

ESA Space Weather Strategy in the International Context



Juha Pekka Luntama

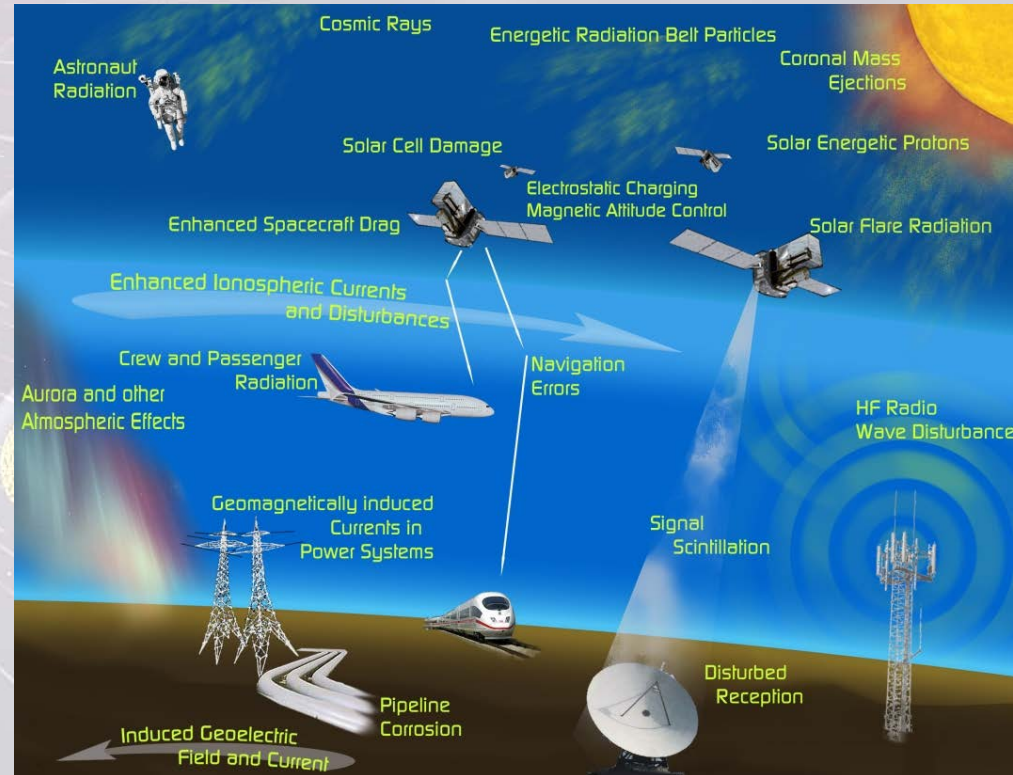
**Space Weather Manager
ESA SSA Programme Office
Space Weather Segment
European Space Agency**

