EO for Ecosystem Conservation and Restoration. Open Information and Consultation Day for CSOs/NGOs.

Setting the scene.

Giuseppe Ottavianelli
Head of the Applications Section
Directorate of Earth Observation Programmes

14 October 2022

Agenda

14 October 2022

09:30-09:50 **Setting the Scene** -*G. Ottavianelli*

09:50-10:00 **Space data & technology for CSOs** -*P. Hvistendahl*

10:00-10:30 **Biodiversity, Sustainable Water Management and Resilient cities** -*M. Paganini*

10:30-10:50 **Marine and Coastal Ecosystems** -*M.H. Rio*

10:50-11:10 **Atmospheric Composition Applications and GHG-related Monitoring** -*A. Delavois*

11:10-11:40 **Forestry Ecosystems and Management** -*F.M. Seifert*

11:40-12:00 **Agriculture and Soil** -*Z. Szantoi*

12:00-12:30 **Plans and Activities, Q&A, Closing Remarks** -*G. Ottavianelli, Audience, Panelists*

ESA's numbers

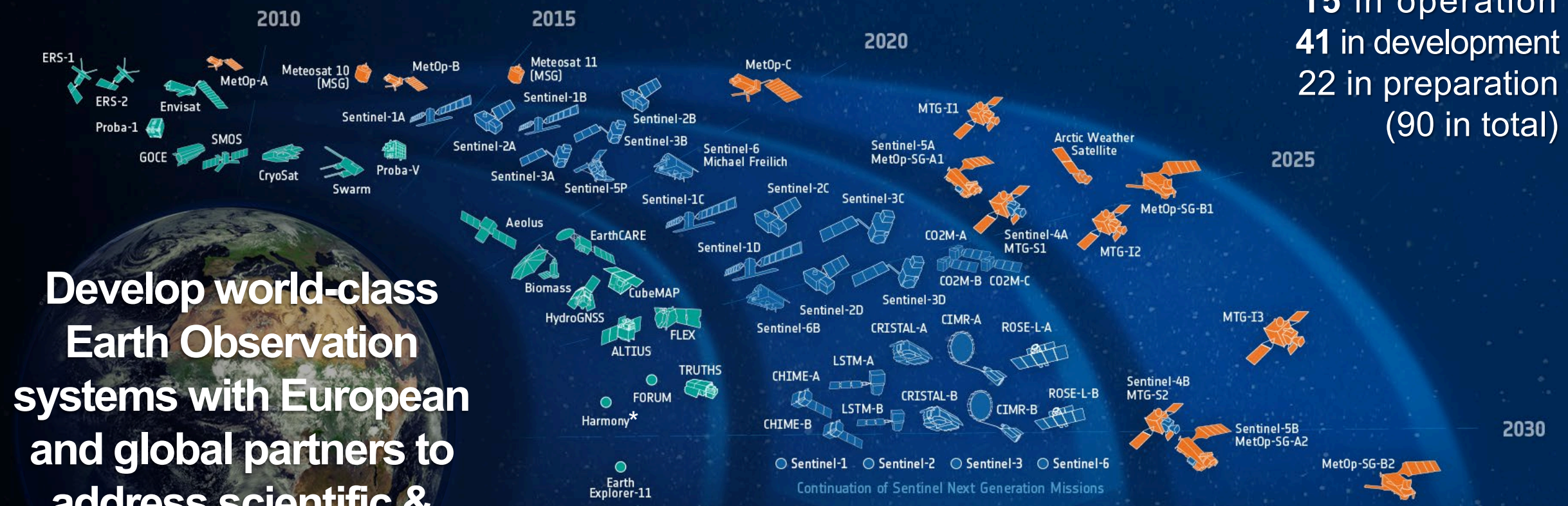
EUROPE'S GATEWAY TO SPACE

WHAT	22 Member States, 5000 employees
WHY	Exploration and use of space for exclusively peaceful purposes
WHERE	HQ in Paris, 7 sites across Europe and a spaceport in French Guiana
HOW MUCH	€6.68 billion = €12 per European per year

ESA's Earth Observation Mission

Satellites

12 in heritage
15 in operation
41 in development
22 in preparation
(90 in total)



