



# EUMETSAT Plans

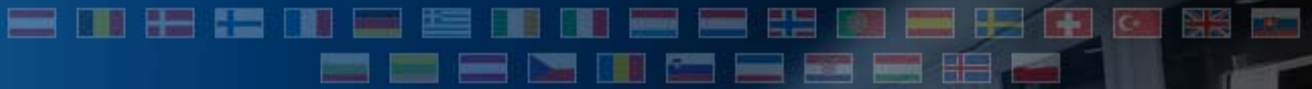
***Dieter Klaes***

*EUMETSAT*



# Content & Scope

- 1 Introduction**
- 2 Satellite Programmes**
  - 2.1 EUMETSAT Polar System**
  - 2.2 Geostationary Systems**
- 3 EARS**
- 4 OSTM Contribution**
- 5 Future Programmes**
- 6 Outlook**



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# EPS- Metop-A

- **Metop-A is now in orbit for ca. 1,5 years and is a real success !**
- **Metop-A was handed over from LEO to Operations in May 2007**
- **Positive Impact of Metop-A products on NWP was demonstrated**
- **All products are operational and are disseminated**
- **We establish Day-2 products**





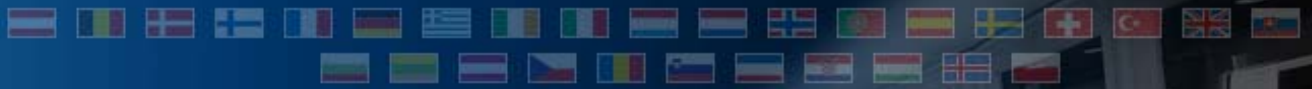
# EPS- Metop-A

- **Main problems on Metop-A are:**
  - **HRPT service failure: Failure Review Board underway; seems to be attributed to the combination of heavy ions combined with the domain of utilisation of output transistors (CLY 38). Replacement transistors procured and intention is to re-use MSG design (TBC)**
  - **LRPT failure: investigation in parallel to HRPT; proposal to DB to descope the mission but this requires further iterations with the Delegations.**
  - **LRPT and HIRS compatibility: needs to be further studied if service maintained**
  - **ADCS data corruption (root cause understood and linked to a FIFO register)**
  - **Single Event Upsets: a general problem which introduces several mission interruptions. A WG was created on IASI with CNES.**
  - **Efforts to improve the Metop timeliness (incl. Antarctica station)**



