e-shape

EuroGEO Showcases: Applications Powered by Europe

D5.7 Interim review of on-boarding process as applied to new pilots-Report

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

Abstract

The Interim review of on-boarding process as applied to new pilots presents the process of the evaluation and selection of the 5 new pilots that will integrate the e-shape consortium.

The document briefly introduces the summary of the Call for EO-based Products 2020 and the evaluation jury and it continues with the selection and evaluation phases description:

1) “Process to evaluate the applications”, defines the selection criteria on which the applications have been evaluated
2) “Process of application selection”, describes the detailed process of selection of the 34 applications
3) “Presentation of the 5 best applications”, present the 5 best applications proposed to the consortium and approved by the e-shape General Assembly.

The document describes each of these 3 phases and concludes with the findings, lessons learned and success stories. The on-boarding process has been successful under many points of view: in terms of entities applying, the private sector especially, followed by research institutes and universities; but also in terms of country representation, with applications coming from Europe and outside of the Union, testifying the strong interest in joining and expanding the EuroGEO community.

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S1	Reviewed	**CO**	Confidential, restricted under conditions set out in the Grant Agreement
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S3	Draft for comments	**CI**	Classified, information as referred to in Commission Decision 2001/844/EC.
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Contents

1. Introduction

e-shape is a collaborative project that promotes EU capabilities from Academy, Research and the commercial sector. e-shape aims to improve the understanding of potential uses of EO, to have access to data repositories and tools, to provide information to purchase a service and to find a partner. The e-shape project aims to develop bridges between providers and users from the EU or abroad.

To bring new needs, the latest advances in the EO domain and ideas into the project, following the needs of current EO users and to expand into new community of users, provisions were anticipated to introduce new pilots in the e-shape consortium. This is known as the on-boarding process, led by EARSC.

Such process avoids a static situation where only those pilots which were onboarded at the proposal stage can provide products and services, creating the condition to bring from the exterior further inputs, specifically the private investment sector supporting synergies among the different stakeholders for the greater value of EuroGEO.

The Open Call for EO-based products 2020, launched in June 2020 aimed to onboard 5 new entities. Another on-boarding call will be launched in June 2021, and five new entities will join and contribute to the expansion of the EuroGEO ecosystem for a total of ten new beneficiaries of e-shape.

This document follows the deliverable D5.1 On-boarding Process Refinement about the definition of the on-boarding process and the selection of the new beneficiaries of e-shape. Deliverable D5.7 will present an interim review of the on-boarding process applied to the new pilots which concluded with e-shape General Assembly on 21st October 2020.

2. Call for EO-based products 2020

The Call for EO-based products 2020 provides eligible applicants with the unique opportunity to become a new partner by integrating the e-shape consortium contributing to at least one of the 7 e-shape showcases (agriculture, health, renewable energy, ecosystem, water, disasters, climate). For this call, a grant of up to EUR 50,000 is attributed to each newly onboarded pilot.

The grant is conditioned by the ambition of the pilot to increase the Pilot's TRL from a level 7 to 8-9, combining the use of Copernicus resources and the European Platforms and DIAS, and supported by the e-shape's support actions.

- **Applicants Eligibility**

Single applicant or consortia of applicants were allowed to submit only one application.

Application had to follow the eligibility conditions under the Horizon 2020 Innovation actions as defined in the Annex B and Annex C of the Work Programme.

The new entities eligible to the Call for EO-based products 2020 shall be either:

  - Public bodies,
  - Secondary or Higher education establishments,
  - Research organizations,
  - Companies having a legal entity (including SMEs),
  - Not-for-profit Organizations,
  - International European interest organizations,
  - International organizations.

- **Country eligibility**

Applicants established in the following countries and territories are eligible to receive funding through the Horizon 2020 e-shape project as described in the Annex A of the Horizon 2020 Work Programme.

- **Financial support**

Applicants selected as new pilots and eligible for funding benefit from a maximum allocated funding of 50,000€ per pilot through the Horizon 2020 e-shape project. This allocated funding is to support personnel costs, travel costs, equipment costs, other direct costs + 25% of indirect costs + subcontracting if absolutely necessary. e-shape is an Innovation Action:

  - for-profit beneficiaries have a 70% funding rate;
  - not-for profit beneficiaries have a 100% funding rate.

Call Publication e-shape – "Call for pilots 2020" is supported by:

  - Guide for Applicants, this document as the main source of information,
  - Application Form.

