

# Meteosat Third Generation (MTG)

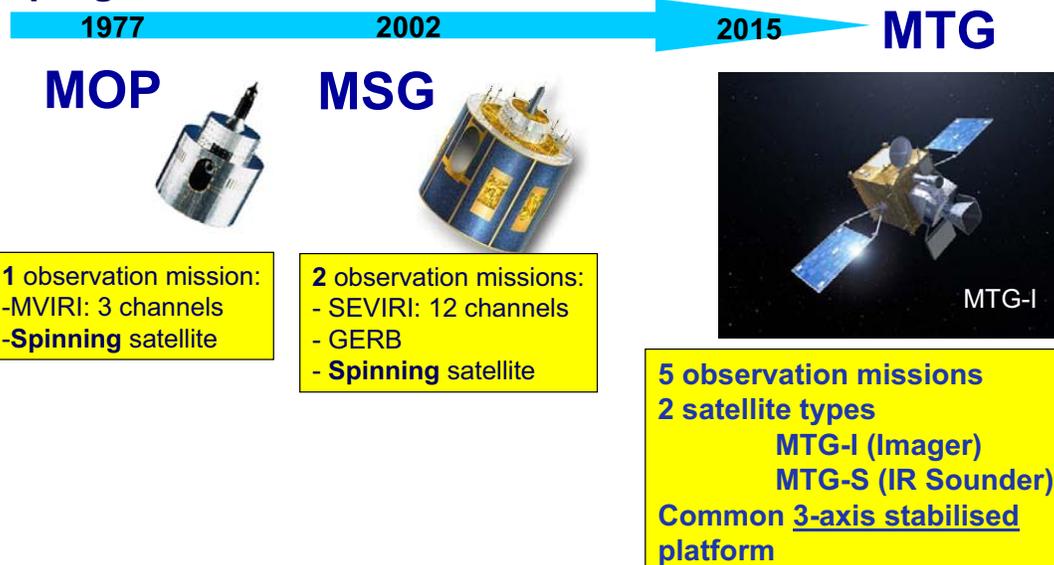
Paul Blythe  
ESA MTG Programme Manager

The overall MTG Programme is undertaken in the frame of a cooperation agreement with EUMETSAT (Darmstadt)

- The ESA MTG Programme relates to the development and procurement of the MTG Space segment (plus associated support equipments)
- The EUMETSAT MTG Programme includes;
  - The definition of the overall mission requirements and allocation to the space segment as appropriate
  - The design and development of the Ground Infrastructure required for:
    - Space segment monitoring, command and control
    - Meteorological data reception, data processing and dissemination to users
    - Routine operations of the MTG system for 20 years
    - Procurement of MTG launch vehicles
    - Funding of recurrent satellites and fixed contribution (30%) to protoflight satellites for MTG-I and MTG-S (all space segment procurement managed by ESA)
- This 'cooperative' procurement approach, between ESA and EUMETSAT, has a long heritage in MSG and EPS/Metop and is well proven model.

- **Objectives of MTG Mission**
    - Ensure continuity of meteorological imaging data, from Geostationary Orbit, beyond the end of mission life of the existing MSG programme
    - Provide enhanced imaging performances, and new infrared sounding capabilities
    - Provide continuity and enhanced performances for long term climate monitoring
  - **Mission Profile (full operational system)**
    - Launch Date; 2015 for first Imaging satellite (2017 for first Sounder)
    - Overall Mission duration; 20 years
    - Space segment reliability; > 0.75 (throughout the mission)
    - Space Segment availability (main missions); > 96% per year
  - **Space Segment Implementation**
    - 2 types of spacecraft: MTG-I (Imager) and MTG-S (Sounder)
    - Common, very high pointing stability, 3 axis stabilised platform
    - Nominal 8.5 year satellite life (following upto 10 years storage)
- => Nominal space segment procurement; 4 x MTG-I & 2 x MTG-S (6 satellite procurement)**

