MTG Programme

Presentation to CEOS SIT-25

EUM/SIR/VWG/10/0233
MTG Programme – CEOS SIT-25
14 April 2010

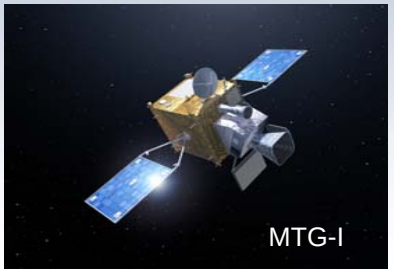
EUMETSAT

MTG : continuity and enhancements of EUMETSAT GEO Services

1977 — 2002 — 2016

MOP/MTP

MSG



MTG

Observation mission:
- MVIRI: 3 channels

Spinning satellite
Class 800 kg

Observation missions:
- SEVIRI: 12 channels
- GERB

Spinning satellite
Class 2-ton

Observation missions:
- Flex.Comb. Imager: 16 channels
- Infra-Red Sounder
- Lightning Imager
- UVN

3-axis stabilised satellites
Twin Sat configuration
Class 2,5 - 3 ton

Implementation of the EUMETSAT Mandate for the Geostationary Programme

Atmospheric Chemistry Mission (UVN-S4):
via GMES Sentinel 4
Implementing Arrangement with ESA to STG AFG
EUM/J-STG-AFG/42/09/DOC/07

MTG – The Five Observations Missions

The MTG Observations Missions from the Instruments on board the MTG - I satellites:

- the **F**ull **D**isk **H**igh **S**pectral resolution **I**magery **(FDHSI)** mission
  - measurements taken by the Flexible Combined Imager (FCI) Instrument over the full earth disc at a repeat cycle time of 10 minutes with a spatial resolution of 1 km/VIS and 2 km/IR;
- the **H**igh spatial **R**esolution **F**ast refresh **I**magery (HRFI) mission,
  - measurements taken by the FCI in HRFI mission mode will be provided to Users from 4 channels on regional scales (e.g. about 1/4th of the full disk seen from the geostationary position) at a repeat cycle rate of 2.5 minutes and a spatial resolution of 0.5 km and 1.0 km;
- the **L**ightning **I**magery (LI) mission,
  - continuously detecting optical pulses, over almost the full earth disc in view from the geostationary satellite position.

MTG – The Five Observations Missions

The MTG Observations Missions from the Instruments on board the MTG-S satellites:

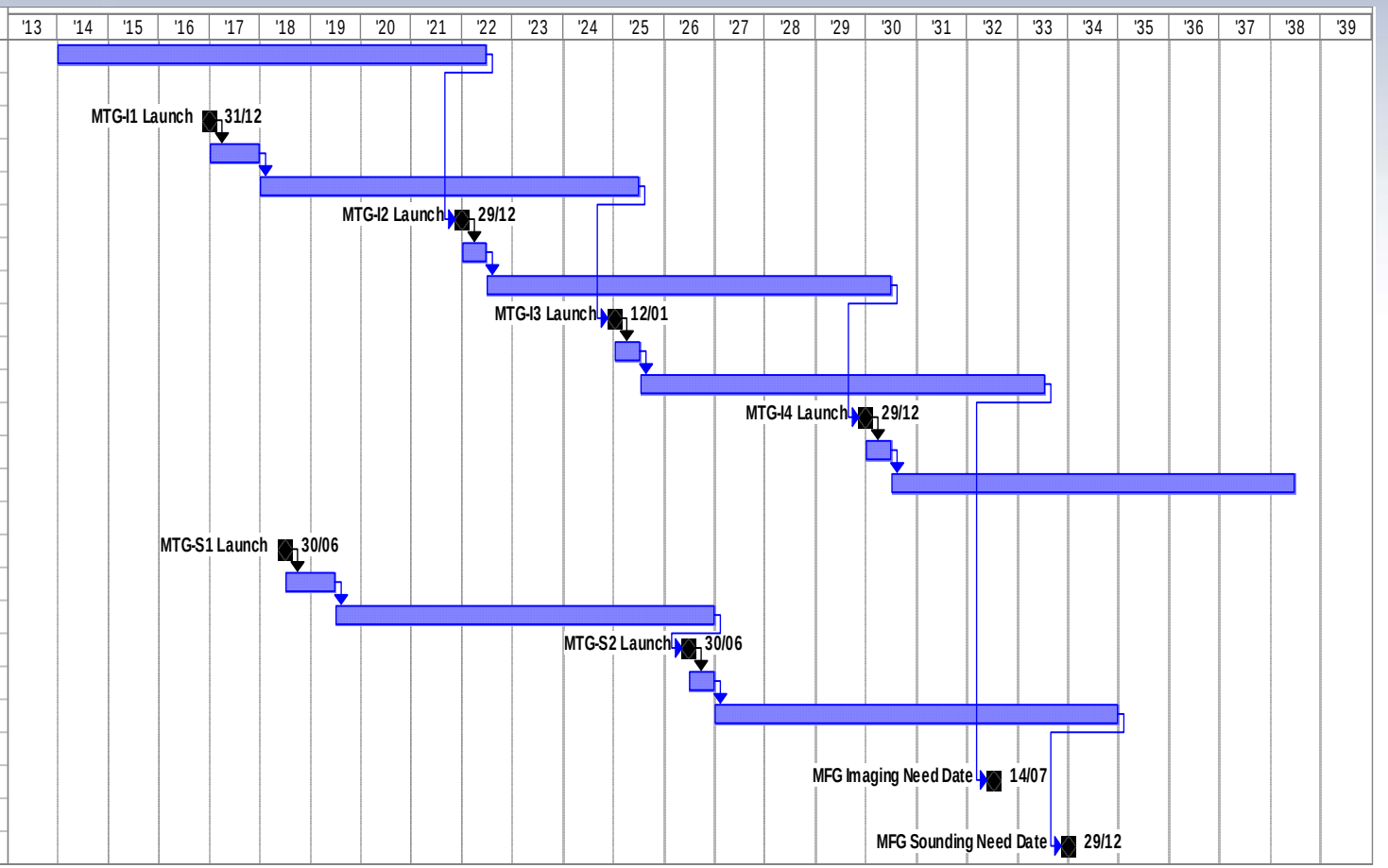
- the **I**nfra**R**ed **S**ounding (**IRS**) mission,
  - Measurements taken by the IRS Instrument , able to scan the full earth disc within 60 minutes providing a spatial resolution of 4 km, and hyperspectral imaging and sounding information at a spectral sampling interval of 0.625 cm-1 in two bands, a Long Wave InfraRed (LWIR: 700 – 1210 cm-1 (*)) and Mid Wave InfraRed (MWIR: 1600-2175 cm-1(*)) band;

- the **GMES Sentinel - 4** (S4) sounding mission, achieved through the Ultraviolet, Visible & Near-infrared (UVN) Instrument, covering Europe every hour taking measurements in three spectral bands (UV: 305 - 400 nm; VIS: 400 - 500 nm, NIR: 750 - 775 nm (**)) with a resolution around 8km.

(*) wave numbers (**) *wave length*

MTG Nominal MTG Satellite Deployment scenario

ID	Task Name
1	MSG-4
2	
3	MTG-I1 Launch
4	MTG-I1 Commissioning
5	MTG-I1 Operations
6	MTG-I2 Launch
7	MTG-I2 Commissioning
8	MTG-I2 Operations
9	MTG-I3 Launch
10	MTG-I3 Commissioning
11	MTG-I3 Operations
12	MTG-I4 Launch
13	MTG-I4 Commissioning
14	MTG-I4 Operations
15	
16	MTG-S1 Launch
17	MTG-S1 Commissioning
18	MTG-S1 Operations
19	MTG-S2 Launch
20	MTG-S2 Commissioning
21	MTG-S2 Operations
22	
23	MFG Imaging Need Date
24	
25	MFG Sounding Need Date



- *20 years of operational service for the full disk imagery mission, MSG-4 in parallel (rapid scan) until 2022*
- *15.5 years of operational service for the IRS UVN missions, no in orbit back up*