	39	10/10/2019	99.96%	1.78e-05
LDZA / Zagreb/Pleso	Croatia	99.66%	8.17e-05	53	29/03/2018	99.98%	1.26e-05
LDZD / Zadar	Croatia	99.55%	9.38e-05	49	11/10/2018	99.96%	1.53e-05
LEAL / Alicante	Spain	99.55%	1.26e-04	96	25/01/2024	99.80%	6.53e-05
LEAM / Almeria	Spain	99.48%	1.61e-04	113	02/02/2017	99.85%	5.81e-05
LEBA / Córdoba	Spain	99.66%	1.10e-04	75	15/06/2023	99.77%	9.37e-05
LEBG / Burgos	Spain	99.83%	9.69e-05	44	20/04/2023	99.94%	2.91e-05
LECH / Castellón	Spain	99.55%	6.26e-05	48	21/04/2021	99.87%	4.22e-05
LEDA / Lleida	Spain	99.63%	1.16e-04	59	03/11/2022	99.89%	4.19e-05
LEGE / Girona	Spain	99.50%	7.80e-05	56	24/03/2022	99.91%	2.66e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
LEHC / Huesca-Pirineos	Spain	99.69%	1.09e-04	45	28/11/2024	99.85%	5.19e-05
LEJR / Jerez	Spain	99.55%	1.86e-04	79	02/12/2021	99.63%	1.43e-04
LEPA / Palma de Mallorca	Spain	99.47%	5.59e-05	32	01/03/2018	99.93%	2.30e-05
LERJ / Logroño	Spain	99.83%	1.10e-04	57	20/04/2023	99.93%	2.95e-05
LERS / Reus	Spain	99.53%	9.98e-05	52	01/12/2022	99.87%	3.93e-05
LESO / San Sebastián	Spain	99.84%	1.05e-04	63	28/11/2024	99.92%	5.01e-05
LEVC / Valencia Airport	Spain	99.57%	1.09e-04	62	01/02/2018	99.94%	2.44e-05
LEVX / Vigo	Spain	99.91%	5.61e-05	34	05/12/2019	99.92%	3.52e-05
LEXJ / Santander	Spain	99.84%	1.23e-04	73	17/10/2013	99.95%	2.96e-05
LFAC / Calais	France	99.96%	8.14e-05	52	20/09/2012	99.97%	1.19e-05
LFAQ / Albert Bray	France	99.94%	9.00e-05	51	15/11/2017	99.97%	1.03e-05
LFAT / Le Touquet Paris Plage	France	99.96%	5.98e-05	40	04/02/2016	99.99%	7.74e-06
LFAV / Valenciennes Denain	France	99.93%	9.30e-05	53	19/09/2013	99.99%	8.77e-06
LFAY / Ammiens Glisy	France	99.95%	8.52e-05	49	27/06/2013	99.97%	9.49e-06
LFBI / Poitiers Biard	France	99.91%	1.01e-04	58	12/11/2015	99.99%	8.77e-06
LFBK / Montluçon Gueret	France	99.80%	7.89e-05	49	17/12/2013	99.98%	1.19e-05
LFBN / Niort Marais Poitevin	France	99.90%	5.49e-05	19	02/03/2017	99.98%	1.01e-05
LFBO / Toulouse Blagnac	France	99.70%	1.43e-04	120	03/05/2012	99.94%	1.74e-05
LFBP / Pau-Pyrénées	France	99.79%	1.53e-04	91	17/03/2011	99.93%	2.08e-05
LFBR / Muret Lherm	France	99.68%	1.51e-04	117	15/10/2015	99.97%	1.31e-05
LFBT / Tarbes Lourdes Pyrenees	France	99.74%	1.68e-04	94	28/05/2015	99.97%	1.35e-05
LFCI / Albi Le Sequestre	France	99.70%	9.40e-05	71	27/05/2016	99.97%	1.31e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
LFCK / Castres Mazamet	France	99.68%	7.60e-05	28	22/08/2013	99.97%	1.64e-05
LFCR / Rodez Marcillac	France	99.70%	7.53e-05	35	31/05/2012	99.94%	1.64e-05
LFCY / Royan Medis	France	99.88%	7.85e-05	40	30/04/2015	99.98%	1.05e-05
LFDH / Auch Lamothe	France	99.73%	2.10e-04	147	28/05/2015	99.97%	1.34e-05
LFEC / Ouessant	France	99.95%	5.27e-05	32	11/12/2014	99.98%	1.22e-05
LFHY / Moulins Montbeugny	France	99.76%	7.97e-05	35	01/05/2014	99.99%	8.48e-06
LFJL / Metz Nancy Lorraine	France	99.83%	1.34e-04	78	04/04/2013	99.98%	1.18e-05
LFKJ / Ajaccio Napoleon Bonaparte	France	99.35%	6.43e-05	55	23/06/2016	99.96%	1.33e-05
LFLA / Auxerre Branches	France	99.82%	7.29e-05	29	21/08/2014	99.99%	8.51e-06
LFLD / Bourges	France	99.84%	7.89e-05	51	18/08/2016	99.99%	7.63e-06
LFMD / Cannes Mandelieu	France	99.51%	4.39e-05	21	05/02/2015	99.97%	1.19e-05
LFML / Marseille Provence	France	99.53%	4.35e-05	11	08/01/2015	99.97%	1.15e-05
LFMP / Perpignan Rivesaltes	France	99.54%	7.05e-05	37	15/10/2015	99.97%	1.27e-05
LFMU / Beziers Vias	France	99.57%	1.02e-04	56	18/10/2012	99.96%	1.59e-05
LFNB / Mende	France	99.67%	6.97e-05	29	17/12/2013	99.98%	1.34e-05
LFOB / Beauvais	France	99.95%	8.22e-05	47	20/09/2012	99.97%	1.10e-05
LFOK / Chalons Vatry	France	99.85%	8.64e-05	28	02/02/2017	99.99%	8.42e-06
LFOU / Cholet Le Pontreau	France	99.92%	9.08e-05	61	04/02/2016	99.98%	9.47e-06
LFOV / Laval Entrammes	France	99.94%	8.70e-05	57	26/04/2018	99.99%	9.08e-06
LFPO / Paris Orly	France	99.91%	5.87e-05	19	30/05/2013	99.97%	1.05e-05
LFQA / Reims	France	99.88%	8.82e-05	37	03/04/2014	99.99%	9.15e-06
LFQG / Nevers Fouchambault	France	99.81%	6.77e-05	33	13/12/2012	99.97%	1.15e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
LFQM / Besançon La Veze	France	99.71%	7.60e-05	31	05/11/2014	99.99%	9.37e-06
LFQQ / Lille Lesquin	France	99.94%	8.67e-05	52	26/06/2014	99.99%	7.61e-06
LFQT / Merville	France	99.95%	6.80e-05	40	15/11/2012	99.97%	1.03e-05
LFRB / Brest Bretagne	France	99.94%	4.93e-05	27	03/05/2012	99.94%	1.55e-05
LFRD / Dinard	France	99.95%	6.72e-05	41	06/02/2014	99.98%	1.04e-05
LFRG / Deauville Normandie	France	99.96%	1.01e-04	71	05/11/2014	99.99%	8.91e-06
LFRM / Le Mans	France	99.93%	8.14e-05	60	15/11/2012	99.97%	1.22e-05
LFRN / Rennes	France	99.94%	8.56e-05	60	30/05/2013	99.97%	1.25e-05
LFRS / Nantes	France	99.92%	9.15e-05	63	28/06/2012	99.97%	1.41e-05
LFRU / Morlaix Ploujean	France	99.94%	4.74e-05	23	13/10/2016	99.98%	9.94e-06
LFRV / Vannes Meucon	France	99.93%	5.98e-05	34	31/05/2012	99.94%	1.42e-05
LFSB / Bale-Mulhouse	France	99.71%	9.55e-05	70	10/12/2015	99.99%	8.47e-06
LFSD / Dijon-Longvic	France	99.72%	7.08e-05	27	28/04/2016	99.99%	7.62e-06
LFSG / Epinal Minecourt	France	99.77%	1.49e-04	95	30/05/2013	99.98%	1.23e-05
LGIO / Ioannina	Greece	99.35%	7.74e-05	50	27/02/2020	99.92%	7.57e-05
LGKO / Kos	Greece	98.50%	3.07e-04	156	27/02/2020	99.54%	3.14e-04
LGMT / Mitilini	Greece	99.27%	1.86e-04	91	27/02/2020	99.87%	1.40e-04
LGTS / Thessaloniki	Greece	99.56%	8.44e-05	55	27/02/2020	99.93%	8.92e-05
LHBC / Békéscsaba Repülőtér	Hungary	99.79%	1.66e-04	137	28/01/2021	99.96%	3.18e-05
LHDC / Debrecen International Airport	Hungary	99.81%	7.67e-05	45	30/01/2020	99.97%	2.84e-05
LHNY / Nyíregyháza Airport	Hungary	99.82%	7.26e-05	43	24/03/2022	99.97%	2.89e-05
LHPP / Pecs-Pogany	Hungary	99.67%	1.08e-04	70	03/12/2020	99.97%	1.92e-05