- **<u>Important dates</u>**
    - 8 June 2020: Launch of e-shape call for pilots,
    - 4 September 2020 at 17:00 CET (Central European Time): Submission deadline for Call for EO-based products 2020 through the e-shape helpdesk,
    - 9-29 September 2020: jury-based evaluation process,
    - 12-16 October 2020: e-shape consortium vote for the top 5 applications resulting from the evaluation process,
    - 19-21 October 2020: the five winning applicants are presented during the e-shape General Assembly.

3. The Jury

From the 9 to 29 September 2020 a 20-members Jury evaluated a total number of 34 applications spanning across the 7 e-shape showcases (Table 1).

Internal Jury members:

- EARSC, EVF, PMT have evaluated the total number of applications.
- Showcase representatives: each showcase representative has evaluated the applications correspondent to their own showcase.

External Jury members:

- 8 external jury members have evaluated the applications correspondent to his/her own expertise per showcase to provide a technical and strategic review.
- Helena Los, showcase Water member, provided additional support to the review the applications for the e-shape showcase Water.

Internal		External
Sustainability team EARSC EVF	**SC representatives** S1: Sven Gilliams S2: Sergio Cinnarella S3: Philippe Blanc S4: Ulff Maalst S5: Marc Cloarec S6: Haris Kontoe S7: Mikko Strahlendorff	**ExBo experts** S1: Bente Lilja Bye S2: Patrick Cohendet S3: Siri Jodha Khalsa S4: Barbara Ryan S5: Roberto Tomas Jover, Helena Los S6: Jasper Van Loon S7: Andrea Vaja
PMT		

Table 1-Jury composition

In the following pages a short bio for each jury member is displayed:

Internal Jury

EARSC
Rory Donnelly PhD, Business Manager
Rory Donnelly has a background in both commercial and R&D roles in Australia and Europe. Obtaining a PhD in atmospheric dispersion modelling while working concurrently as a consultant air quality scientist in Australia laid the groundwork for a career bringing cutting edge products and services to market. In Europe Rory has performed air quality modelling for MeteoFrance, written software for renewable energy SAAS products (3E,Belgium), and led teams in commercial R&D, releasing wind and solar online resource estimation tools (3E, Belgium), operational ocean colour and data visualisation products and training packages dedicated to the uptake of marine satellite products (PML, UK). Rory has led and reviewed numerous Framework and regional funded R&D projects and has recently joined EARSC where he will oversee the liaisons with
EVENFLOW
Lefteris Mamais, Co-founder and Director
Lefteris Mamais is Co-Founder and Director of Evenflow. He holds a M.Sc. in Physics - specialisation in Astrophysics and Cosmology with a strong specialisation in developing exploitation and commercialisation strategies for research and innovation projects. Lefteris is leading exploitation and business planning activities in multiple projects (APOLLO, GEO-CRADLE, EOMORES, DiscovAIR, ESA Big Data Migration). With over 7 years of involvement in multiple EO-related activities, Lefteris has developed an in-depth understanding of strategic and programmatic aspects of Copernicus and GEO/GEOSS, a wide network across the whole EO value chain and an extensive knowledge of downstream EO markets. He has solid experience in the management, coordination and technical supervision of large international projects and EC contracts (GEO-CRADLE, GNSS.asia, Copernicus EMS User Guide, European Space Expo). He is the lead analyst in several studies undertaken for EU institutions (DG GROW, ESA, GSA) and associations (EARSC). He is a frequent speaker (e.g. in 2018 in 3, InDust Action in Barcelona) and moderator at key events, including GEPW 2016 and 2017 (sessions on “Industry contribution to SDGs” and “Capacity development”), Copernicus Industry Workshop with EEEs, April 2017, session on “How can industry and EEEs work better together”.
Nico Thom, Innovation consultant
Nico Thom is an innovation expert and consultant with more than 12 years of experience in innovation management for various sectors. He has served as project manager for innovation strategy and innovation development projects in automotive, telecommunications, pharmaceuticals, and the aerospace industry. Other areas of expertise include foresight activities, i.e. structured approaches to include identification and analysis of developments and trends in markets and technology, and the utilisation of derived insights in the innovation process. Examples of recent work include the support of innovation contests such as Copernicus Masters or Galileo Masters, market intelligence activities developed for projects supporting Earth Observation innovation (e.g. project manager of H2020 FIRE which develops the R&I

strategy for Earth Observation in Europe), or activities supporting the uptake of GNSS in public urban transport for GSA. Nico holds a diploma in Business Administration (Diplom-Kaufmann) from Technische Universität Berlin.

