



**GEO
WEEK
2023
MINISTERIAL
SUMMIT**

From e-shape to EuroGEO: Interlinkages with AfriGEO

Part 1: The legacy from e-shape to EuroGEO

**Monday November 6th, 2023 – 16h to
17h. Room: Protea**

#TheEarthTalks

GEO WEEK & Ministerial Summit 2023



Nicolas
Fichaux

ARMINES



Pascal Le
Masson,

MINES PARIS



Ingo
Simonis,

OGC



Emmanuel
Pajot

EARSC



Lefteris
Mamais

EVENFLOW



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



OUTLINE

Introduction of the Session - Legacy of e-shape and its outputs for GEO

Dr. Nicolas Fichaux (MINES Paris – PSL / ARMINES)

Methods for co-design between EO data providers and (partially unknown) users

Prof. Pascal Le Masson (MINES Paris – PSL / ARMINES)

Navigating the Dynamic EO Landscape harnessing data, infrastructures and technologies for EO services development and exploitation. *Ingo SIMONIS (Open Geospatial Consortium)*

EO services and user uptake: the e-shape example and how to foster engagement with country communities. *Emmanuel Pajot (EARSC)*

Operationalisation and Commercialisation of R&D results – a EuroGEO perspective

Lefteris MAMAIS (Evenflow)

The EuroGEO Secretariat

Dr. Nicolas Fichaux (MINES Paris – PSL / ARMINES)



EuroGEO Showcases: Applications Powered by Europe

H2020 Project. 4 years (2019-2023). 68 partners.

e-shape vision was to develop **operational services** with and for **the users** and to create a **conductive environment** whereby the **European capabilities** are exploited towards addressing **societal challenges**, fostering **entrepreneurships** and supporting **sustainable development**

e-shape sought to leverage **Copernicus**, make use of existing **European capacities** and improving user uptake of data from **European assets** in the GEO context.



The e-shape project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 820852

37 Pilots

Access e-shape's Pilots

<https://tinyurl.com/e-shape-Pilots>



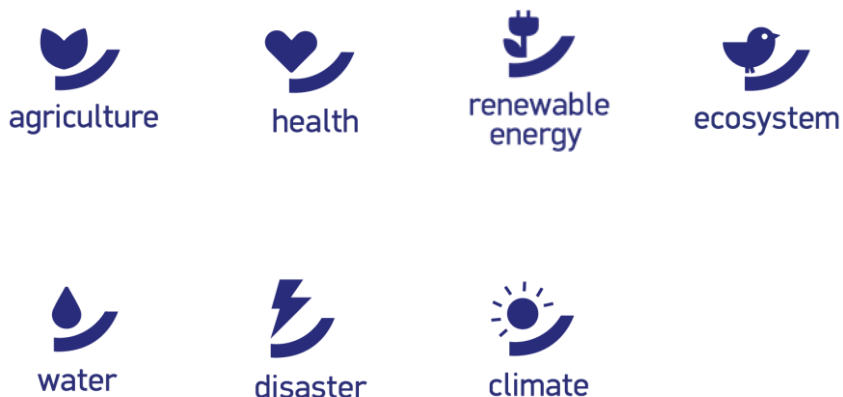
<https://e-shape.eu/index.php/all-pilots>



<https://tinyurl.com/GEO-Knowledge-Hub>



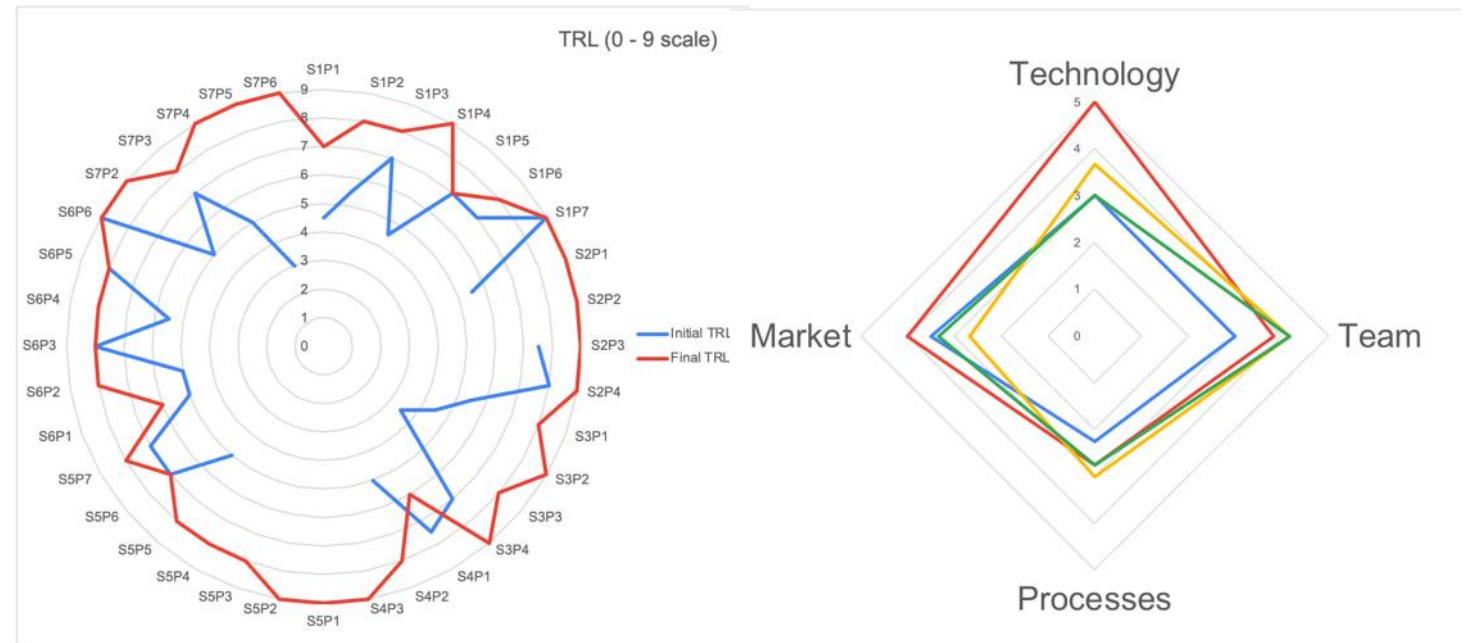
<https://tinyurl.com/GEO-DAB>



Each of the 37 Pilots has monitored its Data Management Plan and compliance to GEO and FAIR Data Management Principles, compliance to INSPIRE was addressed for each Pilot.

Measurable impacts on Pilots

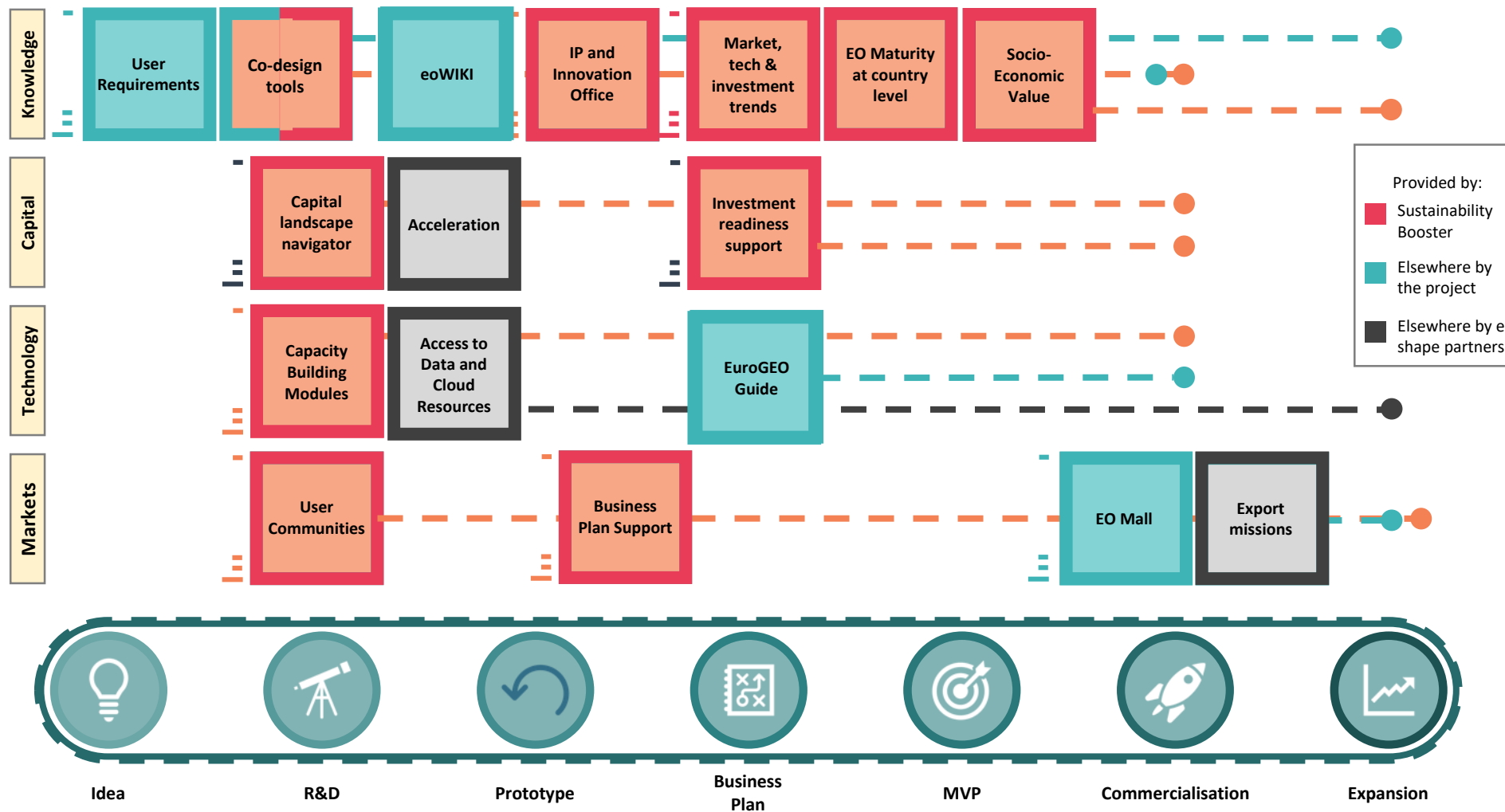
37 Pilots



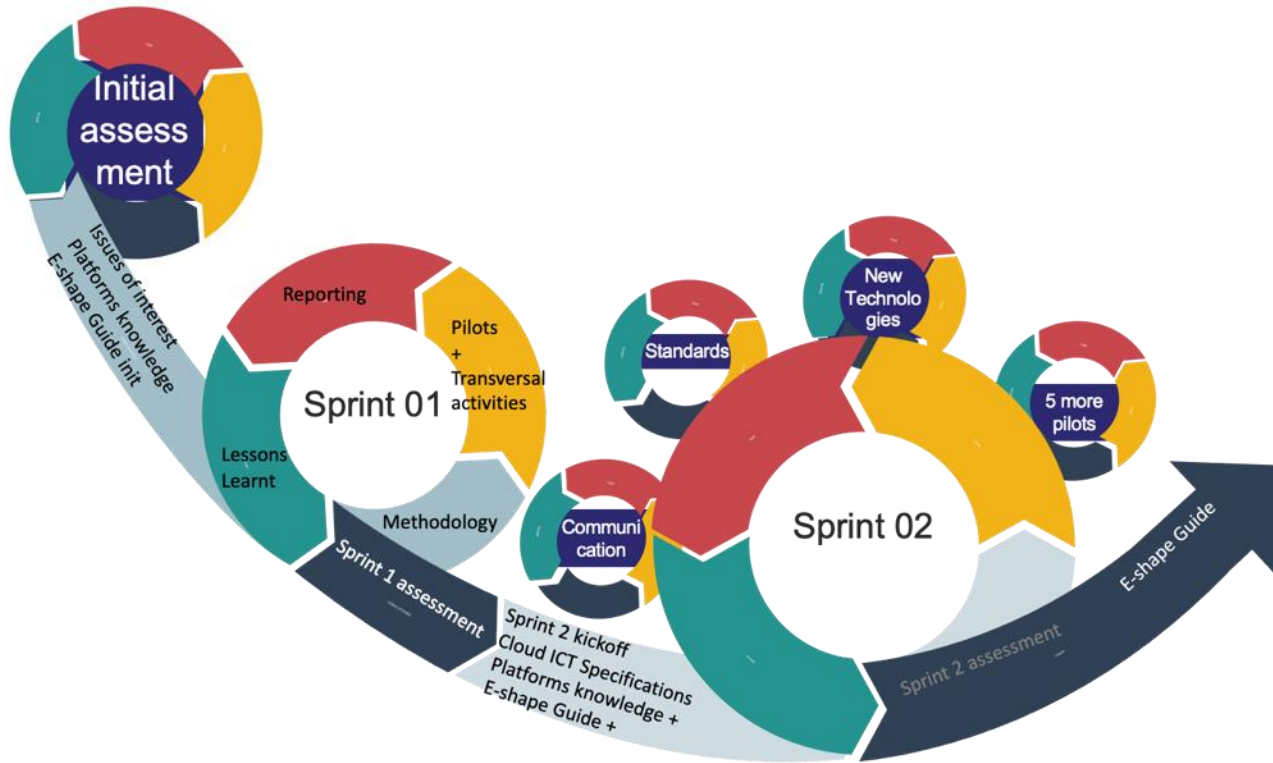
Metrics: TRL ; Pilot Exploitation Readiness Level (PERL).