## Evolution of Geostationary meteorological programmes:

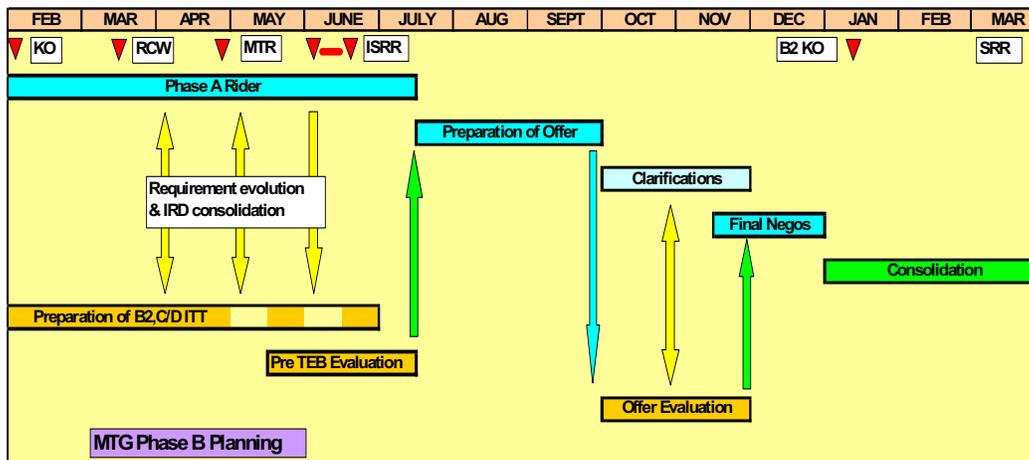


## Composition of MTG Missions

- **MTG Imaging Satellite (MTG-I)**
  - **Flexible Combined Imager (FCI)**; fulfilling two missions
    - **Full disk High Spectral Imagery (FDHSI)**;  
16 channels, 1-2km spatial sampling, full disc & 10 minute repeat cycle
    - **High Resolution Fast Imaging (HRFI)**;  
4 channels, 0.5-1.0km spatial sampling, local area coverage & 2.5 – 5 minute repeat
  - **Lightening Imager (LI)**;
    - detection of lightening events with spatial resolution of 10km
  - **Other Payloads**;
    - Search & Rescue, Data Collection Service and Radiation Monitoring Unit
- **MTG Sounding Satellite (MTG-S)**
  - **Infrared Sounding Instrument (IRS)**
    - **High resolution spectral and spatial sampling in LWIR and MWIR**  
Wave number range; 680 – 2250cm<sup>-1</sup>, channel interval ;0.625cm<sup>-1</sup>,  
Spatial sample; 4km, Local area repeat cycle; 15mins
  - **Sentinel 4 (UVN) imaging instrument**; to support the ESA GMES programme

- **ESA MTG Programme was approved and fully subscribed at the ESA Council of Ministers (Nov 2008)**
  - Czech Republic subscribed to this optional programme (0.26% or 2.24M€)
  - Major contributions from France and Germany at 34% each
- **EUMETSAT Preparatory Programme has been approved, final Programme approval expected before the end of 2010**
- **ESA MTG space segment definition studies are well advanced**
  - Two parallel consortia currently undertaking Phase B1 activities prior to the competitive Phase B2,C/D procurement
- **B2,C/D Space Segment ITT will be released in July 2009, with industrial response expected by early October**
- **Final selection and start of B2 activities with winning consortia before the end of 2009**

**At this point only the Core Team will be selected (according to ESA 'Best Practice') - further selection of subcos will then be undertaken throughout 2010**



- Invitation to Tender will be released in July 2009 to the prospective Prime Contractors
  - Thales Alenia Space (France)
  - EADS Astrium (Germany)
- Fully binding industrial offer expected but with nominated consortium limited to core team members, which should make up <40% (tbc) of overall consortium
- Core Team members will include;
  - Overall Prime Contractor
  - Lead contractors for Platform, Flexible Combined Imager and Infrared Sounder
  - Other core capabilities that cannot reasonably be placed in competition
- Industrial Offer will also include a consolidated procurement plan for the remainder of the items;
  - identifying potential bidders for major items
  - indicating how the consortium will satisfy the ESA Geographical Return constraints

- Following the down-selection and final negotiation of the Prime Contractor and the associated core team, industry shall then undertake selection of the remaining team members through the application of ESA Best Practice
- **This process will take place during 2010**
- Starting with the major subsystem and equipments, and working through to other support activities, the Prime Contractor will ensure a competitive procurement process is applied both at the top level and further down the consortium
- ESA will participate to this process to ensure fairness of competition, and will chair the TEBs where participants include subsidiaries of the company running the competition
- Throughout this process Industry will be required to ensure that the Geographical return requirements are duly met, in some cases this may result in a restricted competition between potential under-returned countries
- Final selection of subcontractors and major suppliers are subject to ESA formal agreement.

- **The final selection of the baseline consortium should be completed before the end of 2010 to allow the Phase C/D activities to start** (price conversion from ceiling to firm fixed required for EUMETSAT approval)
- **Phase C/D will then proceed with the detailed design manufacture and test of the first two prototype satellites (MTG-I and MTG-S) followed by 4 recurrent builds**
  - It should be noted that by being selected for the ESA MTG Programme should ensure participation to recurrent builds (funded by EUMETSAT)
- **In parallel with the ESA space segment procurement, EUMETSAT will also be defining and procuring the associated ground segment elements, including Satellite monitoring and Control and data processing and dissemination.**  
(Note; EUMETSAT procurements are not normally subject to Geographical return constraints)

- **ESA does not impose the selection of particular companies/nationalities within a consortium – but actively encourages industry to select a balanced consortium to meet the Geographical return targets**  
(whilst ensuring a cost effective and technically compliant performances)
- **Based on the contribution from the Czech delegation the role of any Czech company will necessarily be at a lower level within the team (ie not in the initial core team selection or first round of major subsystem/equipment suppliers)**
- **To position themselves for inclusion in the Best Practice selection process Czech companies should make the MTG industrial prime contractors (and potential instrument, subsystem/equipment suppliers) aware of their capabilities and interests**
- **ESA will actively support this process, but ultimately it is up to the respective industries to work their niche in any future team**

- **ESA Team (Estec);**
  - MTG Programme Manager; **Paul Blythe**
    - Telephone; +31-71-565-3666
    - E-mail; [paul.blythe@esa.int](mailto:paul.blythe@esa.int)
  - MTG Payload Manager; **Donny Aminou**
    - Telephone; +31-71-565-5817
    - E-mail; [donny.aminou@esa.int](mailto:donny.aminou@esa.int)
- **Thales Alenia Space (Cannes) ;**
  - MTG Project Manager; **Alain Lamothe**
    - Telephone; +33-4-9292-3206
    - E-mail; [alain.lamothe@thalesaleniaspace.com](mailto:alain.lamothe@thalesaleniaspace.com)
- **EADS Astrium GmbH (Friedrichshafen) ;**
  - MTG Project Manager; **Karl-Otto Hienerwadel**
    - Telephone; +49-7545-8-9026
    - E-mail; [karl.otto.hienerwadel@astrium.eads.net](mailto:karl.otto.hienerwadel@astrium.eads.net)

Thank you



Any Questions?