www.esa.int

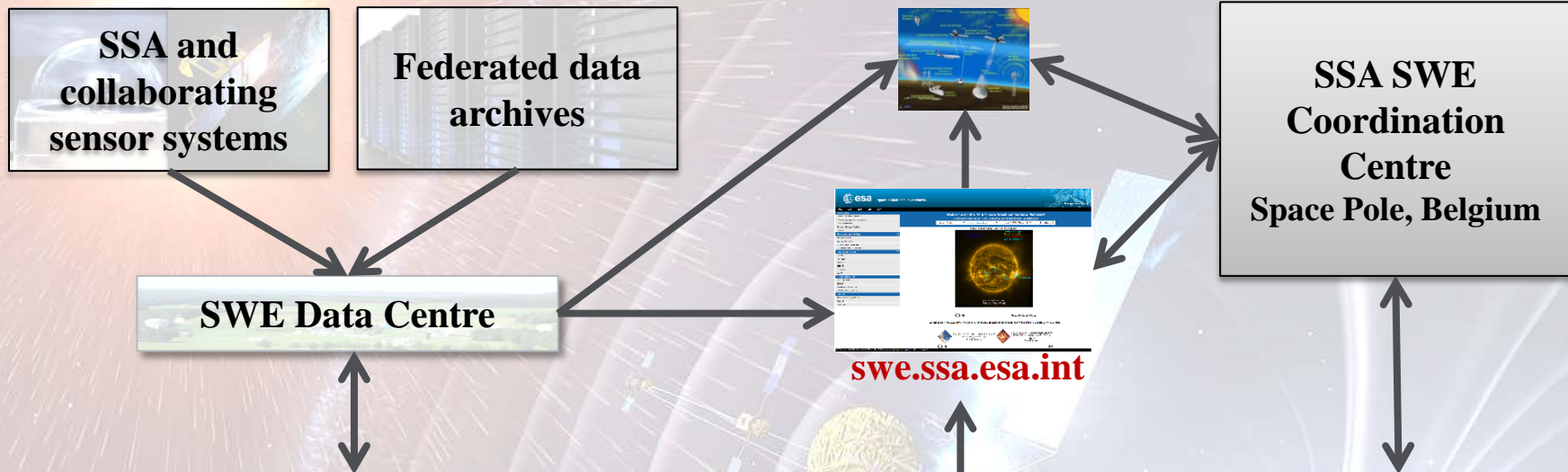
European Space Agency

Detection and forecasting of Space Weather events and their effects on European space assets and ground based infrastructure by

- Leveraging European expertise in all areas of space weather
- Building an network of space weather services based on high quality data, state-of-the-art modelling and scientific know-how.
- Advancing space weather service provision for SWE customers & stakeholders according to the SWE CRD baseline as part of a sustainable network



SSA-SWE Users



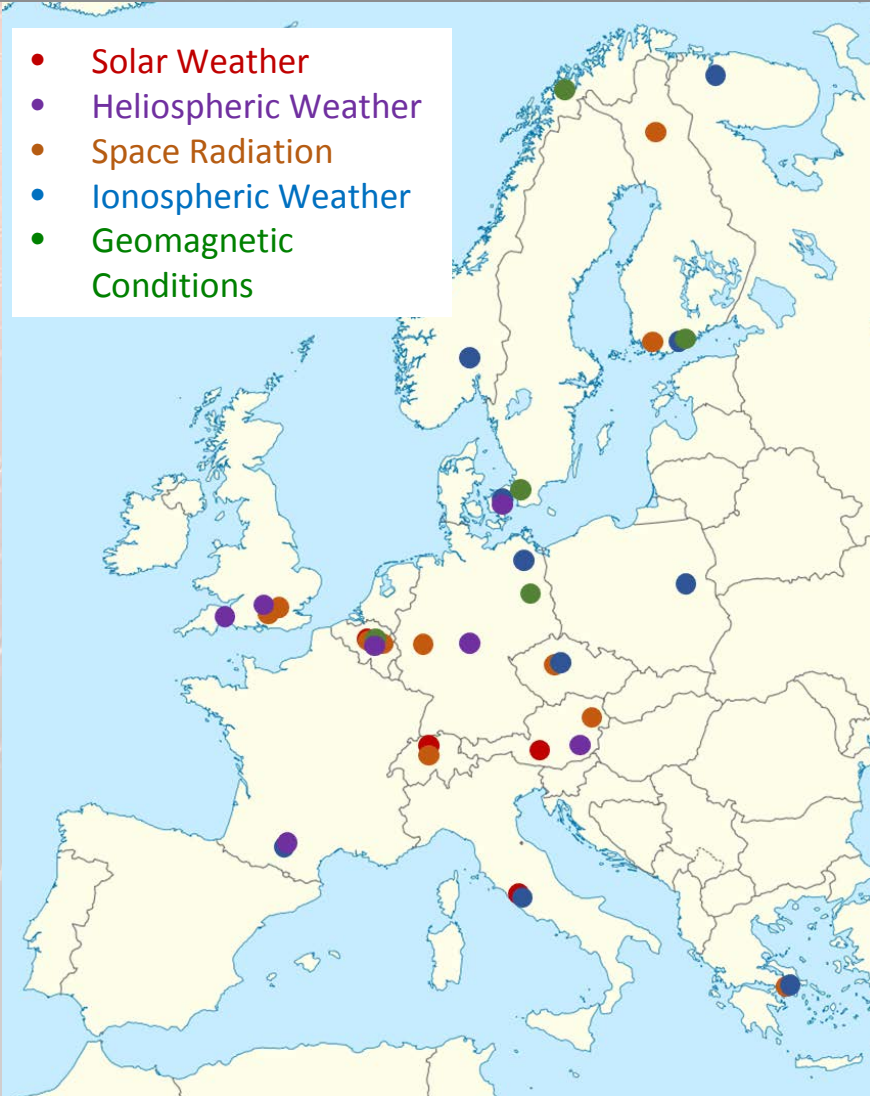
SWE Expert Service Centres (ESCs)



