



EuroGEOSS Showcases: Applications Powered by Europe

D4.9 User Uptake (b)



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Abstract

The overarching aim of WP4 is the promotion of e-shape pilots at national and international scale, across vertical markets and among user communities, thereby growing a pool of candidates for co-design, making pilots more globally accessible, and increase their market reach.

The objective of this document is to provide an overview of the insights gathered across the three tasks assigned to WP4– User uptake, Capacity building and Institutional alignment, supporting the uptake of the 37 e-shape pilots across new markets and community of users.

e-shape delivers a comprehensive suite of Earth Observation (EO) services to EU citizens, businesses and policy makers through the implementation of 37 pilots spanning across 7 thematic areas, supporting GEO's global priorities including the UN 2030 Agenda for Sustainable Development, the Paris Climate Agreement and the Sendai Framework for Disaster Risk Reduction as well as six out of the eight GEO Societal Benefit Areas : food security, health, energy and mineral resources, biodiversity, water resources, disaster resilience and the transverse Climate topic in GEO.

The report explores through focused and to the point sections the extend to which WP4 has supported the e-shape pilots approaching new community of users, building capacity amongst pilot themselves as well as with new potential users and liaising with other stakeholders to leverage their engagement activities.



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Abbreviations and Acronyms

EO	Earth Observation
COR	Committee of the Regions
EarSEL	European Association of Remote Sensing Laboratories
EGU	European Geoscience Union
SCO	Space Climate Observatory
UNOOSA	United Nations Office for Outer Space Affairs
EMD	European Maritime Days
LRA	Local Regional Authorities
RI	Research Institutes



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Introduction

Background

The overarching aim of WP4 is the promotion of e-shape pilots at national and international scale, across vertical markets and among user communities, thereby growing a pool of candidates for co-design, making pilots more globally accessible, and increasing their market reach. This overarching goal has been defined through three tasks: approaching new community of users (T4.1 User Uptake), building capacity amongst pilot project developers and potential users (T4.2 Capacity Building) and liaising with other stakeholders that can act as multipliers to leverage the efforts of user engagement activities (T4.3 Institutional alignment).

This WP is led by EARSC with the support of, ARMINES, EURISY, EVF, ITC, NOA, and the Showcase Leaders.

Scope of this report

This report compiles the insights gathered across WP4 tasks over M24-M33.

In details:

- T4.1 User Uptake
 - Communities
 - User Uptake workshops
- T4.2 Capacity Building
 - EO maturity indicators
 - eoWIKI
 - Trainings
- T4.3 Institutional Liaison

This report has been produced by EARSC as an intermediate deliverable of the project with the support of EURISY.

T4.1 User Uptake

Sprint1 (2020-2021) and Sprint 2 (2021-2022)

This subsection described the actions pursued during the sprint 1 (2020-2021) of the project built on promoting the utilisation of EuroGEO-enabled services at sectorial, national/regional and international level.

The e-shape user uptake strategy was set up at the beginning of the project (M1-M24) through D4.2 “User Uptake and action plan” promoting the nearest-neighbor assessment of the pilots’ existing communities and their use as a pathway towards sectorial and geographical expansion.

Through the EARSC taxonomy, the e-shape pilots have been mapped to identify possible communities of interest that can be exploited as an effective way to expand existing user communities and/or the uptake of new products or services within them.

Based on the EARSC taxonomy, the communities of users that have the highest degree of alignment with Pilot user uptake can be identified as Policy authorities, International bodies, and Services (e.g. insurance/finance, real estate and travel/tourism). This accurately reflects the state of the market to date, where the public sector is the largest client sector, accounting for the 66% of the total, according to the EARSC EO Industry Survey Report (2021). From the analysis of nearest-neighbor interest sectors, the categories less represented are sectors like managing living resources, industrial and energy and natural resources. The thematic areas with the highest degree of relevance for the pilots are atmosphere and climate, land (ecosystems and inland waters) and ocean and marine.

