



ESA-EUMETSAT cooperation: a key asset and a European perspective

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EUMETSAT mandate

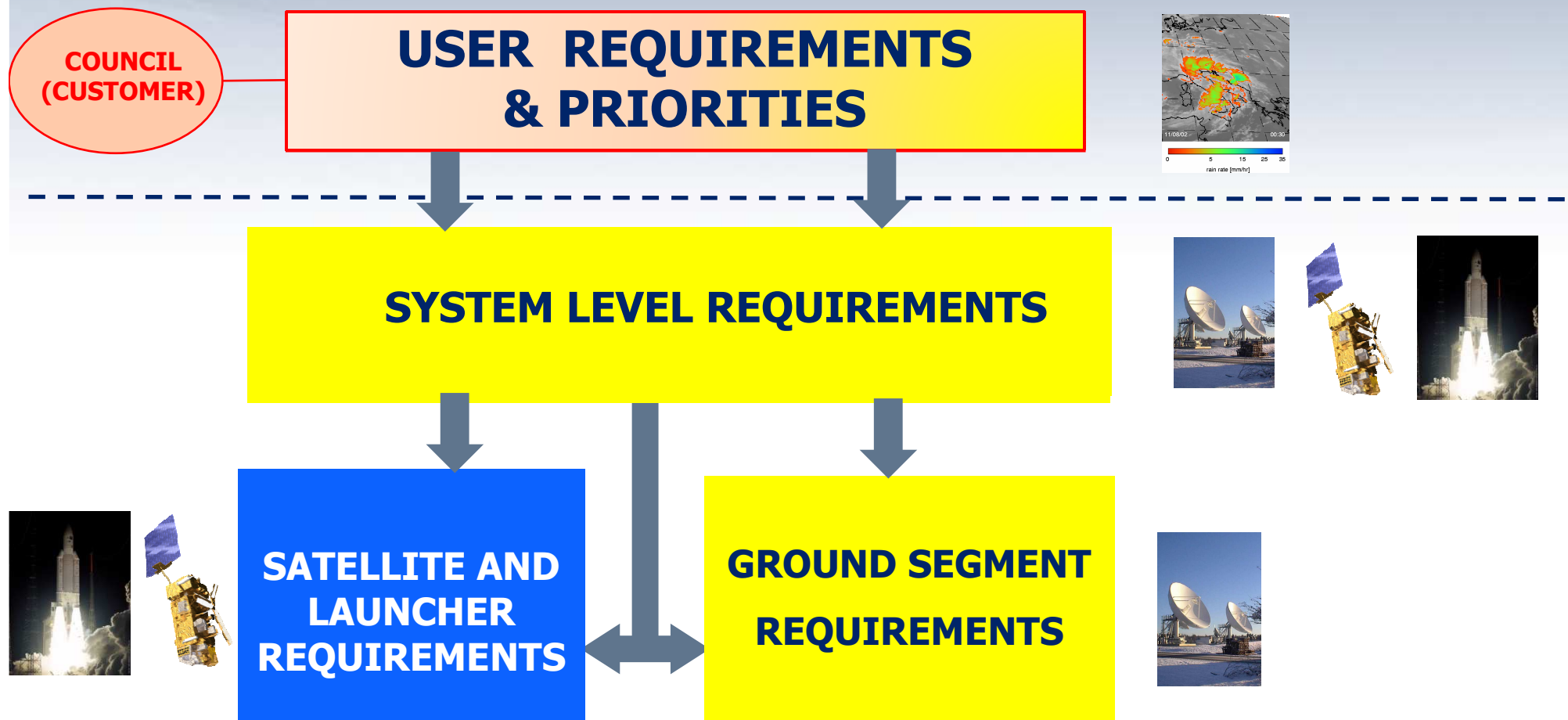
- The primary objective is to establish, maintain and exploit European systems of operational meteorological satellites
- A further objective is to contribute to the operational monitoring of the climate as well as the detection of global climatic changes
- Contribution to environmental monitoring, where interactions with the ocean and the atmosphere are involved