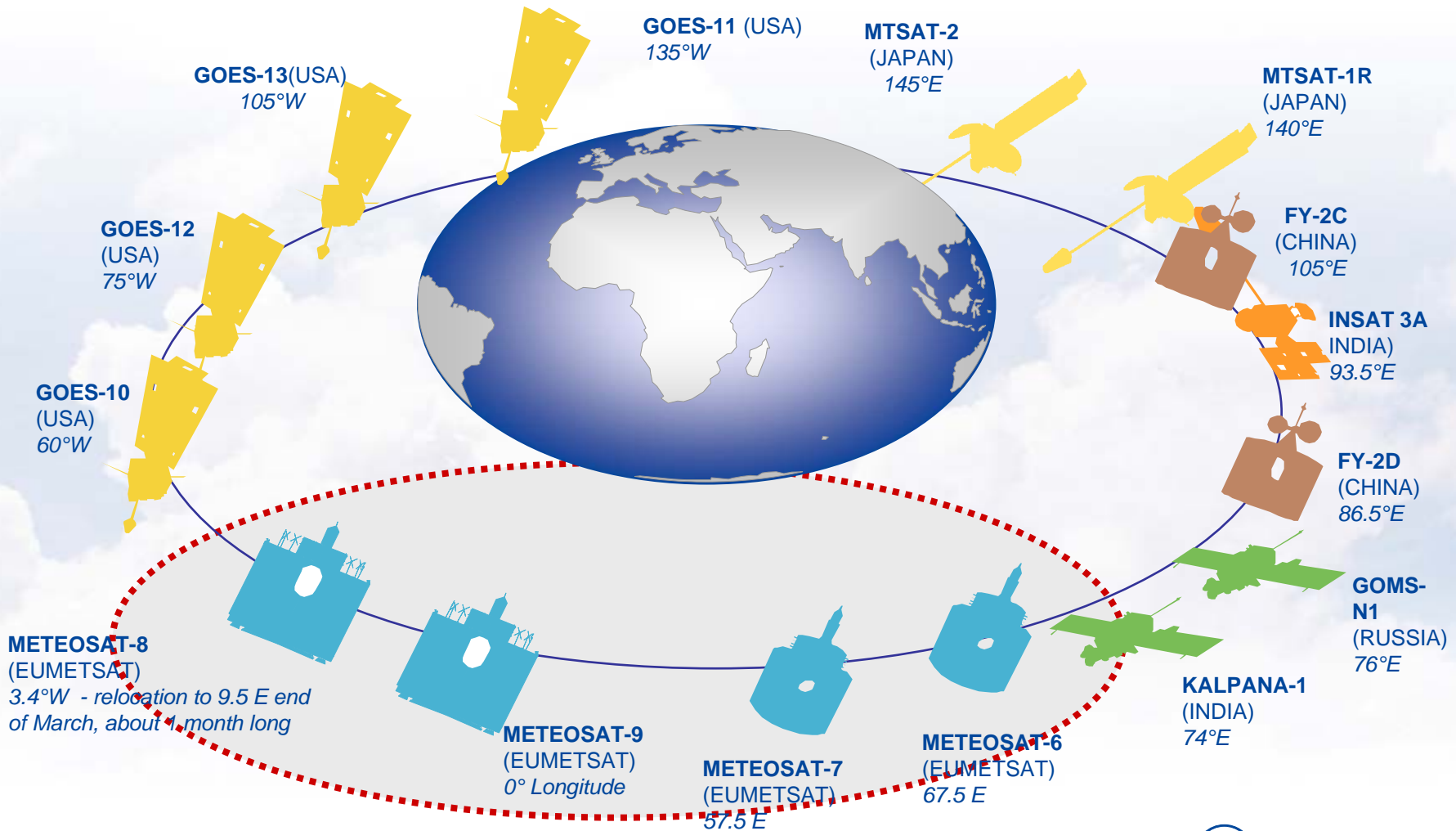
# EPS- Metop B&C

- **Launch schedule**
  - **Nominally: Metop-B in April 11 and Metop-C in Oct 15**
  - **Possibility to increase the lifetime of Metop-A and B by 1 year subject to correct in-orbit performance.**
- **System and Operations preparation**
  - **Implementation of the System Development Plan (established)**
  - **Delta System Design (Key point in May 08)**
  - **Metop-B main issues to be resolved**
    - **HRPT**
    - **LRPT (TBC) and LRPT/HIRS (TBC)**
    - **Argos- ADCS**
  - **Ensure timely availability of instruments**



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# The GEO RING

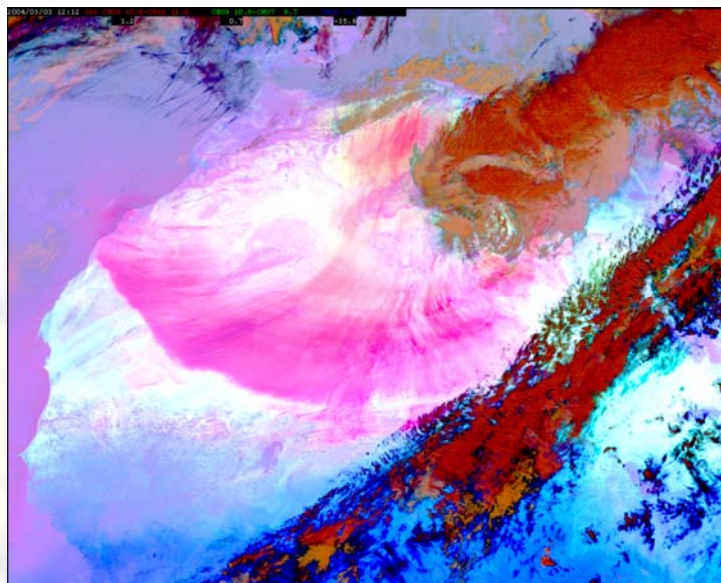




# MSG – Meteosat Second Generation.....



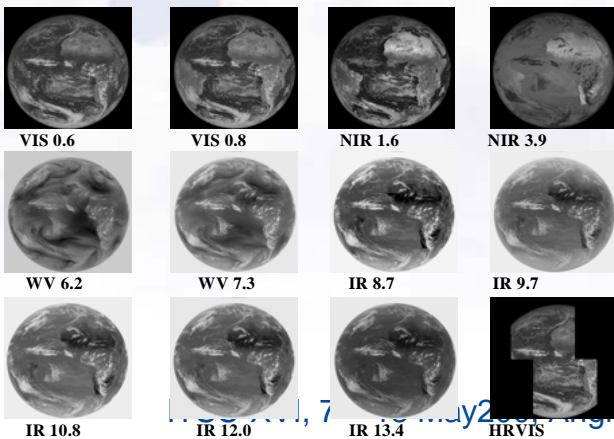
**MSG -1 -28 August 2002  
→MET-8**



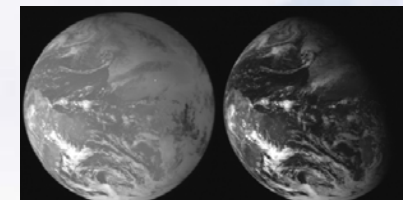
**Applications: in continuous development .....  
This image shows dust storms over Africa.  
Meteosat-8, 03 Mar 04, 12:00 UTC, RGB composite  
image**