A path to sustainability

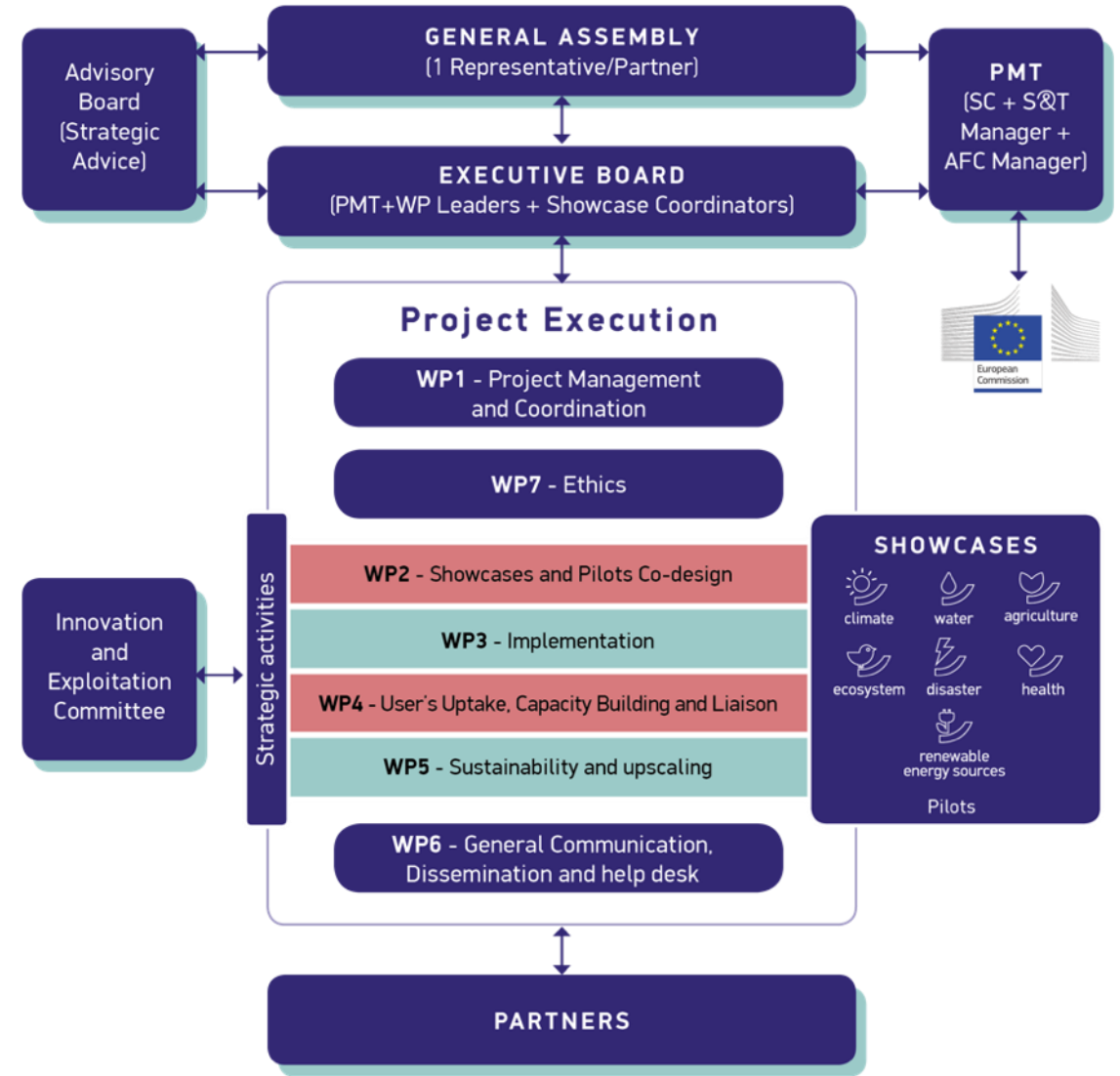
EuroGEO Showcases: Applications Powered by Europe



How?



e-shape was an iterative process, based on Sprints and onboarding.



Crossing Showcases and Work Packages at Pilot level

Strategic activities and outputs

- Co-design methodology
- EuroGEO guide for implementation
- Capacity building Best Practice Guide
- Sustainability booster

And also...

- Data Management Plan (FAIR and GEO)
- PERL (Pilot Exploitation Readiness Level)
- On-boarding process
- Socio-economic value studies of EO in selected sectors
- Earth Observation Maturity indicators
- Innovation and IP office
- Market trends observatory
- EuroGEO governance study
- Communication and Dissemination



Methods for co-design between EO data providers and (partially unknown) users *Prof. Pascal Le Masson (MINES Paris – PSL / ARMINES)*



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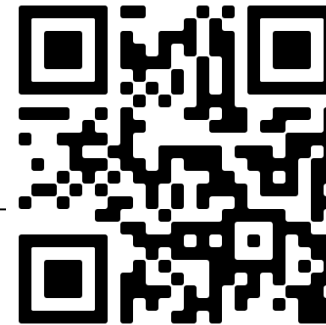


06.11.2023, 16:00

To learn more on
e-shape:



More on co-design
(click on WP2):



Raphaëlle
BARBIER



Skander
BEN YAHIA



Pascal
LE MASSON



Benoit
WEIL

Goal: building a co-design approach adapted to the EO context

- Workpackage led by the *Center for Management Science* at MINES ParisTech - PSL University: leveraging our expertise in **design theory** and methods for innovation
- Bold challenge taken up by e-shape partners: considering **'co-design' as a scientific enigma**
- Approach progressively built through **interactions and experimentations with e-shape pilots**



Raphaëlle BARBIER
PhD
WP2 co-lead



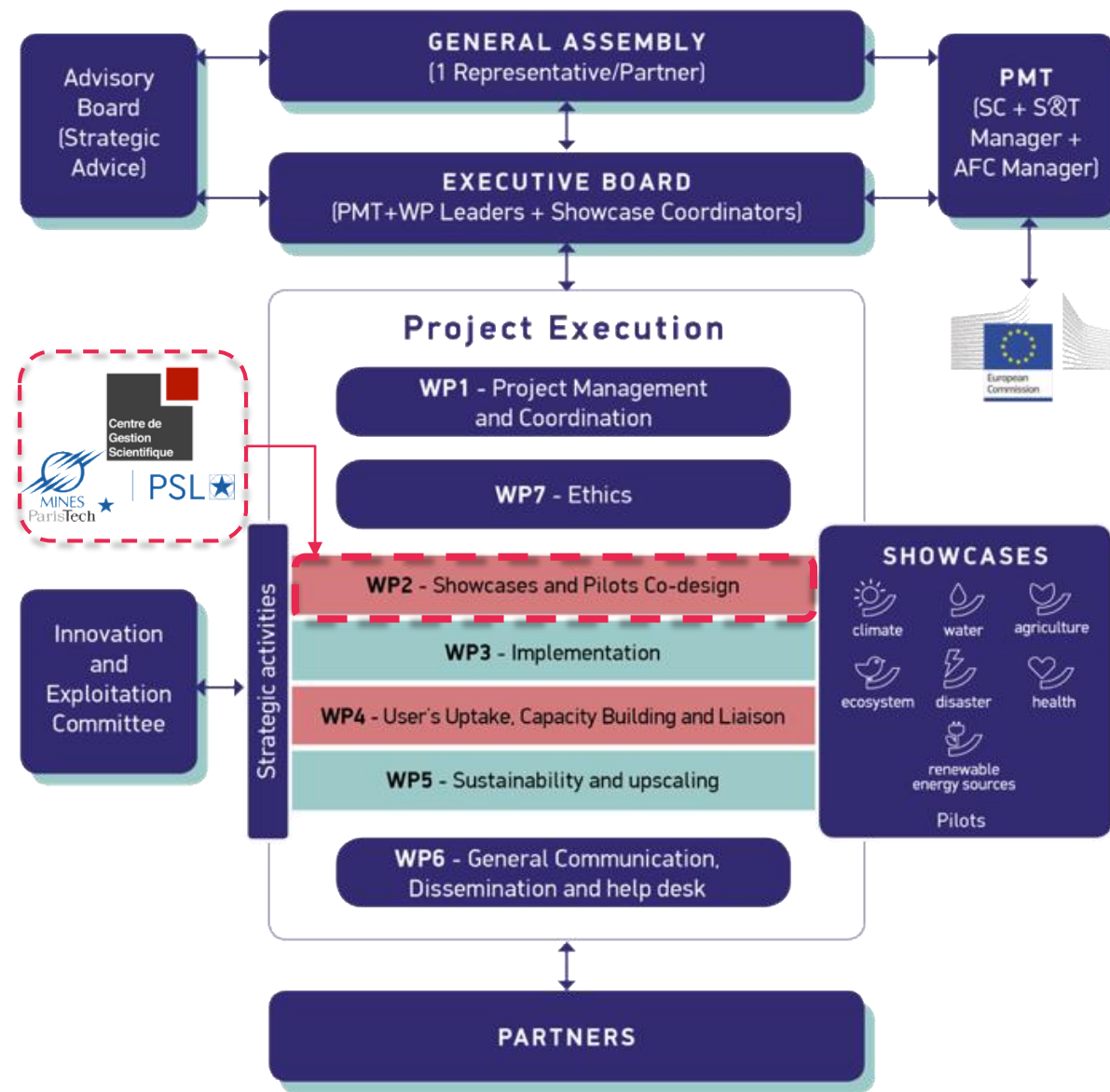
Skander BEN YAHIA,
Research Engineer



Pascal LE MASSON
Professor
WP2 co-lead



Benoit WEIL
Professor



An enriched understanding of co-design driven by e-shape objectives - in line with GEO vision

1. Enhancing cooperation among a large range of actors:

- GEO core function - Fostering partnerships and mobilizing resources: *"Connect users, resource providers, and experts from different sectors in the domain of Earth observations and environmental information to form partnerships"*

2. Targeting a viable fit on the long-term

- GEO core function - Identifying user needs and addressing gaps in the information chain: *"Obtain commitments from providers and users to ensure these observations, products and tools are delivered and used in a comprehensive, coordinated and sustained way"*



- (1) Cooperation limited to the **end user - data provider relationship**
- (2) Mainly considering co-design as a **one-shot action**



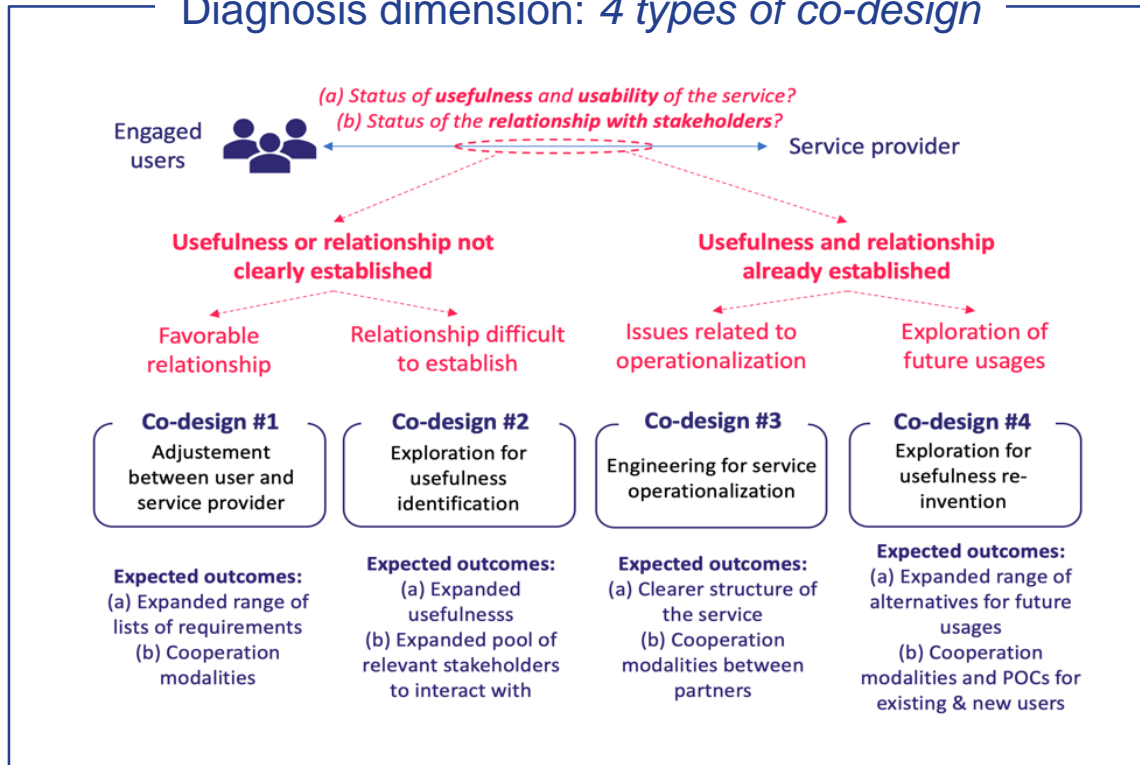
- (1) **Designing relationships** between a large range of actors (beyond end-users)
- (2) Taking a **dynamic and long-term perspective**

