EGNOS Programme Update

EGNOS Service Provision Workshop
Athens
3 October 2017
EGNOS Operational configuration
October 2017

<table>
<thead>
<tr>
<th>SPACE</th>
<th>SERVICE BROADCAST</th>
<th>TEST / BACK-UP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inmarsat 3F2 PRN-120</td>
<td>Inmarsat 4F2 PRN-126</td>
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<tr>
<td></td>
<td>Astra-5B PRN-123</td>
<td>SES-5 PRN-136</td>
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<thead>
<tr>
<th>GROUND</th>
<th>MCC CIAMPINO</th>
<th>MCC TORREJON</th>
<th>SC TORREJON</th>
<th>OCC TOULOUSE</th>
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<tr>
<td></td>
<td>CPF + CCF</td>
<td>ASQF</td>
<td>PACF</td>
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<tr>
<td>Aussaguel</td>
<td>OP</td>
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<tr>
<td>Burum-A</td>
<td>OP</td>
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<tr>
<td>Redu-2</td>
<td>OP</td>
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<tr>
<td>Betzdorf-2</td>
<td>OP</td>
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<tr>
<td>Burum-I Test</td>
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<tr>
<td>Fucino Test</td>
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<tr>
<td>Redu-1 Test</td>
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<tr>
<td>Betzdorf-1 Test</td>
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SYSTEM RELEASE 2.4.1N-YSR2 since 14 June 2017

NLES

RIMS: 38 RIMS in Operations, 2 RIMS in Test
SoL Service Definition Maps

APV-I Availability Map

APV-I Continuity Map

LPV-200 Availability Map

LPV-208 Continuity Map
Delivered performances (APV-1 Availability)

June 2017

July 2017

August 2017

Service delivered beyond SDD service area
Service delivered as per SDD service area
Service less available than per SDD service area
# Operational System Releases Plan – 2017-21

<table>
<thead>
<tr>
<th>MAJOR (ESA)</th>
<th>241N YSR2</th>
<th>241N YSR3</th>
<th>241N YSR4</th>
<th>242-I</th>
<th>242-A</th>
<th>242-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor (ESSP)</td>
<td>Feb-2017</td>
<td>Q4-2017</td>
<td>Q1-2018</td>
<td>Q4-2018</td>
<td>Q2-2020</td>
<td>TBC</td>
</tr>
<tr>
<td>Qualification</td>
<td>June 2017</td>
<td>Q3-2018</td>
<td>Q1-2019</td>
<td>Q3-2019</td>
<td>2021</td>
<td>TBC</td>
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<tr>
<td>Entry in Ops</td>
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<thead>
<tr>
<th>Main features</th>
<th>SW updates</th>
<th>Operability improvement</th>
<th>RIMS Haifa 72°N</th>
<th>SW updates (GPS week roll-over)</th>
<th>NLES obso resolution for Inm. 4F2</th>
<th>CPF Obso. resolution</th>
<th>SW updates</th>
<th>RIMS C obsolesc. resolution, RIMS Kiev, Aqaba, Kuusamo Improved CPF algs robustness</th>
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EGNOS V3 - Status

• Programmatic:
  – 2015/1183 Commission Decision setting EGNOS V3 technical specifications
  – 2017/1406 Commission Decision setting EGNOS V3 sites location

• Infrastructure development:
  – GEO-3 Navigation Payload services: E5WB planned in 2019
  – Sites upgrades: almost all site surveyed, civil work starts in 2018
  – EGNOS V3 System Phase C/D (through ESA): on-going procurement

• Standardisation preparation:
  – DFMC Aviation receiver prototype under development
  – ICAO SARPS and EUROCAE/RTCA MOPS in preparation for end-2018
DFMC SBAS Standardisation Workplan

ICAO DFMC SBAS SARPs development + Completion of associated Validation file

ICAO DFMC SBAS SARPs State Letter process

Submission of SARPs for approval

Official release of SARPs

2017

2018

2019

2020

2021

2022

ICAO NSP meeting

ICAO NSP meeting

ICAO NSP meeting

ICAO NSP meeting

ICAO NSP meeting

ICAO NSP meeting

ICAO NSP meeting

ICAO NSP meeting

ICAO NSP meeting

ICAO NSP meeting

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ICAO NSP meeting

EUROCAE DFMC SBAS MOPS draft

Joint RTCA/Eurocae SBAS DFMC MOPS

RTCA DFMC SBAS MOPS draft

Updated DFMC SBAS MOPS draft

SBAS DFMC Rx Proto Phase 1

SBAS DFMC Rx Proto Phase 2

H-RAIM Feasibility checkpoint

GSA H-RAIM Prototypes

Source

- ICAO SARPs
- EUROCAE/RTCA MOPS
- GSA Contract

GSA H-RAIM Prototypes

EGNOS

European Global Navigation Satellite Systems Agency

ESSP

Precise navigation, powered by Europe
THANK YOU