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
LHPR / Győr-Pér	Hungary	99.68%	8.24e-05	53	25/02/2021	99.97%	1.47e-05
LHSM / Heviz-Balaton	Hungary	99.68%	1.09e-04	76	25/03/2021	99.97%	1.43e-05
LICJ / Palermo/Punta Raisi	Italy	99.29%	1.88e-05	22	11/10/2018	99.91%	2.96e-05
LIEA / Alghero/Fertilia	Italy	99.31%	4.70e-05	27	11/10/2018	99.94%	1.71e-05
LIMC / Milano/Malpensa	Italy	99.62%	1.03e-04	81	21/08/2014	99.98%	1.04e-05
LIME / Bergamo /Orio al Serio	Italy	99.59%	7.61e-05	84	20/07/2017	99.98%	9.94e-06
LIML / Milano/Linate	Italy	99.58%	7.16e-05	68	13/12/2012	99.97%	1.37e-05
LIPE / Bologna Borgo Panigale	Italy	99.47%	9.08e-05	82	20/11/2014	99.97%	1.46e-05
LIPZ / Venezia/Tessera	Italy	99.60%	7.35e-05	63	27/06/2013	99.96%	1.71e-05
LIRF / Roma/Fiumicino	Italy	99.33%	4.44e-05	48	23/05/2019	99.95%	1.55e-05
LJLJ / Ljubljana	Slovenia	99.70%	8.69e-05	50	16/05/2024	99.96%	1.16e-05
LJPZ / Portotoz	Slovenia	99.65%	7.04e-05	54	01/12/2022	99.95%	2.15e-05
LKKU / Kunovice	Czech Rep.	99.76%	9.54e-05	65	07/12/2017	99.98%	1.28e-05
LKKV / Karlovy Vary	Czech Rep.	99.81%	1.18e-04	79	13/11/2014	99.99%	9.20e-06
LKMT / Ostrava	Czech Rep.	99.79%	1.26e-04	113	09/01/2014	99.98%	1.37e-05
LKVO / Praha/Vodochody	Czech Rep.	99.81%	1.07e-04	76	25/06/2015	99.99%	9.81e-06
LMML / Luka	Malta	99.13%	5.91e-05	26	11/10/2018	99.81%	9.28e-05
LOAV / Vöslau	Austria	99.72%	7.56e-05	46	28/02/2019	99.98%	9.63e-06
LODO / ÖAMTC-Oberwart	Austria	99.70%	9.81e-05	67	28/02/2019	99.98%	1.06e-05
LOGH / Graz LKH	Austria	99.71%	8.13e-05	53	27/01/2022	99.95%	9.02e-06
LPCS / Cascais	Portugal	99.82%	1.28e-04	121	20/05/2021	99.84%	5.25e-05
LPFR / Faro	Portugal	99.59%	1.40e-04	61	18/07/2019	99.80%	7.99e-05
LPPR / Porto	Portugal	99.90%	1.38e-04	113	12/10/2017	99.93%	3.47e-05
LPPS / Porto Santo	Portugal	98.06%	7.11e-04	251	08/09/2022	96.87%	6.46e-04

Airports	Country	Monthly APV-I Availability	Monthly APV-I Continuity Risk	Outages	Publication date of first APV-I procedure	APV-I Availability since procedure publication	APV-I Continuity Risk since procedure publication
LPPT / Lisboa	Portugal	99.82%	1.21e-04	125	28/05/2015	99.93%	3.25e-05
LRCK / Constanta	Romania	99.76%	1.32e-04	78	07/09/2023	99.86%	1.12e-04
LRCL / Cluj-Napoca/Avram Iancu	Romania	99.84%	5.83e-05	27	10/11/2016	99.94%	5.78e-05
LRCV / Craiova	Romania	99.78%	1.15e-04	59	03/10/2024	99.93%	4.38e-05
LRIA / IASI/Iasi	Romania	99.75%	1.62e-04	90	31/10/2024	99.90%	7.21e-05
LROD / ORADEA/Oradea	Romania	99.81%	7.71e-05	60	21/03/2024	99.94%	1.16e-05
LRSV / Suceava	Romania	99.79%	9.73e-05	54	07/09/2023	99.93%	4.19e-05
LSHI / Bern-Insel Hospital	Switzerland	99.69%	9.85e-05	67	18/05/2023	99.98%	2.00e-05
LSMD / Dübendorf	Switzerland	99.70%	1.01e-04	89	21/08/2014	99.99%	1.02e-05
LSME / Emmen	Switzerland	99.69%	1.08e-04	88	03/04/2014	99.99%	9.92e-06
LSZR / St. Gallen-Altenrhein	Switzerland	99.69%	9.85e-05	84	17/11/2011	99.95%	1.35e-05

Table 8 - Monthly APV-I Availability at airports with published procedures using EGNOS in January 2025.

Annex C EGNOS LPV-200 Performance at airports

The Table 9 reports LPV-200 Availability and Continuity at airports with published procedures using EGNOS. These values correspond to the performance obtained under fault-free conditions using all satellites in view:

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
EBAW / Antwerpen	Belgium	99.64%	1.71e-04	149	02/11/2023	99.98%	1.16e-05
EBBE / Beauvechain	Belgium	99.63%	1.45e-04	116	07/09/2023	99.97%	2.28e-05
EBBR / Brussels-National	Belgium	99.64%	1.60e-04	133	05/10/2023	99.97%	2.44e-05
EBLG / Liège	Belgium	99.63%	1.45e-04	115	19/05/2022	99.99%	1.52e-05
EBOS / Oostende/Brugge	Belgium	99.66%	1.79e-04	138	03/01/2019	99.98%	1.32e-05
EDAC / Leipzig/Altenburg	Germany	99.70%	1.16e-04	76	28/03/2019	99.98%	1.42e-05
EDAH / Heringsdorf	Germany	99.73%	9.32e-05	47	18/04/2024	99.96%	1.18e-05
EDAY / Strausberg	Germany	99.73%	1.24e-04	83	17/06/2021	99.99%	1.10e-05
EDAZ / Schoenhagen	Germany	99.72%	1.06e-04	54	11/10/2018	99.98%	1.34e-05
EDBH / Barth	Germany	99.75%	9.88e-05	56	09/09/2021	99.99%	1.29e-05
EDDB / Berlin Brandenburg	Germany	99.72%	1.22e-04	74	08/10/2020	99.99%	9.89e-06
EDDE / Erfurt-Weimar	Germany	99.69%	1.18e-04	77	09/09/2021	99.99%	1.17e-05
EDDF / Frankfurt Main	Germany	99.63%	1.22e-04	64	13/07/2023	99.98%	2.01e-05
EDDH / Hamburg	Germany	99.73%	1.16e-04	78	18/06/2020	99.99%	1.07e-05
EDDK / Koeln/Bonn	Germany	99.65%	1.67e-04	104	12/09/2019	99.99%	1.22e-05
EDDL / Düsseldorf	Germany	99.66%	1.43e-04	90	28/11/2024	99.84%	6.83e-05
EDDM / München	Germany	99.63%	1.21e-04	44	23/05/2019	99.98%	1.53e-05
EDDN / Nürnberg	Germany	99.65%	1.18e-04	57	01/12/2022	99.98%	1.76e-05
EDDP / Leipzig/Halle	Germany	99.71%	1.09e-04	57	30/01/2020	99.98%	1.39e-05
EDDW / Bremen	Germany	99.72%	1.21e-04	79	30/03/2017	99.98%	1.38e-05
EDFH / Frankfurt Hahn	Germany	99.61%	1.61e-04	101	14/09/2017	99.99%	1.18e-05
EDGS / Siegerland	Germany	99.66%	1.36e-04	76	12/10/2017	99.99%	1.26e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
EDHI / Hamburg-Finkenwerder	Germany	99.73%	1.17e-04	79	18/06/2020	99.99%	1.09e-05
EDHK / Kiel-Holtenau	Germany	99.75%	1.05e-04	72	18/06/2020	99.99%	1.11e-05
EDHL / Luebeck-Blankensee	Germany	99.74%	1.30e-04	89	18/06/2020	99.99%	1.06e-05
EDJA / Memmingen	Germany	99.57%	1.26e-04	47	04/11/2021	99.98%	1.52e-05
EDLN / Moenchengladbach	Germany	99.65%	1.40e-04	90	06/12/2018	99.98%	1.38e-05
EDLP / Paderborn-Lippstadt	Germany	99.70%	1.04e-04	52	10/10/2019	99.99%	1.13e-05
EDMA / Augsburg	Germany	99.60%	1.25e-04	45	11/10/2018	99.98%	1.42e-05
EDMO / Oberpfaffenhofen	Germany	99.60%	1.30e-04	45	23/05/2019	99.98%	1.53e-05
EDNY / Friedrischshafen	Germany	99.55%	1.45e-04	72	19/07/2018	99.98%	1.37e-05
EDQA / Bamberg-Breitenau	Germany	99.66%	1.25e-04	73	02/12/2021	99.99%	1.33e-05
EDQD / Bayreuth	Germany	99.66%	1.17e-04	61	05/09/2024	99.93%	2.43e-05
EDQG / Giebelstadt	Germany	99.64%	1.39e-04	75	02/12/2021	99.99%	1.30e-05
EDQM / Hof-Plauen	Germany	99.67%	1.27e-04	70	21/06/2018	99.98%	1.29e-05
EDSB / Karlsruhe/Baden-Baden	Germany	99.57%	1.47e-04	76	27/04/2017	99.98%	1.20e-05
EDTL / Lahr	Germany	99.56%	1.46e-04	76	27/04/2017	99.98%	1.23e-05
EDTY / Schwäbisch-Hall	Germany	99.59%	1.21e-04	47	21/03/2024	99.96%	1.18e-05
EDWE / Emden	Germany	99.73%	1.24e-04	87	30/11/2023	99.98%	9.31e-06
EDWI / Wilhelmshaven JadeWeserAirport	Germany	99.74%	1.23e-04	84	30/11/2023	99.98%	9.28e-06
EDXW / Sylt	Germany	99.75%	9.66e-05	58	20/04/2023	99.99%	1.56e-05
EEPU / Pärnu	Estonia	99.69%	1.95e-04	120	03/11/2022	99.91%	9.22e-05
EETN / Lennart Meri Tallinn	Estonia	99.62%	2.10e-04	109	06/12/2018	99.90%	1.22e-04
EETU / Tartu	Estonia	99.60%	2.45e-04	167	18/07/2019	99.87%	1.46e-04
EFHK / Helsinki-Vantaa	Finland	99.57%	2.66e-04	139	18/04/2024	99.88%	8.58e-05
EFPO / Pori	Finland	99.58%	2.76e-04	180	22/02/2024	99.90%	5.31e-05
EFTP / Tampere/Pirkkala	Finland	99.54%	2.53e-04	140	11/08/2022	99.79%	1.77e-04