Resilient-fit co-design: diagnosis & workshops

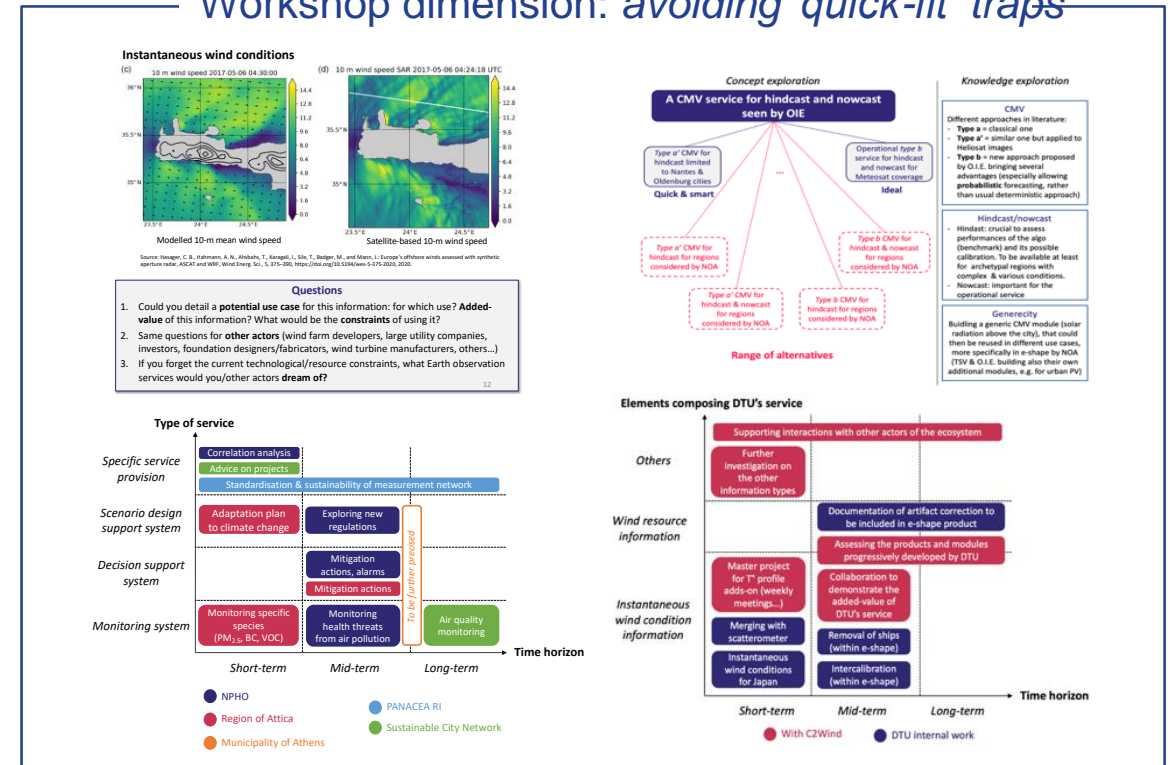
EO resource provider's timeline



Diagnosis dimension: 4 types of co-design

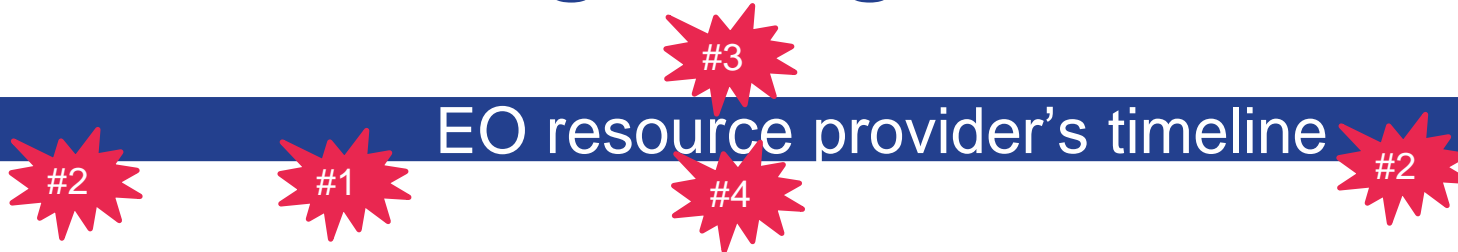


Workshop dimension: avoiding 'quick-fit' traps

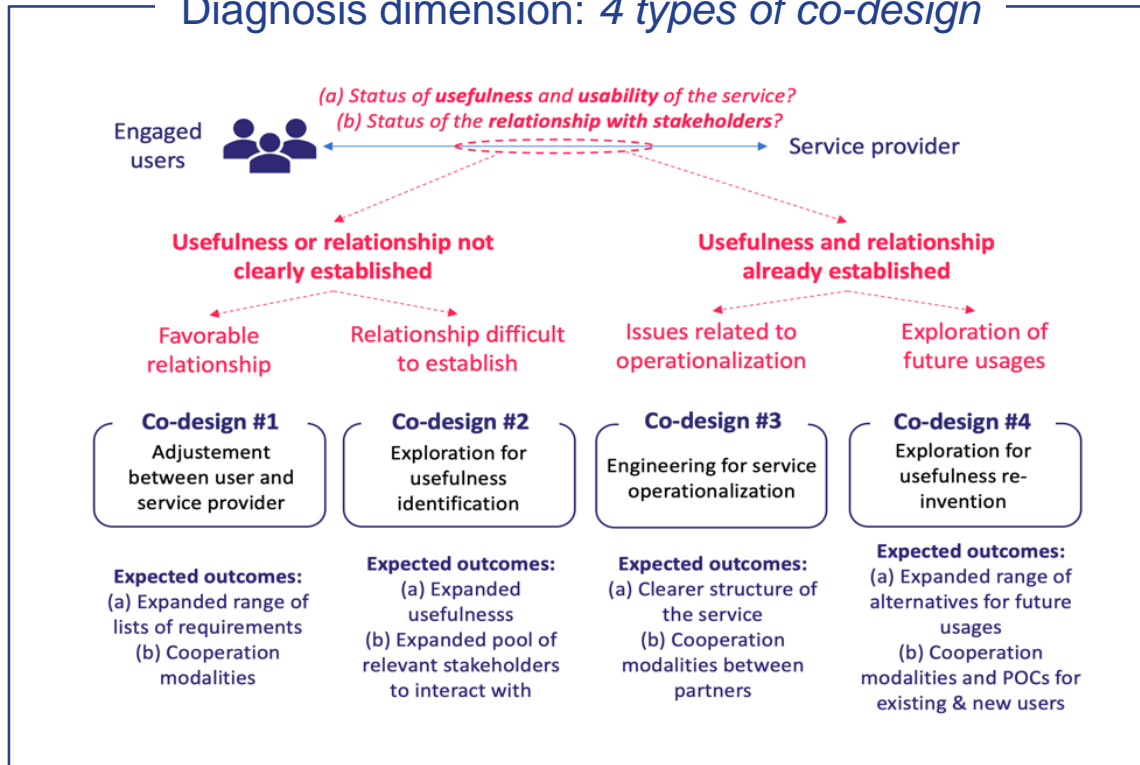


Resilient-fit co-design: diagnosis & workshops

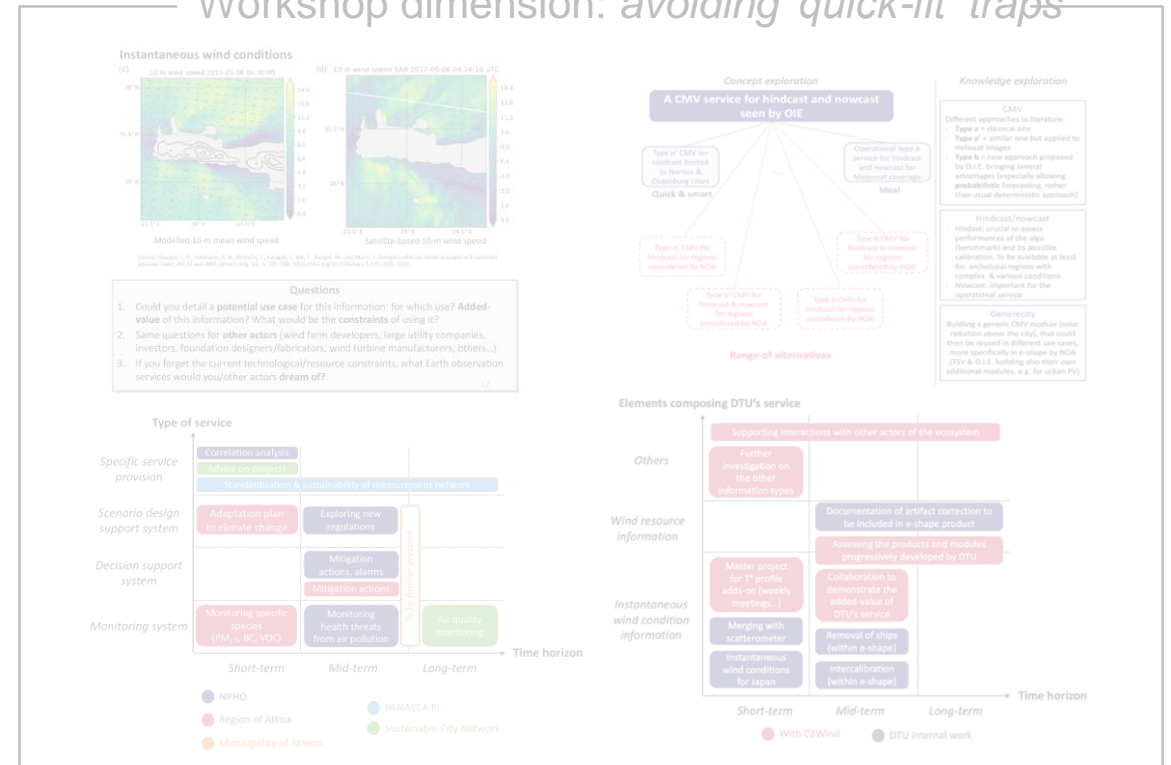
EO resource provider's timeline



Diagnosis dimension: 4 types of co-design



Workshop dimension: avoiding 'quick-fit' traps



Diagnosis: combining different types of co-design

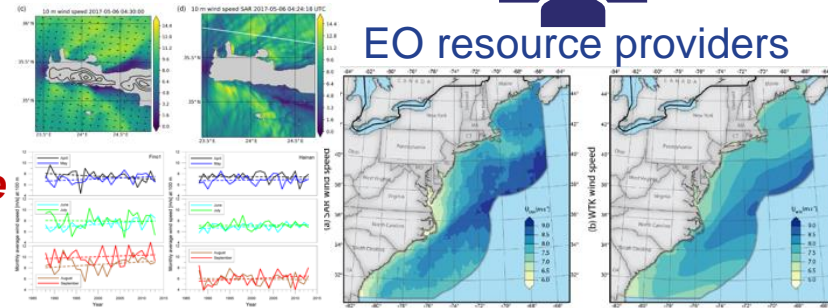


Type of partnership? Feedback loop?



EO resource providers

Different alternatives for the EO product?



Four types of co-design: *identifying the nature of relationships to be built or transformed*

Type #1: identified user *but how to build a robust relationship with users for further developments?*

Diagnosis: combining different types of co-design



Four types of co-design: *identifying the nature of relationships to be built or transformed*

Type #1: identified user *but how to build a robust relationship with users for further developments?*

Type #2: user not clearly identified, so *how to identify the relevant actors to interact with?*

Diagnosis: combining different types of co-design



Four types of co-design: *identifying the nature of relationships to be built or transformed*

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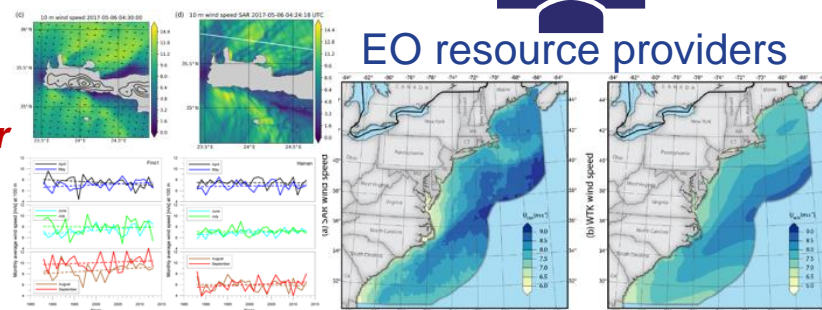
Type #3: existing user *but how to build a robust relationship with partners to operationalise the EO-based solution?*

Diagnosis: combining different types of co-design



How to sustain the partnership?

Future alternatives for the EO product?



Four types of co-design: *identifying the nature of relationships to be built or transformed*

Type #1: identified user *but how to build a robust relationship with users for further developments?*

Type #2: user not clearly identified, so *how to identify the relevant actors to interact with?*

Type #3: existing user *but how to build a robust relationship with partners to operationalise the EO-based solution?*

Type #4: existing user *but how to sustain and expand the existing EO-based solution towards new ones?*

Diagnosis: combining different types of co-design



Four types of co-design: identifying the nature of relationships to be built or transformed

Type #1: identified user *but how to build a robust relationship with users for further developments?*

- *Trap: considering that the user already knows what to do with EO (→ risk of missing different forms of uses)*

Type #2: user not clearly identified, so *how to identify the relevant actors to interact with?*

- *Trap: considering the user as already a client (→ risk of overlooking learning efforts)*

Type #3: existing user *but how to build a robust relationship with partners to operationalise the EO-based solution?*

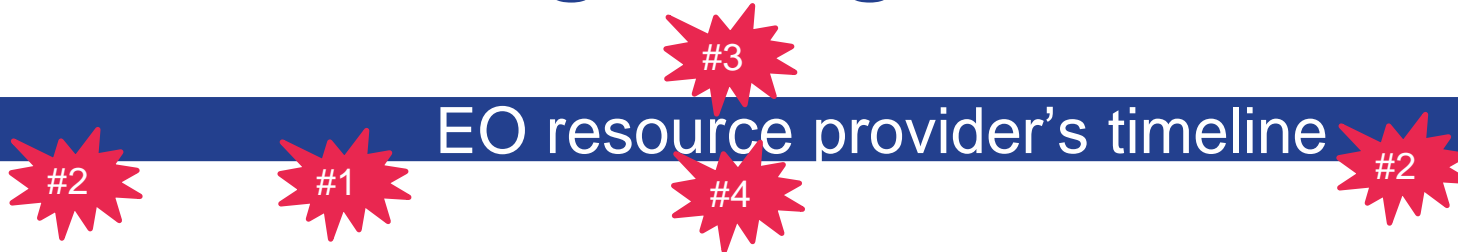
- *Trap: considering the operationalisation as a mere transfer from R&D to engineering entity (→ risk of overlooking remaining exploration efforts)*

Type #4: existing user *but how to sustain and expand the existing EO-based solution towards new ones?*

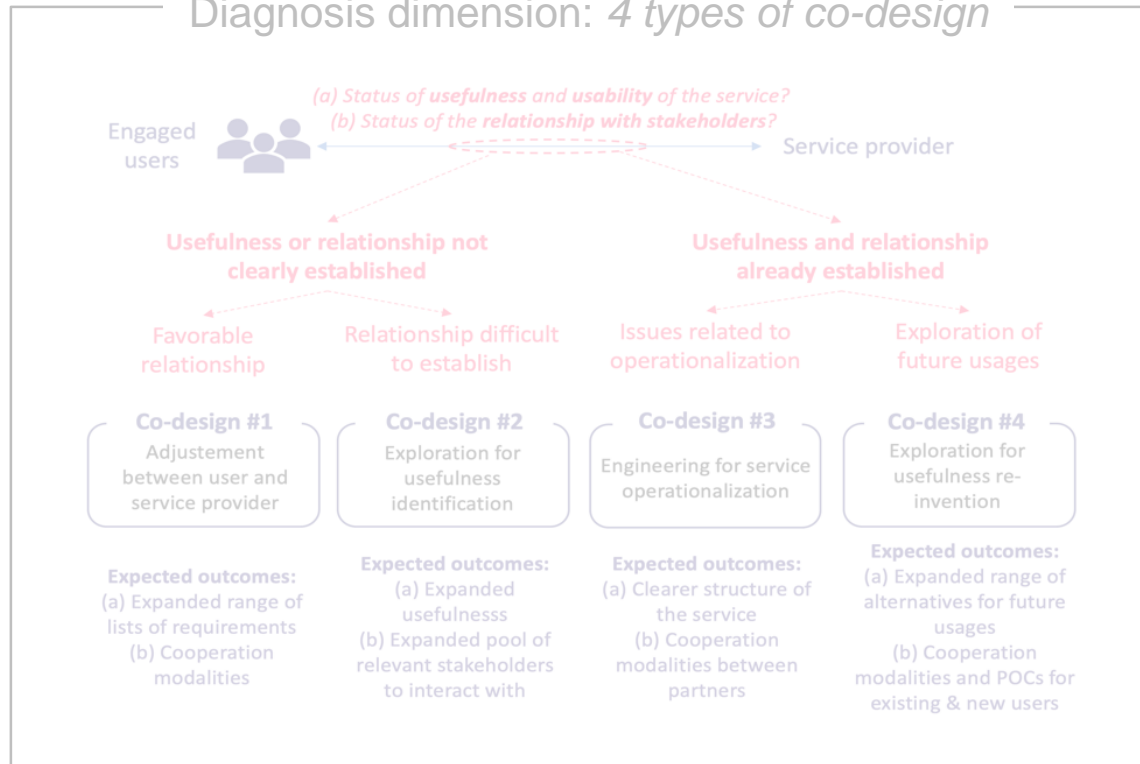
- *Trap: focusing on the dreams of one specific user (→ risk of relying on a single user that might later disappear)*

Resilient-fit co-design: diagnosis & workshops

EO resource provider's timeline



Diagnosis dimension: 4 types of co-design



Workshop dimension: avoiding 'quick-fit' traps

Instantaneous wind conditions

(c) 10 m wind speed 2017-05-06 04:30:00
(d) 10 m wind speed SAR 2017-05-06 04:24:18 UTC

Modelled 10-m mean wind speed / Satellite-based 10-m wind speed

Concept exploration
A CMV service for hindcast and nowcast seen by OIE

- Type a' CMV for hindcast limited to Nantes & Oldenburg cities (Quick & smart)
- Operational type b' service for hindcast and nowcast for Meteosat coverage (Ideal)
- Type a' CMV for hindcast for regions considered by NDA
- Type b' CMV for hindcast for regions considered by NDA
- Type b' CMV for hindcast & nowcast for regions considered by NDA
- Type a' CMV for hindcast for regions considered by NDA

Knowledge exploration

CMV
Different approaches in literature:
- Type a' classical one
- Type a'' similar one but applied to Hindcast images
- Type b' a new approach proposed by O.I.E. bringing several advantages (especially allowing probabilistic forecasting, rather than usual deterministic approach)

Hindcast/nowcast
- Hindcast: crucial to assess performances of the algo (benchmark) and its possible calibration. To be available at least for archetypal regions with complex & various conditions.
- Nowcast: important for the operational service

Genercity
Building a generic CMV module (solar radiation above the sky), that could then be reused in different use cases, more specifically in e-shape by NDA (TSV & O.I.E. building also their own additional modules, e.g. for urban PV)

Questions

- Could you detail a potential use case for this information: for which use? Added-value of this information? What would be the constraints of using it?
- Same questions for other actors (wind farm developers, large utility companies, investors, foundation designers/fabricators, wind turbine manufacturers, others...)
- If you forget the current technological/resource constraints, what Earth observation services would you/other actors dream of?

