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Agenda for the EUMeTrain MTG Event Week (23 – 27 June 2025)

Time (UTC)	Monday, 23 June	Tuesday, 24 June	Wednesday, 25 June	Thursday, 26 June	Friday, 27 June
09:00 – 09:30	**Introducing MTG FCI** *Vesa Nietosvaara (EUMETSAT)*	**Level-2 EUMETSAT product** *Johan Strandgren (EUMETSAT)*	**Convection analysis with MTG FCI-I** *Roland Winkler (Austro Control GmbH)*	**LSA SAF MTG Improvements** *Isabel Trigo (LSA SAF)*	**H-SAF precipitation & snow products** *Nicoletta Roberto, Semih Kuter (H-SAF)*
09:30 – 10:00	**Introducing MTG LI** *Sven-Erik Enno (EUMETSAT)*	**Low-level moisture** *HansPeter Roesli*	**MTG benefits for nowcasting severe convection** *Alois Holzer (ESSL)*	**Visualization of MTG data: Pytroll/Satpy** *Gerrit Holl (DWD)*	**Examples from the Middle-East** *Ibrahim Mohammed Al-Abdul Salam (Met Service Oman)*
Break	**Break**	**Break**	**Break**	**Break**	**End of the Event Week**
13:00 – 13:30	**Jupyter notebooks EUMETView Data store** *Carla Barroso (EUMETSAT)*	**Cloud Type RGB: a complete and nuanced product** *Roxane Desire (Météo-France)*	**Fire detection** *Andrea Meraner (EUMETSAT)*	**NWC SAF Convection products** *J.-M. Moisselin, E. Fontaine (Météo-France)*	
13:30 – 14:00		**New RGBs from FCI** *Andreas Wirth (GSA)*	**Dust and Aerosols** *Ivan Smiljanic (EUMETSAT)*	**NWC SAF products** *Xavier Calbet (AEMET)*	

Intro & technicalities	Products	Applications

Abstracts

Alois Holzer (ESSL):
New opportunities for better nowcasting severe convection by using MTG
MTG offers a number of both improved and new opportunities for nowcasting severe thunderstorms. For the pre-convective phase, the new 0.9 micron channel allows for the first time for a high-quality 2D visualization of total column moisture, more specifically under cloud-free daylight conditions. By looping such imagery, forecasters can follow the buildup or advection of atmospheric moisture in currently 10-minute and soon 2.5-minute steps, i.e. near real-time, which can be important information under certain weather conditions. For convection initiation, again under daylight conditions, the new Cloud Phase and Cloud Type RGBs offer a clear distinction between water droplets and ice crystals, i.e. give clear indication on the glaciation of growing cumulus clouds providing potential extra lead-time before the first lightning flash can be detected. The lightning imager (LI) will complement this information with a good ability to detect early intra-cloud lightning, typically before the first cloud to ground strike does occur for both day and night. During the mature phase of convective storms, the improved spatial (and soon also temporal) resolution of FCI compared to SEVIRI allows us much better than before to see storm-top features strongly indicative for severe convective storms – like distinct OTs and AACPs (for example in Sandwich imagery). The LI point data with its pseudo-high resolution that provides much finer data than one would expect from the nominal pixel grid (based on the principle of radiance-weighted centroids) has demonstrated to highlight especially severe hailstorms with distinctive ring-like features.

Andrea Meraner (EUMETSAT):
FCI4Fires: Detecting and visualising wildfires with MTG-FCI
The Flexible Combined Imager (FCI) instrument on-board the Meteosat Third Generation (MTG) satellite introduces unprecedented detection capabilities for wildfires from geostationary orbit. This presentation offers an overview of the instrument, focusing on characteristics relevant for identifying hotspots. We will then present case study analyses collected over the commissioning phase of the instrument, focusing on the Portugal September 2024 fires. We will explore visualisations utilising RGBs such as Fire Temperature and True Colour, leveraging the new FCI channels.

Andreas Wirth (GeoSphere Austria):
The new RGBs from FCI and their main areas of application
Besides better temporal and horizontal resolution, the FCI sensor on-board MTG-I also offers additional spectral bands mainly in the short infrared and visible range. These new channels were used to create RGB composite images such as the Cloud Type RGB, the Cloud Phase RGB, the Fire RGB and the True Color RGB. This presentation will highlight the benefits coming from these new RGB types. Application examples will be given and the impact of the new channels will be explained. The focus of this presentation will lay on the information provided by the new RGB types as well as on the limitations and challenges forecasters are confronted with when using them.

Carla Barroso (EUMETSAT): EUMETView, Data Store & FCI, LI Jupyter Notebooks
Meteosat Third Generation (MTG) imagery can be easily explored using EUMETView, EUMETSAT's user-friendly web-based visualisation tool. Users who wish to go beyond visual inspection can access EUMETSAT's flexible portfolio of data services. One of these is the Data Store, which enables users to easily locate and download both near-real-time and historical datasets. This presentation will begin with a brief overview of EUMETView, followed by an introduction to several Jupyter notebooks designed to bridge the gap between data discovery and practical application. The first notebook focuses on the process of accessing and downloading data from the EUMETSAT Data Store, while the subsequent notebooks delve into the exploitation and visualisation of data from the Flexible Combined Imager (FCI) and the Lightning Imager (LI) sensors on board MTG.

Claudio Giorgi, Roberto Nicoletta, Semih Kuter (H-SAF):
From SEVIRI to MTG-FCI: Evaluating the H SAF H43 Snow Cover Product
This presentation introduces the EUMETSAT H SAF H43 daily snow cover product, which provides 2 km resolution binary snow maps derived from MTG-FCI observations. We outline key technical features of H43, demonstrate how to access and download the product via the EUMETSAT Data Services, and present initial validation results from the 2024–2025 winter season using MODIS reference data. Case studies from the European Alps and the Russia/Kazakhstan region illustrate performance across diverse landscapes.