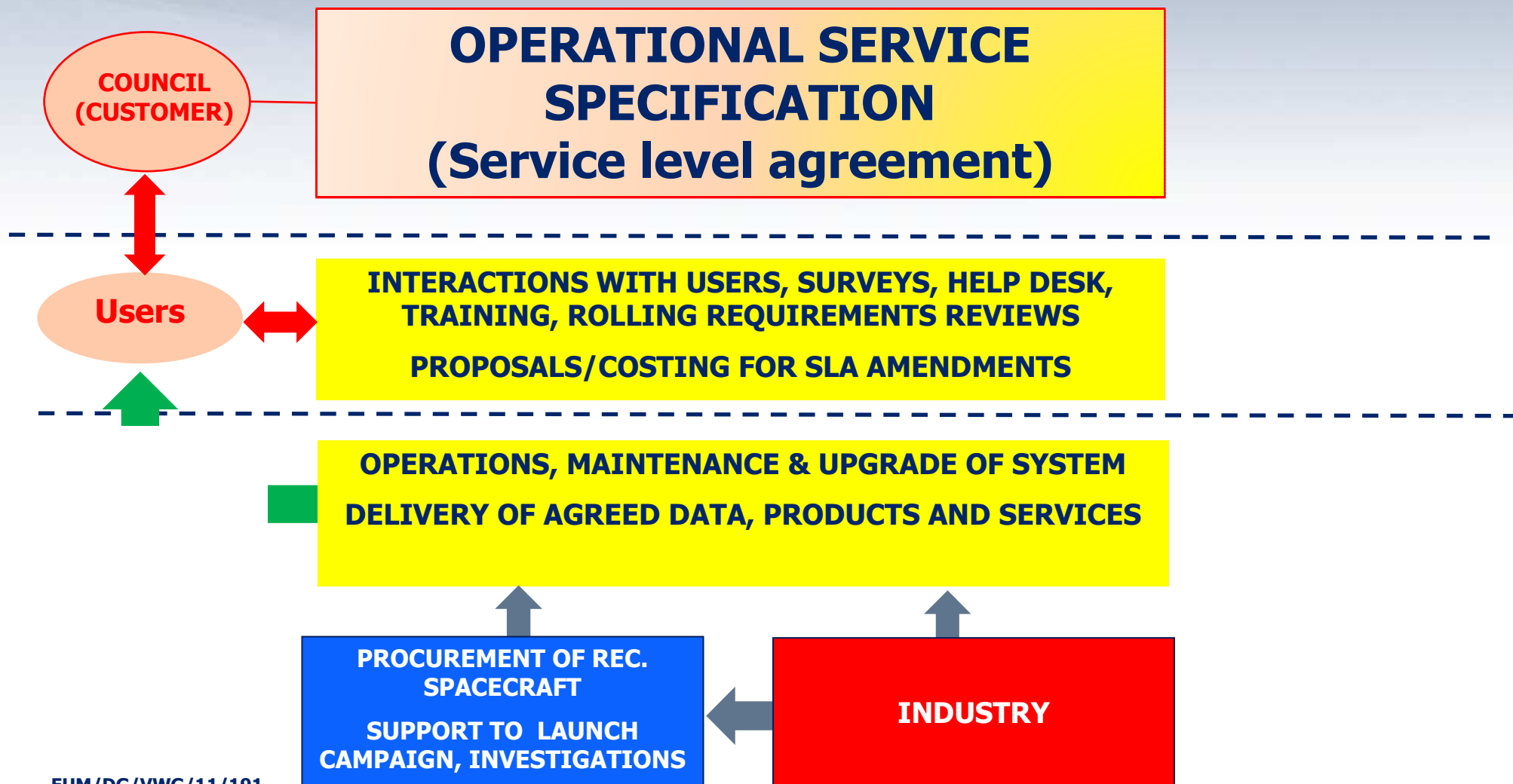
The ESA-EUMETSAT cooperation model

- **ESA** acting as a satellite development agency and procurement agent
- **EUMETSAT** acting as a user-governed, operational agency
 - The Customer authority (Council) owns User Requirements (development) and the Operational Service Specification (SLA for operations)
 - EUMETSAT :
 - Owns user requirements definition process
 - Makes sure that the system is developed against user requirements
 - Develops/procures all the ground facilities and support required to deliver services to users and make them evolve
 - Deliver services to users as per SLA, and implements agreed changes
- Major role of **European Industry** under ESA and EUMETSAT contracts

