EGNOS Operational configuration

- **Space Segment:**
  - 2 Operational GEOs:
    - PRN120 – Inmarsat 3F2
    - PRN136 – SES-5
  - 1 GEO in TEST / BACK-UP
    - PRN126 – Inmarsat 4F2

- **Ground Segment:** System Release **2.4.1M** (since August 2015)
  - 39 RIMS sites (Ranging and Integrity Monitoring Stations)
  - NLES sites: Aussagel, Burum, Fucino, Betzdorf, Redu
  - Mission Control Centers: Ciampino, Torrejon
  - System Operations and Service Provision Centers: Toulouse, Torrejon

- **New ESR 2.4.1N** under development:
  - New GEO (ASTRA-5B) into operations in 2016
Service Provision – August 2015
SoL Service Definition Maps

APV-I

LPV-200
### Service Evolution Plan

<table>
<thead>
<tr>
<th>Mission Evolution</th>
<th>System Evolution (QR)</th>
<th>Service Evolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2</td>
<td>Q2</td>
<td>72N</td>
</tr>
<tr>
<td>Q3</td>
<td>LPV-200</td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>ESR241M</td>
<td>ESR241N</td>
</tr>
</tbody>
</table>

*except Azores, **except Azores, Madeira, Canary

Note 1: Minor System Evolution 1 planned to accelerate extension to 72N.
Note 2: Coverage extension to EU-28 within ESR 2.4.2 with 4 new RIMS
# System Evolution Plan

<table>
<thead>
<tr>
<th>Release</th>
<th>V241M (with YSR1)</th>
<th>V241N</th>
<th>Minor release (with YSR2&amp;3)</th>
<th>V242</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry in operations</td>
<td>August 2015</td>
<td>August 2016</td>
<td>2017</td>
<td>2019</td>
</tr>
<tr>
<td>OS SDD</td>
<td>January 2016</td>
<td>NA</td>
<td>2018</td>
<td>2019-20</td>
</tr>
<tr>
<td>SOL SDD</td>
<td>July 2016</td>
<td>NA</td>
<td>2018</td>
<td>2020</td>
</tr>
<tr>
<td>Features</td>
<td>• GEO-1 (SES-5) Qualification • LPV-200 service declaration • Continuity improvements</td>
<td>• GEO-2 (ASTRA-5B) Qualification</td>
<td>• RIMS Haifa qualified • Extension of EGNOS Service Area to 72º latitude</td>
<td>• CPF &amp; RIMS new HW solves obsolescence • 4 new RIMS</td>
</tr>
</tbody>
</table>

New procurements
EGNOS V3 - Status

• On-going transition from R&D to Exploitation:
  – EGNOS V3 Phase B studies within ESA « EGEP » Program
    • PDR until Q4 2015
  – EGNOS V3 Phase C/D within GSA EGNOS Exploitation Program
    • Developed through GSA-ESA Working Arrangement (signed in July 2015)

• Mission requirements:
  – Legacy L1-only service
  – Dual-Frequency services: L1-L5
  – Multi-constellation augmentation: GPS-Galileo

• Standardisation preparation:
  – DFMC Definition Doc. and SBAS L5 ICD iterated with SBAS service providers
  – Next steps: EUROCAE/RTCA MOPS preparation

→ EGNOS V3 entry in operations estimated date: 2022
THANK YOU