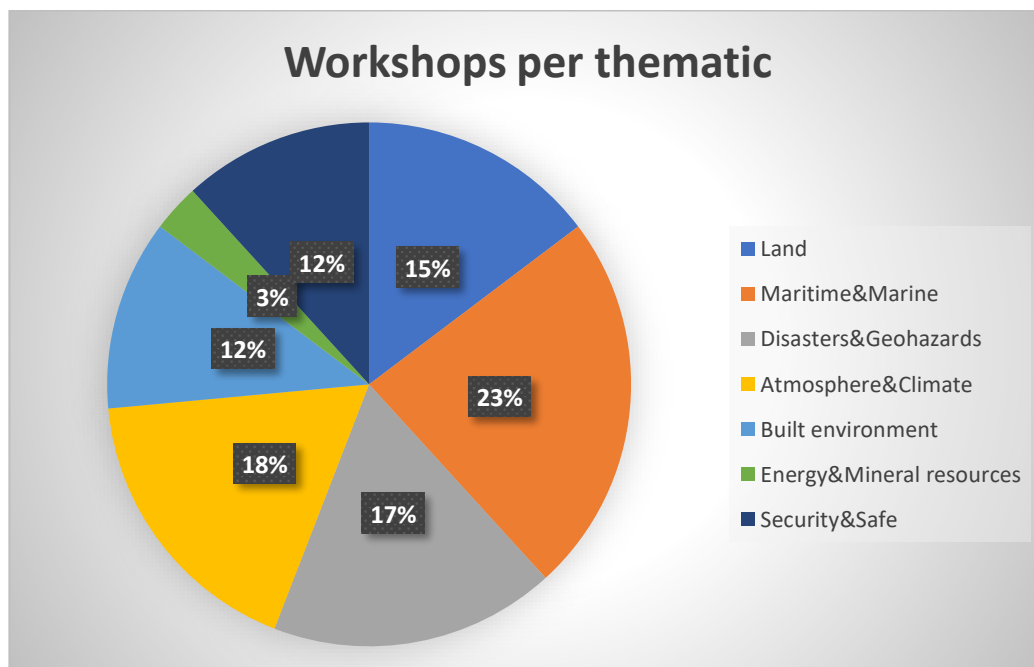


Figure 1 Workshops per community based on the EARSC taxonomy

At expansion level, the community expansion has been supported through the User Uptake workshops. The secondary communities are represented by a network of similar profiles, i.e.



other players in the same sector, and neighbouring sectors that share some of the needs/challenges that could be satisfied by the use of e-shape pilots.

Based on the above-mentioned assumption and analysis outcomes, WP4 identified the most appropriate events to target these users with information to stimulate the interest, engagement and potential uptake and to extract user needs according to WP2 methodology.

At the end of Sprint 1 and beginning of sprint 2, the overall view is the following:

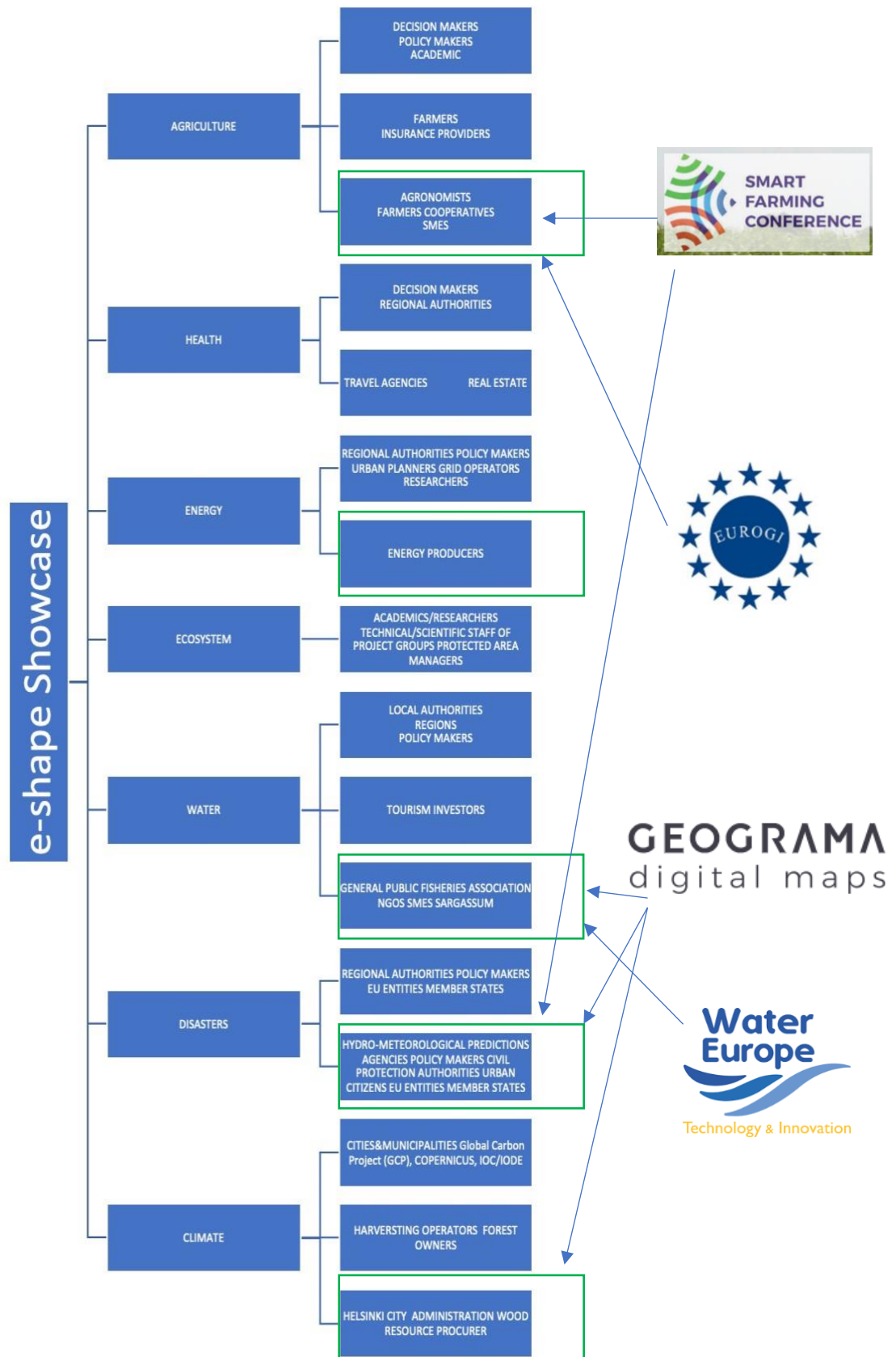


Figure 2 Community of primary and secondary users in green and the workshops that sustained the secondary community quest



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Workshops

EARSC and EURISY between M24-M33 have organised 14 workshops for a total of 31 pilots participating (1 pilot has taken part to 1 or more workshops) and favoured the participation of individual pilots to national or international events considered of interest. Each workshop was organised in a different way and different models were used. Originally the workshops were envisaged mostly as side events embedded within established events targeting communities sharing needs and challenges which could be well addressed by the e-shape pilots. Leveraging the broader audience of the major events potential users could engage to further co-design activity.

The Covid-19 pandemic has quickly overturned the modalities of engagement between the pilots and the stakeholders' communities. It was not always possible to organise side-events within a major event and the vast majority have been delayed or cancelled, when events managed to be maintained all of them where anyways organised in an online mode. This context increased the need to exploit and experiment different events and modalities made available to disseminate the pilots. This affected the possibility to retrieve lists of registered participants from the actual events' organisers as well as the composition of the audience which could not be controlled by the partners.

The workshops have experienced different participation level as depicted by the below figure: Water Europe21 and "Space for Cities from Innovation to Operation" have been respectively the most successful with 70 and 88 participants (the first, a presentation integrated to the main plenary session, the second one, an event), followed by European Maritime Day21 with 50 participants (side event), the lowest is GEOGRAMA21 with 10 participants ("by invitation only" event)

The most prominent thematic community is composed by maritime and marine users representing the 23% of the total sample of participants addressed through this first sprint of workshops organised. This result is directly linked to the thematic workshop organised or attended by e-shape pilots. Indeed, the e-shape showcase area with the highest pilots promoted is Water with 7 thematic workshop and all the pilots presenting their solution at least once. _in terms of stakeholders' type the private sector leads marking the highest participation 11% of the total followed by the public sector (6%), Civil society (6), Government (5), Institutions (4).