**MSG-2 -21 December 2005  
→MET-9**



**First MSG-1 images 28 Nov 02.**



Total channel Short wave channel

**First GERB images  
on 12 December 2002**





# MSG - Meteosat Second Generation

## •METEOSAT-8

- at 3.4 W , preparing for Rapid scanning service at 10 E,
- satellite relocation from end March, about 1 month

## • METEOSAT -9

- Primary imagery mission at 0

## • MSG-3 – satellite in storage in clean room at Thales

## • MSG-4 – Satellite Pre Storage Review in March-May 2007

- Current plan of MSG-3/4 Launches agreed with Council

- MSG-3 : January 2011

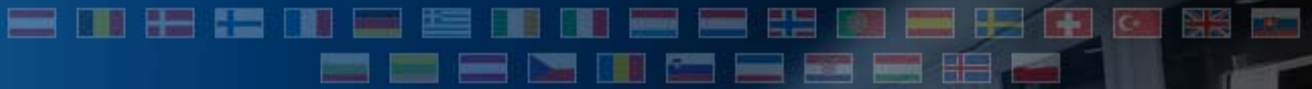
- MSG-4 : January 2013

- Plan of launches maintained based on in orbit status.

## • MSG Mission approved until end of 2018

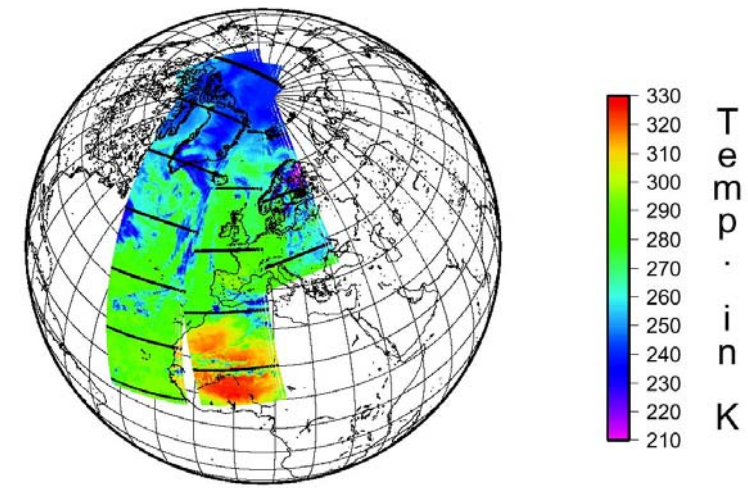
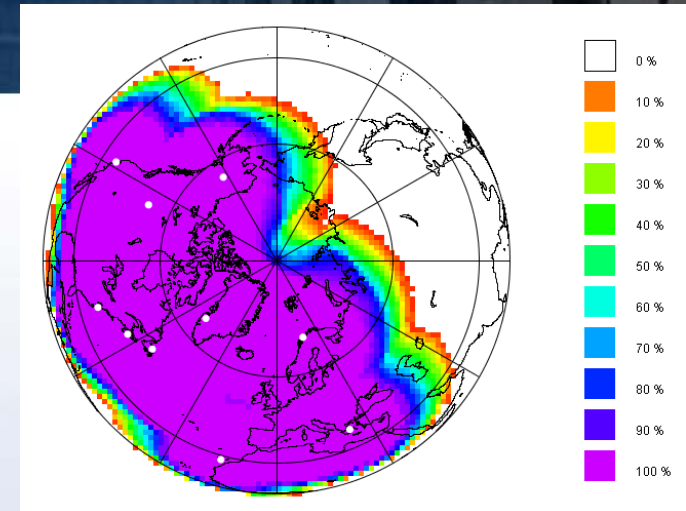
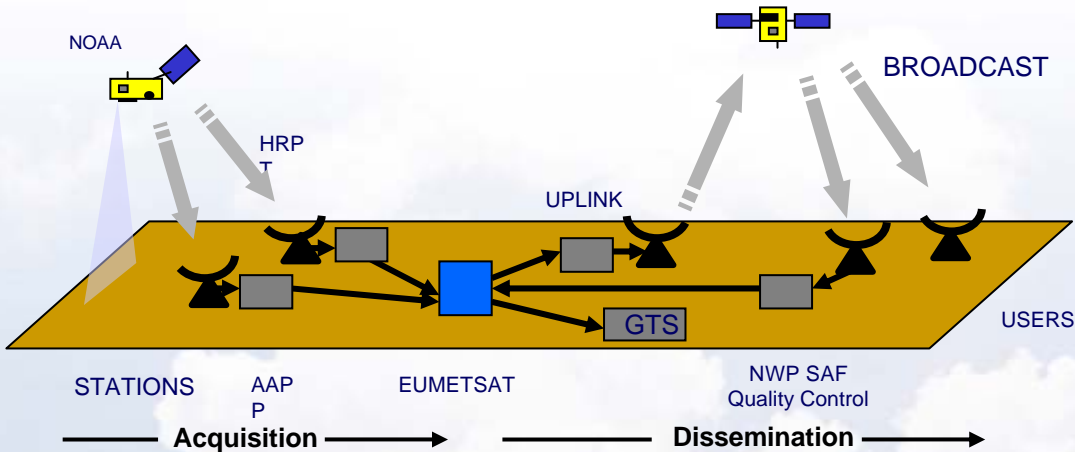
- Launch of MSG-3 drives the need date of MTG – 1st Imagery satellite

