

The Solar-Terrestrial Centre of Excellence



Building Sun-Earth know-how in
Belgium and beyond





Retracing history

End 2005 - Early 2006:
Centre of Excellence???



Royal Belgian
Institute for Space
Aeronomy

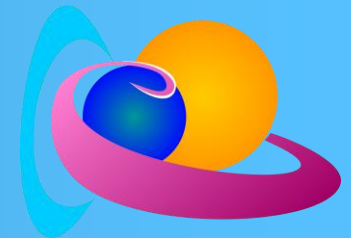


Royal Observatory of
Belgium



Royal Meteorological
Institute of Belgium

SOLAR-TERRESTRIAL CENTRE OF EXCELLENCE
Collaboration between 3 Belgian scientific institutions





Retracing history

- 22/03/2006: Council of Ministers approves – in principle (documents: note to the Council of Ministers; notification of the Council of Ministers)
- But: no budget allocated yet. For that to come, a more elaborated proposal was requested, as well as a ‘cost-benefit analysis’ and a convention between BELSPO and the three institutes
- In practice, the first budget arrives towards the end of 2007.



Retracing history

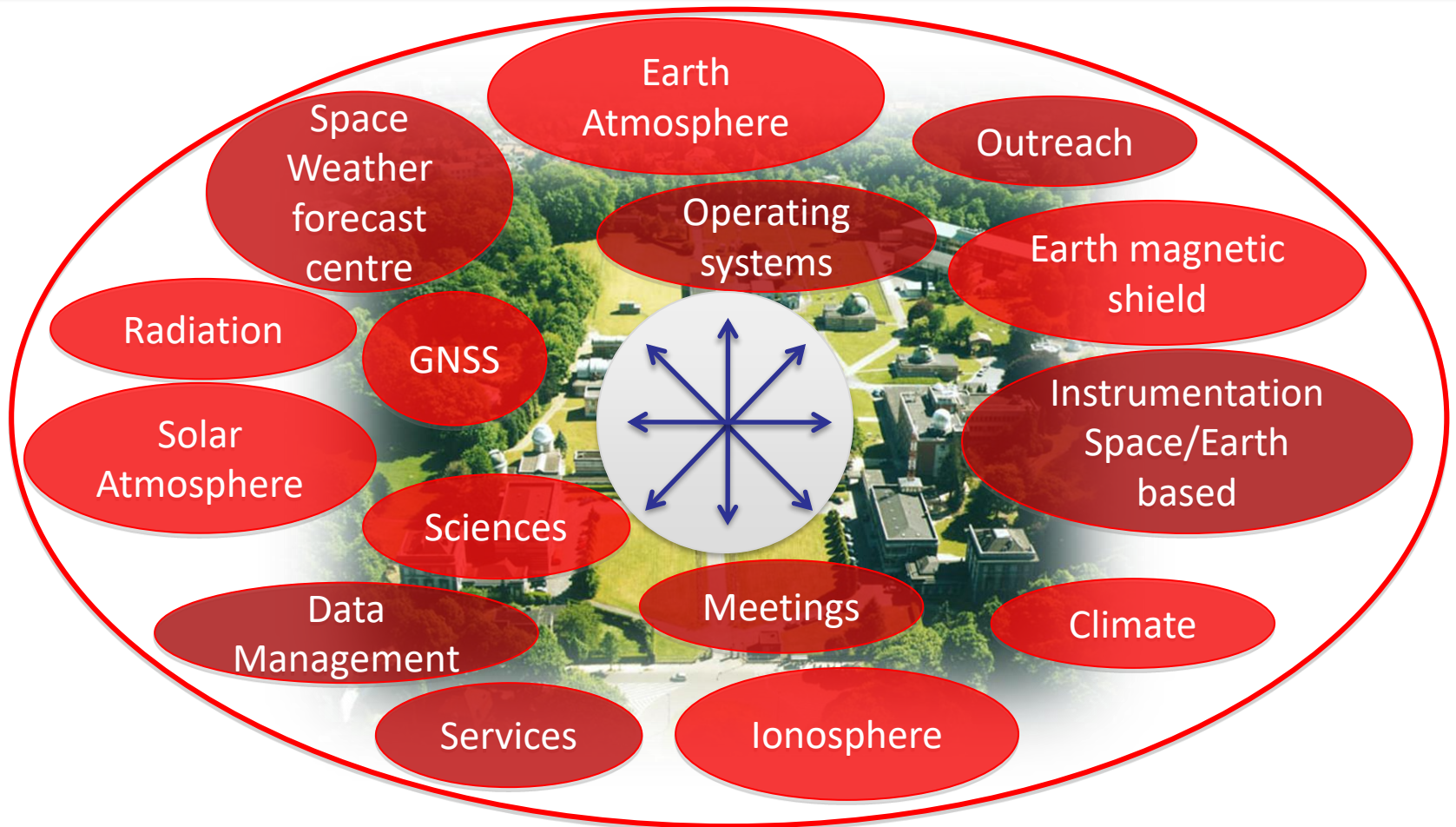
- Recurrent budget: of 3 436 000 euro, to be distributed over 3 institutes + coordination budget(managed at ROB)
- Since then:
 - needed to justify structural existence in 2011-2012 and 2014-2015
 - Change of budget type 'research project' to 'structural dotation'
 - Budgetary reductions (actual budget: 3 391 000 euro)