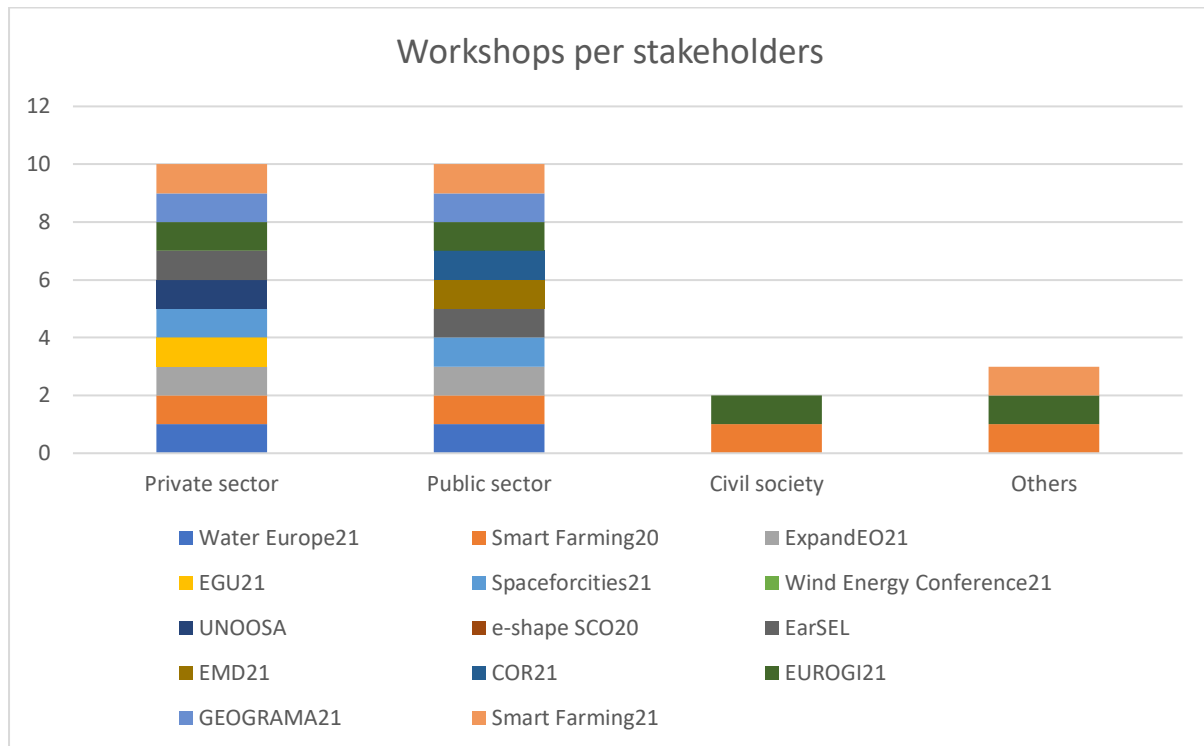


Figure 3 Aggregated data workshops per stakeholders

The overall impact of each workshop reflects the individual pilot's needs and the composition of the participants. The dual approach underpinning the selection and/or organisation of workshops to support the uptake of the e-shape solutions, both sectorial (community expansion) and geographical (market expansion), has been a key feature to provide the pilots with the broadest range of potential hosting events and thus audience reached on one side, while addressing country specific needs and stakeholders on the other. So far, based on the three level of the user uptake strategy methodology:

- 1) the active engagement between the e-shape pilots and the potential community of users, building on the interactions established during the workshops: 31 pilots
- 2)
 - a. User's feedback, to finetune the service: S1P6 's challenge to expand to academic communities was fulfilled through the IRLOGI workshop, providing the pilot with contacts and events involvement as well as data to integrate in the EO service.
 - b. User of the service, meaning the integration of data from the potential user (beta testing-evaluation): The pilot S5P3 expanded geographically (from a UK centre focus to the Mediterranean) and identified some sites of local interest, generating some initial scores for these sites.
 - c. Recurrent user, meaning as goal the adoption of the service from the user (sustainability): For the pilot S5P3, the pilot's new potential user and data provider.



The general positive impacts which could be noticed by the EARSC-EURISY workshops have been:

- For the Water Europe workshop, raising awareness of Earth Observation and the potential of the application in the marine sector to cover aspects like runoff forecasting, spillway design, flood risk, hydrochemical modelling, monitoring the ocean quality and its ecosystem.
- For the Committee of the Regions workshop, supporting the political recognition of EO solutions in innovation policies related to regions and communities. This was also led through EARSC institutional liaison (Joint Action Plan).
- For the IRLOGI and GEOGRAMA workshop, the relation between the e-shape pilots and potential users to support their co-design.
- Moreover, a qualitative outcome is that the audience have a better understanding of the benefits of EO in the reference sectors. This cannot be counted with a specific KPI but has been assessed given the positive feedback received during and after the events organised.

For clarity, in this section we have provided a snapshot of the contribution per community, the totality of the results of the workshops are visible in deliverable D4.8 User Uptake workshops, Annex 1.

In general, all the workshops provided an ideal platform for networking and promoting the European Earth Observation capabilities developed by the e-shape pilots and facilitating exchange both within and between stakeholders from the research community developing applications and the commercial sector providing services.

T4.2 Capacity Building

The aim of this task is to actively engage the e-shape community providing the tools (i.e best practices), methodologies (EO maturity indicators), resources (eoWIKI 2.0) and practical support (training sessions) that can strengthen the capacity to effectively and sustainably use the EO services. To that end, EVF, the leader of this task with the support of EARSC, has enforced the following activities:

- EO maturity indicators
- eoWIKI
- Trainings

The following subsections will provide an overview of each of the tasks.