Type of service

System	Short-term	Mid-term	Long-term
Specific service provision	Correlation analysis Advice on projects Standardisation & sustainability of measurement network		
Scenario design support system	Adaptation plan to climate change	Exploring new regulations Mitigation actions, alarms Mitigation actions	Air quality monitoring
Decision support system			
Monitoring system	Monitoring specific species (PM _{2.5} , BC, VOC)	Monitoring health threats from air pollution	Air quality monitoring

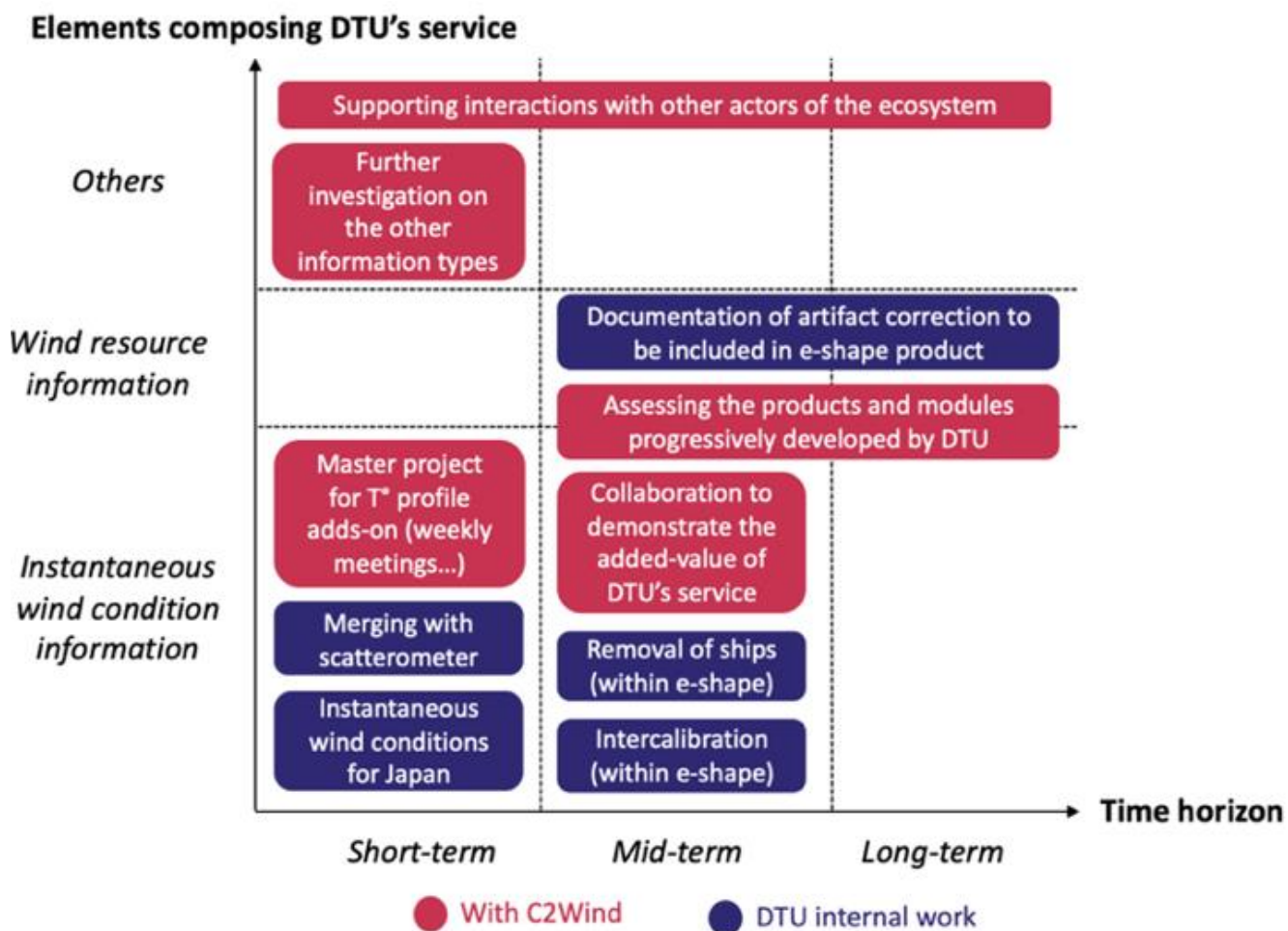
Elements composing DTU's service

System	Short-term	Mid-term	Long-term
Supporting interactions with other actors of the ecosystem	Further investigation on the other information types	Documentation of artifact correction to be included in e-shape product	Assessing the products and modules progressively developed by DTU
Others			
Wind resource information	Master project for T1 profile add-on (weekly meetings...)	Collaboration to demonstrate the added-value of DTU's service	Removal of ships (within e-shape) Intercalibration (within e-shape)
Instantaneous wind condition information	Merging with scatterometer Instantaneous wind conditions for Japan		

Legend: ● NPHO, ● Region of Attica, ● Municipality of Athens, ● PANACEA RI, ● Sustainable City Network

Co-design workshops: guidelines to build a resilient fit

- Rigorous process to avoid specific traps (design theory)
- Outcomes: designing a resilient fit
 - **Designing a range of alternative development paths** at different time horizons
 - **Designing the 'co'**: explicitly building the relationships between actors



Promising results out of e-shape experience

For practitioners of the EO community

*"The co-design diagnosis also was very well structured [...] It was **very good to have short-term and long-term**, this helped us to come back couple of months after and see what we had said for the long-term and what is now time to implement."*
(Alexia Tsouni, NOA, SC & pilot leader)

*"The initial co-design workshop proved to be an immense success [...]. **The workshop served as a means to formalize relationships and find synergies between workflows and users, propelling us to officially pursue partnering** with National Public Health Organization and the Ministry of Energy and the Environment."*
(Evangelos Gerasopoulos, NOA, pilot leader)

*"For me it was really **eye opening that we could use it in such a broad way to look at all sort of possibilities rather than trying narrow down what we wanted to do**. It was more about broadening out and gathering lots of ideas and inputs."*
(Merete Badger, DTU, pilot leader)

For management research

- **Paper accepted for publication:**
Barbier, R. Ben Yahia, S., Le Masson P., and Weil, B., "Co-Design for Novelty Anchoring Into Multiple Socio-Technical Systems in Transitions: The Case of Earth Observation Data," in ***IEEE Transactions on Engineering Management***, 2022, doi: 10.1109/TEM.2022.3184248.

Co-Design for Novelty Anchoring Into Multiple Socio-Technical Systems in Transitions: The Case of Earth Observation Data

Raphaëlle Barbier , Skander Ben Yahia, Pascal Le Masson, and Benoit Weil

- **Two other papers under review** (Technovation, Creativity and Innovation Management)
- **A PhD thesis** defended (24th March 2023)...

Methods for co-design between EO data providers and (partially unknown) users



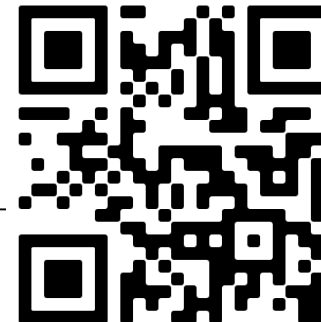
e-shape

06.11.2023, 16:00

To learn more on
e-shape:



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**Navigating the dynamic EO landscape
harnessing data, infrastructures and technologies
for EO services development and exploitation**

**Combine, Cooperate, Coordinate
the EuroGEO ecosystem and activities**

6 November 2023

GEO WEEK – Cape Town



Ingo Simonis

on behalf of Marie-Francoise Voidrot

OGC

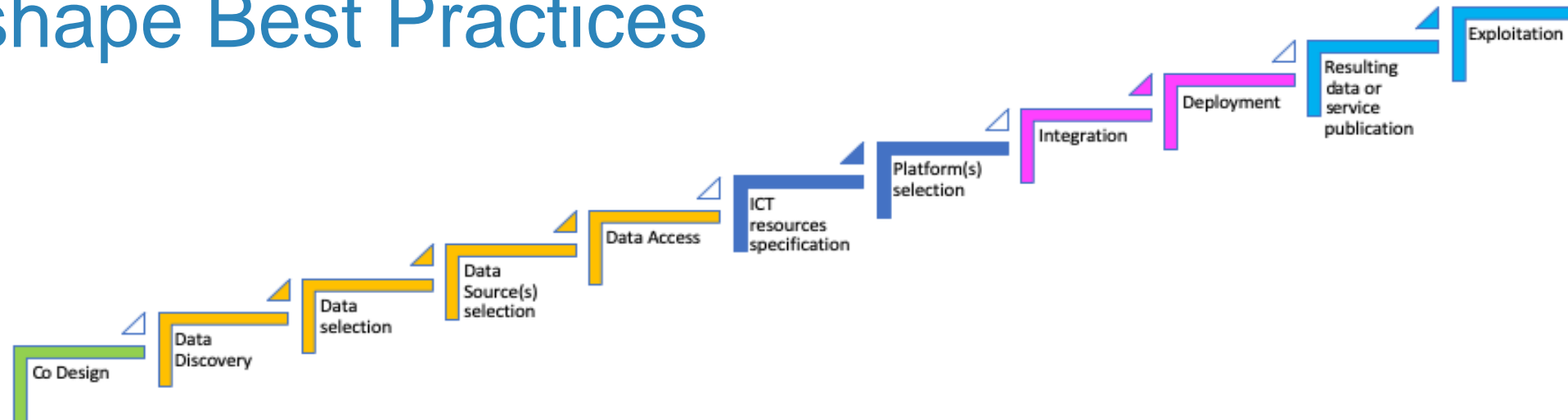


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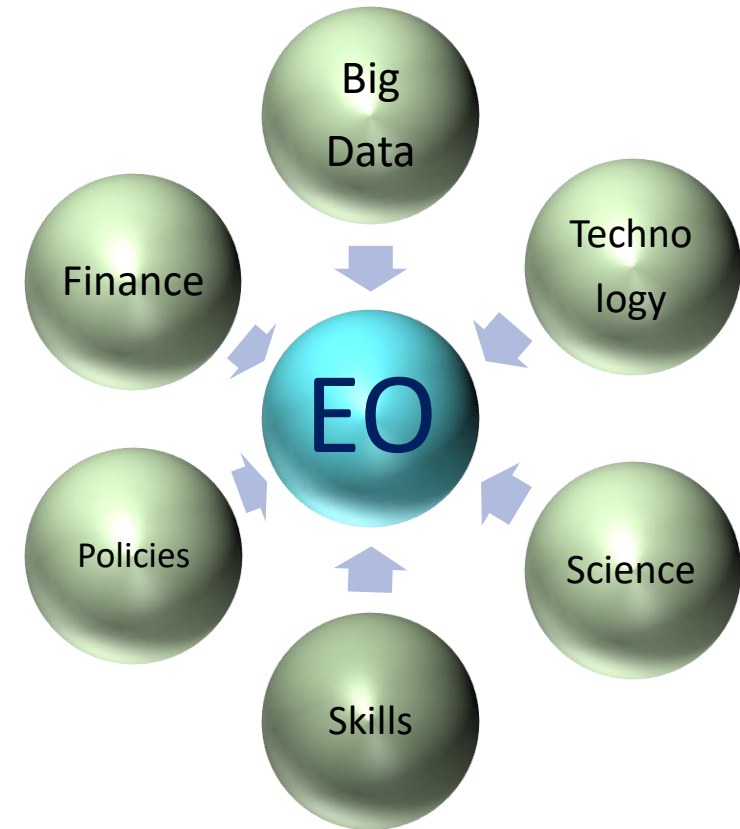
e-shape Best Practices



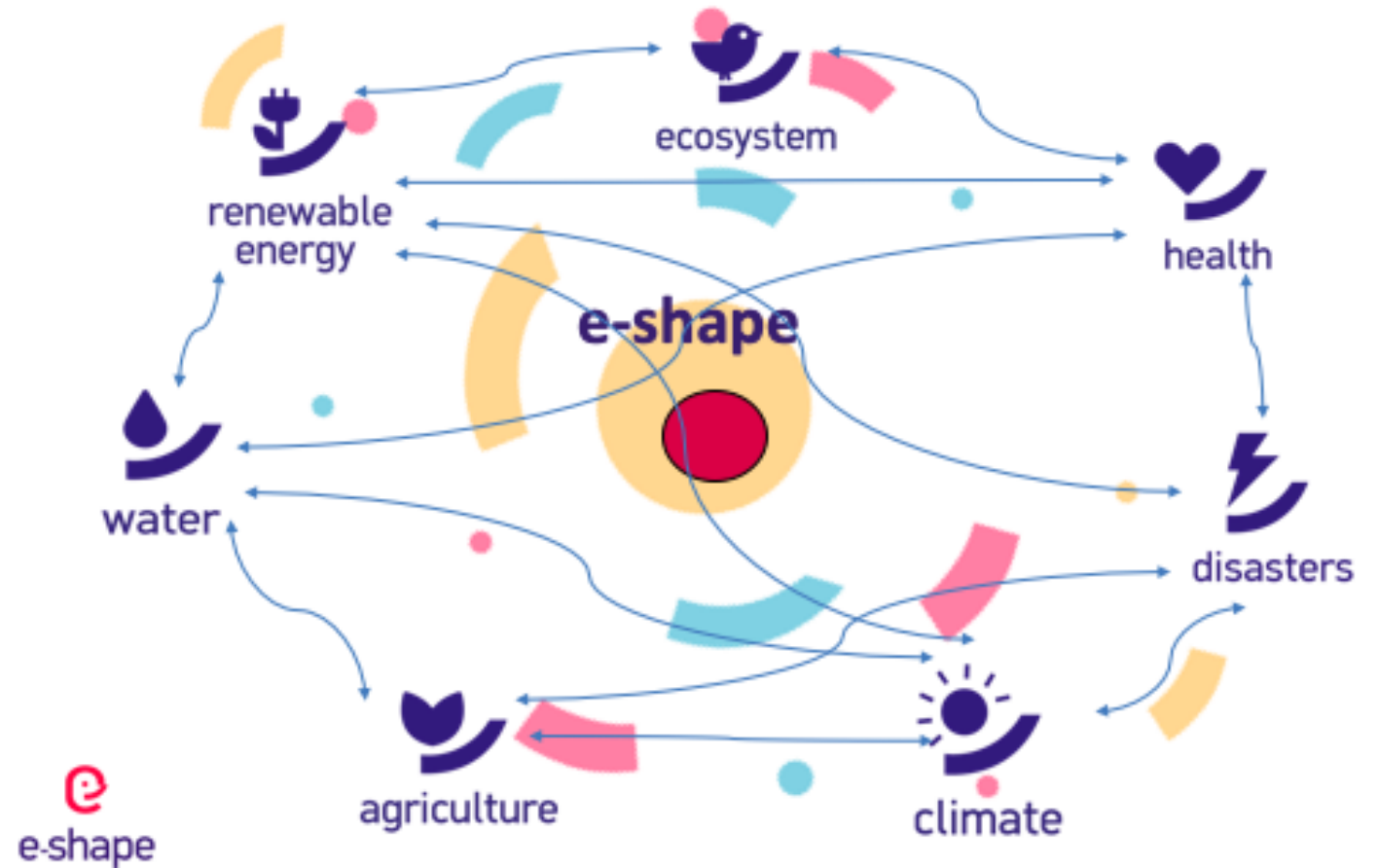
Accessible on <https://e-shape.eu/index.php/resources>