Purpose

To create a centre of excellence that brings together the expertise of the 3 institutes of the Space Pole in the domain (broadly) of the solar-terrestrial relationship in order to take a leading role in Europe and worldwide in this domain

Zon-Ruimte-Aarde





How?

six 'actions':

1. Strengthen scientific basis (i.e. recruit more scientists)
2. Consolidate expertise (i.e. provide continuity funding to keep scientists in between projects)
3. Develop and maintain supporting and operational activities



How?

4. Promote international participation

→ Visiting scientists program

- funding for visiting ‘fellows’ (preferentially on topics common to the 3 ESF), short and long duration

- funding for hosting workshops and conference

→ Proposals to coordinator!



How?

5. Be visible!

→ Communication cell

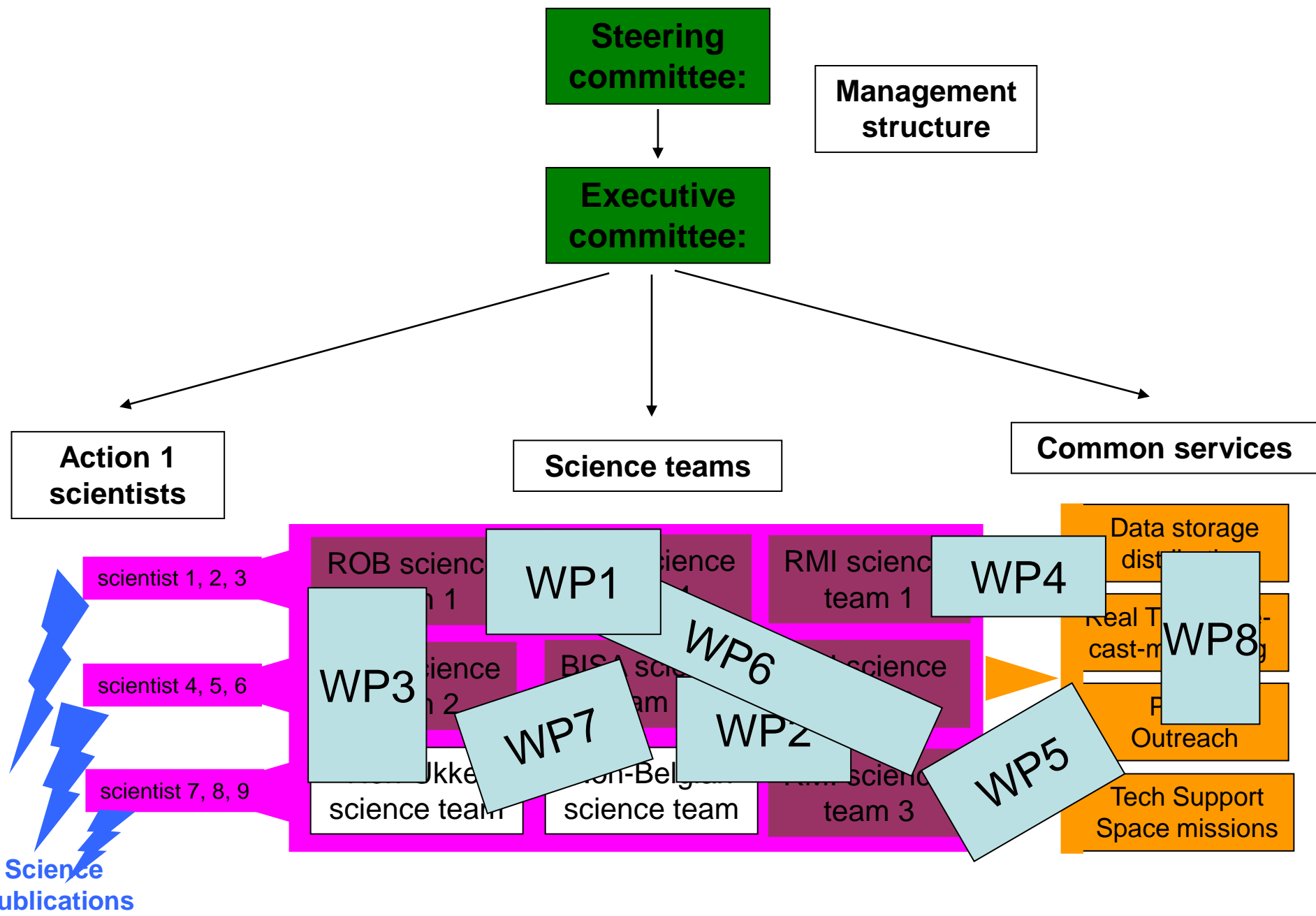
→ Current discussion on branding policy

6. Provide administrative support



No free lunch!

- Evaluation process foreseen from the beginning: annual report + peer review = work plan for next year.
- To be redefined (see later today)

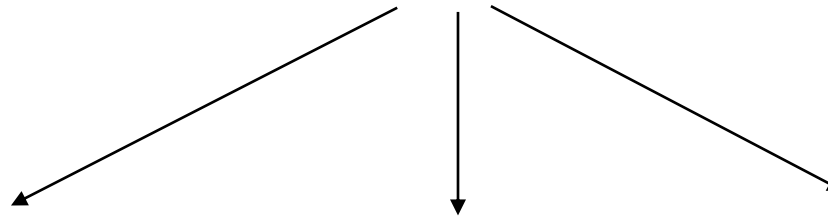


**Steering
committee:**

**Management
structure**

**Executive
committee:**

Actual list is TBD,