EO Maturity indicators

This task, led by EVF, involved the assessment of the state of play of EO activities at eight countries which implemented the revised Methodology (EOMI) under e-shape (Austria, Belgium, Bulgaria, Czechia, Finland, Greece, Italy, Portugal). The data gathering based on 5 pillars (stakeholders, infrastructure, uptake, partnerships and innovation) has been conducted by local e-shape partners and validated by external experts in the countries but

also by the EOMI team, who is the ultimate responsible of the validation phase. All countries that took part in this exercise have seen the final results and confirmed the outcome. Based on that information the maturity cards were produced presenting a concise yet complete picture of the state of play of EO activities in each of the participating countries. This tool support the user uptake based on the premises that countries decide to use the results in their roadmaps to drive, among others, understanding the impact of projects or initiatives in helping the country progress and informing on potential future investments.

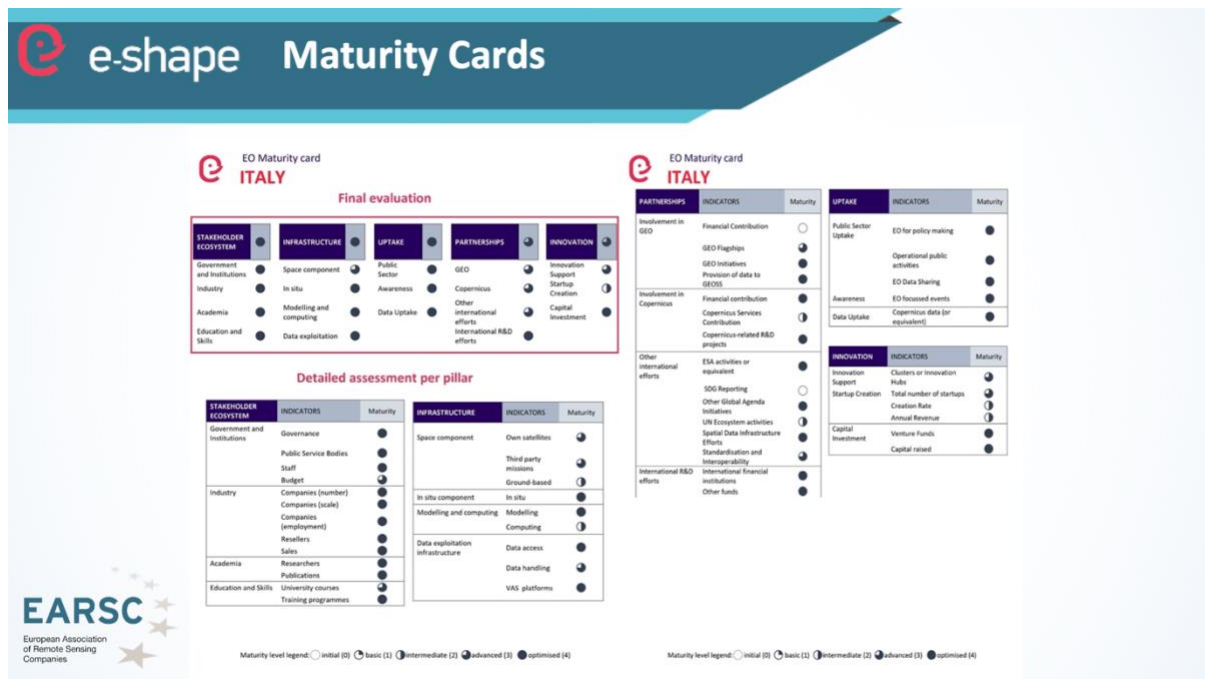


Figure 4 Visualisation exercise EO maturity card from Italy

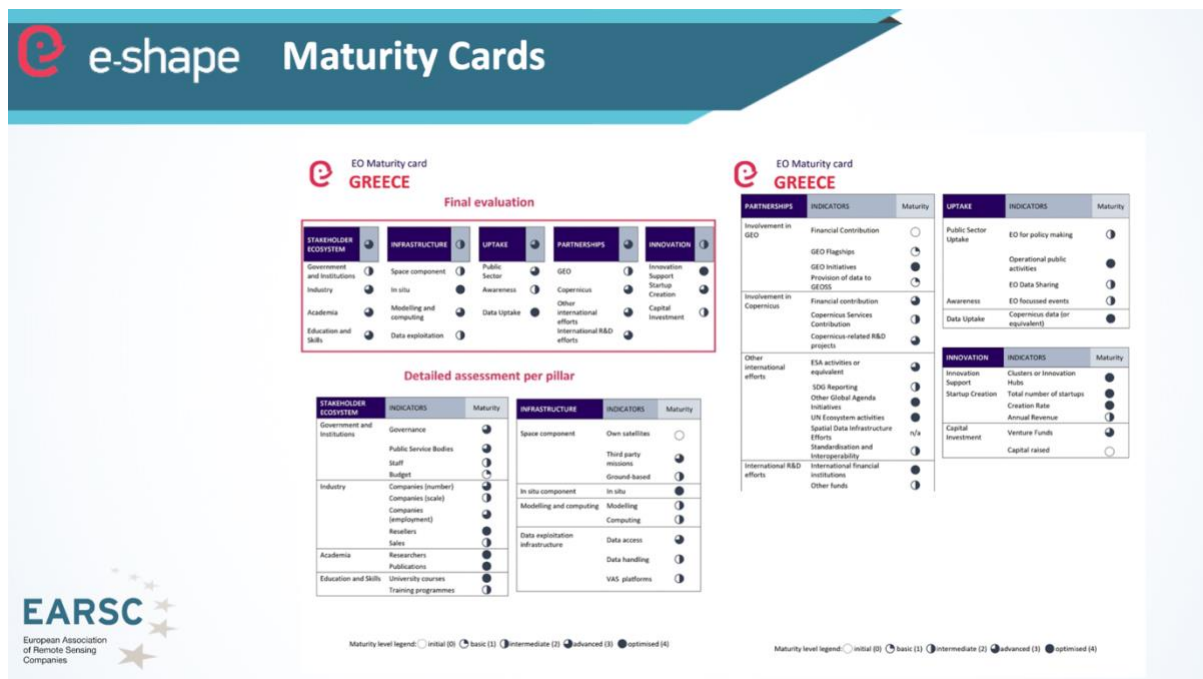


Figure 5 Visualisation exercise EO maturity card from Greece

eoWIKI

EARSC dedication to support the awareness of European Earth Observation capabilities with and for the users is translated in the concept of three online platforms: EoWIKI, eoMALL/eoPAGES. For the purpose of this report, only eoWIKI is addressed. eoWIKI being an accessible and open-to-all online platform resource, has been connected to the e-shape project to sustain the acquisition and knowledge transfer, facilitating the user-provider interactions by delivering key information through best practices, success stories, news on technology and market trends.