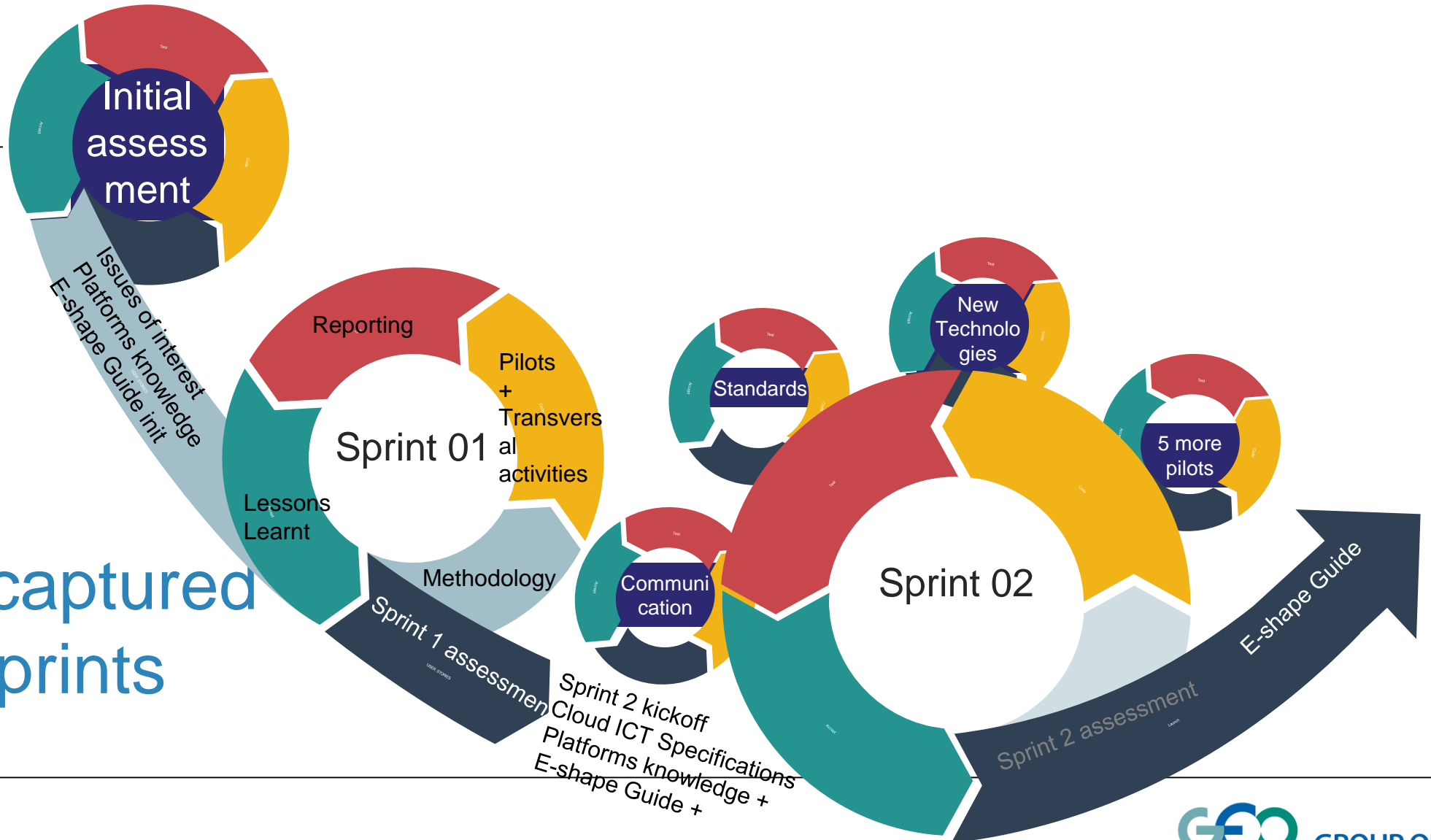
- WP3
- D3.8 E_SHAPE Guide development 18 – OGCE, Report Public M48

Fostering multi disciplinary collaboration



Innovation and reproducibility out of cross domains Best Practices



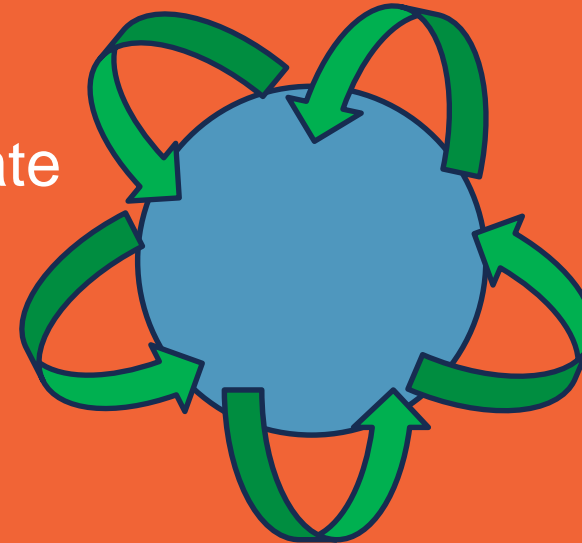


Knowledge captured along 2 sprints

e-shape best practices built on the pilots

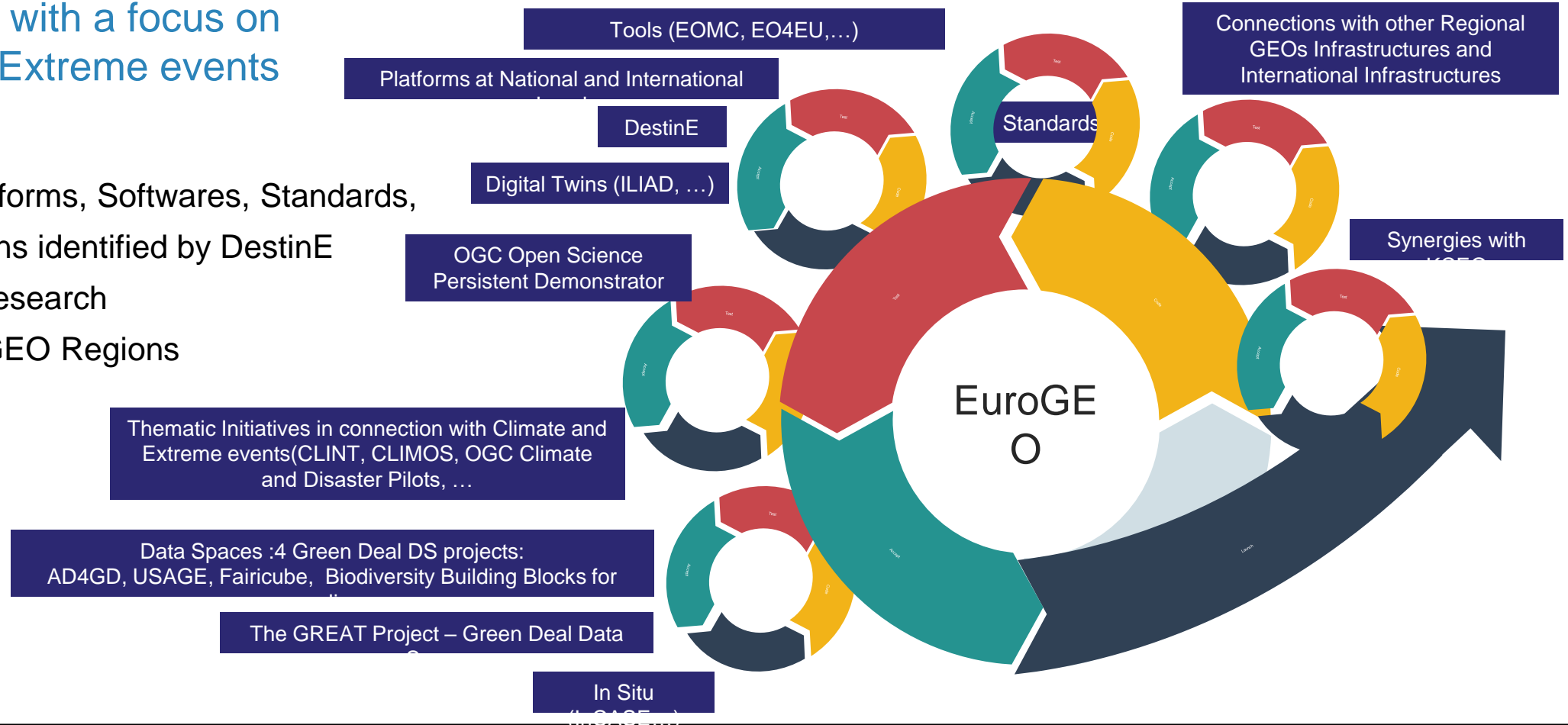


EuroGEO will Combine, Cooperate, Coordinate
the EuroGEO ecosystem and activities



Updating Resources catalogues and Analysis with a focus on Climate and Extreme events

- Data Spaces, Platforms, Softwares, Standards,
- 2 initial Digital Twins identified by DestinE
- 1 Real Time / 1 Research
- Addressed in All GEO Regions



#TheEarthTalks



Ingo Simonis



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6-10 NOVEMBER

CAPE TOWN, SOUTH AFRICA



Marie-Francoise Voidrot



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EO services and user uptake: the e-shape example and how to foster engagement with country communities

06/11/2023 16h00-18h00, Protea Room



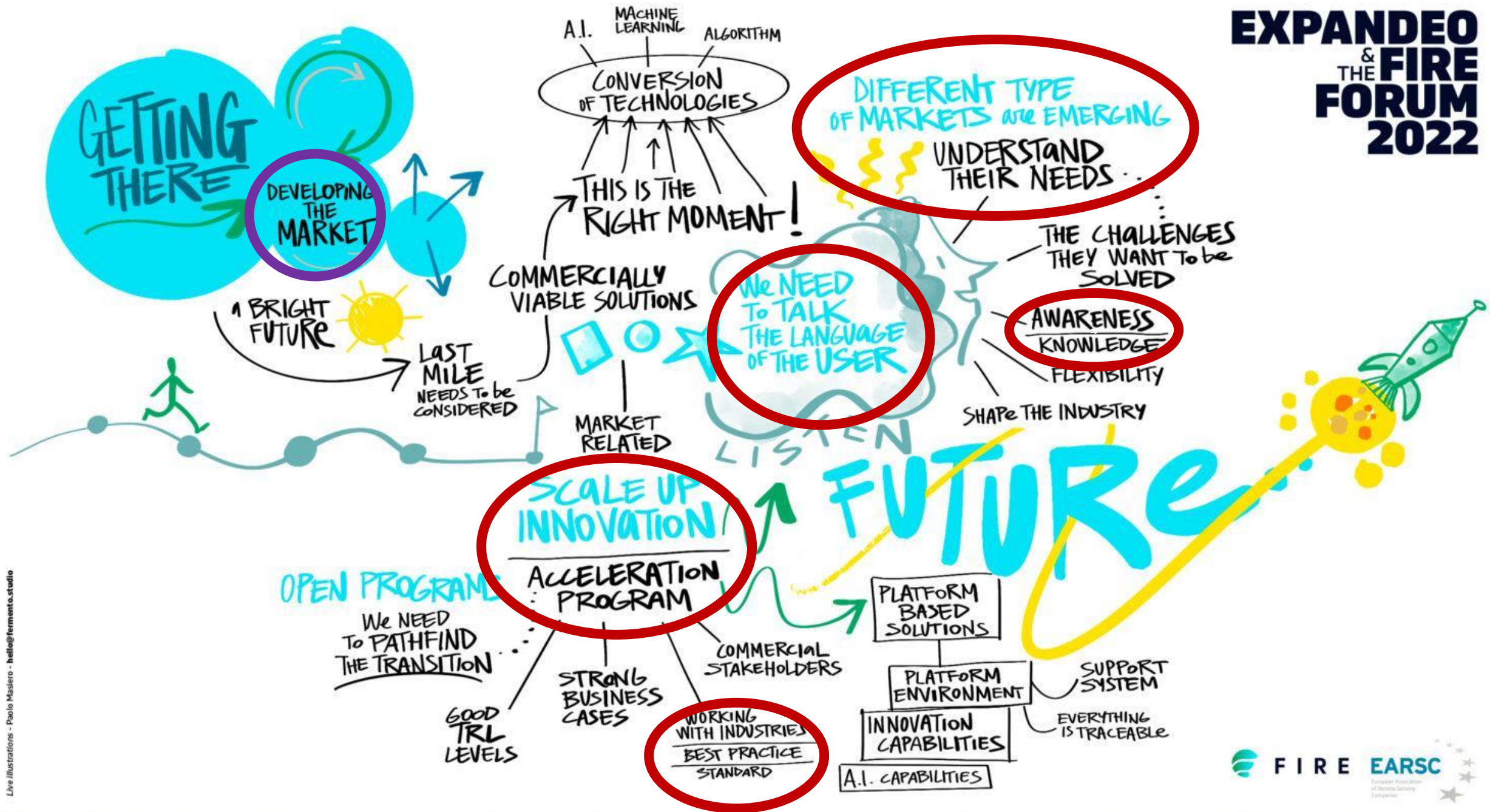
**Emmanuel Pajot,
Secretary General,
EARSC**



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Top priorities for EO communities

Skills

- Programming and development
- Markets and societal needs understanding
- Analytical methods
(Deep learning, Data fusion, Artificial intelligence, Data mining)

Market barriers to growth

- Market/User acceptance
- Finding new customers
- Lack of development funding

Customer uptake

- Aware but not convinced
- Lack of awareness
- EO is only part of the solution

GETTING THERE

DEVELOPING THE NECESSARY CAPACITY AMONG DIFFERENT STAKEHOLDERS

be MORE CONCRETE

SKILLS DEVELOPMENT

CONTINUOUS GATHERING INFORMATION
MONITORING
EVALUATING

COLLABORATION

TRY TO SPEAK THE SAME LANGUAGE

HOW TO MAKE A CHOICE?
SELECT

DATA ↔ PURPOSE

CREATE AN ENVIRONMENT FOR GROWTH

EDUCATION

ACADEMIC

SHIFT

APPLIED TRAINING

TRAINING REQUIREMENTS MARKET

NEW WAYS OF LEARNING - GAMING

NEW WAYS TO TRANSFER INFORMATION

TRANSITION

INCLUSIVENESS NETWORK

MUTUAL UNDERSTANDING
ADDRESS THE PROBLEM TOGETHER

LISTEN & UNDERSTAND

REDUCE COMPLEXITY

MAKE THINGS EASY FOR USERS

USER ENVIRONMENT

SHARE EXPERIENCES

INVEST IN PEOPLE

BUILDING CAPACITY

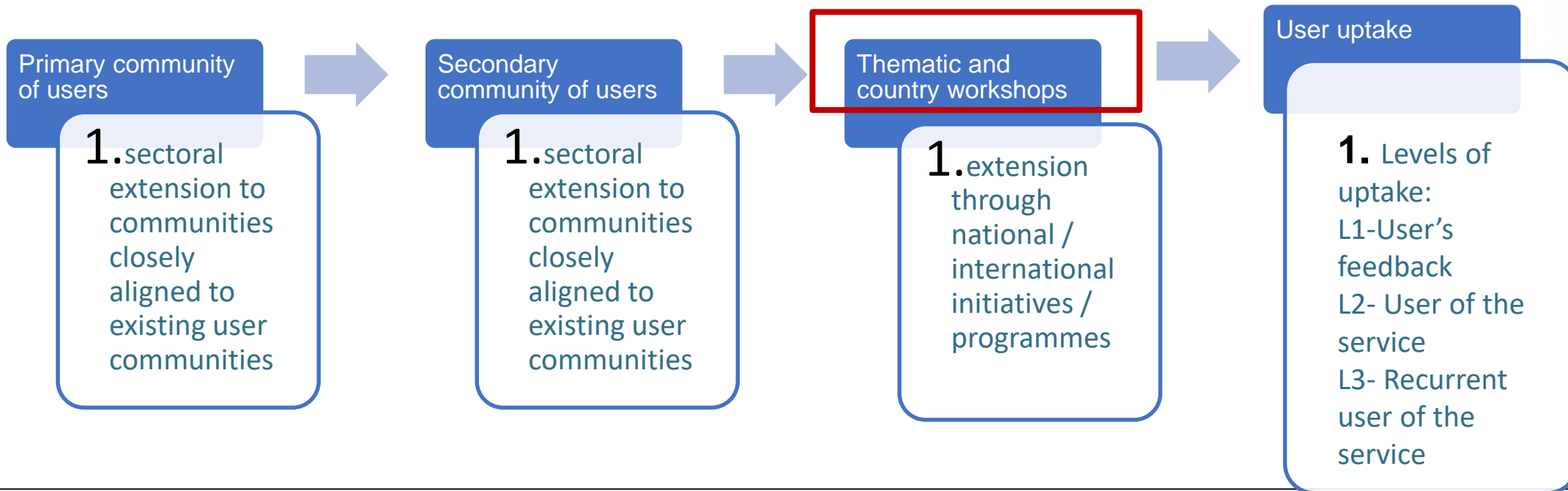
SUPPORT

COMPANIES
TOOLS
ACADEMICS
INSTITUTIONS

ATTRACT

EUROPE IS ATTRACTIVE!