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
EFTU / Turku	Finland	99.64%	2.46e-04	130	03/10/2024	99.82%	1.33e-04
EGJB / Guernsey	Guernsey	99.64%	1.31e-04	61	10/10/2019	99.97%	1.44e-05
EGJJ / Jersey	Jersey	99.63%	1.32e-04	51	23/05/2019	99.97%	1.41e-05
EHAM / Amsterdam	Netherlands	99.67%	1.59e-04	128	05/12/2019	99.98%	1.49e-05
EHBD / Weert / Budel	Netherlands	99.64%	1.42e-04	112	31/12/2020	99.99%	1.11e-05
EHBK / Maastricht Aachen Aiport	Netherlands	99.64%	1.44e-04	112	14/07/2022	99.99%	1.62e-05
EHEH / Eindhoven	Netherlands	99.65%	1.42e-04	111	28/01/2021	99.99%	1.10e-05
EHKD / Den Helder - De Kooy	Netherlands	99.69%	1.88e-04	164	28/01/2021	99.99%	1.29e-05
EHLW / Leeuwarden	Netherlands	99.71%	1.62e-04	141	28/01/2021	99.99%	1.29e-05
EHRD / Rotterdam The Hague	Netherlands	99.66%	1.67e-04	134	03/11/2022	99.98%	1.65e-05
EHWO / Woensdrecht	Netherlands	99.65%	1.79e-04	148	26/01/2023	99.98%	1.86e-05
EIDW / Dublin Airport	Ireland	99.57%	2.03e-04	133	08/09/2022	99.98%	2.07e-05
EIME / Casement	Ireland	99.57%	2.00e-04	138	31/10/2024	99.86%	6.64e-05
EISG / Sligo	Ireland	99.51%	2.51e-04	155	01/12/2022	99.97%	2.73e-05
EKAH / Aarhus	Denmark	99.75%	9.88e-05	34	22/02/2024	99.97%	1.14e-05
EKBI / Billund	Denmark	99.75%	7.67e-05	32	20/07/2017	99.98%	1.54e-05
EKCH / Koebenhavn/ Kastrup	Denmark	99.76%	6.81e-05	14	22/02/2024	99.97%	1.12e-05
EKEB / Esbjerg	Denmark	99.75%	9.32e-05	37	26/03/2020	99.99%	1.14e-05
EKSB / Sonderborg	Denmark	99.76%	8.95e-05	48	30/12/2021	99.99%	1.12e-05
ELLX / Luxembourg	Luxembourg	99.60%	1.72e-04	109	26/03/2020	99.98%	1.27e-05
ENAL / Alesund-Vigra	Norway	99.47%	2.30e-04	163	07/11/2019	99.93%	5.12e-05
ENBL / Forde/Aringeland	Norway	99.54%	1.80e-04	100	27/04/2017	99.95%	3.69e-05
ENBR / Bergen-Flesland	Norway	99.61%	1.58e-04	78	28/02/2019	99.96%	2.92e-05
ENCN / Kristiansand/Kjevik	Norway	99.73%	1.30e-04	57	23/02/2022	99.98%	2.48e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
ENEV / Harstad/Narvik/Evenes	Norway	98.58%	7.30e-04	371	15/07/2021	99.27%	7.81e-04
ENGM / Gardemoon	Norway	99.72%	1.26e-04	51	10/11/2016	99.96%	2.59e-05
ENHD / Haugesund/Karmoy	Norway	99.66%	1.72e-04	79	13/08/2020	99.97%	2.43e-05
ENHK / Hasvik	Norway	96.81%	1.90e-03	1338	03/12/2020	98.29%	1.50e-03
ENKB / Kristiansund/Kvernberget	Norway	99.52%	2.38e-04	125	31/12/2020	99.91%	6.40e-05
ENML / Molde/Aro	Norway	99.52%	2.76e-04	168	30/03/2017	99.94%	4.72e-05
ENNM / Namsos	Norway	99.35%	3.51e-04	204	27/04/2017	99.89%	1.04e-04
ENNO / Notodden	Norway	99.70%	1.24e-04	57	07/09/2023	99.96%	3.93e-05
ENOL / Orland	Norway	99.47%	2.57e-04	164	12/10/2017	99.92%	7.28e-05
ENRM / Rorvik/Ryum	Norway	99.28%	4.08e-04	221	02/02/2017	99.88%	1.10e-04
ENSG / Sogndal/Haukasen	Norway	99.59%	1.78e-04	88	14/09/2017	99.96%	3.02e-05
ENST / Sandnessjøen/Stokka	Norway	99.10%	5.44e-04	233	30/01/2020	99.76%	2.59e-04
ENTX / Oslo Helikopterplass Taraldrud	Norway	99.73%	1.41e-04	55	15/07/2021	99.98%	2.68e-05
ENVA / Trondheim/Værnes	Norway	99.48%	3.04e-04	195	27/02/2020	99.90%	8.83e-05
ENZV / Stavanger/Sola	Norway	99.70%	1.40e-04	82	21/04/2022	99.98%	1.96e-05
EPBY / Bydgoszcz - Szwederowo	Poland	99.75%	7.07e-05	21	26/04/2018	99.97%	1.78e-05
EPGD / Gdansk Lech Walesa	Poland	99.77%	7.82e-05	38	26/04/2018	99.97%	1.78e-05
EPKK / Kraków - Balice	Poland	99.70%	6.89e-05	21	26/04/2018	99.97%	2.90e-05
EPKT / Katowice	Poland	99.71%	6.52e-05	19	26/04/2018	99.97%	2.26e-05
EPLB / Lublin	Poland	99.72%	8.69e-05	44	26/04/2018	99.94%	5.83e-05
EPLL / Lódz-Lublinek	Poland	99.74%	6.66e-05	25	21/06/2018	99.97%	2.22e-05
EPMO / Warszawa/Modlin	Poland	99.75%	6.85e-05	29	26/04/2018	99.97%	2.52e-05
EPPO / Poznan Lawica	Poland	99.72%	7.86e-05	34	18/07/2019	99.98%	1.54e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
EPRA / Warszawa-Radom	Poland	99.75%	6.96e-05	32	10/08/2023	99.96%	2.26e-05
EPRZ / Rzeszów - Jasionka	Poland	99.69%	1.04e-04	35	26/04/2018	99.95%	5.27e-05
EPSC / Szczecin - Goleniów	Poland	99.73%	9.70e-05	52	26/04/2018	99.98%	1.45e-05
EPSY / Olsztyn - Mazury	Poland	99.75%	6.85e-05	23	26/04/2018	99.97%	2.45e-05
EPWA / Warszawa-F. Chopin	Poland	99.75%	6.10e-05	23	26/04/2018	99.97%	2.70e-05
EPWR / Wroclaw/Strachowice	Poland	99.72%	8.57e-05	37	26/04/2018	99.98%	1.57e-05
EPZG / Zielona Góra-Babinost	Poland	99.72%	9.55e-05	48	18/07/2019	99.98%	1.53e-05
ESGP / Säve	Sweden	99.74%	1.12e-04	55	04/11/2021	99.98%	1.96e-05
ESND / Sveg	Sweden	99.65%	2.38e-04	170	08/08/2024	99.86%	8.70e-05
ESNQ / Kiruna	Sweden	98.73%	6.39e-04	321	25/01/2024	99.62%	1.82e-04
ESSA / Stockholm/Arlanda	Sweden	99.71%	1.49e-04	104	02/11/2023	99.94%	2.00e-05
ESSB / Stockholm/Bromm	Sweden	99.71%	1.32e-04	98	30/11/2023	99.96%	1.66e-05
ESSV / Visby	Sweden	99.76%	1.53e-04	106	25/03/2021	99.98%	2.50e-05
EVGA / Lielvarde	Latvia	99.72%	7.41e-05	26	27/01/2022	99.95%	4.26e-05
EVLA / Liepaja	Latvia	99.76%	9.32e-05	55	16/06/2022	99.97%	2.11e-05
EVRA / Riga	Latvia	99.73%	9.70e-05	58	27/01/2022	99.96%	4.17e-05
LEBL / Josep Tarradellas Barcelona-El Prat	Spain	99.34%	1.44e-04	113	04/11/2021	99.90%	2.93e-05
LEIB / Ibiza	Spain	99.25%	1.12e-04	111	28/11/2024	99.63%	6.15e-05
LEMD / AS Madrid-Barajas	Spain	99.49%	1.63e-04	59	23/02/2023	99.83%	5.65e-05
LEVT / Vitoria	Spain	99.53%	1.29e-04	29	11/07/2024	99.88%	2.58e-05
LFAQ / Albert Bray	France	99.65%	1.78e-04	138	21/11/2017	99.98%	1.27e-05
LFAT / Le Touquet Paris Plage	France	99.67%	1.49e-04	99	21/11/2017	99.98%	1.30e-05
LFAV / Valenciennes Denain	France	99.63%	1.90e-04	154	21/11/2017	99.98%	1.33e-05
LFBA / Agen La Garenne	France	99.46%	1.70e-04	73	21/11/2017	99.96%	2.19e-05
LFBD / Bordeaux Merignac	France	99.49%	1.37e-04	51	21/11/2017	99.97%	1.85e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
LFBE / Bergerac	France	99.48%	1.69e-04	77	21/11/2017	99.97%	1.90e-05
LFBF / Toulouse Francazal	France	99.43%	2.02e-04	112	03/11/2022	99.90%	4.25e-05
LFBH / La Rochelle	France	99.51%	1.67e-04	76	04/11/2021	99.97%	1.99e-05
LFBI / Poitiers Biard	France	99.52%	1.68e-04	70	21/11/2017	99.98%	1.55e-05
LFBL / Limoges	France	99.50%	1.69e-04	82	21/11/2017	99.97%	1.62e-05
LFBS / Biscarrosse Parentis	France	99.49%	1.50e-04	59	04/11/2021	99.95%	2.78e-05
LFBU / Angoulême Brie Champniers	France	99.50%	1.66e-04	70	21/11/2017	99.97%	1.77e-05
LFBX / Périgueaux Bassillac	France	99.49%	1.77e-04	85	25/05/2017	99.97%	1.73e-05
LFBZ / Biarritz Bayonne Anglet	France	99.51%	1.64e-04	80	26/04/2018	99.95%	2.41e-05
LFCC / Cahors Lalbenque	France	99.46%	2.57e-04	146	03/11/2022	99.93%	4.47e-05
LFCI / Albi Le Sequestre	France	99.43%	3.04e-04	216	21/11/2017	99.96%	2.53e-05
LFCR / Rodez Marcillac	France	99.44%	2.61e-04	190	21/11/2017	99.97%	2.22e-05
LFDJ / Pamiers Les Pujols	France	99.39%	1.87e-04	102	03/11/2022	99.89%	3.91e-05
LFDN / Rochefort Charente Maritime	France	99.51%	1.63e-04	72	23/05/2018	99.97%	1.77e-05
LFEY / Ile d Yeu	France	99.53%	1.21e-04	37	04/11/2021	99.97%	1.75e-05
LFGA / Colmar Houssen	France	99.57%	1.50e-04	74	21/06/2018	99.98%	1.35e-05
LFGJ / Dole Tavaux	France	99.57%	1.60e-04	92	21/11/2017	99.98%	1.49e-05
LFHP / Le Puy Loudes	France	99.45%	2.62e-04	189	28/02/2019	99.97%	2.01e-05
LFJL / Metz Nancy Lorraine	France	99.59%	1.73e-04	108	21/11/2017	99.98%	1.31e-05
LFJR / Angers Marce	France	99.54%	1.98e-04	96	21/11/2017	99.98%	1.49e-05
LFKB / Bastia Poretta	France	99.29%	6.43e-05	30	07/12/2017	99.95%	2.29e-05
LFKC / Calvi Sainte Catherine	France	99.30%	9.93e-05	59	04/11/2021	99.92%	2.77e-05
LFKF / Figari Sud Corse	France	99.25%	6.06e-05	30	21/11/2017	99.94%	2.70e-05
LFLC / Clermont-Ferrand Auvergne	France	99.50%	2.27e-04	161	21/11/2017	99.98%	1.69e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
LFLG / Grenoble – Le Versoud	France	99.49%	1.89e-04	87	01/12/2022	99.96%	2.67e-05
LFLL / Lyon St.Exupery	France	99.52%	1.58e-04	83	15/08/2019	99.98%	1.71e-05
LFLN / Saint Yan	France	99.55%	1.89e-04	133	02/03/2017	99.98%	1.54e-05
LFLP / Annecy Meythet	France	99.53%	1.42e-04	61	04/11/2021	99.98%	2.01e-05
LFLS / Grenoble Isere	France	99.49%	1.95e-04	112	13/10/2016	99.98%	1.50e-05
LFLU / Valence	France	99.48%	2.07e-04	113	21/11/2017	99.97%	1.73e-05
LFLV / Vichy Charmeil	France	99.55%	2.18e-04	159	26/04/2018	99.98%	1.50e-05
LFLW / Aurillac	France	99.48%	2.58e-04	172	15/08/2019	99.97%	2.22e-05
LFLX / Chateauroux	France	99.55%	1.77e-04	86	15/08/2019	99.98%	1.47e-05
LFLY / Lyon Bron	France	99.52%	1.58e-04	85	28/09/2016	99.98%	1.50e-05
LFMH / Saint Etienne Boutheon	France	99.53%	1.74e-04	87	02/02/2017	99.98%	1.49e-05
LFMK / Carcasonne Salvaza	France	99.37%	1.89e-04	144	21/11/2017	99.95%	2.20e-05
LFML / Marseille Provence	France	99.35%	1.37e-04	81	03/11/2022	99.90%	3.45e-05
LFMN / Nice Côte d'Azur	France	99.39%	9.73e-05	54	25/04/2019	99.95%	2.02e-05
LFMT / Montpellier Mediterranee	France	99.36%	1.08e-04	59	05/12/2019	99.95%	2.44e-05
LFMV / Avignon Caumont	France	99.37%	1.10e-04	49	21/06/2018	99.96%	1.88e-05
LFOB / Beauvais	France	99.65%	1.85e-04	113	01/12/2022	99.98%	2.14e-05
LFOH / Le Havre Octeville	France	99.66%	1.71e-04	105	21/11/2017	99.98%	1.38e-05
LFOQ / Blois Le Breuil	France	99.60%	1.60e-04	71	25/04/2019	99.98%	1.35e-05
LFOT / Tour de Val Loire	France	99.57%	1.90e-04	89	03/11/2022	99.97%	2.28e-05
LFOZ / Orléans Saint Denis De L'Hotel	France	99.59%	1.85e-04	100	04/11/2021	99.98%	1.54e-05
LFPB / Paris - Le Bourget	France	99.63%	1.91e-04	126	07/12/2017	99.98%	1.26e-05
LFPG / Paris Charles de Gaulle	France	99.63%	1.95e-04	133	28/04/2016	99.98%	1.12e-05
LFPM / Melun Villaroche	France	99.62%	2.05e-04	131	07/12/2017	99.98%	1.33e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
LFPN / Toussus Le Noble	France	99.62%	1.80e-04	103	27/04/2017	99.98%	1.20e-05
LFPO / Paris Orly	France	99.62%	1.93e-04	119	07/12/2017	99.98%	1.28e-05
LFPT / Pontoise Cormeilles en Vexin	France	99.64%	1.71e-04	102	07/12/2017	99.98%	1.26e-05
LFQB / Troyes Barberey	France	99.60%	1.90e-04	146	18/08/2016	99.98%	1.14e-05
LFRB / Brest Bretagne	France	99.55%	1.17e-04	28	04/11/2021	99.97%	1.91e-05
LFRC / Cherbourg Maupertus	France	99.67%	1.31e-04	60	23/06/2016	99.98%	1.32e-05
LFRD / Dinard	France	99.56%	1.24e-04	55	07/12/2017	99.97%	1.41e-05
LFRG / Deauville Normandie	France	99.65%	1.65e-04	101	04/11/2021	99.98%	1.71e-05
LFRI / La Roche Sur Yon	France	99.52%	1.88e-04	87	10/11/2016	99.97%	1.51e-05
LFRK / Caen Carpiquet	France	99.66%	1.67e-04	97	07/12/2017	99.98%	1.41e-05
LFRO / Lannion Servel	France	99.55%	1.12e-04	38	07/12/2017	99.97%	1.59e-05
LFRQ / Quimper	France	99.54%	1.35e-04	38	07/12/2017	99.97%	2.22e-05
LFRT / Saint Brieuc Armor	France	99.55%	1.14e-04	36	07/12/2017	99.97%	1.54e-05
LFRZ / Saint Nazaire	France	99.53%	1.37e-04	45	07/12/2017	99.97%	1.68e-05
LFSL / Brive Souillac	France	99.49%	1.94e-04	95	04/11/2021	99.96%	2.64e-05
LFSN / Nancy Essey	France	99.59%	1.67e-04	104	26/04/2018	99.98%	1.37e-05
LFST / Strasbourg Entzheim	France	99.57%	1.71e-04	94	07/12/2017	99.98%	1.29e-05
LFTW / Nimes Garons	France	99.37%	1.07e-04	56	07/12/2017	99.96%	1.89e-05
LHBP / Budapest Liszt Ferenc	Hungary	99.60%	1.83e-04	94	15/09/2016	99.95%	5.47e-05
LHPP / Pecs-Pogany	Hungary	99.55%	1.27e-04	49	03/12/2020	99.94%	4.12e-05
LHPR / Győr-Pér	Hungary	99.60%	1.36e-04	60	25/02/2021	99.96%	2.25e-05
LHSM / Heviz-Balaton	Hungary	99.59%	1.18e-04	45	25/03/2021	99.96%	2.66e-05
LIBC / Crotone	Italy	99.16%	4.37e-05	20	02/11/2023	99.86%	1.93e-05
LIBD / Bari/Palese	Italy	99.19%	4.70e-05	32	25/03/2021	99.89%	6.09e-05
LIBG / Taranti/Grottaglie	Italy	99.20%	6.06e-05	30	20/05/2021	99.87%	6.82e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
LIBP / Pescara	Italy	99.22%	3.09e-05	21	11/07/2024	99.88%	8.25e-06
LIBR / Brindisi/Casale	Italy	99.23%	5.00e-05	27	07/09/2021	99.86%	6.40e-05
LICA / Lamezia Terme	Italy	99.18%	3.92e-05	19	08/09/2022	99.83%	5.89e-05
LICD / Lampedusa	Italy	98.71%	4.03e-04	328	30/01/2020	99.58%	2.86e-04
LICG / Pantelleria	Italy	99.18%	6.32e-05	34	23/05/2018	99.81%	1.13e-04
LICR / Reggio Calabria	Italy	99.15%	3.35e-05	20	19/07/2018	99.85%	1.19e-04
LIDT / Trento/Mattarello	Italy	99.50%	1.08e-04	38	18/04/2024	99.92%	2.57e-05
LIEO / OLBIA/Costa Smeralda	Italy	99.24%	8.54e-05	52	11/08/2022	99.87%	4.16e-05
LIKA / Arco Helipad	Italy	99.49%	1.07e-04	35	18/04/2024	99.93%	2.53e-05
LIKB / Fiemme Helipad	Italy	99.50%	1.08e-04	37	18/04/2024	99.92%	2.58e-05
LIKC / Cles Helipad	Italy	99.51%	1.11e-04	35	18/04/2024	99.93%	2.57e-05
LIMC / Milano/Malpensa	Italy	99.50%	1.58e-04	66	23/04/2020	99.97%	1.77e-05
LIME / Bergamo /Orio al Serio	Italy	99.48%	1.35e-04	67	08/10/2020	99.97%	1.47e-05
LIMF / Torino/Caselle	Italy	99.47%	1.63e-04	80	25/03/2021	99.97%	1.84e-05
LIMG / Albenga/Riviera	Italy	99.38%	8.83e-05	55	03/10/2024	99.84%	2.25e-05
LIMJ / Genova/Sestri	Italy	99.38%	9.28e-05	72	10/09/2020	99.96%	1.95e-05
LIMP / Parma	Italy	99.40%	1.37e-04	99	23/05/2018	99.97%	1.88e-05
LIMZ / Cuneo/Levaldigi	Italy	99.43%	1.56e-04	92	23/05/2018	99.97%	1.72e-05
LIPK / Forli	Italy	99.33%	1.00e-04	82	13/06/2024	99.91%	1.33e-05
LIPO / Brescia/Montichiari	Italy	99.45%	1.10e-04	51	13/06/2024	99.93%	1.46e-05
LIPQ / Trieste/Ronchi dei Legionari	Italy	99.55%	8.55e-05	21	12/08/2021	99.96%	1.66e-05
LIPR / Rimini/Miramare	Italy	99.32%	1.00e-04	70	15/07/2021	99.94%	2.32e-05
LIPX / Verona/Villafranca	Italy	99.45%	8.60e-05	29	11/07/2024	99.92%	1.29e-05
LIPY / Ancona/Falconara	Italy	99.26%	3.12e-05	16	03/01/2019	99.94%	4.05e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
LIRA / Roma/Ciampino	Italy	99.23%	6.13e-05	37	21/05/2020	99.92%	3.15e-05
LIRF / Roma/Fiumicino	Italy	99.23%	4.10e-05	23	23/05/2019	99.93%	3.84e-05
LIRI / Salerno/Pontecagnano	Italy	99.19%	3.39e-05	16	11/07/2024	99.87%	1.59e-05
LIRN / Napoli/Capodichino	Italy	99.20%	3.39e-05	18	07/09/2021	99.89%	4.94e-05
LIRQ / Firenze/Peretola	Italy	99.33%	1.10e-04	86	26/12/2024	99.44%	9.19e-05
LJCE / Cerklje ob Krki	Slovenia	99.58%	7.50e-05	17	16/05/2024	99.95%	1.42e-05
LJMB / Maribor	Slovenia	99.61%	9.37e-05	24	16/05/2024	99.95%	1.40e-05
LKPR / Prague	Czech Rep.	99.68%	1.12e-04	57	05/12/2019	99.98%	1.60e-05
LKTB / Brno/Turany	Czech Rep.	99.64%	1.08e-04	48	21/03/2024	99.93%	1.31e-05
LKVO / Praha/Vodochody	Czech Rep.	99.68%	1.12e-04	58	21/03/2024	99.96%	1.95e-05
LMML / Luka	Malta	98.95%	3.83e-04	343	11/10/2018	99.68%	2.54e-04
LOWG / Graz	Austria	99.63%	1.08e-04	33	01/03/2018	99.96%	3.41e-05
LOWI / Innsbruck	Austria	99.57%	1.28e-04	40	01/02/2018	99.98%	1.81e-05
LOWK / Klagenfurt	Austria	99.60%	8.81e-05	23	11/10/2018	99.97%	2.58e-05
LOWL / Linz	Austria	99.64%	1.08e-04	45	02/02/2017	99.97%	2.00e-05
LOWS / Salzburg	Austria	99.62%	1.12e-04	36	23/04/2020	99.97%	1.52e-05
LOWW / Wien-Schwechat	Austria	99.63%	8.43e-05	16	02/02/2017	99.97%	2.94e-05
LRBM / BAJA MARE/Maramures	Romania	99.60%	2.50e-04	163	31/10/2024	99.85%	8.89e-05
LRBV / Braşov / Braşov-Ghimbav	Romania	99.52%	1.71e-04	92	13/07/2023	99.90%	8.75e-05
LSGC / Les Eplatures	Switzerland	99.56%	1.45e-04	64	26/05/2016	99.98%	1.27e-05
LSGG / Genève	Switzerland	99.54%	1.44e-04	64	13/09/2018	99.98%	1.56e-05
LSMD / Dübendorf	Switzerland	99.55%	1.38e-04	63	30/01/2020	99.98%	1.54e-05
LSMP / Payerne	Switzerland	99.55%	1.44e-04	61	05/12/2019	99.98%	1.50e-05
LSZB / Bern-Belp	Switzerland	99.55%	1.43e-04	57	03/12/2020	99.98%	1.38e-05