Under EARSC's lead, the e-shape pilots have been involved in this objective by integrating their EO services under the format of success stories. Currently, EARSC has created and populated 17 success stories, each corresponding to an e-shape pilot, that have provided the content through a dedicate eoWIKI template. These success stories are embedded in the success stories main page, together with success stories coming from other projects and accessible through the search engine or under the taxonomy thematic sectors.

Moreover, to support euroGEO ecosystem, EARSC has created within eoWIKI platform a "eoWIKI for e-shape" page, dedicated to promote the engagement and the links of the pilots with the broader ecosystem of communities of users. In this way, the web user can:

- 1) Navigate and identify how EO is used through a variety of cases (EO taxonomy)
- 2) Discover the e-shape success stories, enhancing the visibility of the e-shape pilots success stories)
- 3) Get insights to user-related challenges (best practices)
- 4) Discover market and technology trends, business guidance through the e-shape sustainability booster (sustainability)

Concretely, EARSC has launched a call by email to all the pilots to gauge their interest in being displayed on the eoWIKI platform, privileging those with an operational service (TRL 8-9 ready-on-the-market) and providing them with a template to gather the main features of their service. Since 10th June 2020, eoWIKI has had 63.6k visits; the eoWIKI for e-shape dedicated page 235 visits since its publication.

This action, launched in May 2020, is ongoing and currently displays 17 e-shape pilots (SC Agriculture, Health, Energy, Water and Disasters, Climate) under the EARSC taxonomy, and more in the pipeline to be hosted as they have continued their path to development throughout the project. Further reminders are regularly sent to the missing e-shape pilots to provide the success story content. eoWIKI is connected to the EARSC portal and is accessible also from the e-shape website.