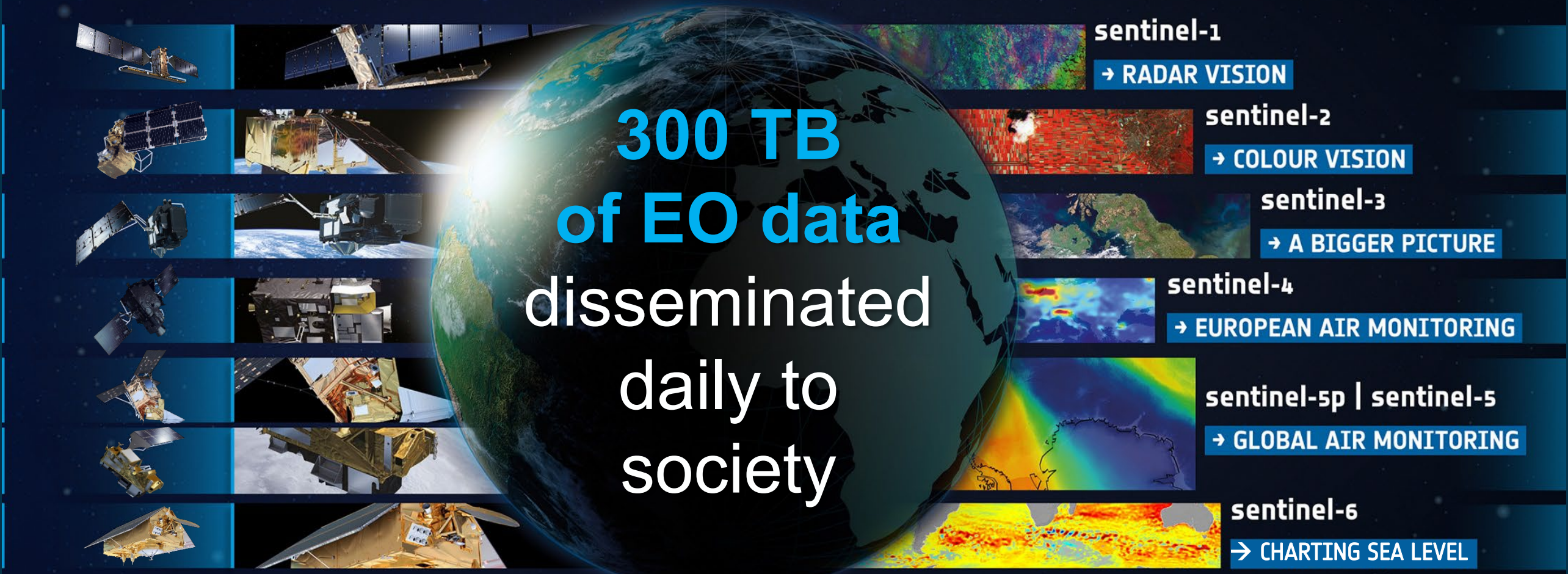
Develop world-class Earth Observation systems with European and global partners to address scientific & societal challenges

Science esa | Copernicus | Meteorology EUMETSAT

*Pending final mission selection

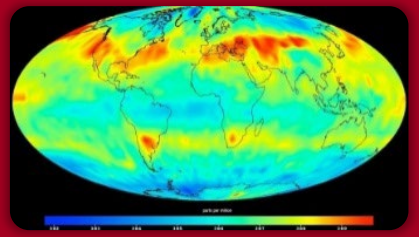
Earth Explorers

Copernicus Sentinels (First Generation)