Valentina Balcan, Consultant

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Showcase Representatives

Sven Gilliams Showcase Food security and Agriculture

Sven Gilliams holds an MSc degree in agricultural engineering in Land- and Forest management from the K.U. Leuven, Belgium (1998) for his research in the field of spectral signatures for assessing biomass indicators for paddy rice. In 2004 he was employed by IncGeo, a Remote Sensing GIS software development company, where he coordinated the contacts with the Flemish government and the development of specific remote sensing software. During 2005 he joined VITO's agriculture R&D unit were he started working on the Global Monitoring for Food Security (GMFS) project. His main responsibilities within the project were; medium resolution agricultural mapping, the development of a low and medium resolution based early warning service and support for the UN FAO (Food and Agricultural Organisation) / UN WFP (World Food Program) Crop and Food Supply Assessment Missions (CFSAM). Throughout his career at VITO his responsibilities grew first becoming project lead of the GMFS project and later on several other projects (a.o. FP7-SIGMA, UN-IFAD WRF) and coordinator of the Africa portfolio at VITO Remote Sensing. He currently is the team leader leader of the agricultural applications group were he is coordinating a team of 10 experts working on agricultural projects. These projects range from global agricultural monitoring to local precision farming.

Sergio Cinnirella Showcase Health

Sergio Cinnirella is a researcher at CNR-IIA Division of Rende, he has 25 years of experience in GIS and environmental data management. Dr. Cinnirella is WP Leader of large scale EU and national projects (e.g., KNOWSEAS, GMOS) for which developed interoperable systems as contribution to the GEO. He has published over 100 research articles in peer-reviewed literature, international proceedings and books and has been part of several WGs in the framework of UNEP and UNECE-LRTAP related to the assessment of pollutants emission to the atmosphere.

Philippe Blanc, Showcase Energy

Prof. Philippe Blanc graduated from the engineering school SupTelecom and received his PhD degree from MINES ParisTech in 1999 in the field of engineering sciences and applied mathematics. He has been working as a research engineer at Aérospatiale, then Thalès Alenia Space in signal and image processing and data fusion for Earth Observation systems and various projects where scientific support in signal and image processing, statistics, algorithmic prototyping and applied mathematics is required. He joined ARMINES/MINES ParisTech in 2007. He is working on the modelling of solar radiation and its assessment from in situ measurements or/and satellite images. He is the head of the research group involved in renewable energy resource assessment within the research center Observation, Impacts, Energy. He has passed in 2015 his professoral habilitation (Habilitation à Diriger des Recherches) on solar resource assessment using Earth Observation means and is Professor at MINES ParisTech since then. In addition, he is currently a sub-task Leader of the Task 16 of the International Energy Agency

program PVPS “Solar resource for high penetration and large scale applications “and associate editor for the Elsevier journal Solar Energy of the International Solar Energy Society (ISES).
Ulf Mallast, Showcase Ecosystem
Dr. Ulf Mallast holds a diploma in geography from the University of Leipzig, and was awarded his PhD from the Technical University of Freiberg focusing on multi-sensoral remote sensing in the optical-, thermal and microwave spectrum using various platforms (satellite, airborne, UAV) to facilitate the investigation of hydro(geo)logical states and processes and associated fields. In his PostDoc career he stayed with the Geological Survey of Israel and the Leibniz Insitute for Baltic Sea Research Warnemünde (IOW), managed national and international projects, before becoming the co-lead of e-shape's showcase myEcosystem and joining the eLTER Head office.
Marc Cloarec, Showcase Water
Marc Cloarec (DMS) is employed as a remote sensing Engineer at Deimos Space. He graduated from ISITV (Engineering School on marine technologies) in 2015. Then he went to MINES ParisTech, to obtain a PhD in Remote Sensing. The subject of his PhD is the estimation of Bathymetric features using Synthetic Aperture Radar (SAR) data for Marine Renewable Energies. His SAR expertise allows him to work on projects in oil spill detection (EO4BSP) among other things. In Deimos Space, Marc works in the Earth Observation Applications for the marine types applications. He has been working on the e-shape project as the main engineer in the pilot 5 Monitoring fishing activity.
Haris Kontoes, Showcase Disasters
Dr Kontoes Charalampos (Haris) holds the position of Research Director in the Institute for Astronomy and Astrophysics Space Applications and Remote Sensing of the National Observatory of Athens (NOA/IAASARS). He received his Doctorate in Remote Sensing of the Environment (NTUA, 1992). He completed his doctoral studies holding a grant from the European Commission in the Institute for Space Applications of the Joint Research Centre at ISPRA (Environmental Mapping Group, JRC). Since 1992 he has been assuming responsibilities in managing Earth Observation operational & research projects, focusing on risk assessment and mitigation, risk monitoring and management, environmental resource management, and mapping in various contexts and scales. He leads BEYOND Center of Excellence (www.beyond-eocenter.eu) and a highly skilled research team with active participation in Space related projects funded by ESA, EC Framework Programs, H2020, COPERNICUS, and GEO. The Center's activity focuses on Emergency Response (during crisis) and Emergency Support (preparedness and recovery) (according to the Copernicus EMS standards), the protection of Sea and Atmospheric environment, as well as advanced topics relating to Agriculture and Food Security, improved Access to Renewable Energy Resources, and Climate Resilience and Adaptation to Climate Change. Dr. Charalampos (Haris) Kontoes in his capacity as National Delegate in Space fora, he is responsible for leading and coordinating interdisciplinary high level representations in several Decision Making Boards and Program Committees (e.g. ESA PBEO, EC Space Program Committees (FP7, H2020), COPERNICUS Committee, Space Advisory Committee).
Mikko Strahlendorff, Showcase Climate