eoWIKI – Case studies

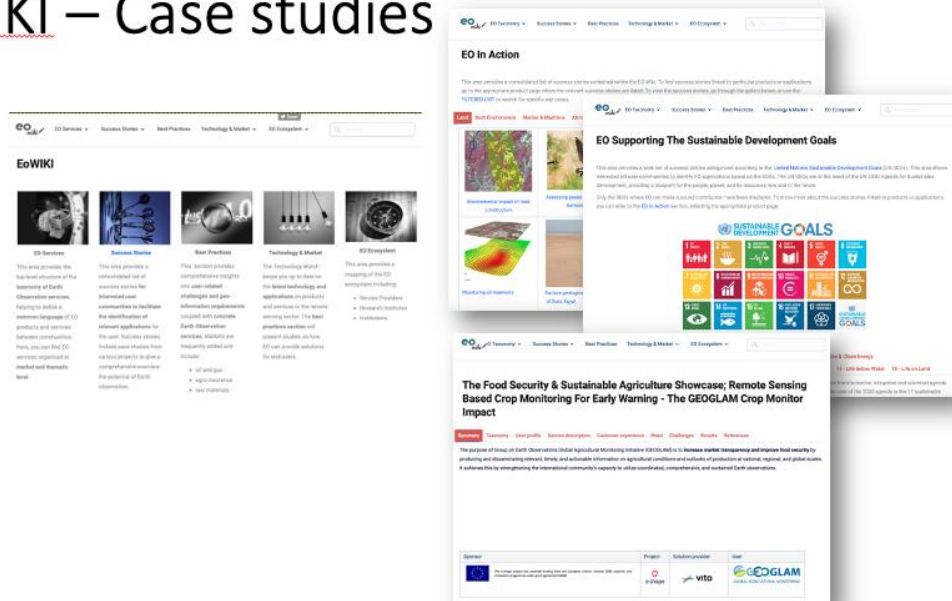


Figure 6 eoWIKI main page

Trainings

This section presents the trainings provided by EARSC, leader of this task, to the e-shape pilots based on the themes covered by the Capacity Building Best Practice Guide, especially on the access and set up of services on top different platforms and preparation of resources for showcasing on eoMALL and eoWIKI.

EARSC has provided three trainings on EARSC's online platforms derived from a need of EARSC to raise even more awareness about the untapped potential of the platforms to support the outreach of EO services and products, as well as their discoverability. These are:

- eoWIKI
- eoMALL
- NextGEOSS catalogue

The first two trainings were supplied during the two e-shape General Assembly, in an online format due to the Covid-19 pandemic, while NextGEOSS was shaped in an *ad hoc* format. Through these trainings, the e-shape pilots have now the knowledge to choose the best platform to display their EO service offering high-value data to their communities of preference.

These trainings support the user uptake on the premises that the pilots decide to make use of these platforms to drive the impact of their EO services.

Institutional Liaison

The objective of this task is to organize engaging actions with European institutions and EO-focused organisations, alongside with thematic and sector-oriented offices, to align institutional support for the promotion of the e-shape pilots within the 7 showcases potential markets.

EARSC has continued to update the mapping of key stakeholders useful for the uptake and planning the interactions.

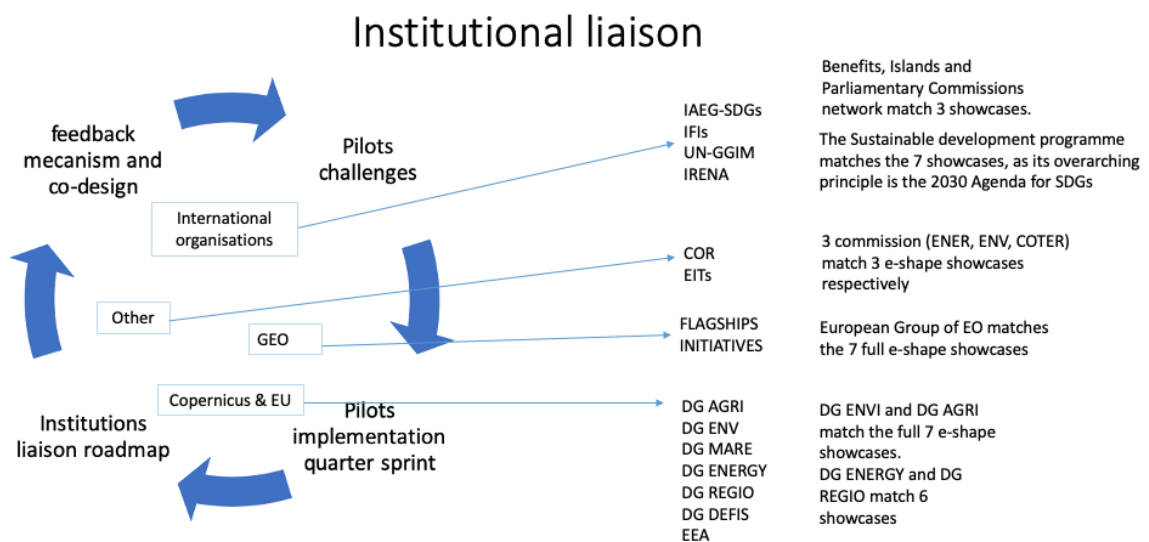


Figure 7 Institutional liaison mechanism

The transition to new community of users has been implemented through the User uptake workshops that have supported the liaison with community of users of interest for the Pilots.