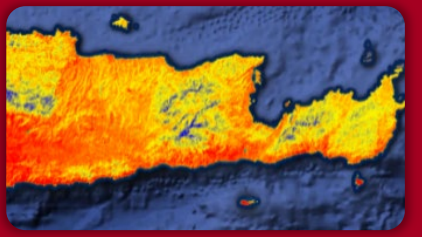
Copernicus Sentinel Expansion Missions

CO2M - Anthropogenic CO_2 Monitoring



Identify sources of greenhouse gases

LST – Land Surface Temperature Mission

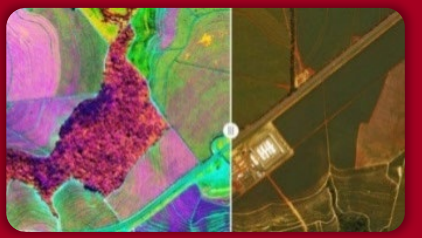


Agriculture & Water Productivity

CRISTAL – Polar Ice & Snow Topography

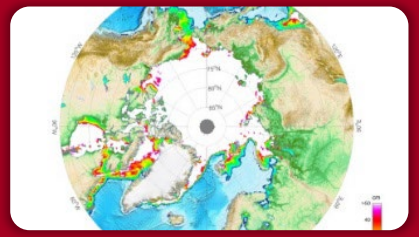
Effects of Climate Change

CHIME – Hyperspectral Imaging Mission



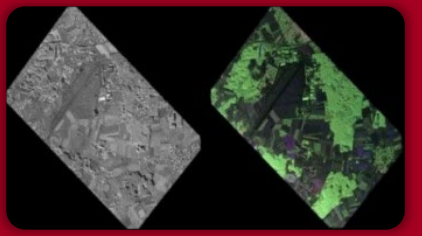
Food Security, Soil, Minerals, Biodiversity

CIMR – Passive Microwave Radiometer



Sea: Surface Temp. & Ice Concentration

ROSE-L – L-band SAR Mission



Vegetation & Ground Motion & Moisture

Our objective

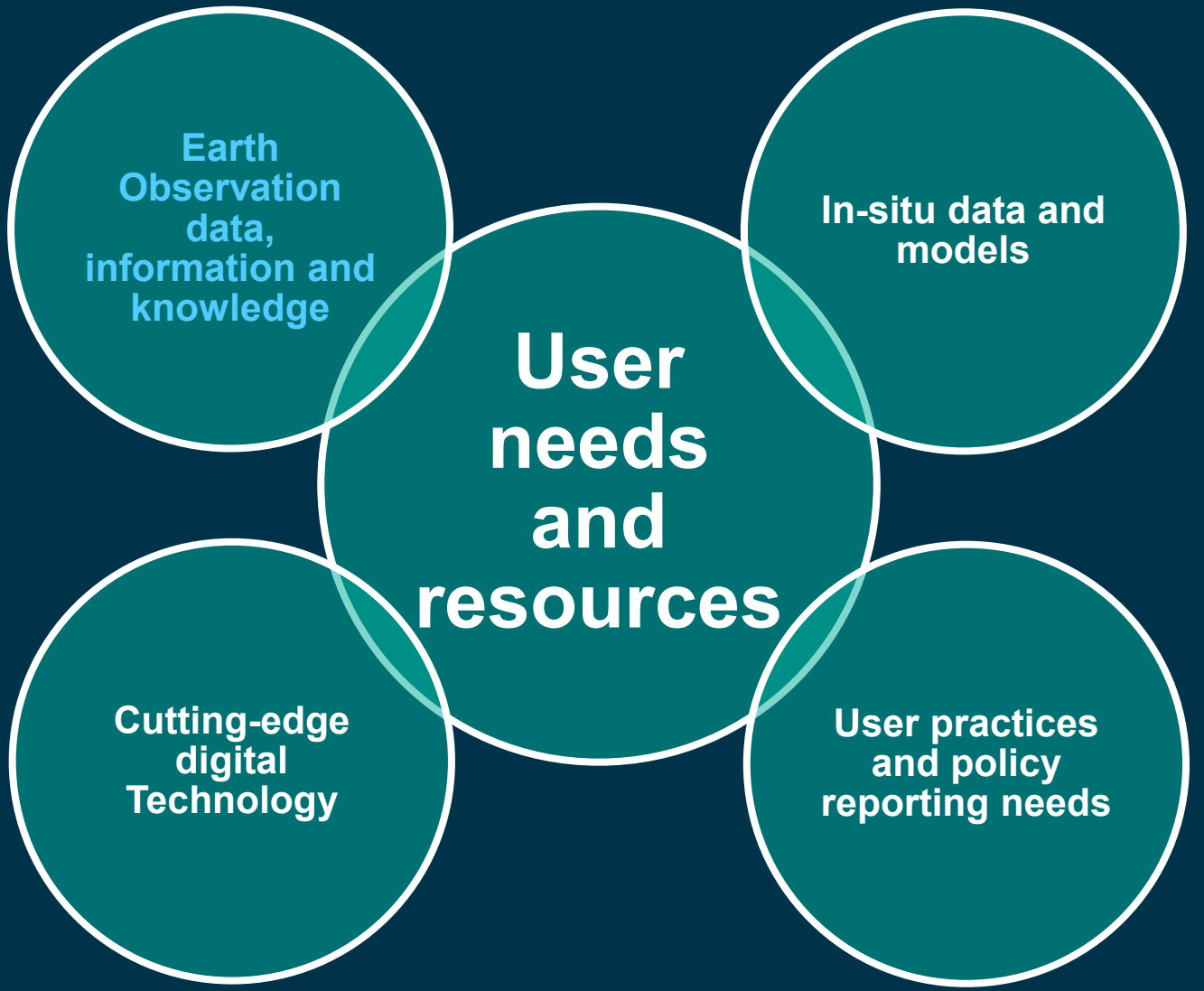
Pioneer innovative & reliable Earth Observation solutions for the public benefit, in support to international policies on the environment and sustainable development