Airports	Country	Monthly LPV200 Availability	Monthly LPV200 Continuity Risk	Outages	Publication date of first LPV200 procedure	LPV200 Availability since procedure publication	LPV200 Continuity Risk since procedure publication
LSZH / Zurich	Switzerland	99.55%	1.38e-04	63	25/05/2017	99.98%	1.31e-05
LYBE / Beograd/Nikola Tesla	Serbia	99.41%	2.15e-04	147	26/03/2020	99.91%	7.58e-05
LYBT / Beograd/Batajnica-Pukovnik-pilot Milenko Pavlovic	Serbia	99.42%	1.43e-04	70	15/06/2023	99.92%	4.03e-05
LYKV / Kraljevo/Morava	Serbia	99.34%	1.34e-04	73	24/02/2022	99.91%	5.77e-05
LYNI / Niš/Konstantin Veliki	Serbia	99.39%	1.22e-04	71	26/03/2020	99.88%	1.12e-04
LYPG / Podgorica	Montenegro	99.30%	6.73e-05	18	26/03/2020	99.89%	8.93e-05
LYUZ / Uzice/Ponikve	Serbia	99.35%	1.08e-04	46	18/04/2024	99.89%	1.52e-05
LZIB / Bratislava-Milan Rastislav Stefánil	Slovak Rep.	99.62%	8.43e-05	16	20/04/2023	99.95%	2.01e-05
LZKZ / Košice	Slovakia	99.61%	9.82e-05	37	16/06/2022	99.96%	2.27e-05
LZPP / Piestany	Slovak Rep.	99.64%	8.51e-05	18	02/02/2017	99.97%	3.14e-05
LZTT / Poprad-Tatry	Slovak Rep.	99.64%	1.48e-04	77	29/03/2018	99.95%	5.00e-05
LZZI / Zilina	Slovak Rep.	99.68%	8.05e-05	24	25/05/2017	99.97%	3.00e-05