Ownership and traceability of requirements in the design and development phase



Commitment and response to Users in the operational phase





The key model features (1/2)

- User governed model
- Clear sharing of responsibilities: optimum use of ESA and EUMETSAT competences
- Development capitalizing on upstream European R&D efforts
- Major and sustained involvement of Industry (development & operations)
- Cost efficiency: block procurement of satellites (true recurrent price)



The key model features (2/2)

- Consistent development with controlled risks:
 - Ownership and traceability of requirements
 - Common quality assurance and development standards (ISO, ECSS)
- Simple, responsive governance during operations phase
 - SLA between Customer authority and EUMETSAT operator
 - EUMETSAT ownership of operational system :
 - high flexibility for cost effective changes in response to user requirements
 - science infusion essential for new products

25 years of success leading to European leadership

- European leadership: for both GEO and LEO orbits, EUMETSAT satellite systems are one generation ahead of the US, and cheaper
- Efficient model and competitive European Industry are key factors
- High benefits of this leadership:
 - To European citizens and the EU economy
 - Increased benefits through (unique) integrated operational partnership with the US (NOAA)



Benefits: space applications at the service of Europe



**Safety of life,
property and
infrastructure...**



**Transport ...
agriculture,**

.....

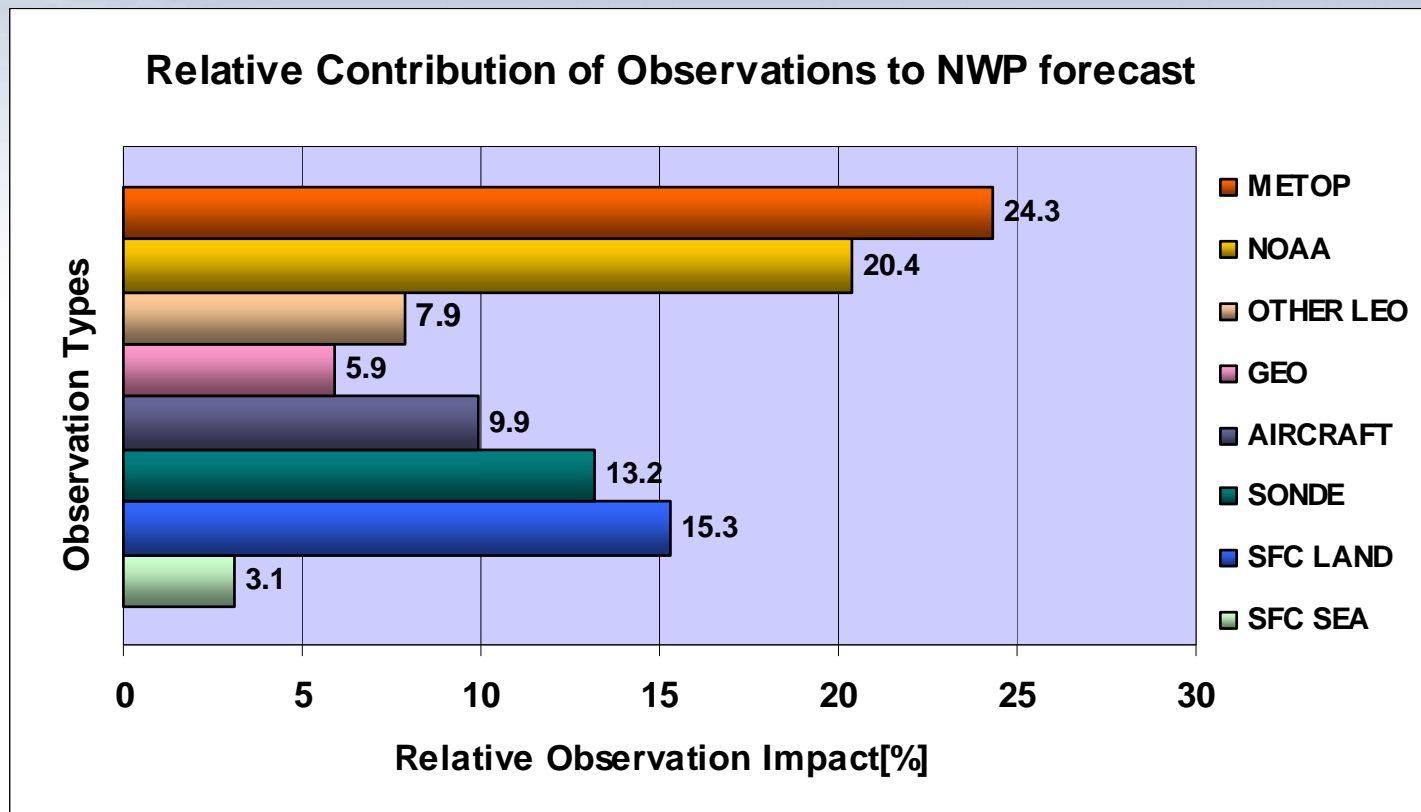
**.... Energy,
tourism....**



**... climate policy and
environment
protection**



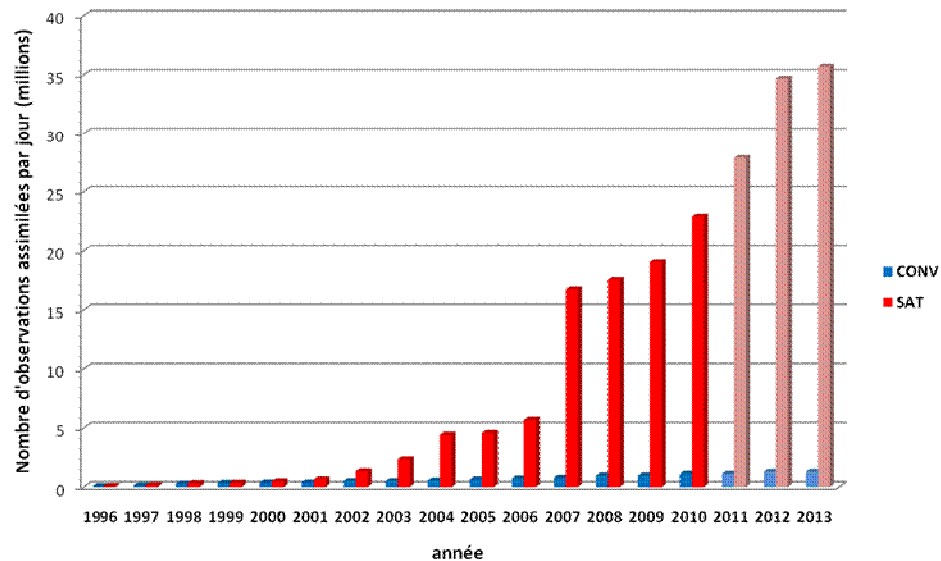
Benefits: impact of satellite data on 24 hour forecast