(H-SAF) Evolution of near-real-time and accumulated precipitation products from MSG to MTG
We are introducing the new H SAF P-IN-FCI (H40) instantaneous precipitation and P-AC-FCI (H42) accumulated precipitation products. They are an evolution of the H60 and H61 MSG products, having a significant increment in resolution and time frequency. They are put into evidence via some examples in the European region. Some details are shown to put show the 3-times enhancements in computing performances. How to download the new products through the new website interface is also introduced.

Gerrit Holl (Deutscher Wetterdienst):
Meteosat-12 Data visualisation with Pytroll and satpy
Pytroll is a powerful suite of packages for reading, processing, and visualising satellite data. The workhorse package, satpy, contains reading routines for many satellite data formats, including FCI level 1, FCI level 2, and LI level 2 data. In this talk, I will demonstrate how satpy can be used to process and visualise FCI and LI data programmatically. I will describe common problems and their solutions. Finally, I will briefly address how satpy can be combined with other pytroll packages for automated processing.

Ibrahim Mohammed Al-Abdul Salam (Met Service Oman): From MSG to MTG:
Enhancing Atmospheric Monitoring over the MENA region
This presentation highlights early applications of Meteosat Third Generation (MTG) data across the Middle East and North Africa (MENA) region. Using regional case studies, it demonstrates how MTG supports the monitoring of convection, dust storms, fog, tropical cyclones, fires, and other key atmospheric features. The talk explores operational benefits, practical challenges, and the regional relevance of MTG products—while also recognizing the continued value of Meteosat Second Generation (MSG) data and its important role alongside MTG.

Ivan Smiljanic (EUMETSAT): Dust and aerosol detection with MTG-I FCI
Drawing from enhanced spectral coverage of the MTG FCI instrument (comparing with MSG SEVIRI), enhanced capabilities of aerosol detection are expected. Major improvements are during daytime related to existence of new channels with shorter wavelengths (namely VIS0.44 and VIS0.55), and to existence of new NIR1.38 that is specifically designed for detection of higher level features (including aerosols). During night time (ie 24h), enhanced spatial and radiometric resolution of IR channels offer better sensitivity to aerosols with larger particles like dust, volcanic ash or even a pollen.

J.-M. Moisselin, M. Claudon, R. Houel (Météo-France):
MTG benefits for NWCSAF convection products (CI and RDT)
Convection Initiation (CI) and Rapidly Developing Thunderstorm (RDT) are two convection products developed by Météo-France in the framework of NWCSAF. Both products fulfill requirement regarding the Day-1 MSG/MTG continuity (scores, visualization). RDT operated with MTG provides very positive features an the LI (Lightning Imager) instrument onboard MTG is very interesting and clearly add value to RDT. CI exhibits higher detection with MTG.

Johan Strandgren (EUMETSAT): The EUMETSAT Central Facility Level-2 Products from the Flexible Combined Imager (FCI): Overview, First Validation Results and Future Directions
This presentation outlines the MTG-I FCI Level-2 (L2) products generated at the EUMETSAT Central Facility and disseminated to users. These products support applications such as cloud analysis, atmospheric instability, fire detection, atmospheric motion vectors, and all-sky radiances, serving data assimilation, nowcasting, and research communities. We will present early validation results from the ongoing L2 commissioning and plans for future enhancements.

Roland Winkler (Austro Control GmbH): Convection analysis with MTG FCI-I
Satellite images are now indispensable for analyzing storms and the atmospheric physical processes that emanate from them. New satellite generations, such as the third generation of European weather satellites, support this analysis with their higher spatial and temporal resolutions, as well as new spectral channels. This presentation highlights these new possibilities using examples using old and especially new spectral channels or channel combinations (RGBs and images in the blended technique).

Roxane Desire (Meteo France): Cloud Type RGB: a complete and nuanced product
While it may seem simple to use at first glance, with its very distinctive and contrasting colors, the Cloud Type RGB product is nonetheless full of subtleties. A review of everything it is capable of and a comparison with other products.

Sven-Erik Enno (EUMETSAT): Introducing MTG LI
The Meteosat Third Generation (MTG) Lightning Imager (LI) was declared operational on October 31, 2024. This brand-new European Instrument is devoted to the real-time monitoring and characterization of lightning activity over Europe, Africa, and a large portion of the Atlantic Ocean. This presentation will demonstrate LI observational capabilities from individual lightning flashes to hemisphere-scale statistics and present the outcome of the latest LI performance assessments.

Vesa Nietosvaara (EUMETSAT): Introducing MTG FCI
The complete constellation of Meteosat Third Generation (MTG) consists of three spacecraft: two imaging satellites and one sounding satellite. The first imaging satellite, MTG-I1 is now operational under the name Meteosat 12. The satellite carries two important instruments – Flexible Combined Imager (FCI), a successor of SEVIRI on MSG, and a Lightning Imager (LI), the first space-based instrument monitoring lightning occurrence over Europe, Africa and South America from geostationary orbit.
At this EUMeTrain Event week first talk, we will focus on the FCI and how it can help monitoring the weather and improving nowcasting. Forecasters will now be able to track the development of storms in near-real time with better accuracy, issue more precise and timely warnings about severe and dangerous weather events but also monitor fog development and dissipation, dust outbreaks, forest fires and many other features.

Xavier Calbet (AEMET): Introduction to NWC SAF products
A short introduction to all the NWC SAF products available and some future planned ones will be presented.