Together with Stakeholders

The active involvement of stakeholders and end-users

throughout the co-design, development and validation phases,
to facilitate the integration of the developed innovative solutions into their operational systems and practices.

An EO-integrated approach



Project characterization

Methodology consolidation, harmonization.

With stronger communication component.

Upscaling, pre-operations tests, demonstrators of integrated solutions into operational processes.

Prototypes, precursors, pathfinders, preliminary feasibility, proof-of-concept.

With stronger capacity development component.

‘community responsive’ projects (e.g., responding to specific needs, rapid feasibility tests)

Early Adopters → **Champion Users**

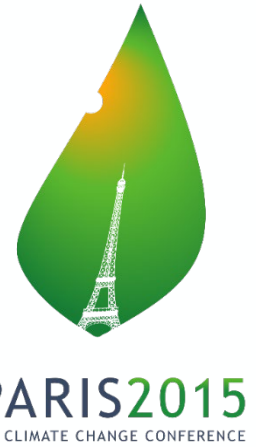
– Uptake readiness of stakeholders and end-users +

European policies

Major international agreements/frameworks

UN SDG for 2030

Paris Agreement on Climate Change



The Sendai Framework for Disaster Risk Reduction 2030

United Nations Convention to Combat Desertification

LDN Land Degradation Neutrality

Convention on Biological Diversity

Ramsar

the process

Drivers

Environmental Agenda, Sustainable Development, Africa 2063

EUROPEAN GREEN DEAL

THE GLOBAL GOALS For Sustainable Development

Agend A 2063 The Africa we Want

Road map & project definition

Feedback to policy

Direct Engagement of Stakeholders and End-Users

Users' needs

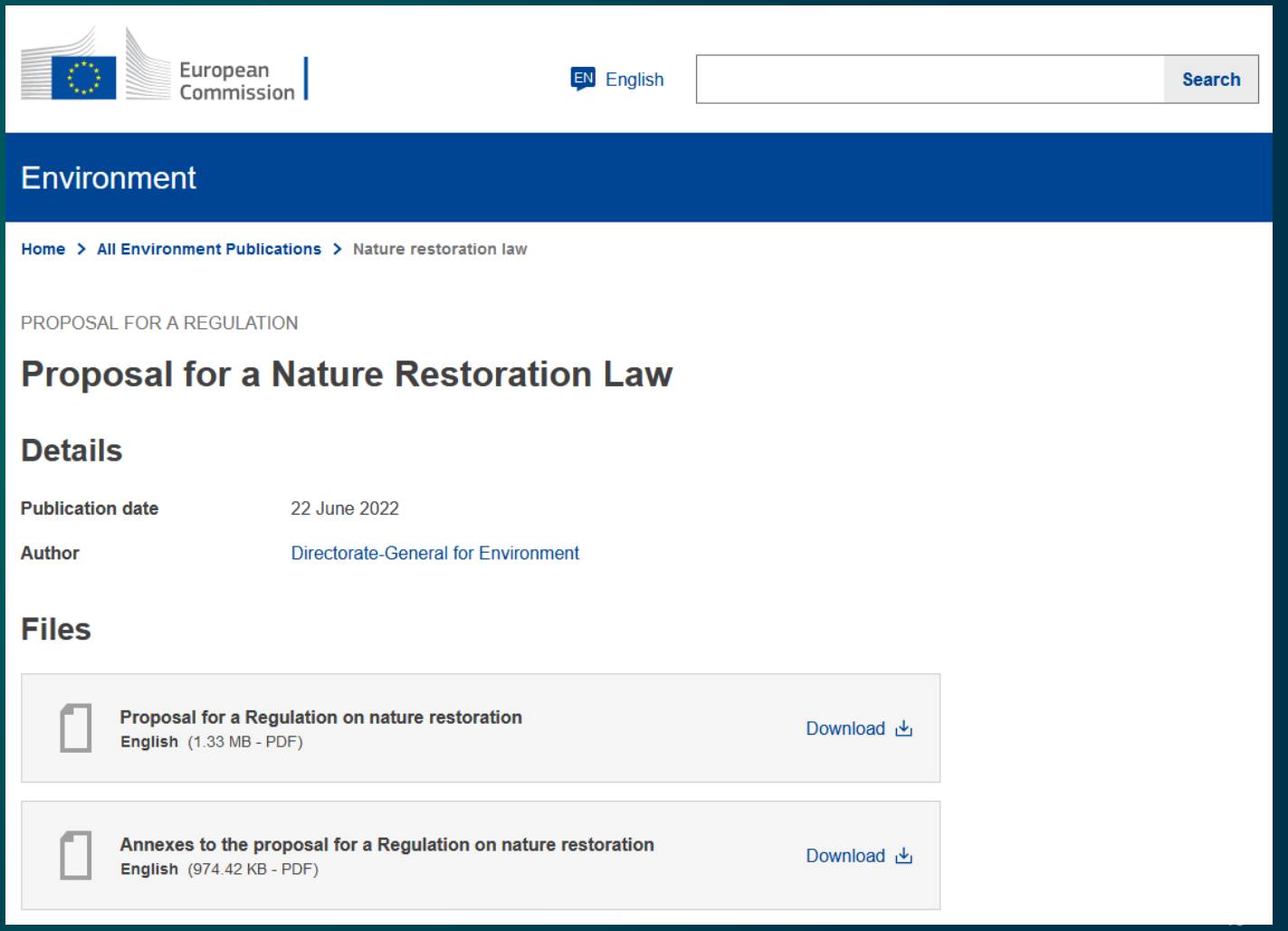
integration of developed solutions

Excellence in EO innovation with Industry and Academia

- Building on Science element
- Multi-mission & inter-disciplinary

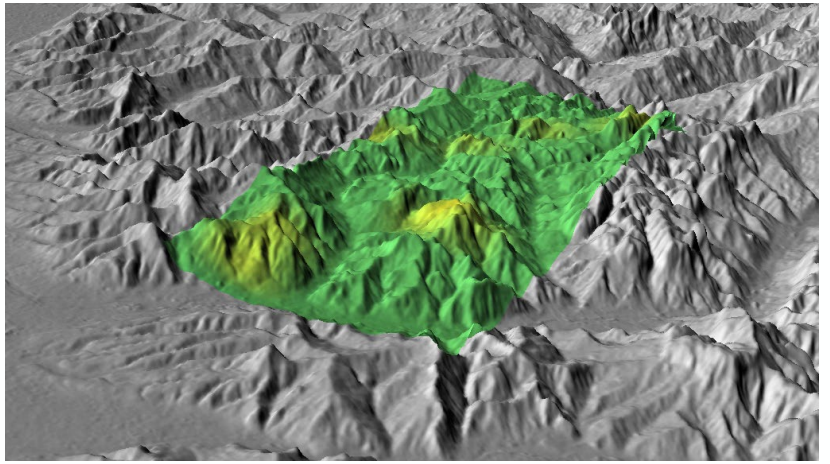
Leveraging on cutting-edge ICT for **rapid development & amplification of users**