Mikko is the GEO Principal of Finland, a member of the GEO Executive Committee and Finlands delegate to the Copernicus Committee. In addition to this high level policy connection to GEO, Mikko has a long career in service development for public and commercial weather services. He was the lead developer for the FMI weather services on the web 1998. This service has grown in popularity today to over 200.000 users every day and to half a million in extreme weather situations. The experience to meet user demands and feed the mass interest in information services is core to this project. Mikko can help many more developers to similar experiences. With his current political profile he can combine the big picture with the many small success stories that need to be having their go in European EO services.

PMT

Thierry Ranchin

Prof. Thierry Ranchin is the director of the Centre Observation, Impacts, Energy since 2013. He received his PhD degree in applied mathematics in 1993 and his "Habilitation à diriger les recherches" in 2005. After a postdoctoral fellow in an aquaculture company in Tromso, Norway, he joined the Ecole des Mines de Paris in 1994. He was an invited scientist at the University of Jena, Germany in 1998. His current research interests are through the development of innovating methods: (1) sensor fusion of multisources data, (2) mapping of geophysical parameters for renewable energies, (3) offshore wind energy mapping, (4) renewable energies studies, (5) Geographical Information System and (6) mapping and study of urban areas. He has a patent about sensor fusion and more than 100 publications, communications in international symposia, or articles in journals with peer review committees. He is involved in GEOSS since 2005 as Tasks Leader in the societal benefit area ENERGY. He is the co-chair of the Energy Community of Practices since 2006. He was co-chair of the User Interface Committee of GEOSS between 2007 and 2012. Since 2012, he is Member of the Societal Benefits Implementation Board and of the Institutions and Development Implementation. He has been appointed in 2015 to the GEO Program Board for representing France. He is the scientific coordinator of the H2020 e-shape project.

Nicolas Fichaux

Dr. Nicolas Fichaux is Technical Manager for e-shape and international consultant for renewable energy projects. He owns a PhD in EO-based remote sensing for offshore wind energy, and an MBA with specialization in entrepreneurship. He was successively Project Officer for ADEME where he coordinated the French maritime spatial planning for offshore wind energy projects; Head of Unit for Wind Europe (Brussels) as Secretary General for the Wind Technology Platform (TPWind); and Team Leader for the International Renewable Energy Agency (Abu Dhabi), where he coordinated the Knowledge Management activities, and in particular the development of the OGC-compliant web-service Global Atlas for Renewable Energy - a global renewable energy planning tool, involving 100 members countries, institutes and companies. Reinstated in France in 2017, he joined ARMINES to support the development of e-shape in the framework of EuroGEO. He also advises countries, donors, international organizations and IFIs on enabling frameworks for renewable energy, and project bankability.