- Launch of MSG-4 drives the need of MTG 2nd Imagery satellite (High Resolution Fast Imagery Mission)

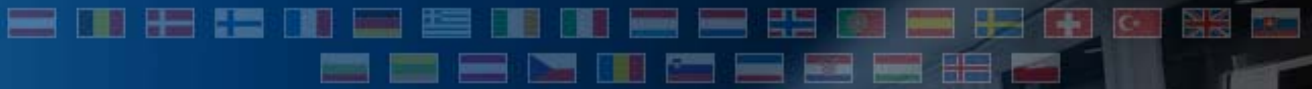


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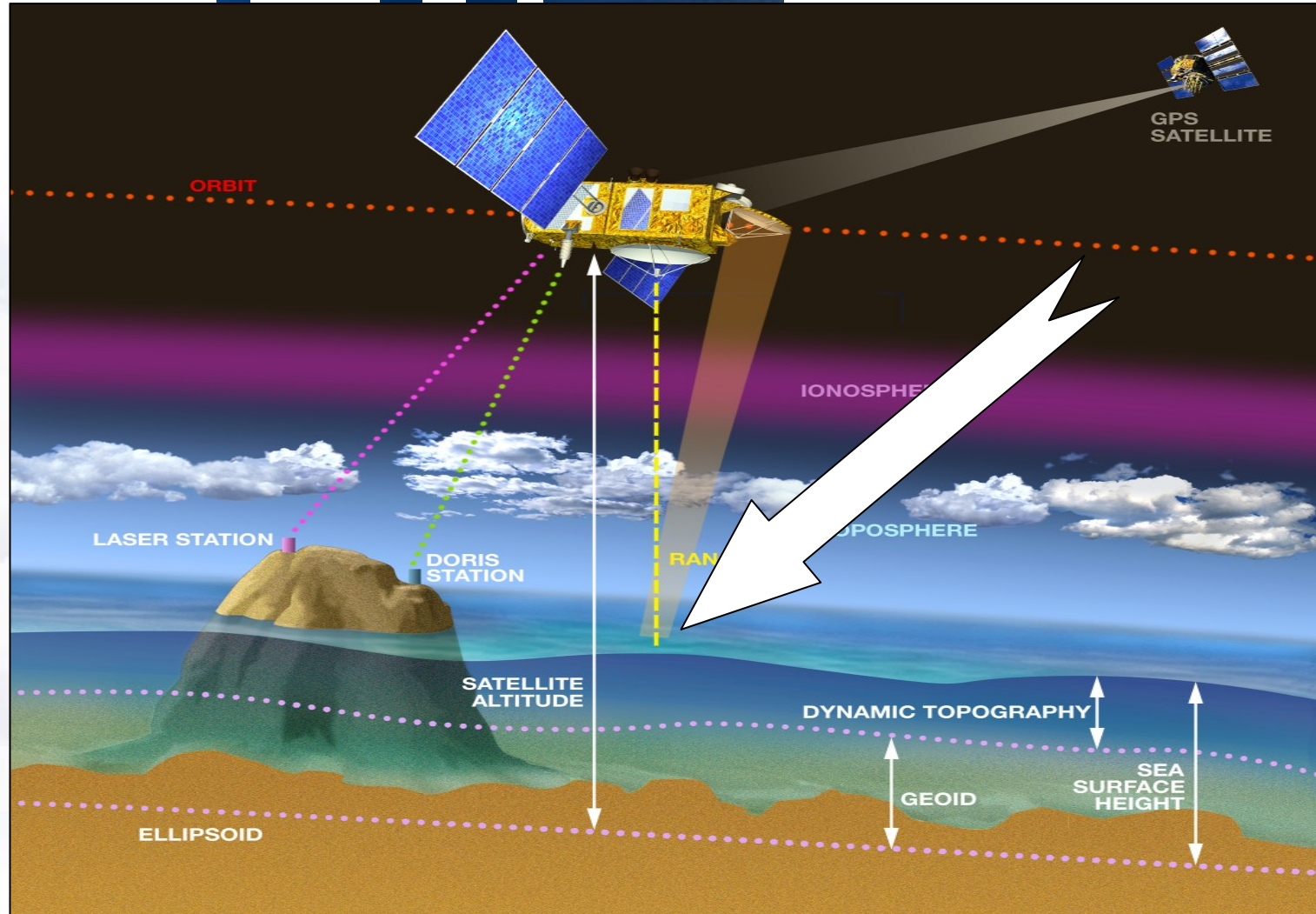
# EUMETSAT ATOVS Retransmission Service (EARS)