UN Decade on Ecosystem Restoration
New EU Regulation on Nature Restoration



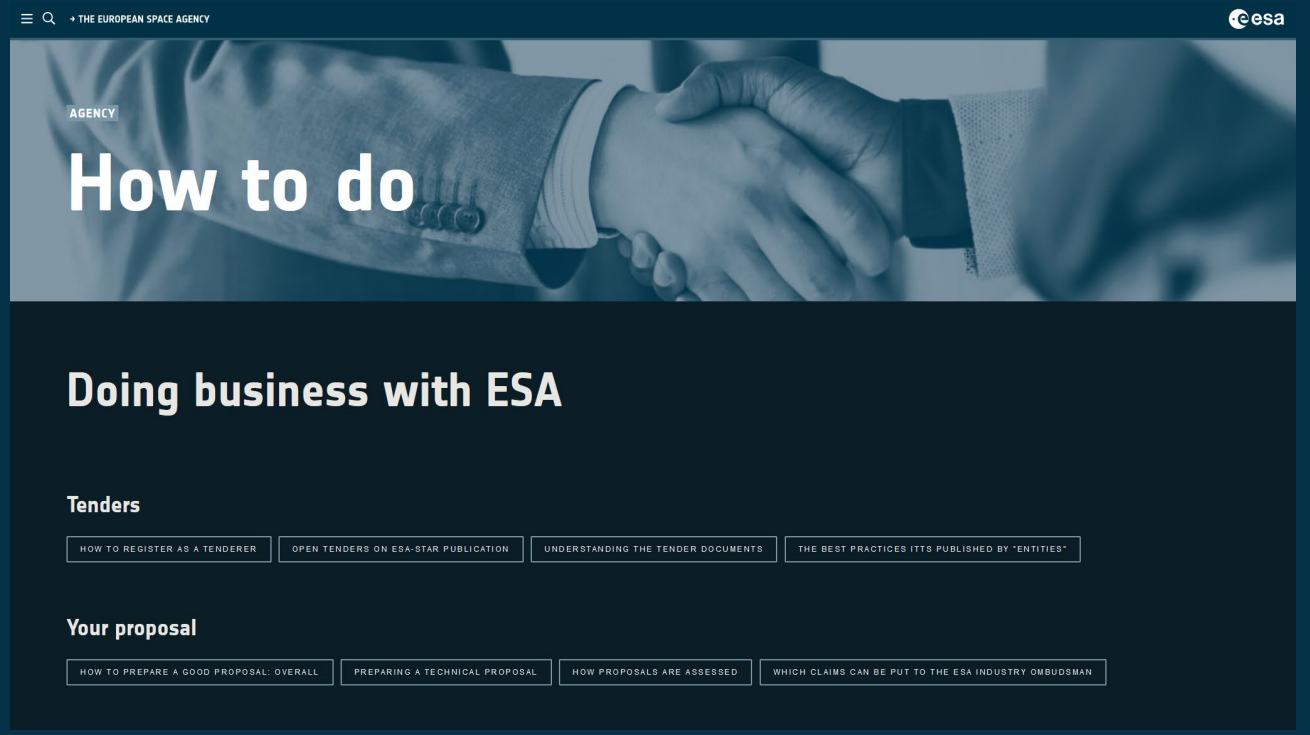
The great value of Earth Observation

- Science-based and traceable
- Quantitative analytics with multi-data integration, to achieve Reproduceable Actionable Information and Knowledge
- Open approach with free data
- Global to local perspective and Across decades to rapid actions
- Multi-ecosystems approach and Multi-stressors/drivers monitoring
- Cross-boundary



How to do business with ESA

Competitive tenders – Invitation to Tenders via esa-star
Register to receive all news.