Table 9 - Monthly LPV-200 Availability at airports with published procedures using EGNOS in January 2025.

Annex D List of acronyms

Acronym	Definition
APV	Approach with Vertical Guidance
ASN	Abstract Syntax Notation
ECAC	European Civil Aviation Conference
EDAS	EGNOS Data Access Service
EGNOS	European Geostationary Navigation Overlay Service
ENT	EGNOS Network Time
ESSP	European Satellite Services Provider
FTP	File Transfer Protocol
GEO	Geostationary Satellite
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
HAL	Horizontal Alert Limit
HNSE	Horizontal Navigation System Error
HPE	Horizontal Position Error
HPL	Horizontal Protection Level
HSI	Horizontal Safety Index
LPV	Localizer Performance with Vertical guidance
MI	Misleading Information
MT27	Message Type 27
NA	Not Applicable/ Not Available
NLES	Navigation Land Earth Station
NPA	Non-Precision Approach
NTRIP	Networked Transport of RTCM via Internet Protocol
OP	Operation
OPS	Operations
OS	Open Service
PA	Precision Approach
PL	Protection Level
PRN	Pseudo-Random Noise
RAIM	Receiver Autonomous Integrity Monitoring
RD	Reference Document
RIMS	Ranging and Integrity Monitoring Station
RTCM	Radio Technical Commission for Maritime Services

Acronym	Definition
SBAS	Satellite-Based Augmentation System
SDD	Service Definition Document
SIS	Signal-In-Space
SL0	Service Level 0
SL2	Service Level 2
SoL	Safety of Life
UTC	Universal Time Coordinated
VAL	Vertical Alert Limit
VNSE	Vertical Navigation System Error
VPE	Vertical Position Error
VPL	Vertical Protection Level
VSI	Vertical Safety Index

Table 10 - Acronyms

Annex E VNSE histogram data extrapolated at 10^{-7}/150s for each RIMS location

For each RIMS, accumulating measurements from both EGNOS GEO, the following figures present:

1. Accumulated VNSE histogram in dark blue and referenced to the vertical axis on the left.
2. Cumulative probability of the accuracy distribution in orange and referenced to the vertical axis on the right.
3. Cumulative probability of the over bounding Gaussian distribution in pink and referenced to the vertical axis on the right.
4. VNSE extrapolated to 10^{-7}/150s in the right top corner.