just examples



Working Teams



Teams focusing on fundamental research

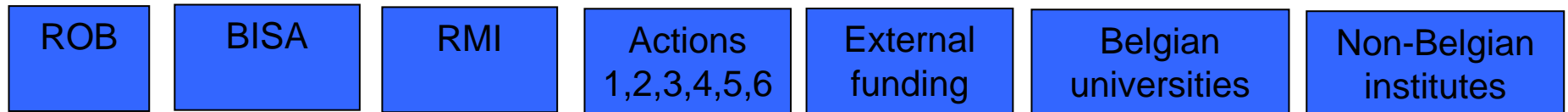
Teams focusing on scientific services



**Annual
Work Plan**

Work package per team
resources per team

Resources (expertise, people, Euros)

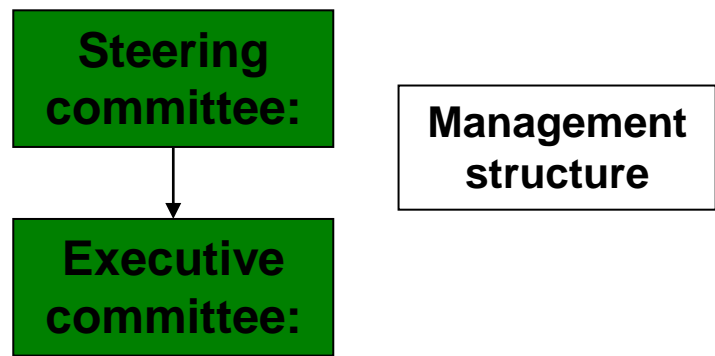


Steering committee (SC):

- 3 directors + director general research (DGR)
- decisions are taken by consensus of 3 directors. DGR is arbiter in case of non-agreement.
- external experts on demand
- final decision on major issues
- ensures integration in institutes and compatibility with strategic plan of the 3 institutes
- ensures budget control
- decides on members of EC
- appoints/controls coordinator
- installs evaluation committee and triggers evaluation
- accepts/rejects *work-plan* for next year on the basis of ante-evaluation

Evaluation committee:

- international experts
- role of scientific councils and auditors is TBD
- as with PAI-IUAPs, the evaluation is in two steps: ante & post (based on the work plan before the year, and the annual report after the year)
- the evaluation is based on a check on whether the proposed goals have been reached. The overarching goal is *international excellence*.