SSA SWE ESC Network 2016

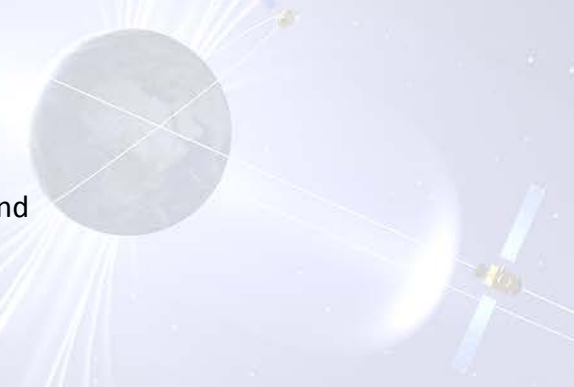


- Solar Weather
- Heliospheric Weather
- Space Radiation
- Ionospheric Weather
- Geomagnetic Conditions



Belgian Institute for Space Aeronomy
Centre de Données de la Physique des Plasmas
CLS Collecte Localisation Satellites
CSDRadConsultancy Ltd
DH Consultancy
DLR
Finnish Meteorological Institute
Helmholtz-Centre Potsdam – GFZ
Institute of Atmospheric Physics
Istituto Nazionale di Astrofisica
Istituto Nazionale di Geofisica e Vulcanologia
Kanzelhöhe Solar Observatory
MetOffice UK
Mullard Space Science Laboratory
National & Kapodistrian University of Athens
National Observatory of Athens
Norwegian Mapping Authority
Paul Buehler
Polar Geophysical Institute
Research Center for Astronomy and Applied Mathematics
Royal Observatory of Belgium
Seibersdorf Laboratories GmbH

SIDC - Solar Influences Data Center
Space Research Centre of the Polish Academy of Sciences
STFC RAL Space
Swedish Institute for Space Physics
Technical University of Denmark
Tromsø Geophysical Observatory
Université Catholique de Louvain
Center for Space Radiations
University College London
University of Applied Sciences North Western Switzerland
University of Göttingen
University of Graz
University of Leuven
University of Oulu Sodankylä
Geophysical Observatory
University of Turku