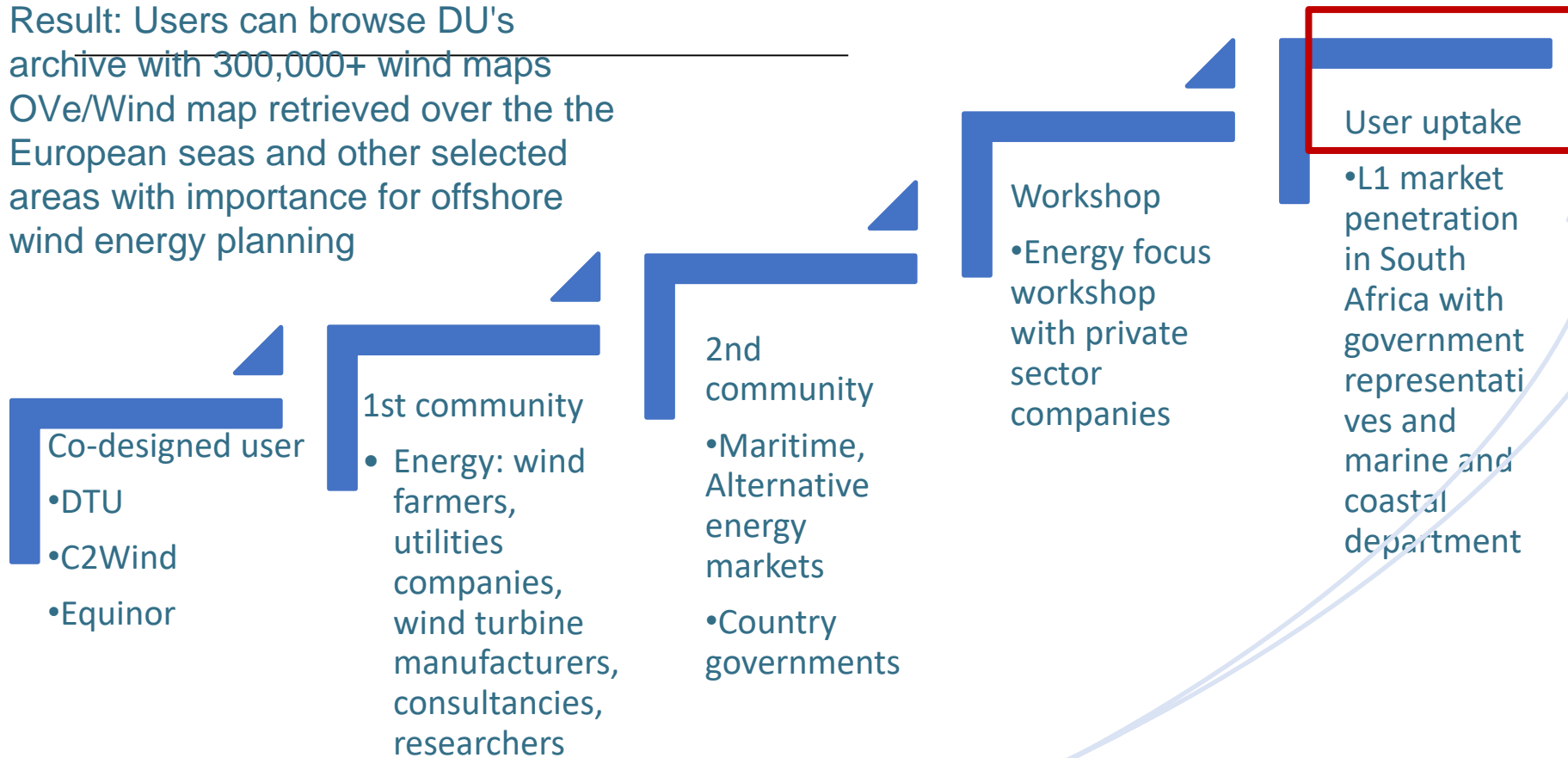
User uptake, how it has been done in e-shape?



e-shape pilot uptake example 1/2: Offshore winds and resources



Result: Users can browse DU's archive with 300,000+ wind maps
 OVe/Wind map retrieved over the the European seas and other selected areas with importance for offshore wind energy planning



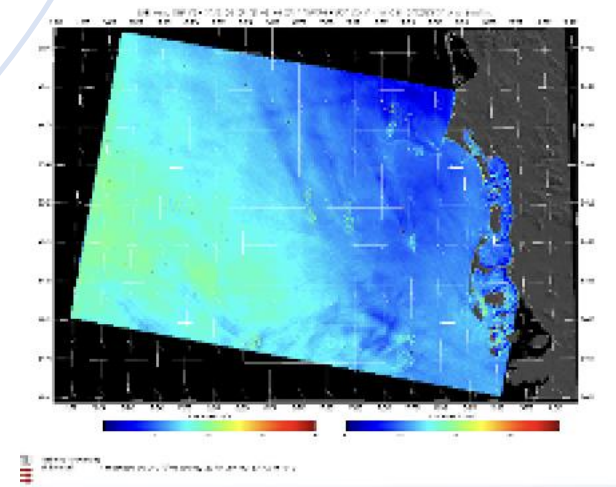
- Co-designed user
- DTU
 - C2Wind
 - Equinor

- 1st community
- Energy: wind farmers, utilities companies, wind turbine manufacturers, consultancies, researchers

- 2nd community
- Maritime, Alternative energy markets
 - Country governments

- Workshop
- Energy focus workshop with private sector companies

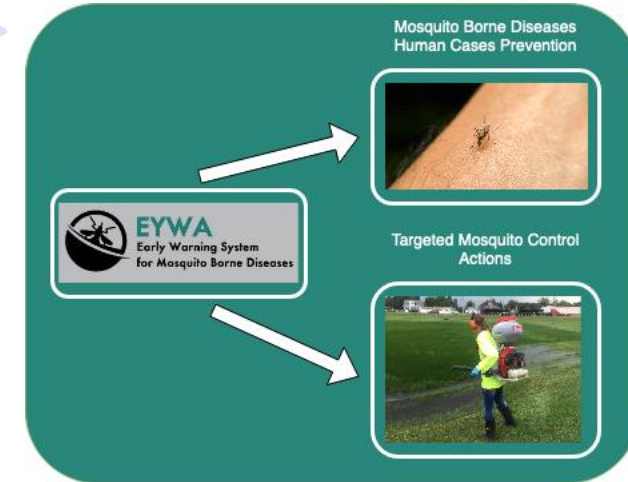
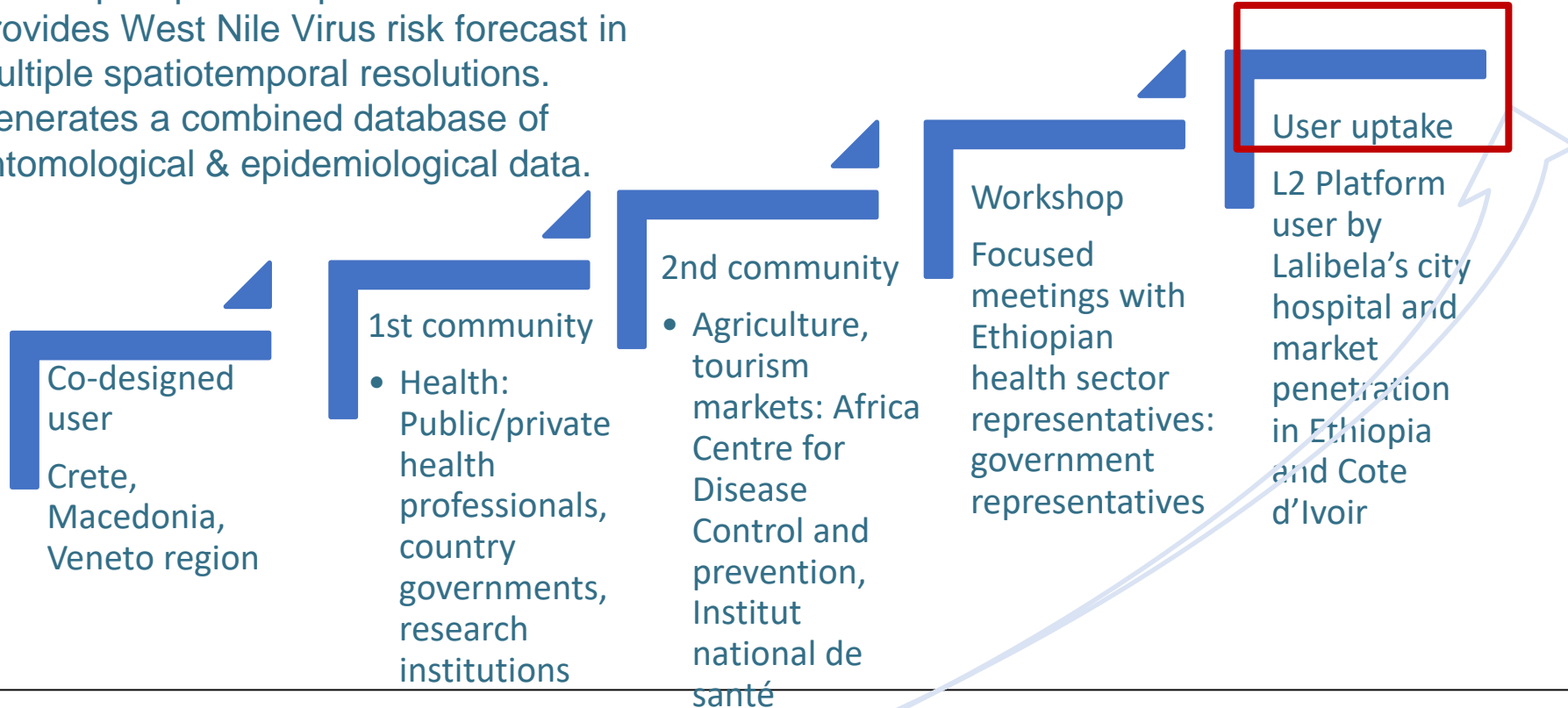
- User uptake
- L1 market penetration in South Africa with government representatives and marine and coastal department