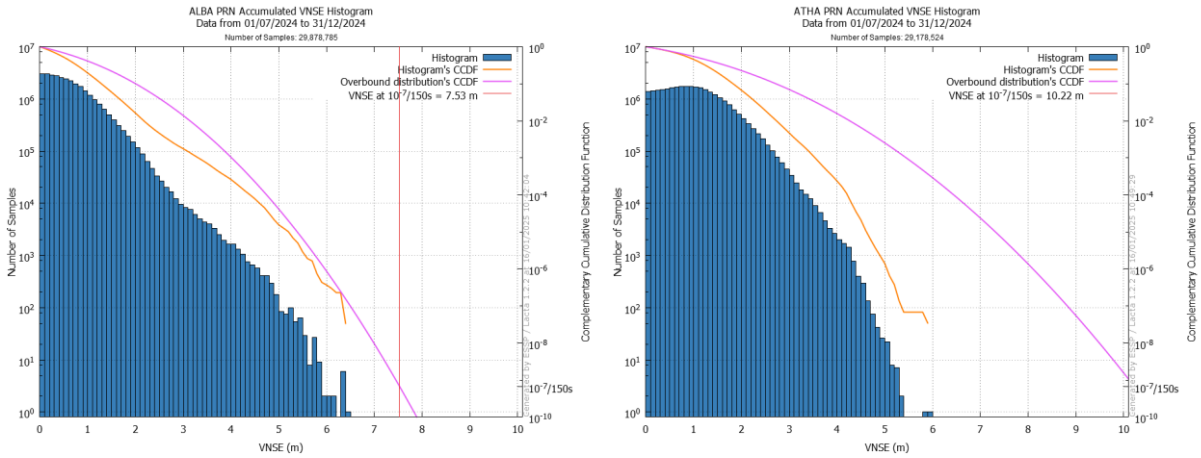


Figure 32: Extrapolated LPV200 VNSE at 10^{-7}/150s in ALB (left) & ATH (right)

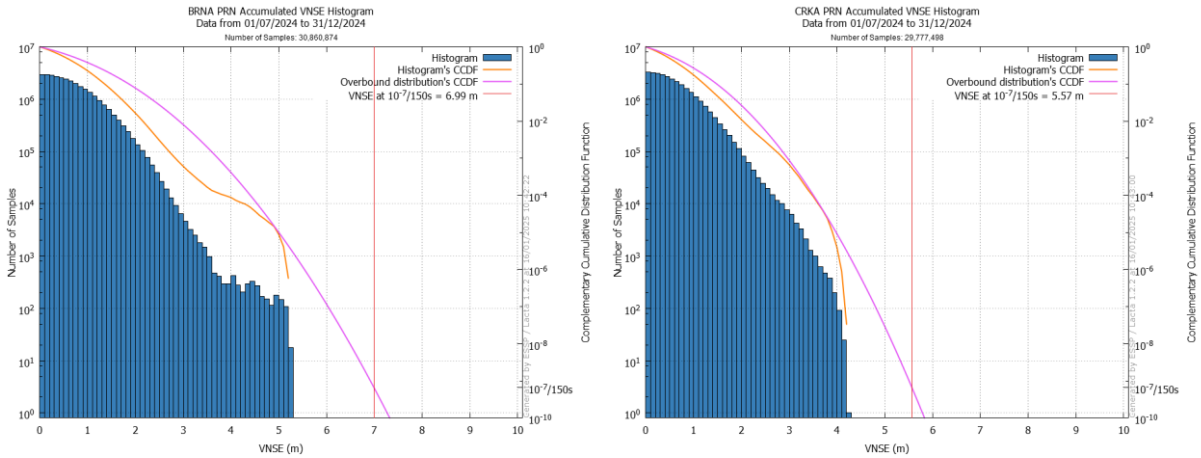


Figure 33: Extrapolated LPV200 VNSE at 10^{-7}/150s in BRN (left) & CRK (right)

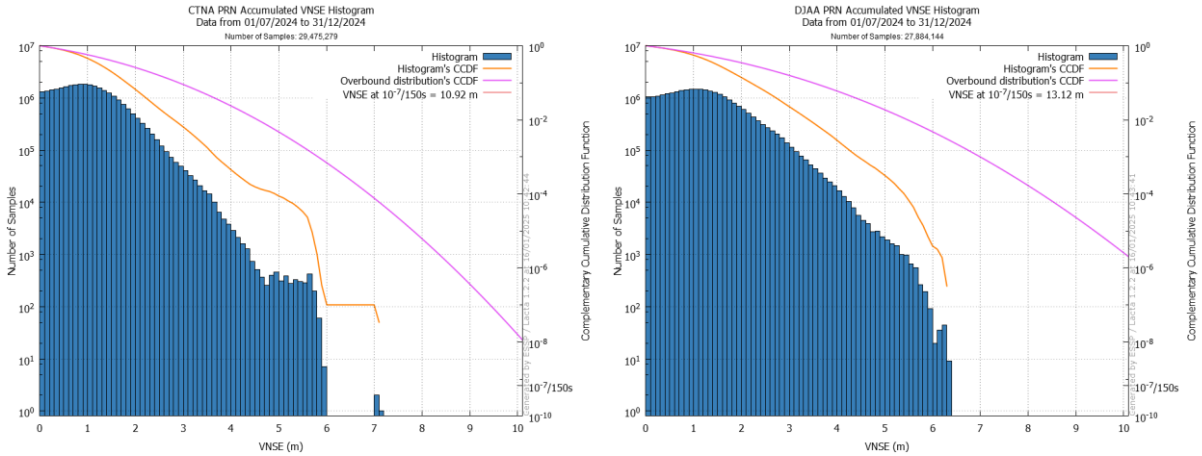


Figure 34: Extrapolated LPV200 VNSE at 10^{-7}/150s in CTN (left) & DJA (right)

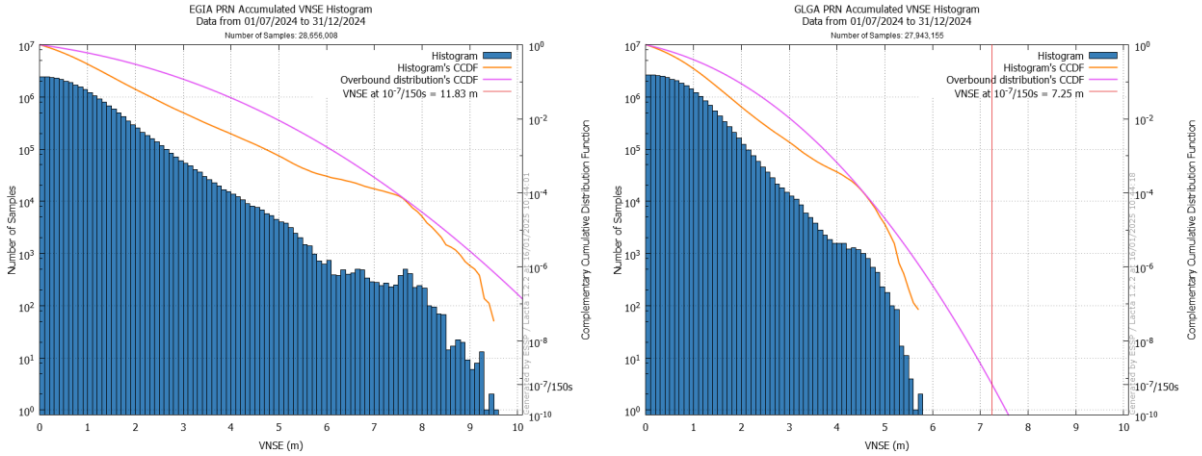


Figure 35: Extrapolated LPV200 VNSE at 10^{-7}/150s in EGI (left) & GLG (right)

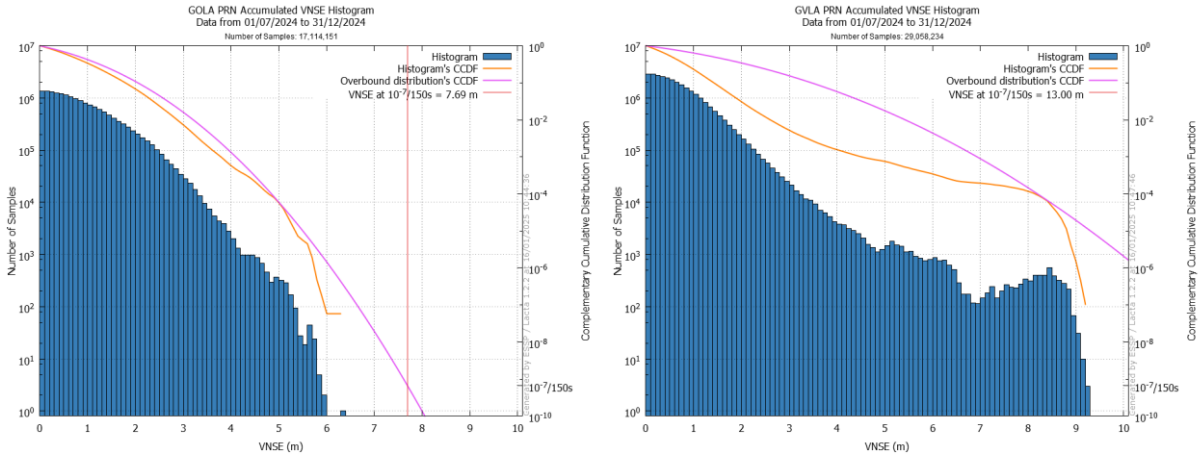


Figure 36: Extrapolated LPV200 VNSE at 10^{-7}/150s in GOL (left) & GVL (right)