https://www.esa.int/About_Us/Business_with_ESA/How_to_do

https://www.esa.int/About_Us/Business_with_ESA/esa-star_open_for_business

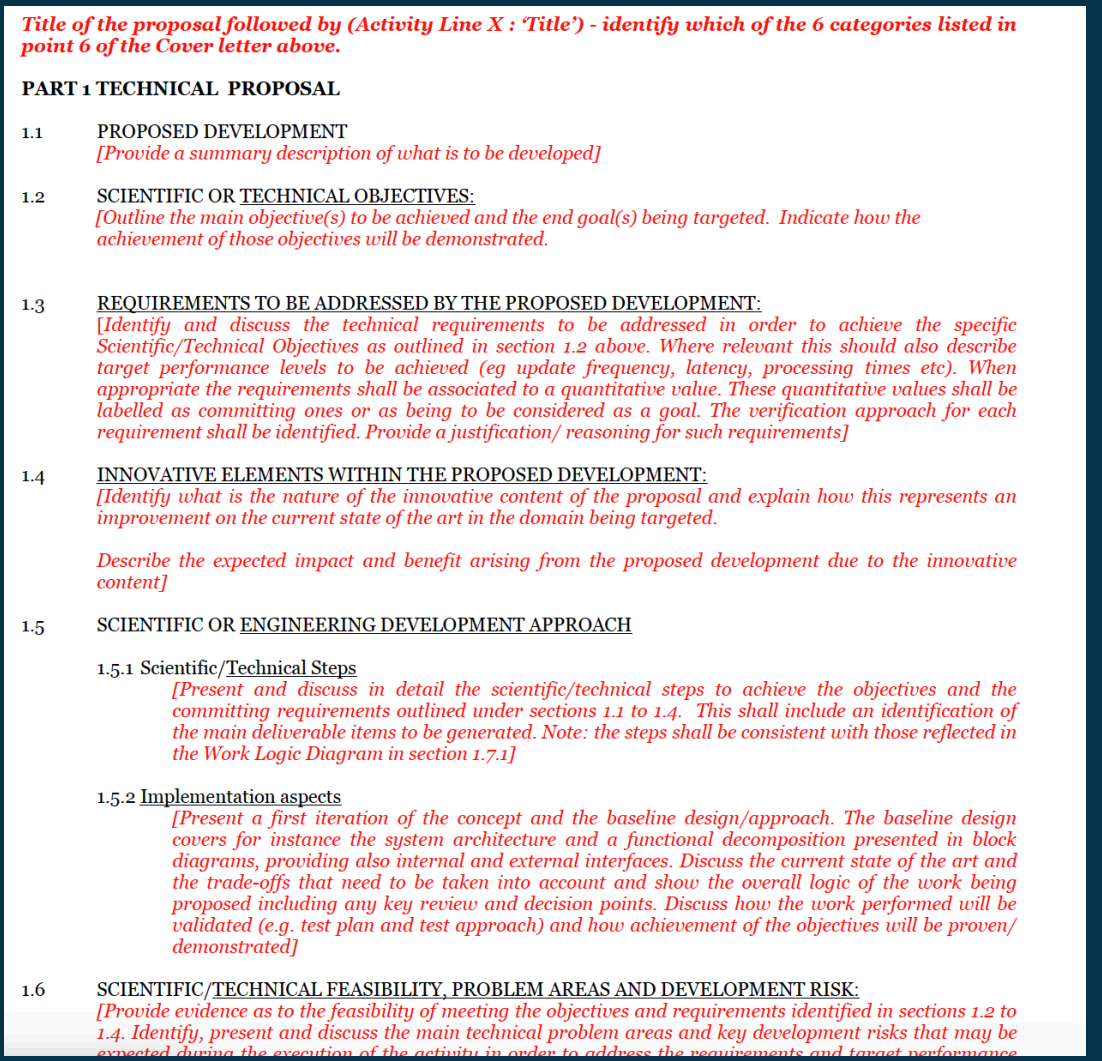
Permanent Open Call, Every 4 months, 150k€ for 12 months.

You submitting your ideas, simplified proposal template.

The Future EO Permanently Open Call for Proposals tender package (ITT 1- 10468) can be downloaded on ESA-Star at the following link: https://esastar-publication-ext.sso.esa.int/ESATenderActions/details/6872

- Open Call announcement : https://eo4society.esa.int/2021/12/01/open-call-for-proposals-2020-future-eo-1-programme/
- Guidance to Open Call : https://eo4society.esa.int/open-call-innovation/ (Explore Tab)
- Examples of projects already funded under the programme: https://eo4society.esa.int/category/special-initiatives/permanently-open-call/

Next submission deadline will be 28th of October.



Title of the proposal followed by (Activity Line X : 'Title') - identify which of the 6 categories listed in point 6 of the Cover letter above.

PART 1 TECHNICAL PROPOSAL

1.1 PROPOSED DEVELOPMENT
[Provide a summary description of what is to be developed]

1.2 SCIENTIFIC OR TECHNICAL OBJECTIVES:
[Outline the main objective(s) to be achieved and the end goal(s) being targeted. Indicate how the achievement of those objectives will be demonstrated.

1.3 REQUIREMENTS TO BE ADDRESSED BY THE PROPOSED DEVELOPMENT:
[Identify and discuss the technical requirements to be addressed in order to achieve the specific Scientific/Technical Objectives as outlined in section 1.2 above. Where relevant this should also describe target performance levels to be achieved (eg update frequency, latency, processing times etc). When appropriate the requirements shall be associated to a quantitative value. These quantitative values shall be labelled as committing ones or as being to be considered as a goal. The verification approach for each requirement shall be identified. Provide a justification/ reasoning for such requirements]

1.4 INNOVATIVE ELEMENTS WITHIN THE PROPOSED DEVELOPMENT:
[Identify what is the nature of the innovative content of the proposal and explain how this represents an improvement on the current state of the art in the domain being targeted.

