LATEST DEVELOPMENTS - EUMETSAT PROGRAMMES

Presented to CGMS-45
Plenary session
Agenda item D.3
Current satellites in orbit

**METOP A-B**
(LOW-EARTH, SUN – SYNCHRONOUS ORBIT)
EUMETSAT POLAR SYSTEM/INITIAL JOINT POLAR SYSTEM

**JASON-2-3**, shared with CNES/NOAA/EU
(LOW-EARTH, 63° INCL. NON SYNCHRONOUS ORBIT)
OCEAN SURFACE TOPOGRAPHY MISSION

**Copernicus Sentinel-3A**
(LOW-EARTH, SUN – SYNCHRONOUS ORBIT)

**METEOSAT 9-10-11** (2\textsuperscript{nd} GENERATION)
(GEOSTATIONARY ORBIT)
TWO-SATELLITE SYSTEM:
- **METEOSAT-10**: FULL DISK IMAGERY MISSION AT 0° (15 MN)
- **METEOSAT-9**: RAPID SCAN SERVICE OVER EUROPE AT 9.5°E (5 MN)
- **METEOSAT-11**: Stored in orbit (until mid 2018)

**METEOSAT 8** (2\textsuperscript{nd} GENERATION)
INDIAN OCEAN DATA COVERAGE FROM 41°5 E
(FROM FEBRUARY 2017 UP TO MID 2020)
Meteosat-8 operational from 41.5° East
Cooperative Jason-3 mission operational since July 2016
• Sentinel-3A Routine Operations Readiness Review in July

• Preparations for launch of Sentinel-3B (March 2018) and dual Sentinel-3 operations ongoing with ESA
Combining Sentinel-3 and Jason for operational oceanography
Deployment of current generation satellites will be completed in 2018 with the launch of Metop-C.
Preparations for launch of Metop-C on track

- Re-integration of PLM and SVM starting after TV tests
- Recalibration of repaired Gome-2 instrument ongoing, MHS repair starting
- Launch period notified: 1 October-31 December 2018
- Ground segment for 3-Metop operations validated, system V&V tests ongoing
Sea and Land Ice Temperature products from OSI SAF
Information services feed for monitoring CO2 emissions

- GHG observations from space
  - CO₂ column concentration

- Emission inventories

- Model of natural fluxes

- Atmospheric transport model

- Land use data

- Land & ocean networks

- Atmospheric in situ networks

Maps of CO2 anthropogenic emissions, uncertainties & trends
Monitoring CH4, CO2 and CO with IASI

Mid-tropospheric CO2

Mid-tropospheric CH4

Monthly evolution (July 2007-December 2014)

NRT CO column product
(released on 10 March)
Delivering time-critical data to Europe and Africa

- 2269 users in Member States
- 5 users in Cooperating State
- 2799 users world-wide

*EUMETCast* Africa
EUTELSAT 5 WEST A, C-BAND

*EUMETCast* Europe
EUTELSAT 10A, KU-BAND
Planned evolution of data access in the Big Data era

EUMETSAT Ground Segment Including SAFs

- Hosted Processing (PF V)
- Thematic Processing
- Format Conversion (PF IV)
- Pull Data Access
- NRT (Push) Dissemination
- EUMETCast Terrestrial (PF II)
- WebMapServices (PF III)
- Online Data Access (PF I)

Format Conversion (PF IV)

ICSII

Long Term Archivee
SATELLITES UNDER DEVELOPMENT

MTG
Hosts Sentinel-4 mission

Jason-CS/Sentinel-6
Shared with ESA, NASA/NOAA and EU

EPS-SG
Hosts Sentinel-5 mission
MTG DEVELOPMENT STATUS

- STM of common platform tested, EM & PFM integration started

- MTG-I
  - Maturity of satellite design and expected performance confirmed by Intermediate Design Check Point, FCI on critical path
  - Satellite CDR in 2018, MTG-I1 FAR in Dec. 2020 with margins
  - Development of ground segment well advanced
  - First SVT test with platform in September

- MTG-S
  - Intermediate Design Check Point ongoing
  - Satellite CDR in 2019, MTG-S1 FAR in Q3 2022, with margins
  - Dedicated ground segment add-ons being procured
MTG – SPACE SEGMENT

Platform before the Thermal Vacuum (TVAC) Test at IABG in Munich

FCI Instrument HW is becoming available:
- External Baffle Assembly
- Optical Bench Assembly
MTG – GROUND SEGMENT

Payload TeleMetry Recorder (PTMR)
Payload Interface Unit (PIU)
Telemetry Telecommand Interface Unit (TTIU)

MDA antennas in Lario
MDAF antennas in Leuk
PLANNED DEPLOYMENT OF MTG FULL IN-ORBIT CAPACITY

MTG-I RAPID SCAN SERVICE

MTG-S SOUNDING SERVICE

MTG-I FULL SCAN SERVICE
EPS-SG DEVELOPMENT STATUS

- All major development contracts placed across all segments

  - Space segment development well advanced in phase C
    - Metop-SG A CDR in June 2018, FAR in May 2021, launch in September
    - Metop-SG B CDR in May 2019, FAR in Aug. 2022, launch in December

  - Ground segment Preliminary Design in progress
    - PDR of mission control and operations (MCO) chain closed
    - PDR of payload data acquisition and processing (PDAP) chain ongoing
    - Svalbard site infrastructure readiness review in 1 July

  - Successful System Check Point end of March
    - System interfaces, performance budgets, product specifications robust