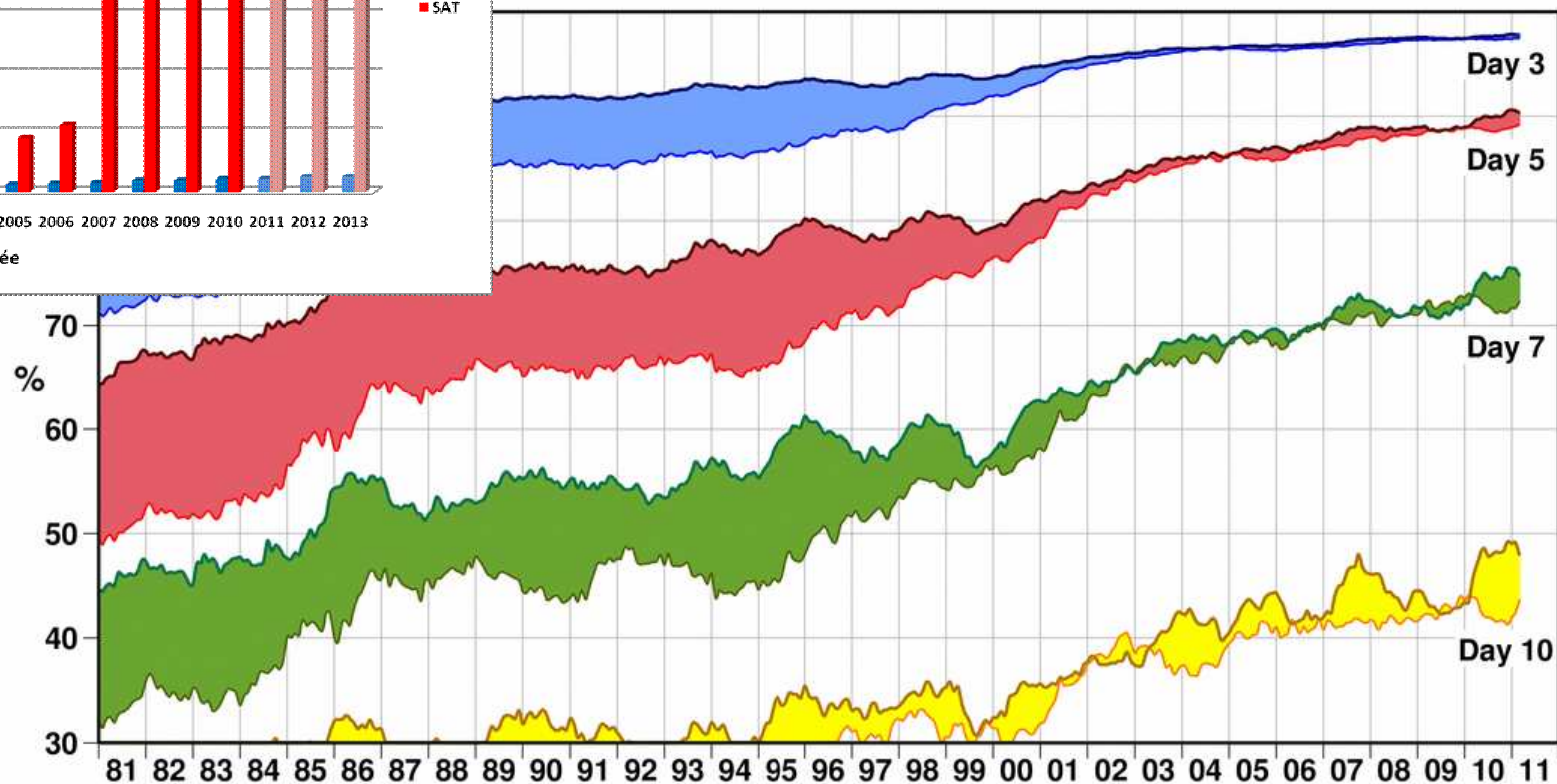
(Source : UK Met Office)



Benefits: impact on 3 to 10 day forecast



(Source : ECMWF)





The value of leadership to Europe and its citizens

- Meteorological information at the service of knowledge-based society
- Safety of life, property, infrastructures: saving lives and avoiding losses
- Competitiveness of EU economy: cost avoidance and business optimisation
- a large fraction of the EU GDP is “weather sensitive”
- public policies and private business
- transport, energy, agriculture, environment, climate
- Value expected to increase with climate change: more frequent high impact weather and increasing vulnerability



European leadership at the core of a unique cooperation with the US: the Joint Polar System