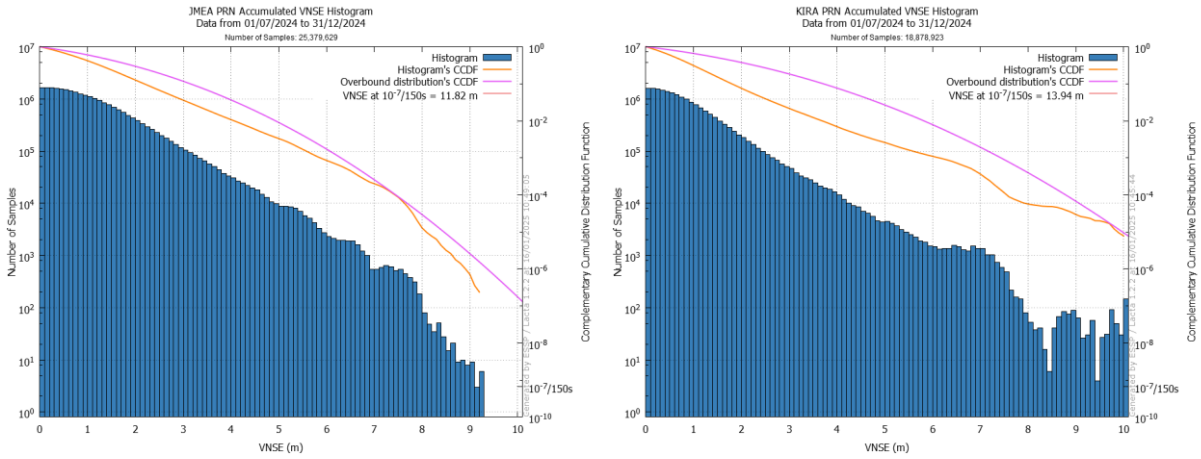


Figure 37: Extrapolated LPV200 VNSE at 10^{-7}/150s in JME (left) & KIR (right)

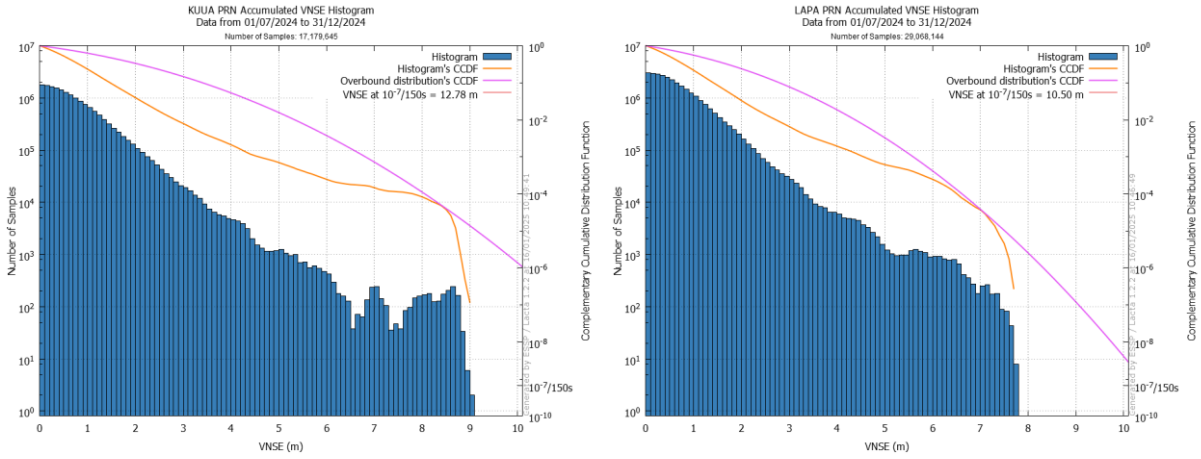


Figure 38: Extrapolated LPV200 VNSE at 10^{-7}/150s in KUU (left) & LAP (right)

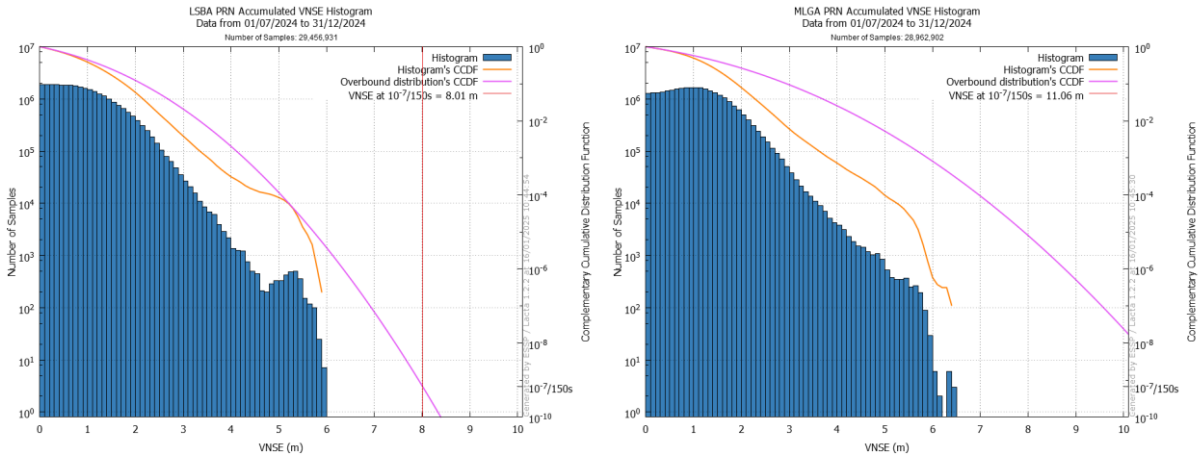


Figure 39: Extrapolated LPV200 VNSE at 10^{-7}/150s in LSB (left) & MLG (right)

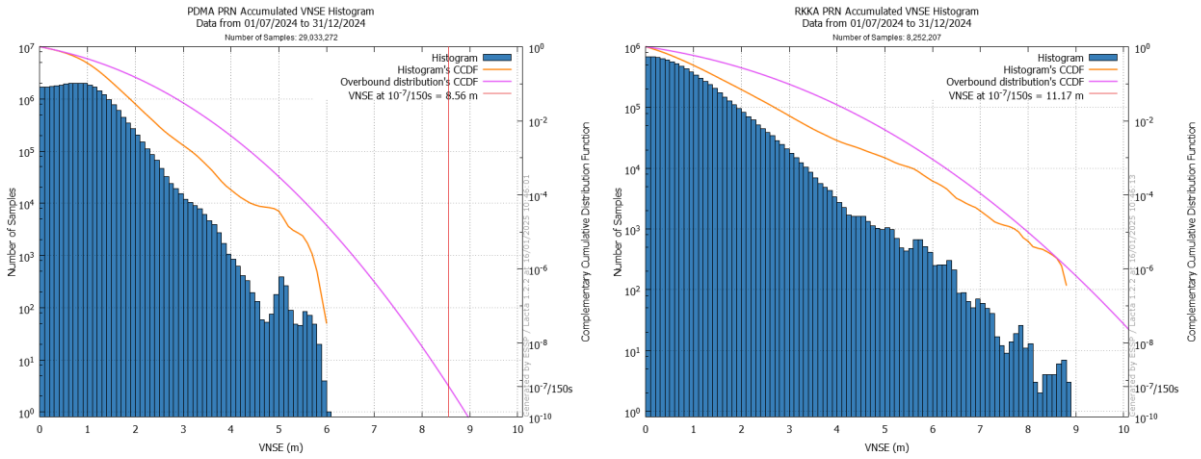


Figure 40: Extrapolated LPV200 VNSE at 10^{-7}/150s in PDM (left) & RKK (right)

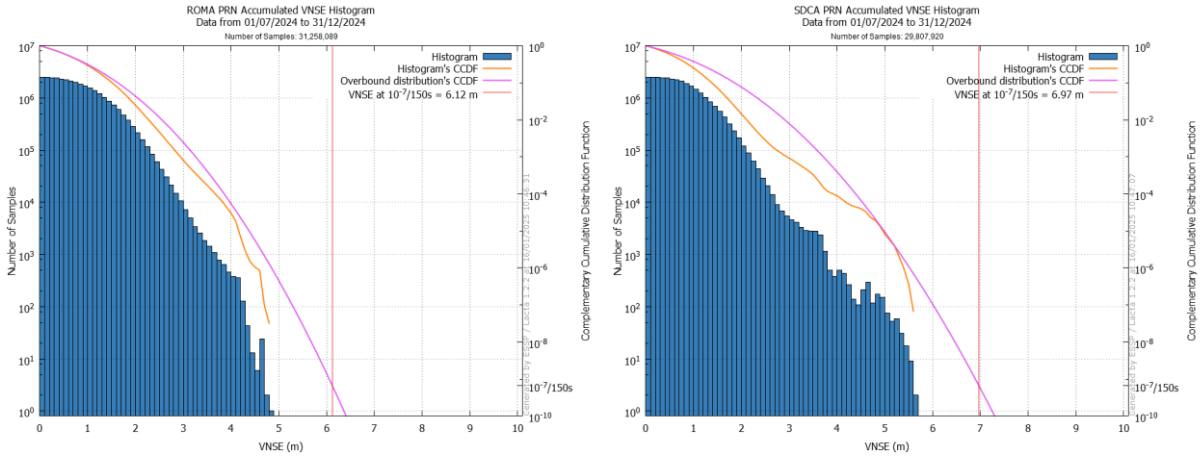


Figure 41: Extrapolated LPV200 VNSE at 10^{-7}/150s in ROM (left) & SDC (right)