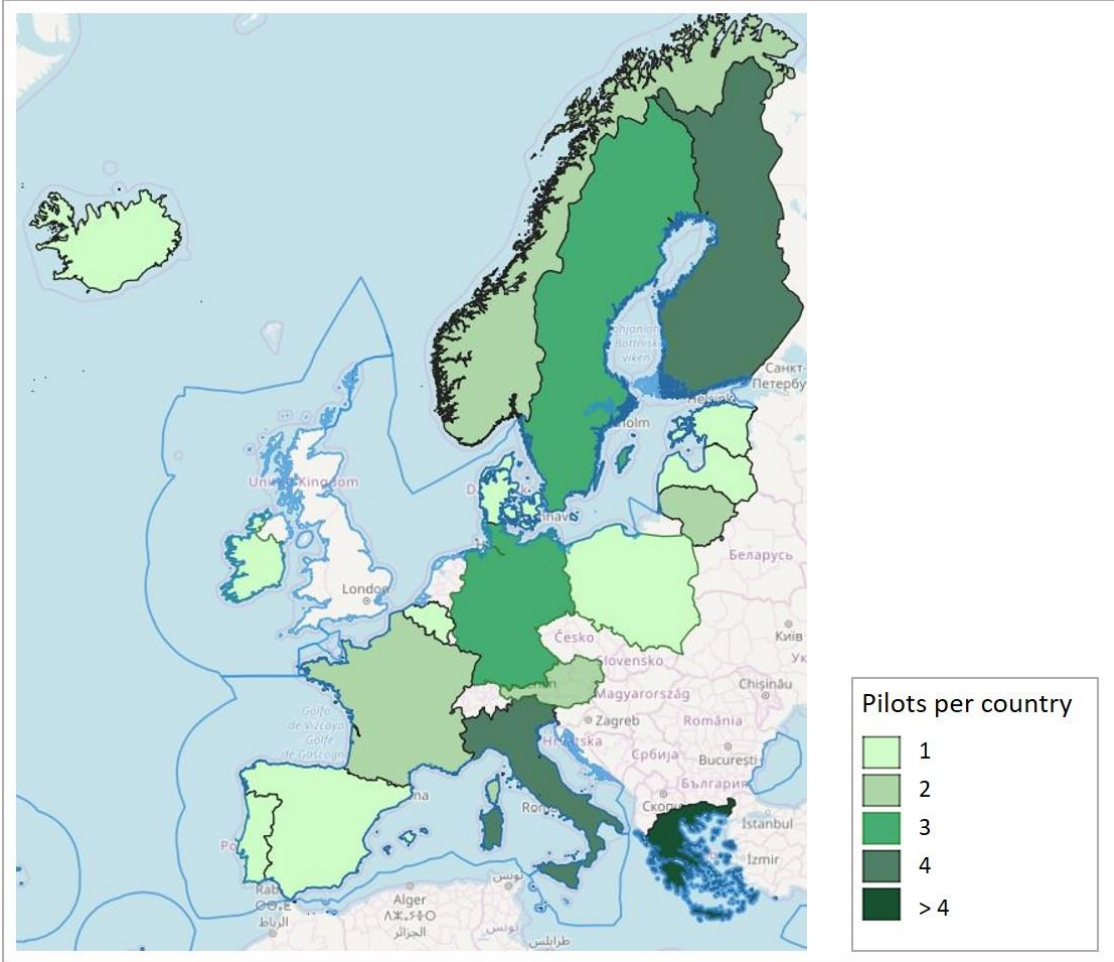


e-shape pilot uptake example 2/2: EYWA

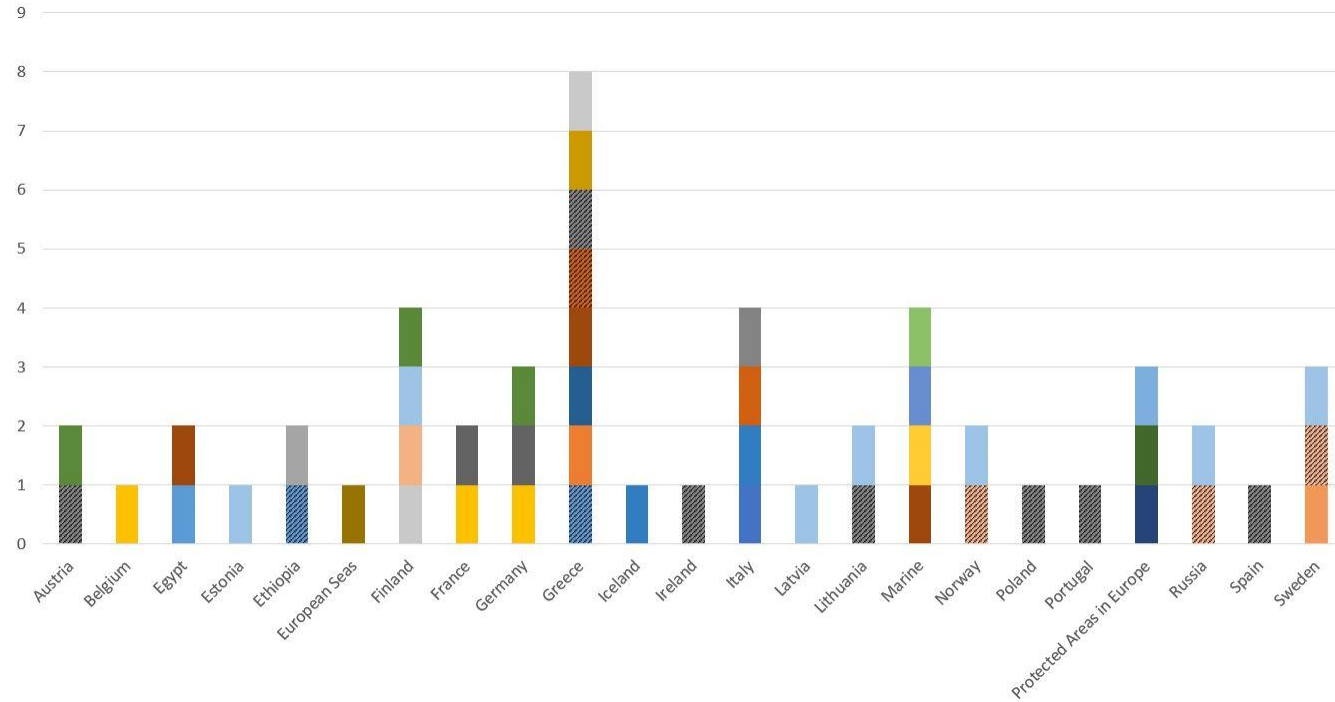


Provides mosquito population predictions on multiple spatiotemporal resolutions.
 Provides West Nile Virus risk forecast in multiple spatiotemporal resolutions.
 Generates a combined database of entomological & epidemiological data.





Before: geographical areas covered or targeted for expansion by the Pilots

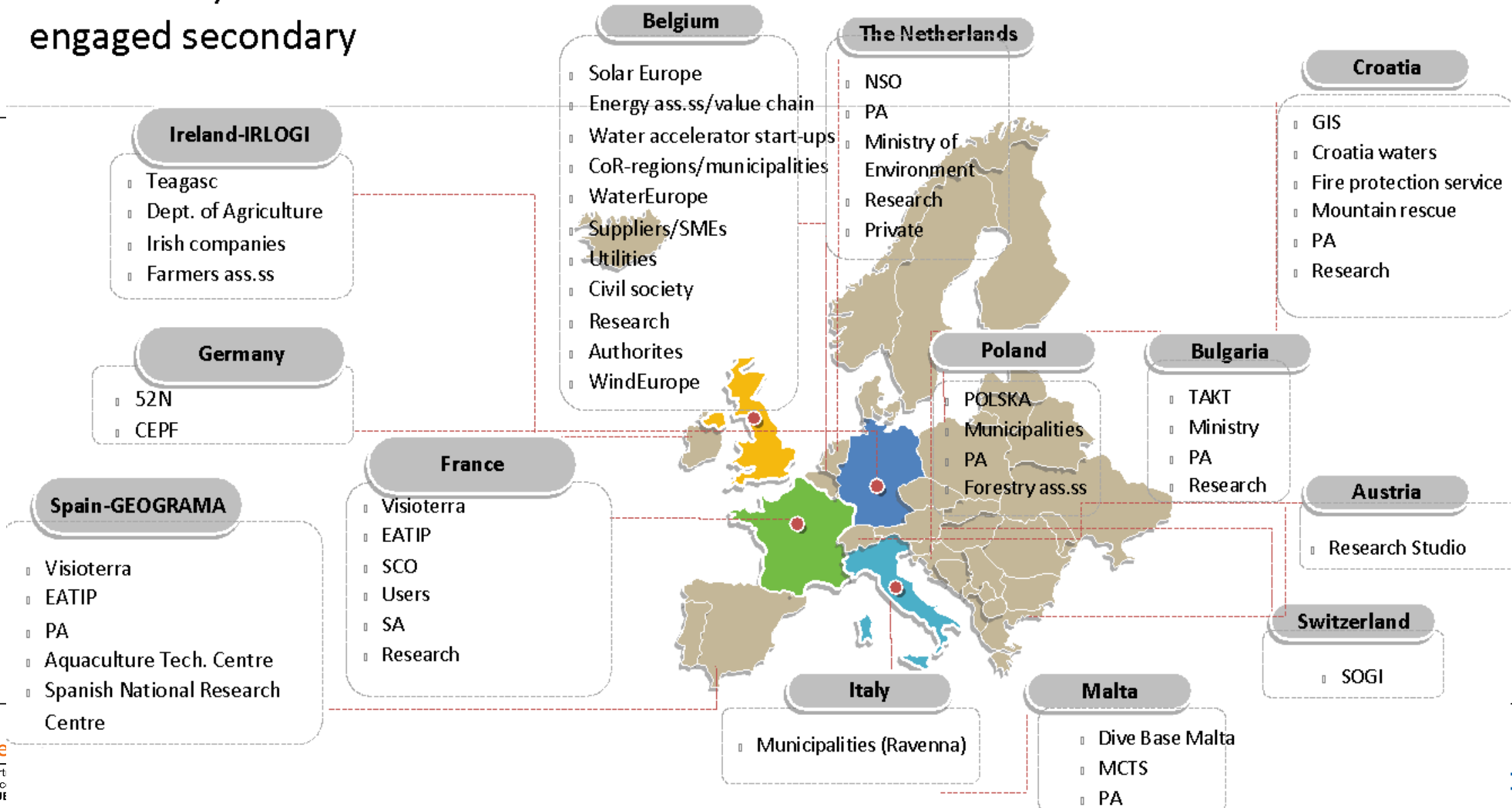


Greece, Finland, Italy, Sweden, Germany Geographical areas for expansion by some e-shape Pilots



After...

Community of user engaged secondary



Collaboration with EO industry

Availability > Accessibility > Awareness > Acceptance > Adoption

Data > Information > Knowledge > Decision > Impact

The **European industry is an ally** to increase the capacity of public institutions but also the private sector corporates to develop and implement green and digital transformation plans.

The cooperation with industry will allow the **EuroGEO initiative** to maximise the impact of R&I by effectively linking it with real market needs.

OUTLINE

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Operationalisation and Commercialisation of R&D results – a EuroGEO perspective

Lefteris MAMAIS (Evenflow)

The EuroGEO Secretariat

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**GEO
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GEO WEEK & Ministerial Summit 2023

Operationalisation and Commercialisation of R&D results – a EuroGEO perspective



Lefteris Mamais
*Co-founder and Director
Evenflow SRL*

6 November 2023 | 16.00-18.00



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

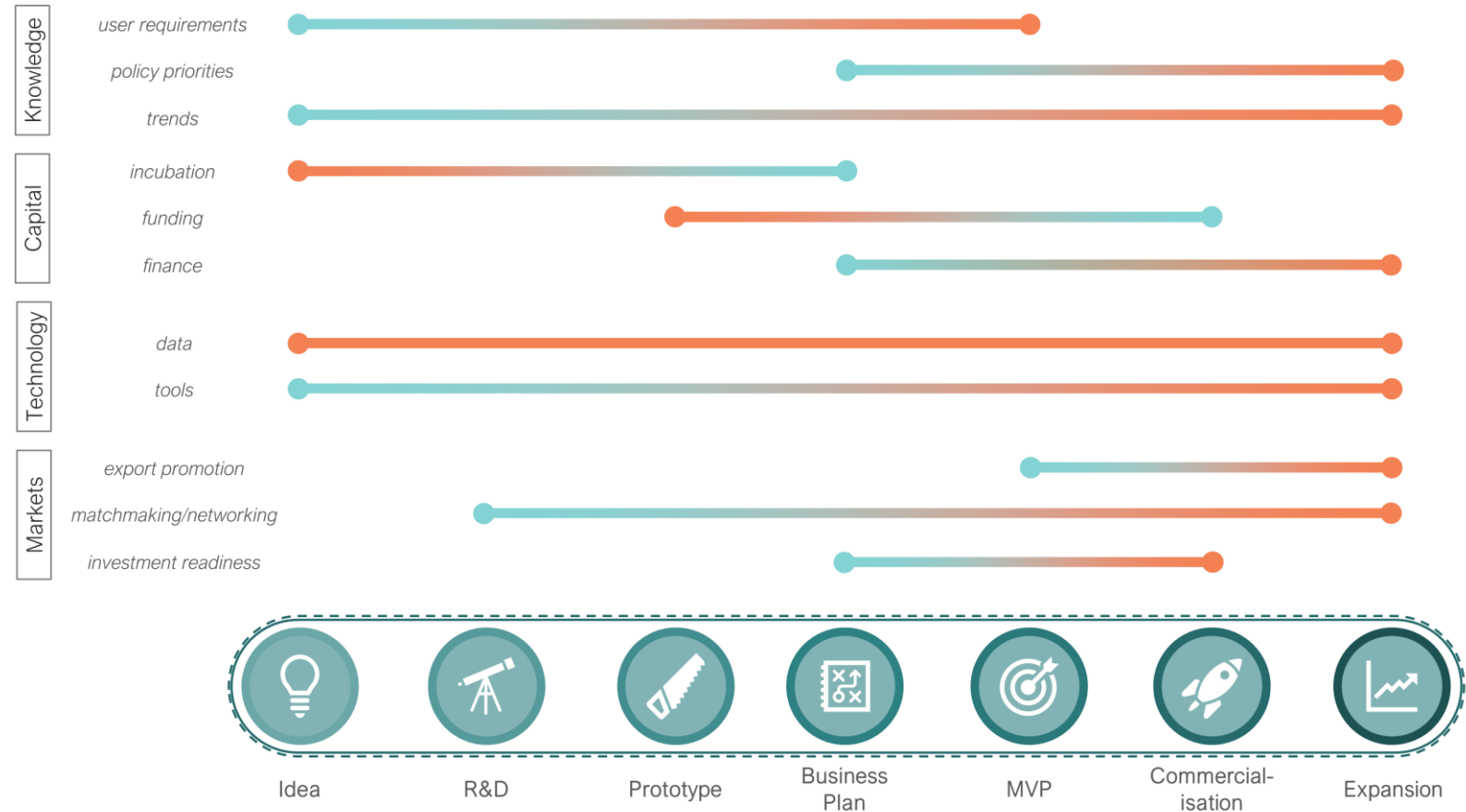


Problem Statement

Many organisations struggle to make the transition from R&D to operational services.

What did we set out to do to tackle this?

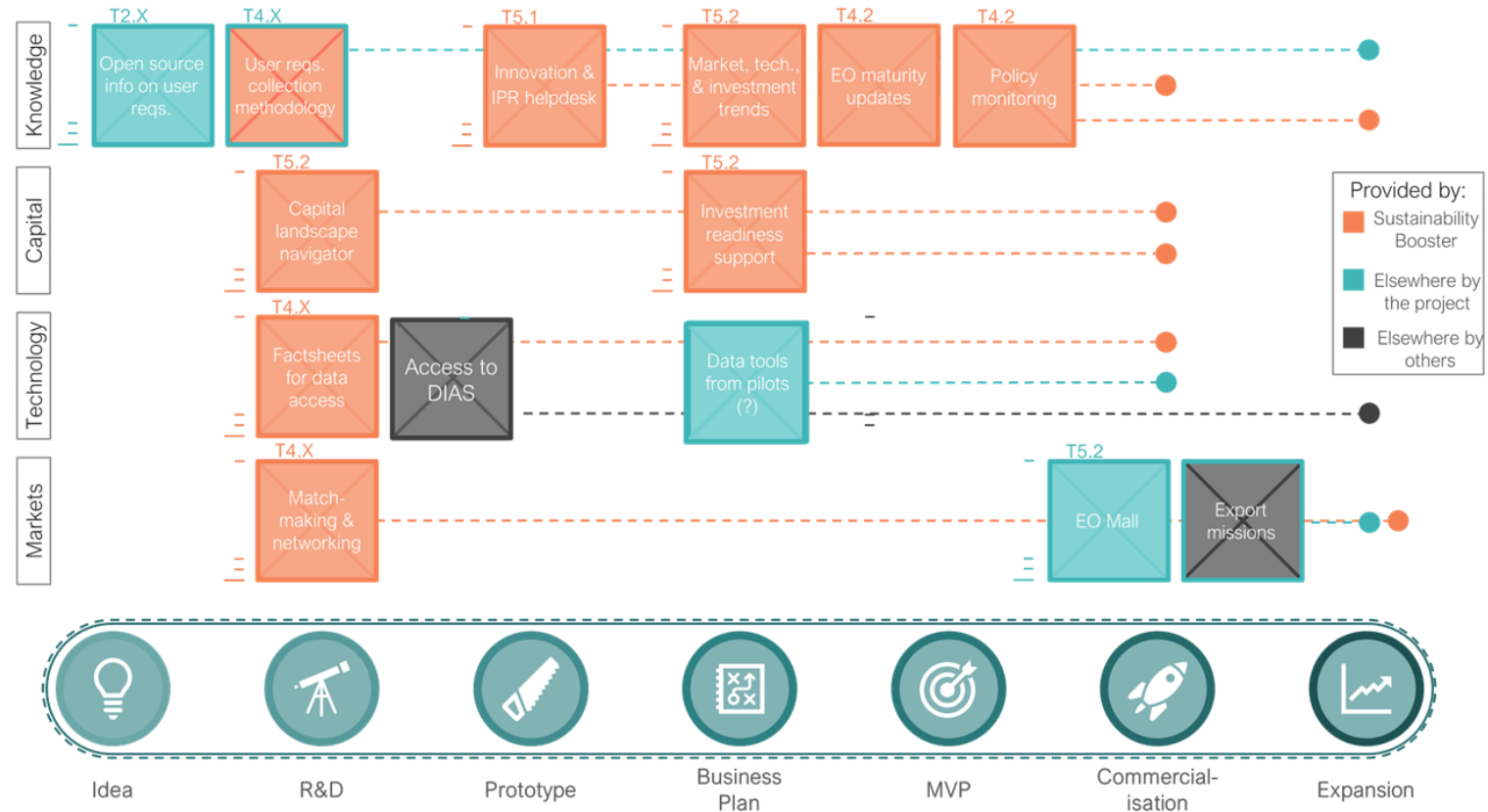
We wanted to empower those developing pilot solutions in a way that they can **exploit their R&D progress** towards the **provision of operational and economically viable EO services**



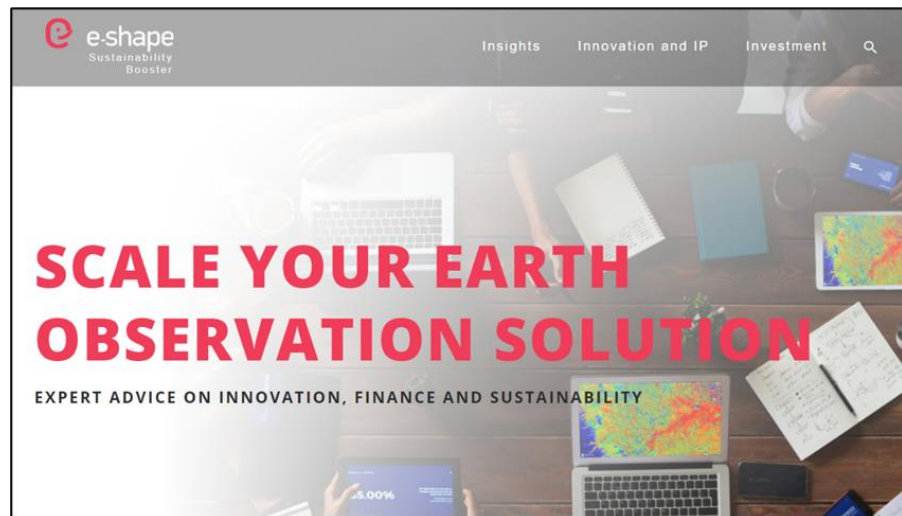
How did we organise this in e-shape?