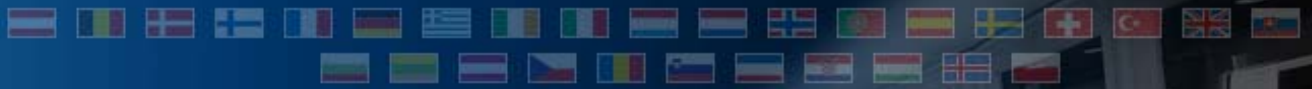


- Demonstrates potential future dissemination concepts to meet shorter timeliness requirements
- Planned to be extended for NOAA-N,N', Metop
  - MHS
  - ASCAT / ASCAT Winds
  - AVHRR
  - IASI



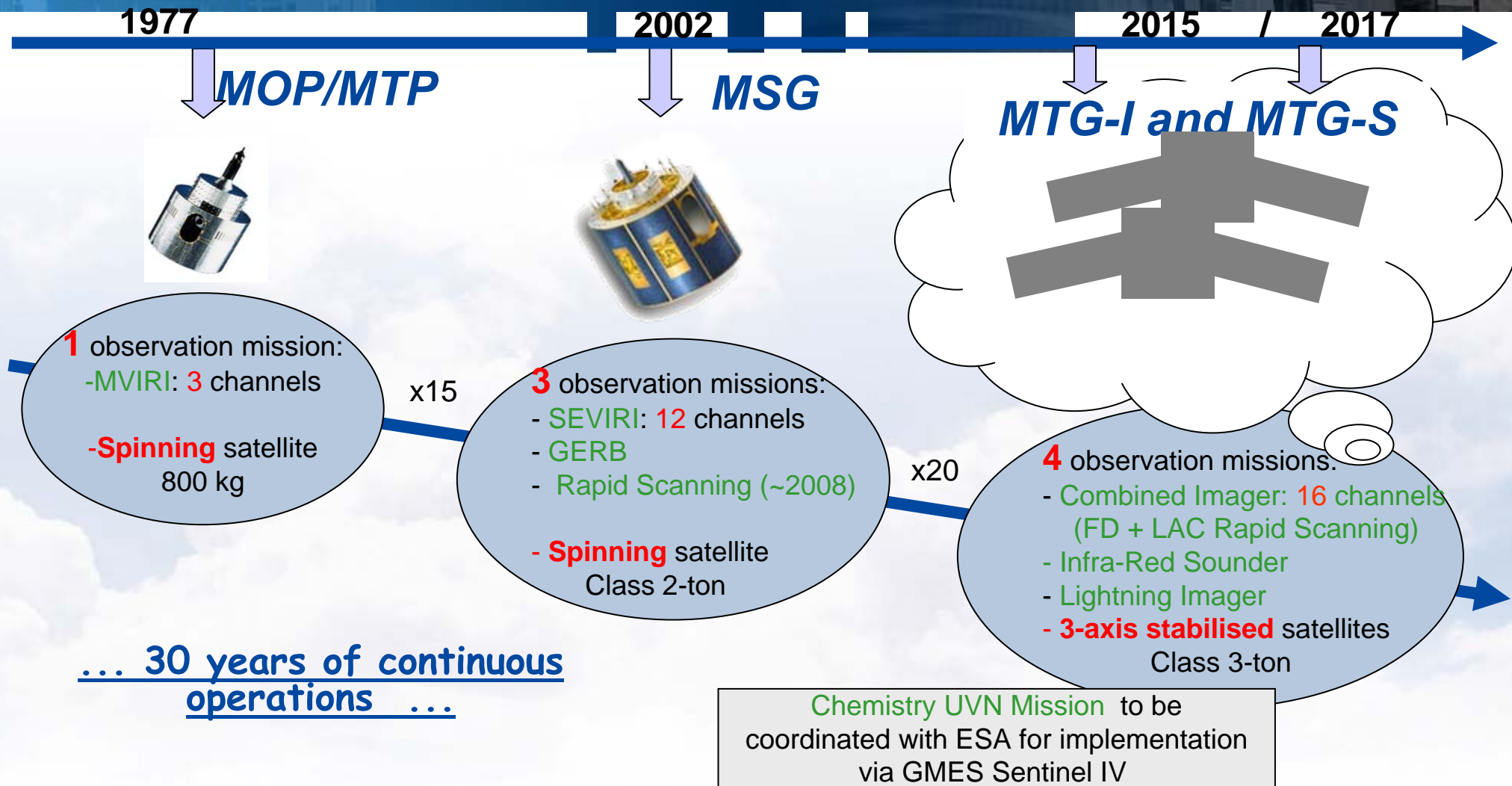
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# MTG will provide continuity of EUMETSAT services