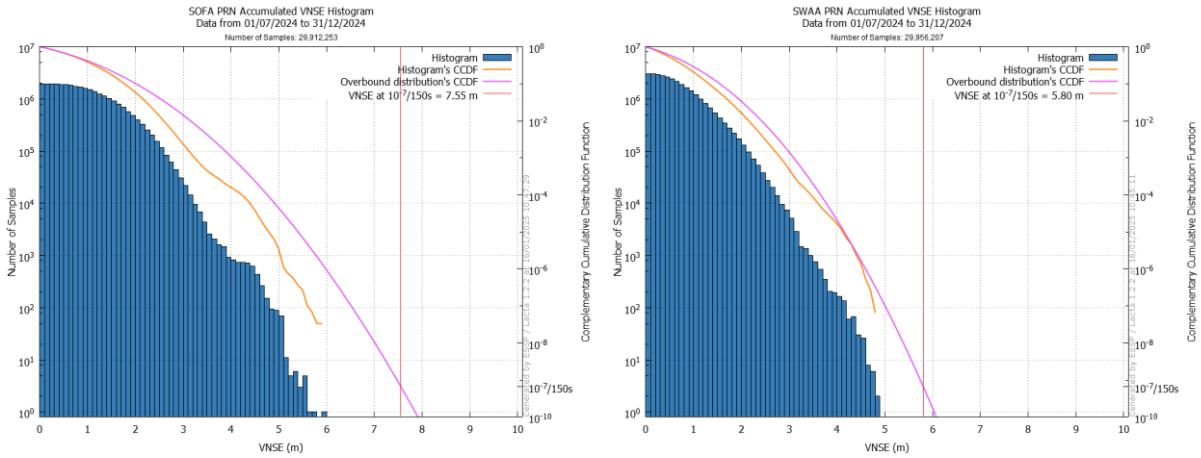


Figure 42: Extrapolated LPV200 VNSE at 10^{-7}/150s in SOF (left) & SWA (right)

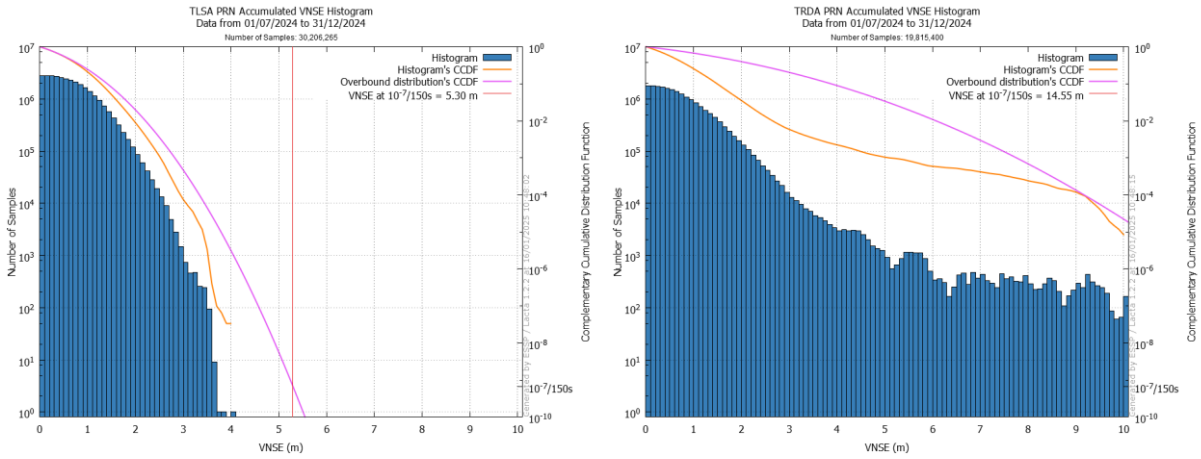


Figure 43: Extrapolated LPV200 VNSE at 10^{-7}/150s in TLS (left) & TRD (right)

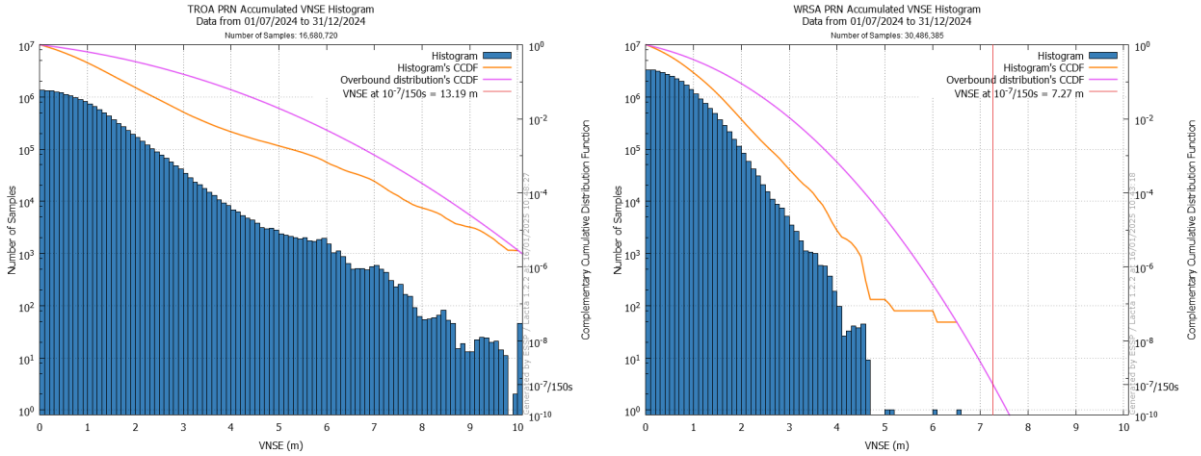


Figure 44: Extrapolated LPV200 VNSE at 10^{-7}/150s in TRO (left) & WRS (right)

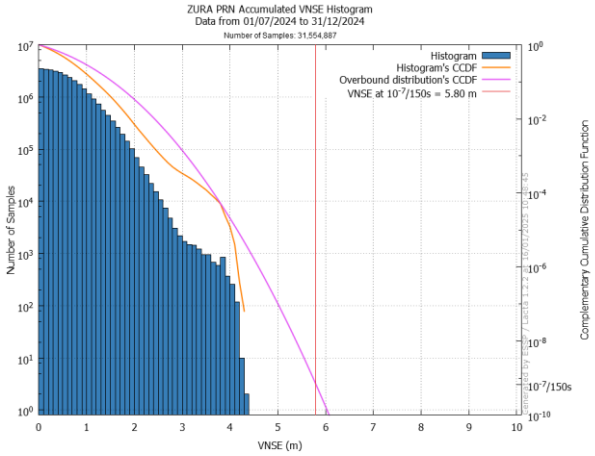


Figure 45: Extrapolated LPV200 VNSE at 10^{-7}/150s in ZUR

Instead of analysing each RIMS site individually, it is possible to compute the extrapolated LPV200 VNSE at 10^{-7}/150s in a global way, considering samples from all RIMS within LPV200 commitment all together.

Performing this analysis for each operational GEO, it is possible to obtain the extrapolated LPV200 VNSE that may be considered as characteristic for EGNOS. Those values would be 12.30m for GEO PRN123 and 12.47m for GEO PRN136 as observed in following histograms.

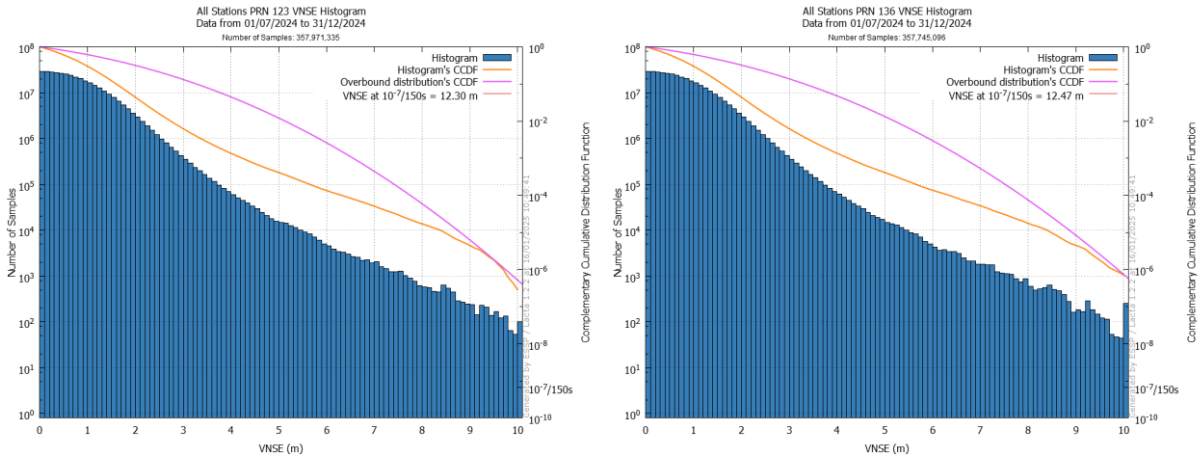


Figure 46: Extrapolated LPV200 VNSE at 10^{-7}/150s - all RIMS - PRN123 (left) and PRN136 (right)

LINKING SPACE TO USER NEEDS

www.euspa.europa.eu

@EU4Space

EUSPA

@space4eu

#EUSpace