

Meteosat Third Generation (MTG) Programme Status

LI-MAG meeting #12

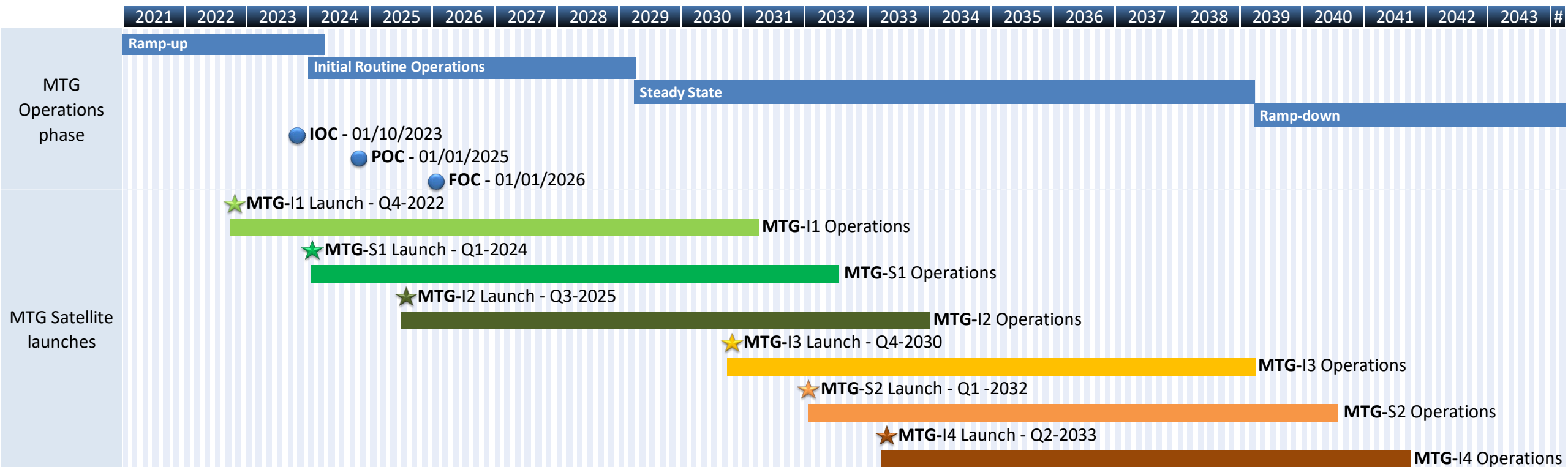
12th of October 2021

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Overall Programme Schedule and Status

- For the Imager mission (MTG-I)
 - Integration and verification of the first MTG System version (V1.0) completed in the beginning of September 2021
 - MTG System “launch ready” version (V1.1) to be completed in April 2022
 - MTG-I1 satellite launch in December 2022
- For the Sounder mission (MTG-S)
 - The MTG System and Ground Segment Critical Design Review is planned to conclude with a key point February 2022



MTG Programme Status – Space Segment (MTG-I)

- **MTG-I Satellite Status**
 - FCI instrument Proto-Flight Model mated with the satellite in August 2021
 - Satellite Thermal Vacuum tests on going
 - Satellite Qualification and Flight Acceptance Review (QAR) in Summer 2022
- **Flexible Combined Imager (FCI)**
 - Instrument Proto-Flight Model fully tested
 - Instrument Flight Models 2 to 4 under production
 - Requests for Deviation (RFD) mostly represent minor infringements of the requirement and/or are limited to specific parts of the radiometric range or times of the day and year; impact on the level 1 and 2 products is acceptable
 - Update of performance will be available at the PFM instrument acceptance review (Q4 2021) and satellite QAR
- **Lightning Imager (LI)**
 - Instrument Proto-Flight Model testing on-going
 - Calibration and EMC tests almost completed
 - Performance well correlated with the simulations models; many performance problems flagged at the instrument CDR have been resolved and RFD withdrawn
 - Next steps: LME PFM and LOH PFM integration in vertical position



Mating of the FCI PFM with MTG-I PFM satellite (picture by Thales Alenia Space)

MTG Programme Status – Space Segment (MTG-S)

- **MTG-S Satellite Status**

- Platform Proto-Flight Model completed and integrated with IRS and UVN Structural Thermal Models for further testing
- Satellite Qualification and Flight Acceptance Review (QAR) in Summer 2023

- **Infra-Red Sounder (IRS)**

- Instrument Proto-Flight Model integration started
- Impact of RFD on the level 1 and 2 products is acceptable
- IRS delivery to the satellite planned in summer 2022

- **Sentinel-4/Ultraviolet-Visible-Near-infrared (S4/UVN)**

- Instrument Proto-Flight Model activities progressing well: optics system successfully aligned in vacuum, integrated into main instrument module
- Delivery planned February 2022



IRS and UVN Structural Thermal Models (STM) integrated with MTG-S PFM satellite (picture by OHB System)

MTG Programme Status – Ground Segment (Data Proc.)

- Instrument Data Processing Facility for MTG-I (IDPF-I)
 - V3.1 received in February 2021, intensively used for a SAF end-to-end testing campaign - stable 72 hours production of FCI L0 and L1 products achieved
 - V4 delivered in July 2021 for completion of the data processing chain testing for MTG System 1.0
 - Next upgrades V4A, V4B and V4C will be integrated progressively in MTG System 1.1; V4A in November 2021 with LI “Minimal Viable Product” standalone processing chain
 - V5 launch ready expected in July 2022
- Level-2 Processing Facility (L2PF)
 - V2.8 delivered August 2021; Final version for MTG-I (V3) expected end 2021
- Instrument Data Processing Facility for MTG-S (IDPF-S)
 - Deliveries split in two versions for IRS and UVN chain
 - V1 (IRS) planned October 2021; V1a (UVN) planned end 2021
 - CDR for IRS-dedicated version on going; delta CDR for UVN pending
- Level-2 Processing Facility (L2PF) first version for MTG-S expected in Q2 2022

MTG Programme Status – System

- Operations preparation
 - Last SVT for MTG-I (SVT-I1-v3) planned in May 2022
- Integration Verification & Validation
 - MTG System V1.0 completed
 - Full System end-to-end test involving Satellite Application Facilities (SAF) completed in July 2021
 - Operational Scenarios Validation start in December 2021 based on MTG System V1.0



MTG Programme status – Launcher & User Preparation

- Launcher Service

- MTG-I1 will be launched with the last Ariane 5 – final satellite fit check and separation test in Q2 2022
- MTG-S1 will be on Ariane 64, Preliminary Mission Analysis kicked off in July 2021
- MTG-I2 launch service agreement signed for Ariane 64

- User Preparation

- Test data for users and SAF available through EUMETSAT web page
- MTG User preparation project was run in 2020 and 2021 with online User Preparation Webinars
- EUMETSAT User Days 2022: Focus on next-generation meteorological satellites (MTG and EPS-SG), 31 May - 2 June 2022, Darmstadt (Darmstadtium Conference Centre), Germany

Observation Mission	Webinar Dates
IRS	13-14 Oct 2020
LI	16-17 Feb 2021
FCI	8-10 Jun 2021
UVN/UVNS	Q2/2022

Conclusion

- MTG-I1 satellite is on track for a launch in Q4 2022 with an operational system for the imager ready in Q4 2023
- There are still challenges ahead in finalising the satellite and system testing for MTG-I in parallel to the preparation of MTG-S which also in its final phase