Executive committee (EC):

- coordinator + leaders of teams
- main coordination committee, monthly progress meetings
- coordinator must follow decisions of EC
- *auto-evaluation*: members of the EC present their progress to each others. Shortcomings are identified.
- *auto-control*: EC makes sure its members are not diverting center resources to other activities
- advisory function to SC for major decisions
- external funding: identifies upcoming AO's and defines proposal writing teams
- selects research fellows

Coordinator:

- daily management
- acts as external spokesperson
- editor annual reports & editor next year work plan on the basis of discussions in executive committee
- chairperson of executive committee
- can be internal/external candidate
- ensures consistency between WPs
- triggers international excellence
- in an initial phase, R. Van der Linden is coordinator.



Who's who

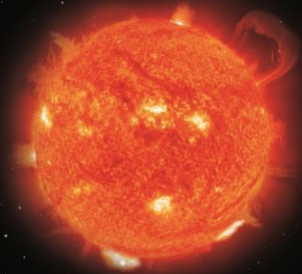
- Steering committee: Ronald Van der Linden, Martine De Maziere, Daniel Gellens, Frank Monteny – only meets if fundamental decision needs to be taken
- Coordinator: Ronald Van der Linden
- Coordination & Communication Cell (CCC) collaborators: Coordinator + Petra Vanlommel, Elke D'Huys, Jan Jansens, Kevin Michaux



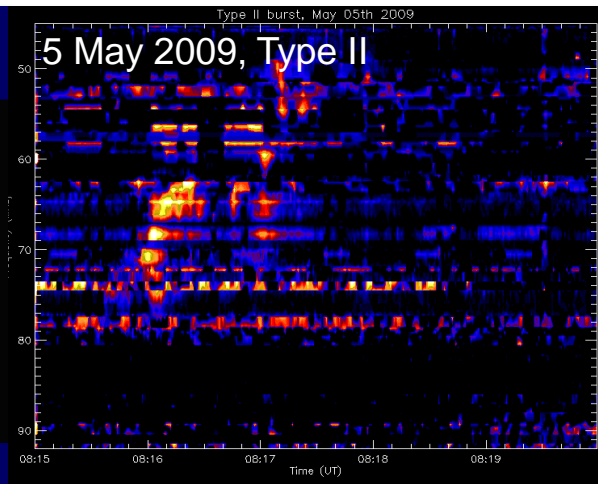
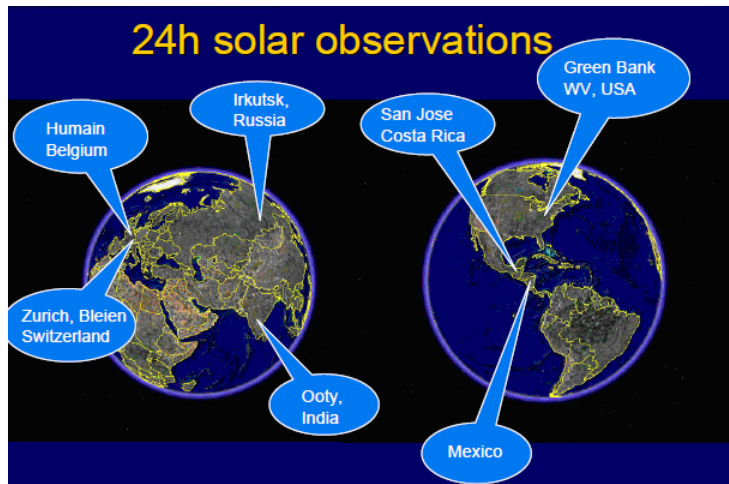
Who's who

- Executive Committee: CCC + Daniel Gellens, Martine De Maziere, David Berghmans, Eric Pottiaux, Judith de Patoul, Stijn Nevens, Stanimir Stankov, Roeland Vanmalderen , Johan Dekeyser, Norma Crosby, Michel Kruglanski

What we did



New initiatives: Radio science@Humain



(Re)-building ground-based capacity for
radio observations



International Context: esww



Fifth European Space Weather Week
17-21 November, 2008

Venue: Royal Library of Belgium, Brussels
Local Organization: Royal Observatory of Belgium
www.sidc.be/esww5

The ESWW brings together diverse space weather communities and focuses on recent advances in science and applications with a strong focus on user needs and involvement.