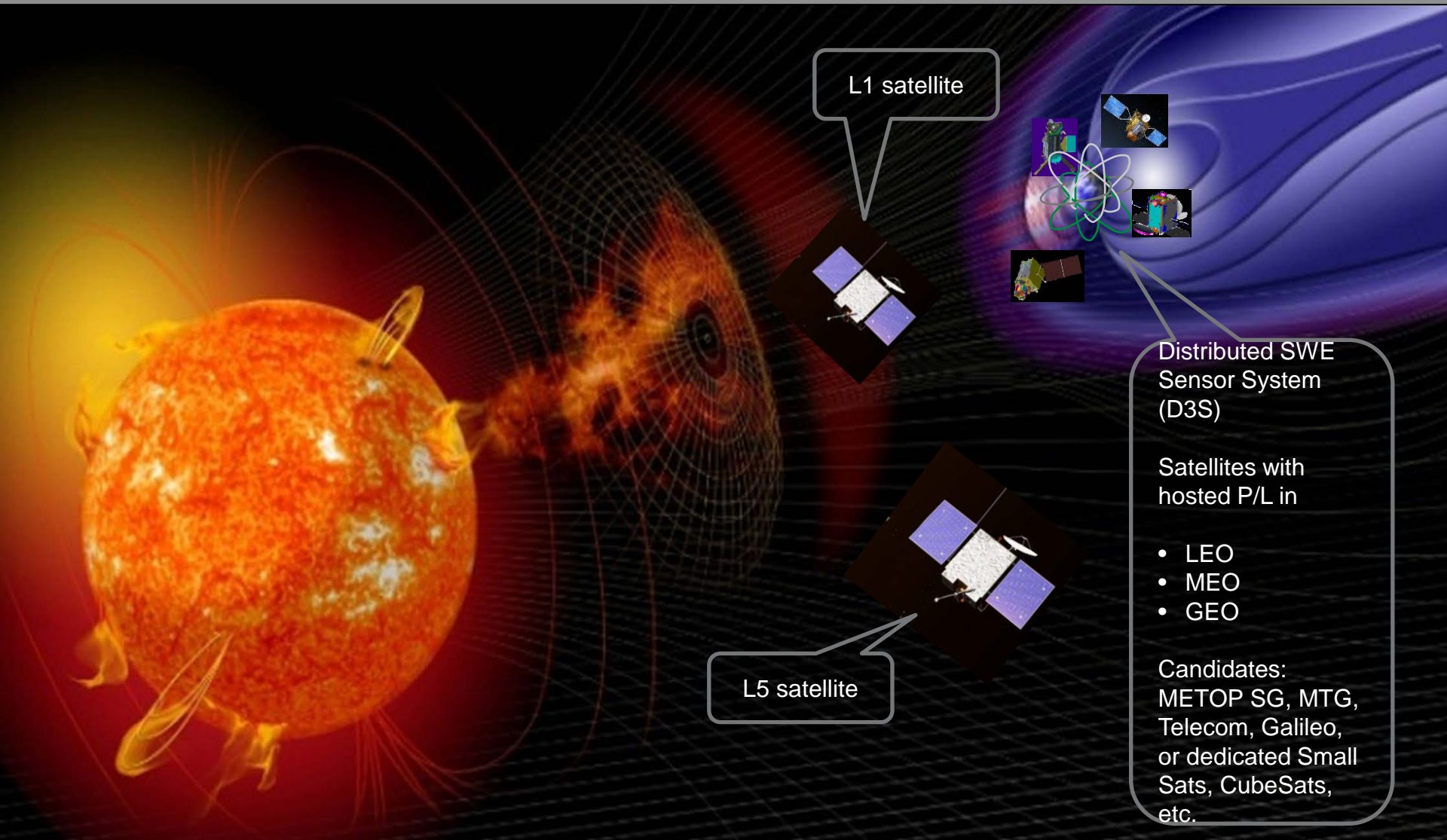


International Collaboration for Operational SWE Measurements



- Continuous 24/7 ground based measurements require global networks of sensors
 - => international collaboration and data sharing are mandatory
- Very limited operational SWE measurement capability in space today
 - => long term planning of a measurement system required urgently
 - => development of an affordable and sustainable operational system requires wide international collaboration
- ESA continues active participation in the international forums for global space weather strategy, coordination and standardisation
- ESA is looking forward for collaboration with international partners to ensure continued availability of critical SWE measurements: **specific interest in coordinating the approaches for the development of Lagrange missions (L1, L5)**

SSA SWE Space Segment in a nutshell





THANK YOU

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