By

- Establishing the **Sustainability Booster**
- Rolling out multiple **other activities**
 - eoMALL
 - PERL
 - Socio-economic value analyses
 - EO Maturity Indicators Assessments



How did we organise this in e-shape? Focus on **Sustainability Booster**



sustainability.e-shape.eu

Online Content

- Market Insights
- Innovation and IP
- Investment

Individualised support

- From Sustainability Sheets to Business plans
- On-demand services

Special sessions

- Investment Readiness Webinars
- IPR Helpdesk Webinars
- Commercialisation sessions at events

What did we achieve?

- Helped 37 pilots to develop **fully-fledged “business” plan to guide subsequent steps towards operationalisation**
- Provided **specialised on-demand support** enabling key next step for market entry
- Produced **helpful content that can be consumed by the wider EO community** (e.g. webinars, guidelines)



What did we achieve?

eOMALL galleries

“Window to markets”

Product Exploitation
Readiness Level

Parameter	Description	Indicators	Pilot 1.1	Pilot 1.4	Pilot 5.7
TECHNOLOGY	The TRC		3	3	4
	technology	modularity of components	3	3	3
	aspects of the product	Level of exploitation of cloud based infrastructure	3	3	3
	Standards		4	4	4
Average for Technology component			3.0	3.0	4.0
OPERATIONS	The internal team	Team composition - software	5	5	5
	structure and organisation	Team composition - management	5	5	5
	that will deliver the technical solution to the market	Team composition - financial	4	4	4
		Team composition - sales/customer management	2	2	4
		Team composition - grant acquisition	5	5	5
		Team composition - private capital or institutional/fundraising attraction	3	3	5
Average for Operations component			3.8	4.1	4.4
MARKET	How ready is the market for this solution? How have the policy aspects	Users - current	2	3	5
		Customer needs	2	3	4
		Pricing strategy	1	4	4
		Target region	1	2	4
		Business plan	5	3	2
		Policy aspects	2	2	0
Average for Market component			2.3	2.8	3.2
PERL			6-8-4	7-8-6	9-9-6

Novel approach to go beyond
TRL

Socio-economic analyses

Case Study – Pilot 7.4 - Hydropower in Snow Reservoir – Climate Service

In most basins in Scandinavia and Finland, more than 50% of the annual precipitation falls as snow. Errors in snowmelt timing and melt rate simulations are one of the largest sources of stream flow prediction errors in snowmelt-dominated watersheds. Thus, snow storage and melting periods have a significant impact on hydropower production reservoirs. Forecasts of reservoir inflow and energy prices are used to schedule the quantity and timing of releases for daily, weekly, and seasonal operations.

This pilot service focuses on producing hydrological forecasts for a hydropower company (Kemijoki Oy) operating in Northern Finland. A particular focus is placed on snow reservoir energy potential forecasting. The key diagnostics are reservoir inflow and snow reservoir energy potential, which together with other factors is a measure of stored hydropower potential. Reduction of spring snowmelt driven flood risks through more reliable hydrological nowcasts and forecasts and increasing the end-user's situational awareness and understanding of uncertainties and consequently providing a basis for optimization of hydropower operations. The outcome aims to bridge the gap between forecast providers and forecast end users by seeking solutions to remove barriers for information dissemination, application, and utilisation.

Currently modelling and forecasting of snowmelt timing and melt rate uncertainties stem from uncertainties in model forcing data. The lack of widely available and reliable forcing data restricts widespread application of more complex models, particularly in operational stream flow prediction systems. EO based snow state ingestion and communication with end users will be used to address these limitations. Ingestion of Earth Observation based snow observations into hydrological models will significantly reduce hydrological model snowpack simulation uncertainties. The use of EO based snow observations offer two main types of advantages:

- EO based snow observations are independent from point scale observations (usually used to drive hydrological models) and can be used to validate each other.
- They provide basin wide information and data on the state of the snowpack as opposed to point scale observations.

This pilot aims to decrease the vulnerability of energy companies to variations in meteorological and hydrological conditions through improved seasonal forecast products. Descriptions of the primary dimensions of benefit are given below.

EO Maturity Assessments

EO Maturity card AUSTRIA

Final evaluation

STAKEHOLDER ECOSYSTEM	INFRASTRUCTURE	UPTAKE	PARTNERSHIPS	INNOVATION
Government and Institutions	Space component	Public Sector	GEO	Innovation Support
Industry	In situ	Awareness	Copernicus	Startup Creation
Academia	Modelling and computing	Data Uptake	Other international efforts	Capital Investment
Education and Skills	Data exploitation			

Detailed assessment

STAKEHOLDER ECOSYSTEM	INDICATORS	INFRASTRUCTURE	INDICATORS	Maturity
Government and Institutions	Governance	Space component	Own satellites	🕒
	Public		Third party missions	🕒
Industry	Companies (number)	In situ component	Ground-based	🕒
	Companies (scale)	Modelling and computing	Modelling	🕒
	Companies (employment)	Computing	Computing	🕒
Academia	Resellers	Data exploitation infrastructure	Data access	🕒
	Sales		Data handling	🕒
Education and Skills	Publications		VAS platforms	🕒
	University courses			
	Training programmes			

Example from e-shape implementation

Essential analyses for EO uptake

What did we learn? Reflections for EuroGEO

Key lessons learnt

“**Readiness**” of pilots to receive professional support varied

Many tools established by e-shape link very well with **other horizontal efforts** in Europe and beyond

On-demand services were highly appreciated as they answered to well-defined individual issues

Recommendations to

More industry | fit-for-purpose services | Mapping of R&I activities and common operationalisation issues

Develop meaningful “**operational pipelines**” to follow step-by-step the development and delivery of an EO service in response to concrete problems

Future Innovation Actions should consistently look to incorporate **on-demand sustainability support**

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EuroGEO

Secretariat



Open
Geospatial
Consortium

EuroGEOSec

Supports the coordination of the EuroGEO initiative and develops a sustainability plan guiding its long-term operation.

European and National
GEO coordination
mechanisms

Increased innovation,
space application
development

European EO Data
ecosystem

Europe & the World

EU Green Deal

Objectives of an EuroGEO Secretariat

Coordinates, supports and facilitates the smooth implementation and integration of EuroGEO initiative activities and Action groups

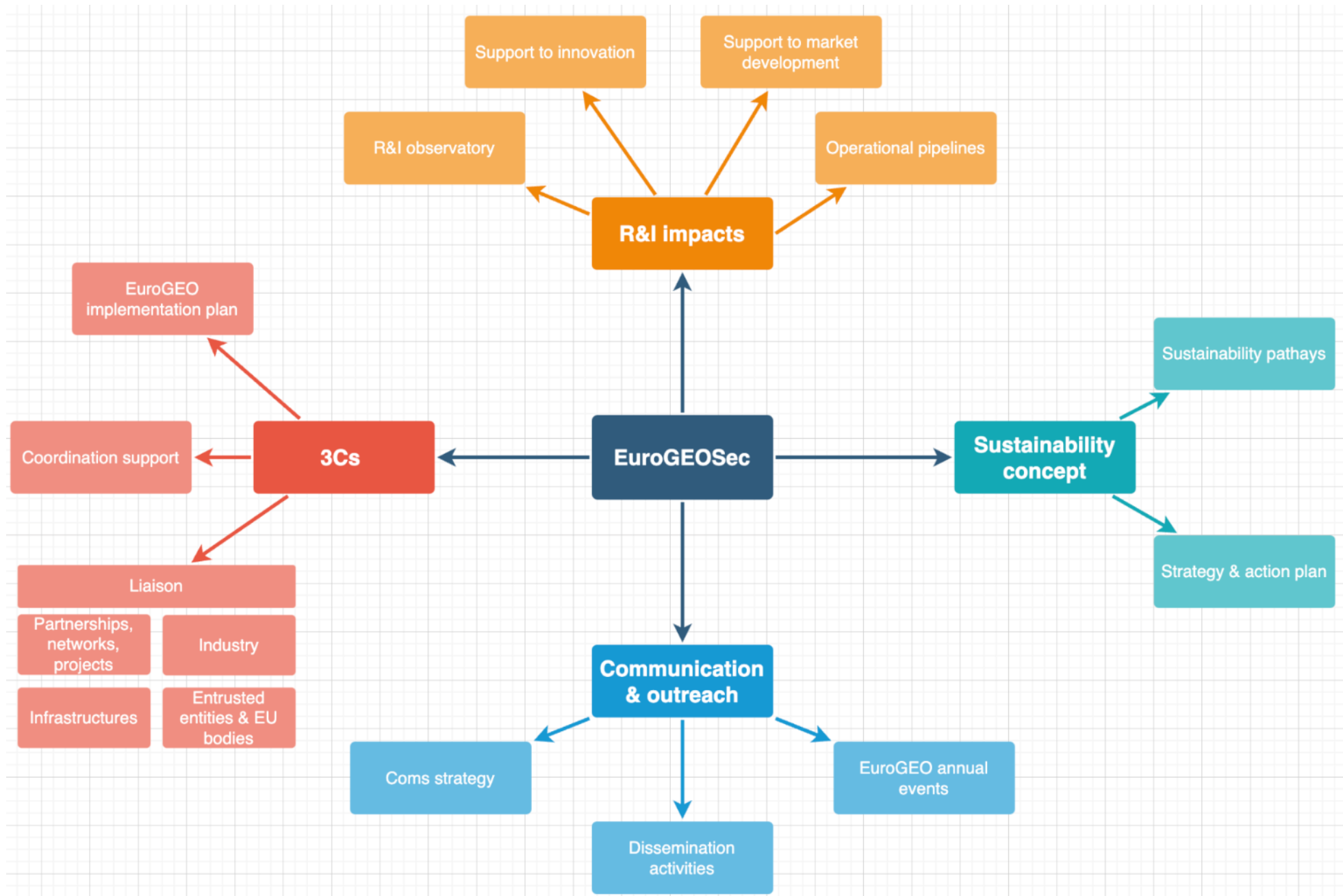
Delivers an evidence-based framework supporting the prioritisation of research funding in Europe

Supports the planning, execution and monitoring of the EuroGEO implementation plan and contribute to the GEO strategic plan

Assists to the development of a sustainability concept towards ensuring long-term operation of the EuroGEO initiative

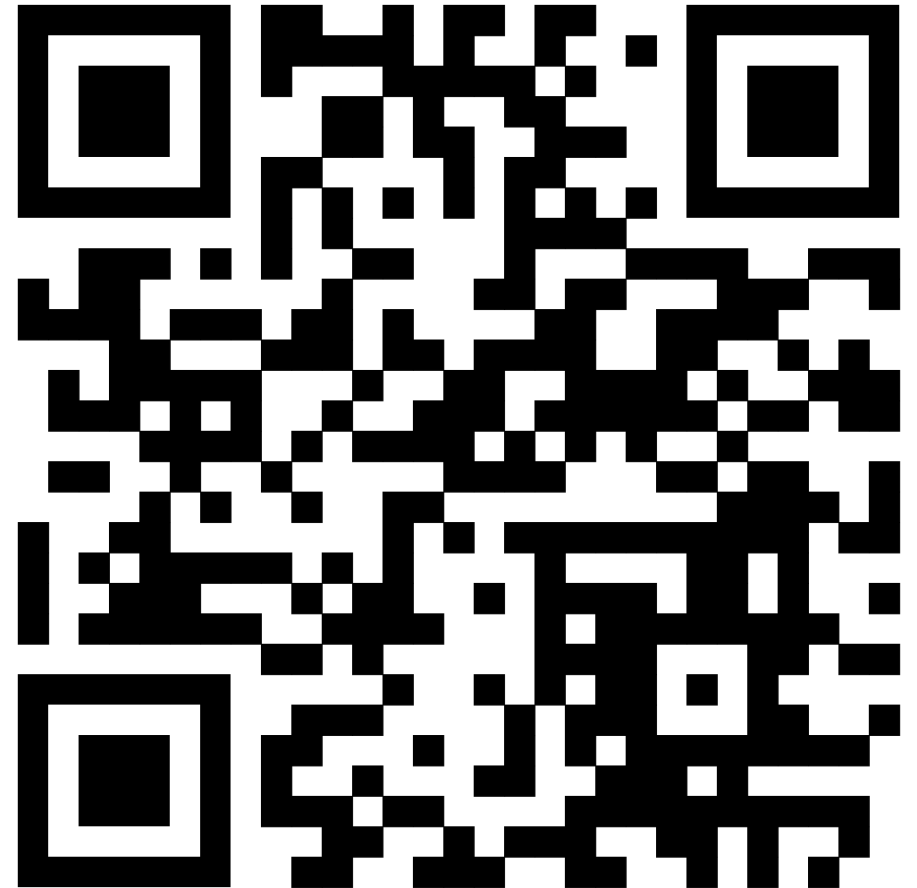
Maximise impact through professional communication and dissemination

Activities



Starting date : Dec. 1st, 2023

<https://eurogeosec.eu/>



#TheEarthTalks



6-10 NOVEMBER

CAPE TOWN, SOUTH AFRICA



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA







**GEO
WEEK
2023
MINISTERIAL
SUMMIT**

From e-shape to EuroGEO: Interlinkages with AfriGEO

Part 2: Capacity Building Round Table

Monday November 6th, 2023 – 17h
to 18 h. Room: Protea

#TheEarthTalks

GEO WEEK & Ministerial Summit 2023



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