Key Topics for ESWW5 :

Space situational awareness, GNSS, offshore drilling, magnetic surveying and geomagnetism, space weather models, data-tools-services, solar weather

Sponsored by the Royal Observatory of Belgium, the Solar-Terrestrial Centre of Excellence, ESA, COST, COSPAR, ISES, EPS, EOARD, Belspo

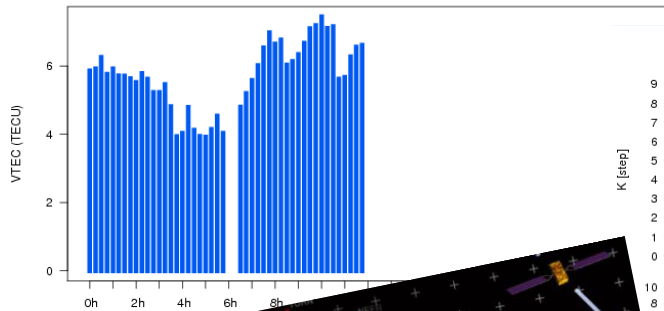
Program committee

A. Glover, Co-Chair, ESA
A. Belcher, Co-Chair, COST
J. Lilensten, EPS-CNRS
M. Haggood, RAL-STFC
J.-P. Luntama, FMI
R. Van der Linden, SIDC-STCE
P. Vaninmme, SIDC-STCE
J.-J. Valette, CLS
A. Thomson, BGS
T. Dasso de Vél, CNRS
P. Gilie, CNRS
B. Zolési, INGV