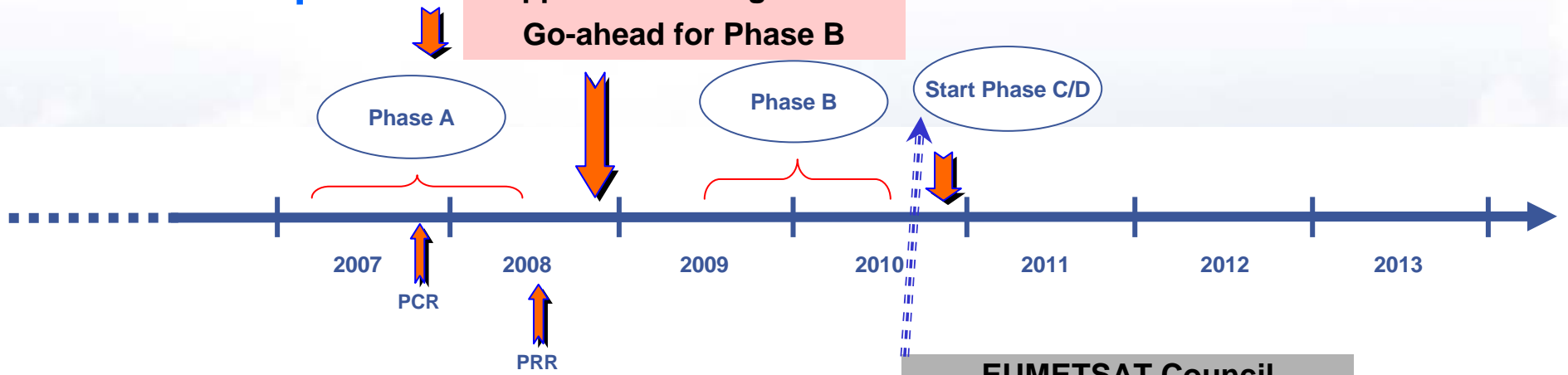




# MTG, Preparatory Programme

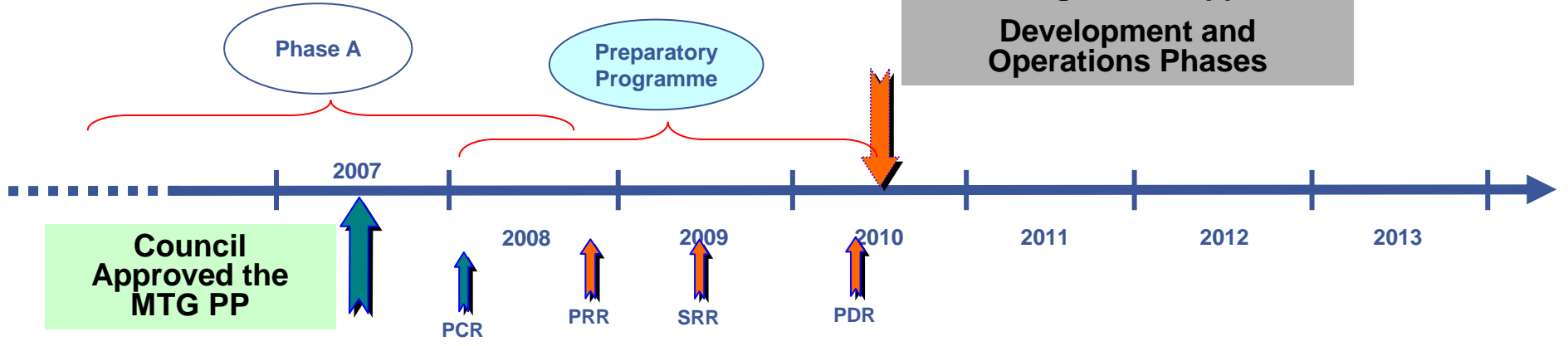
## ESA roadmap

**ESA C-MIN 2008**  
Approval full Programme  
Go-ahead for Phase B



## EUMETSAT roadmap

**EUMETSAT Council**  
Full Programme Approval  
Development and Operations Phases



# Post-EPS, Planning



**ESA Ph. 0 Studies**

**Ph. A Studies**

**Prelim. Assessment Review (missions shortlist)**



**MTR**



**2<sup>nd</sup> User Cons. Workshop**

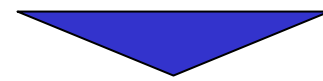
**Mission Definition Review**



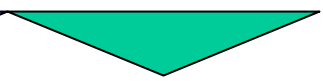
**PCR**



**Preliminary Requirements Review**



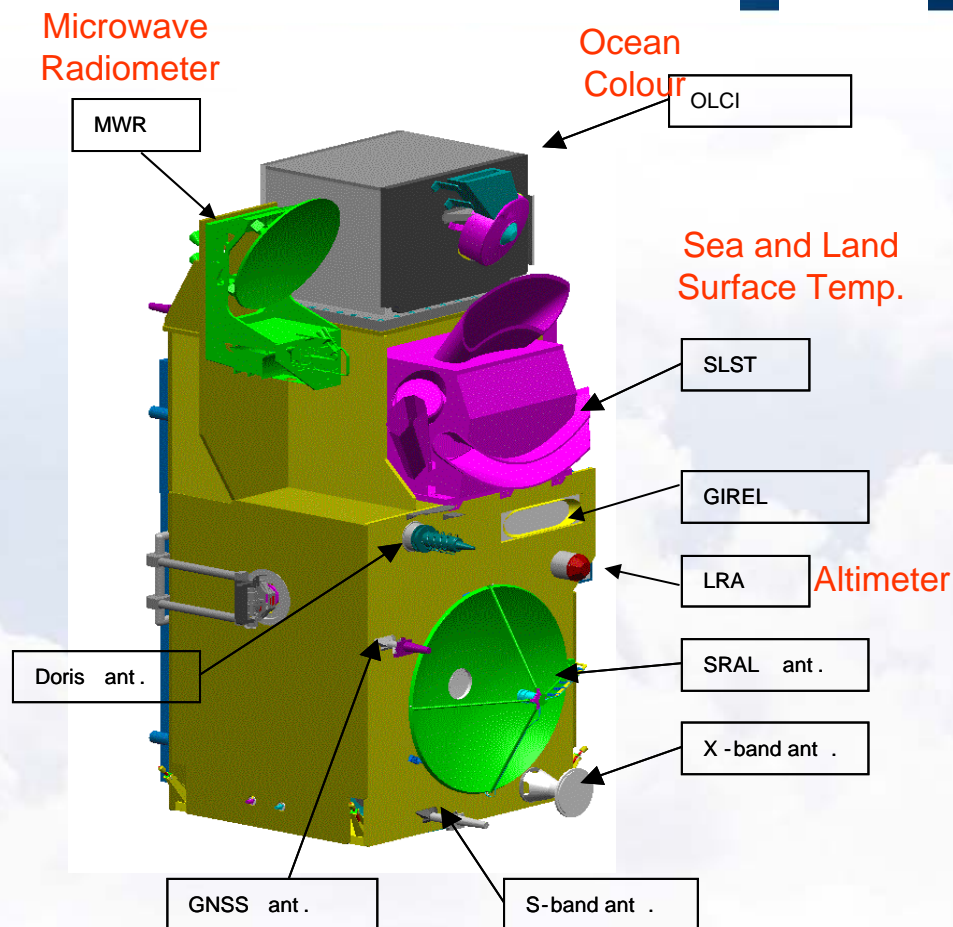