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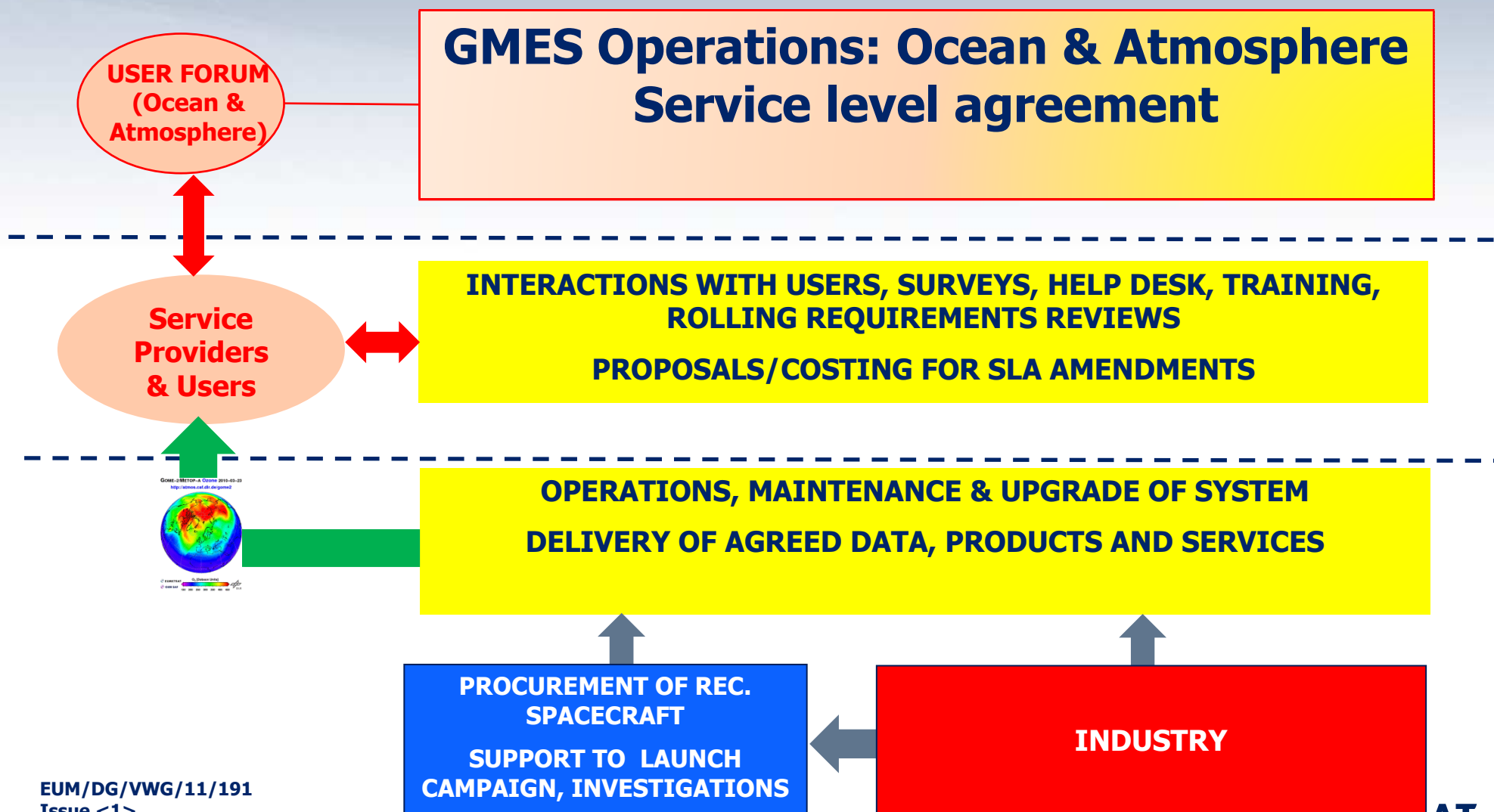


Perspectives: meteorology and part of GMES

- Meteorology: deliver increased benefits in the 2020-2035 timeframe
 - Geostationary orbit: Meteosat Third Generation approved
 - Polar orbit: Metop-SG proposed for approval to ESA-CMIN in 2012
- An opportunity for GMES (ocean & atmosphere)
 - Atmospheric composition service
 - S4 as part of MTG system: operations to be funded (from 2019)
 - S5 as part of Metop-SG : to be confirmed, subject to funding
 - Marine monitoring service
 - S3 and Jason-CS