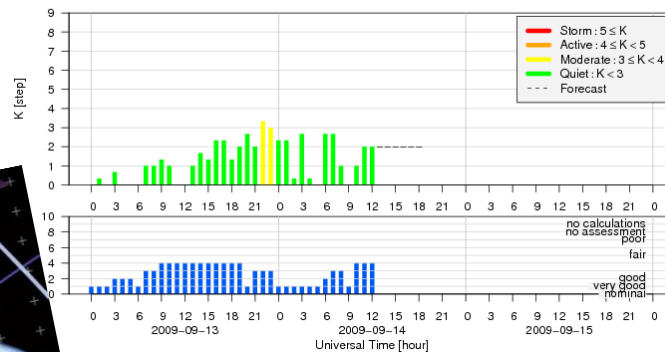


Space Weather Services

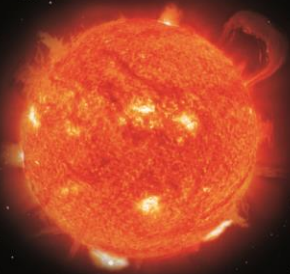
Vertical Total Electron Content in BRUS



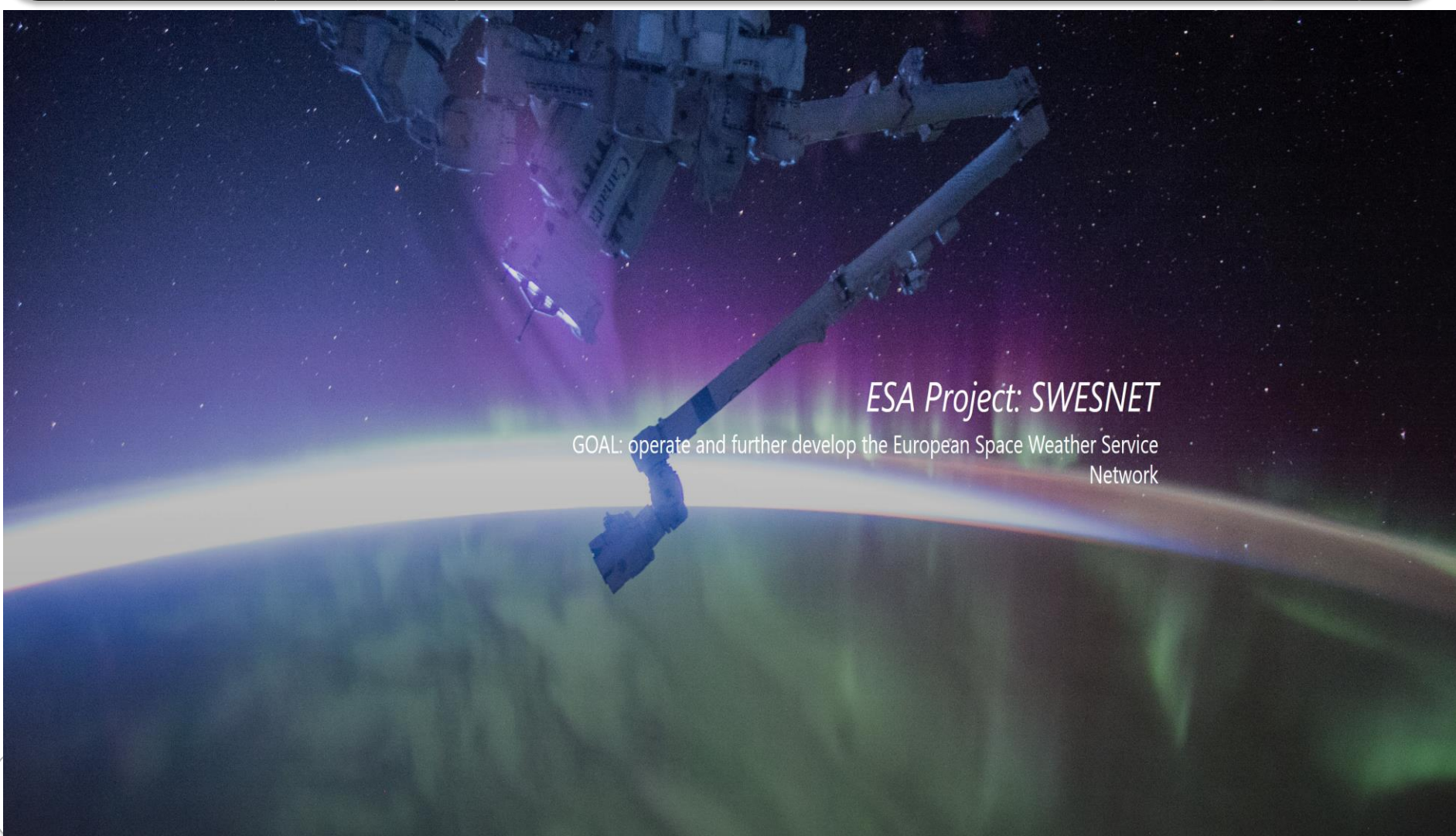
Nowcast and forecast of the local K Index at Dourbes (50.1°N, 4.6°E)
(hybrid model, ground & space-based measurements)



Services and Forecast centre based on sharing:
science, measurements, soft/hard-ware@STCE



Space Weather Services



ESA Project: SWESNET

GOAL: operate and further develop the European Space Weather Service
Network

PECASUS

Partnership for Excellence in Civil Aviation SWx User Services



PECASUS FOR ICAO



Safety is an important concern in aviation. Space Weather is recognised as a natural hazard.

PECASUS alerts when space weather has a possible impact on aviation systems and the health of people onboard, 24/7.



Journal of Space Weather and Space Climate

STCE mans the Editorial Office

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Vol. 12 (2022)

Journal of Space Weather and Space Climate

A link between all the communities involved in Space Weather and in Space Climate such as (but not limited to) space, solar, atmospheric scientists, engineers, forecasters, social scientists, economists, physicians, insurance experts ...

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And more...

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- Ozone services
- Atmospheric water vapor content
- TSI & Climate
- ...



How we did it

- Research themes and workplans described in initial proposal
- But things have evolved...
→ timely to review, revise, revitalize



How should we do it?

- Oct 7, 2022: review of ongoing activities
- 4 brainstorming sessions (communication and coordination, sustainability, benefits, branding)
- 3 brief reports
- Including recommendations (e.g. on branding, on inventories of resources...)
- STCE was and is important and appreciated.
- It's all about sharing and we should do more of it