**EUM Approval of Preparatory Programme**



**ESA C-Min-11 go-ahead for Ph. B/C/D**

MTR = Mid Term Review  
PCR = Preliminary Concepts Review

# The Sentinel 3 satellite



## ***Payload:***

- OLCI: Ocean & Land Colour Instrument;
- SLST: Sea & Land Surface Temperatures;
- RA: Radar Altimeter;
- MWR: Microwave Radiometer;
- GNSS: Global Navigation Satellite System;
- LRR: Laser retro Reflector

## ***Space Segment Milestones***

**PDR: Sept 2008**

**CDR: April 2010**

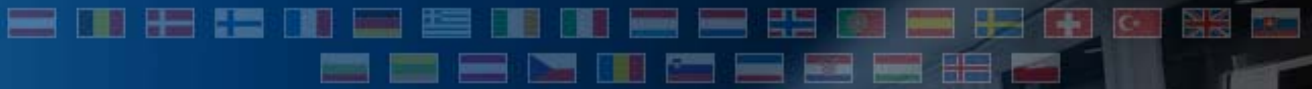
**QR: July 2011**

**LAUNCH: Oct 2012**

# Sentinel 3 Ground Segment

- **EUMETSAT will manage the Marine part of the mission and a dedicated GS will be operated from EUM HQ**
- **Flight Operations Segment (ESOC)**