Describe the expected impact and benefit arising from the proposed development due to the innovative content]

1.5 SCIENTIFIC OR ENGINEERING DEVELOPMENT APPROACH

1.5.1 Scientific/Technical Steps
[Present and discuss in detail the scientific/technical steps to achieve the objectives and the committing requirements outlined under sections 1.1 to 1.4. This shall include an identification of the main deliverable items to be generated. Note: the steps shall be consistent with those reflected in the Work Logic Diagram in section 1.7.1]

1.5.2 Implementation aspects
[Present a first iteration of the concept and the baseline design/approach. The baseline design covers for instance the system architecture and a functional decomposition presented in block diagrams, providing also internal and external interfaces. Discuss the current state of the art and the trade-offs that need to be taken into account and show the overall logic of the work being proposed including any key review and decision points. Discuss how the work performed will be validated (e.g. test plan and test approach) and how achievement of the objectives will be proven/ demonstrated]

1.6 SCIENTIFIC/TECHNICAL FEASIBILITY, PROBLEM AREAS AND DEVELOPMENT RISK:
[Provide evidence as to the feasibility of meeting the objectives and requirements identified in sections 1.2 to 1.4. Identify, present and discuss the main technical problem areas and key development risks that may be expected during the execution of the activity in order to address the requirements and target performance


→ THE EUROPEAN SPACE AGENCY
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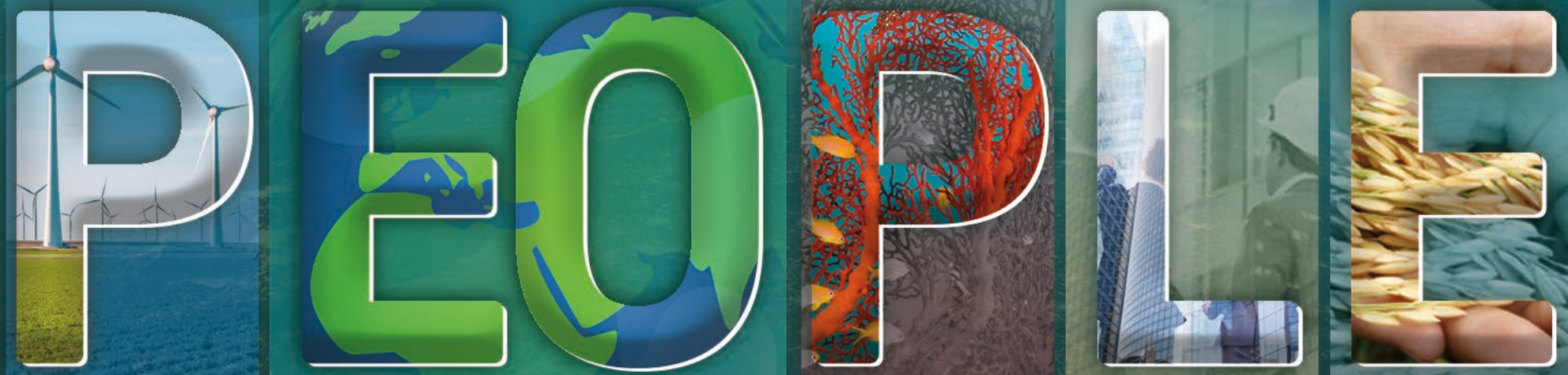
28 NOVEMBER - 01 DECEMBER 2022
VIRTUAL ONLINE EVENT
2022 WORKSHOP ON EARTH OBSERVATION FOR ECOSYSTEM ACCOUNTING (EO4EA 2022)
The deadline for submission of abstracts has been extended to 14th October 2022!
REGISTER
SUBMIT YOUR ABSTRACT
https://eo4ea-2022.esa.int

Pioneer EO apPLications for the Environment



Future R&D projects on Ecosystem Conservation & Restoration

YOUR NEEDS AND RECOOMENDATION

https://esa-survey.limequery.org/762421

Your CSO / NGO is kindly invited to complete the questionnaire by 4th November 2022