Transition to new community of users

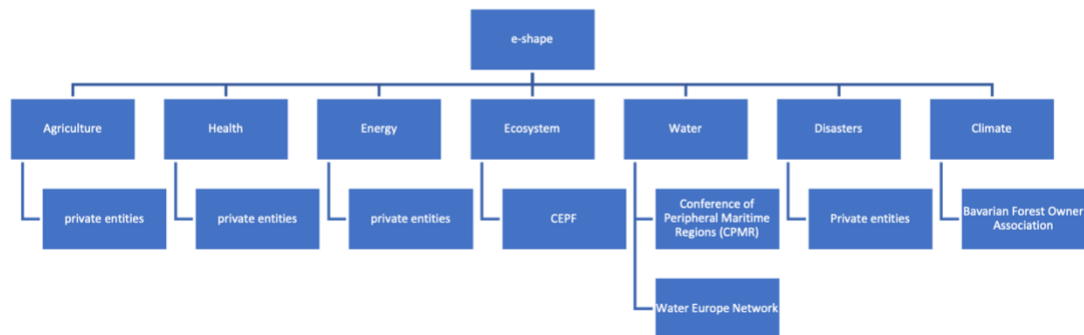


Figure 8 Transition to new community of users

Success achievements considered by EARSC are:

- Committee of the Regions: EARSC and EURISY have established long-term actions for e-shape including the user uptake workshop “European Week of the Regions and Cities 21- Earth Observation solutions for smarter and greener regions and cities: hands-on e- shape pilots”, to connect with member states stakeholders. In this occasion the showcase water resources interacted with CPMR. Through the “Stakeholder consultation on Amending the Renewable Energy Directive to meet the new 2030 climate target”, and a potential Joint Action Plan to establish further grounds of cooperation to support the e-shape pilots, these actions supports the raising of awareness about EO across the COR members formed by countries reuniting regional and municipal entities, of usefulness for the e-shape pilots to reach secondary community of users.
- Water Europe: EARSC has interacted with the water community (non EO expert) following the Water Market Europe workshop in March 2021. A Joint Action Plan is under work to support the integration of this community for the Water showcase.
- Confederation of European Forest Owners: in the context of the Forest Strategy, EARSC has started interactions with the associations to raise awareness on EO, gather the sector insights and promoting e-shape services, particularly from the climate showcase.
- GEO ecosystem: As part of the GEO capacity building working group, EARSC has been invited to contribute to the mapping exercise of the existing GEO Work Programme structure with respect of two GEO engagement priorities (Climate Action, DRR) and one cross-cutting area (Capacity Development) that are addressed by relevant WGs. The GWP mapping covers 64 activities, consisting of 4 GEO Flagships, 21 Initiatives, 34 Community Activities, and 4 Regional GEOs. This GWP mapping exercise will give insight on the current GWP activities, and their needs, gaps and synergies and it is expected it will also provide guidance to the GEO community to advance on the design and priorities of the next GWP 2023-2025. This exercise will support as well the e-shape pilots mapping and integration in GEO.



- Copernicus Relay Offices: support to promote the e-shape Call for EO-based Products 2021-2022.

The institutional liaison mapping and contacts generated have been important to understand the policy context behind the thematic of the e-shape pilot and how the pilot can develop based also on the development of the EU policies.

Conclusion

This report provides an overview of the activities brought forward by WP4 within M24-M33, with the overall goal of promoting the benefits of the e-shape pilots as well as supporting their uptake, their capacity building and the liaison with community of users.

These time-period has shown the promotion of the e-shape pilots through 14 workshops organized by EARSC-EURISY, raising awareness of EO with and for the users and the relations with users; the support in building capacity for the Pilots on certain tools that can implement the uptake of their services in an online presence; and the liaison with EU and international institutions, communities and initiatives to promote the Pilots across different levels to finally create an ecosystem of stakeholders strongly supporting the recognition of Earth Observation.

This support will continue in the following 1, 5 year, with the 10 left user uptake workshops focusing on ecosystem, energy and climate showcases, 3 other trainings starting with “EO licenses to sustain the e-shape pilots uptake” and the ongoing liaison with communities to create long-term action plans.