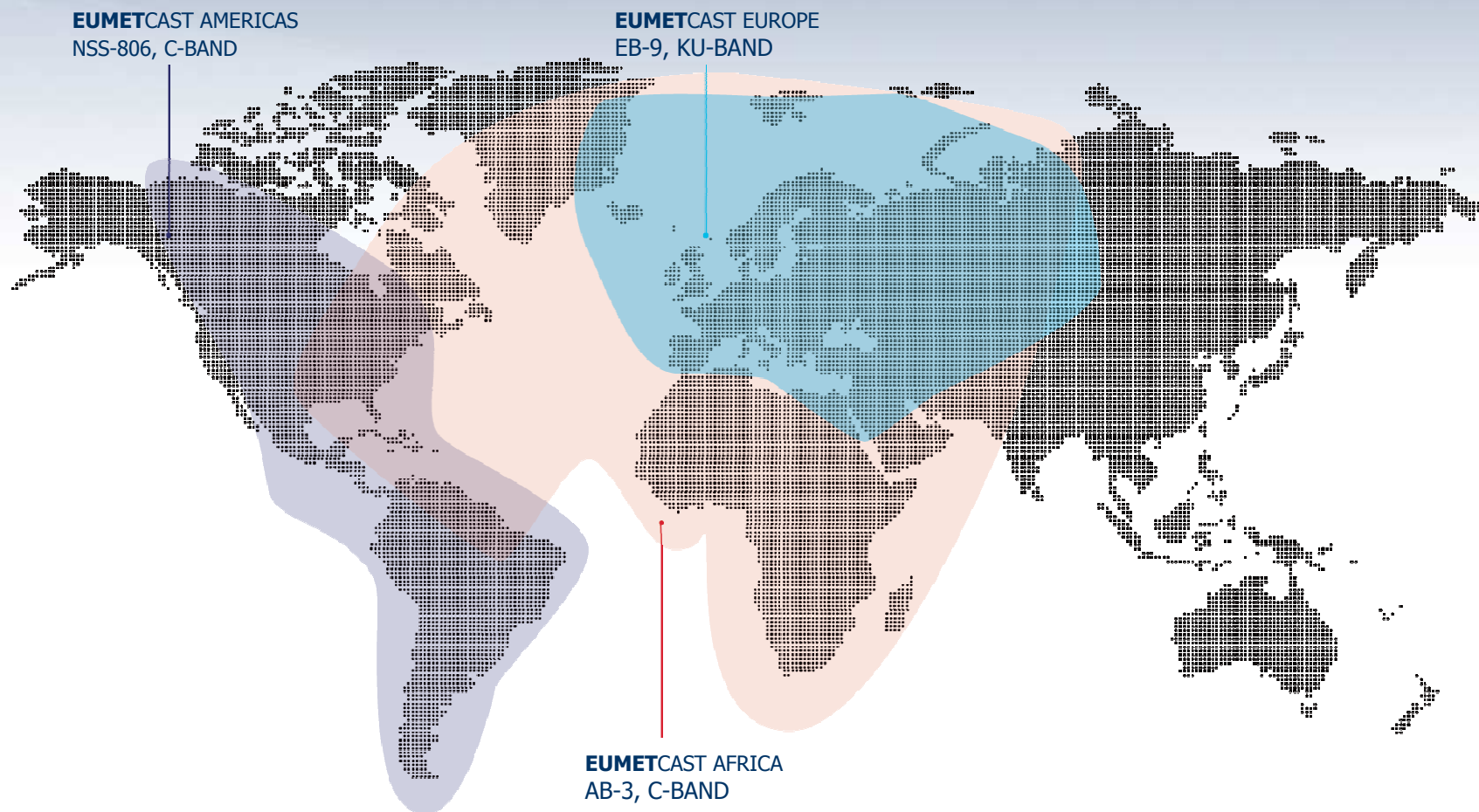


Possible tailoring to GMES in the operational phase





EUMETCast : reaching users worldwide, in real time



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Plus cooperation with China and the US





Conclusion: an asset for the EU Space Policy

- 25 years of success: ESA-EUMETSAT cooperation has established Europe as the world leader in satellite meteorology, for the benefit of EU citizens
- The user-governed ESA-EUMETSAT cooperation model is proven, efficient, low risk, and relevant to both meteorology and part of GMES
- The model capitalises on upstream European R&D and stimulates highly competitive European industry
- Simple, responsive governance is essential in the operational phase : SLA between Customer authority and fully responsible operator
- Tailoring to GMES ocean and atmosphere missions is an opportunity for the GMES operational phase