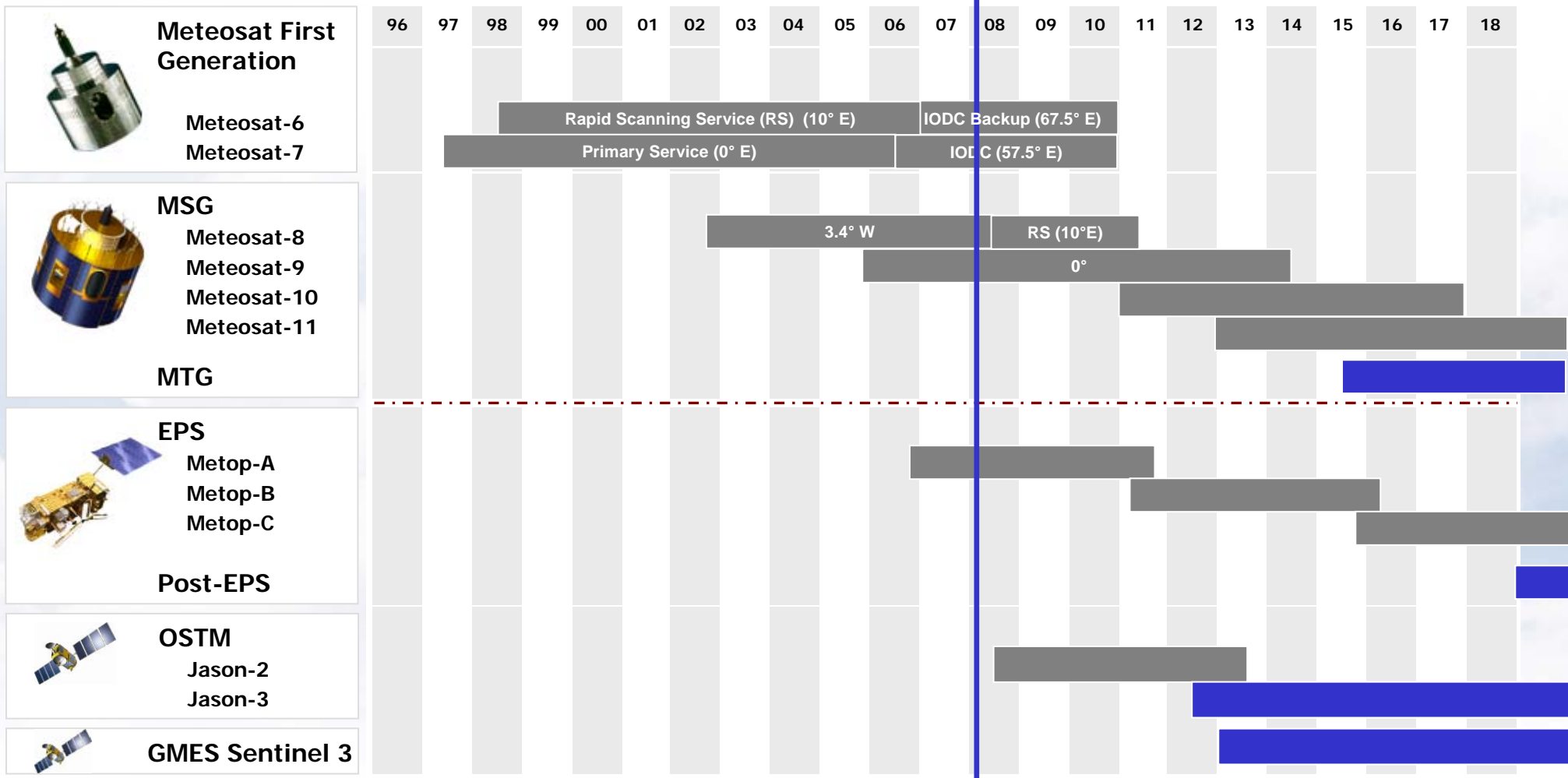
# OUTLOOK



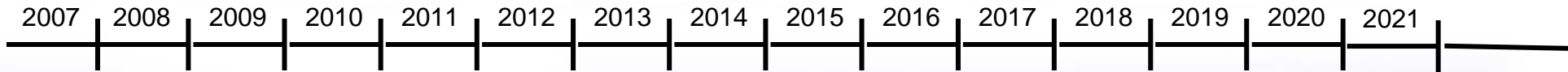
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# EUMETSAT Space Segment




# Future EUM Missions Timeline



MTG IRS Launch 



IR and MW Sounding  
VIS/IR Imaging Missions 

Other Missions 