Lionel Menard

Mr. Lionel Menard holds a Master's degree (Ms. Eng.) in Information Systems Management from the University of Nice Sophia Antipolis. He has an in-depth knowledge of System Development LifeCycle (SDLC), management of Information System and Spatial Data Infrastructure. He has been the team leader of the Energy contribution from phase 2 to 6 of the GEOSS Architecture Implementation Pilots (2006 – 2013). Since 1996, he has been involved in numerous European Commission funded projects playing key role in advocating, designing, prototyping, developing and monitoring cutting-edge information systems (NextGEOSS (2016 - 2020), ConnectinGEO (2015-2017), EnerGEO (2009-2013), ENDORSE (2011- 2013), MESoR (2007-2009), SoDa (2000-2003)).

External Jury

Bente Lilja Bye, expert Showcase Agriculture
Bente Lilja Bye has been a member of the GEO community since 2004, engaged both as representative in the GEO plenary, in committees and contributing to the GEO Work Programme, and currently represents Norway on the GEO Programme Board. Bente runs a small research and consultancy company, BLB, focusing on transforming Earth observation data to information and knowledge for societal benefit. She is responsible for Communication, Dissemination and Assessment as partner in NextGEOSSRoles and activities in NextGEOSS: Communication, dissemination, sustainability, Cold Region Pilot. Citizen Science, business pilots.
Patrick Cohendet, expert Showcase Health
Patrick Cohendet is full professor at HEC Montréal in the International Business Department. His research interests include Theory of the firm, Economics of Innovation, Economics of Knowledge, Economics of Creativity and Knowledge Management. He is the author of 20 books and over 150 articles in refereed journals, such as Research Policy, Organization Science, Industrial and corporate Change, Journal of Economic Geography, Long Range Planning, etc. He was the supervisor of more than 80 Ph.D. He conducted a series of economic studies on the economics of innovation for different international organisations such as the European Commission, the Council of Europe, the European Space Agency or the Canadian Space Agency. He is co-director of the research group Mosaic at HEC Montréal on the management of innovation and creativity, and co-editor of the academic journal "International Management".
Siri-Jodha Khalsa, expert Showcase Energy
Siri-Jodha Singh Khalsa received a B.A. in Physics from the University of California, Irvine, and a Ph.D. in Atmospheric Sciences from the University of Washington, Seattle. His early work in boundary layer turbulence and tropical air-sea interaction evolved into an interest in large scale inter-decadal trends in atmospheric structure revealed in satellite sounding records. Since 1993 he has supported NASA's Distributed Active Archive Center (DAAC) at National Snow and Ice Data Center (NSIDC) where he performs science evaluation and algorithm support for datasets produced from NASA's Earth observing satellites. Dr. Khalsa is Chair of the IEEE Geoscience and Remote Sensing Society (GRSS) Standards Committee and GRSS's liaison to ISO/TC211 and the Open Geospatial Consortium. He is a member of NASA's Earth Science Data and Information Systems Standards Office. He is also on the Program Board of the intergovernmental Group on Earth Observations (GEO).
Barbara Ryan, expert Showcase Ecosystem
Barbara Ryan's career began in 1974 when she joined the United States Geological Survey (USGS), the nation's largest natural resource science and civilian mapping agency. She advanced steadily in the USGS, earning master's degrees in geography from the University of Denver and in civil engineering from Stanford University. As associate director for geography at the USGS, she was responsible for the agency's remote sensing, geography and civilian mapping programmes, including the Landsat satellites. From 2008 to 2012, she was Director of the World Meteorological Organization (WMO) Space Programme, and from 2012 to 2018, Ryan was the Secretariat Director of the intergovernmental Group on Earth Observations (GEO) in Geneva, Switzerland.

She serves on several Boards and Advisory Committees including the Ecological Sequestration Trust, the International Centre for Earth Simulation (ICES), the International Symposium for Remote Sensing of Environment (ISRSE), and the Jane Goodall Institute. She also serves as a Policy Advisor to the World Geospatial Industry Council (WGIC).

Roberto Tomas Jover, expert Showcase Water

Roberto Tomás Jover is Ph.D, M.Sc. in Civil Engineering and M.Sc. in Geological Engineering by the University of Alicante. Currently he is Professor in Geotechnical Engineering at the Department of Civil Engineering of the University of Alicante. He is director, by the University of Alicante, of the Associate Research Unit IGME-UA of ground movements monitoring using radar interferometry (UNIRAD), leader of the Geotechnical and Structural Engineering (INTERES)research group, collaborator of the of the Geohazards InSAR laboratory and Modelling Group of the IGME and Member of the UNESCO Land Subsidence International Initiative (LASII). His main research interest is in the application of remote sensing techniques to the sudy of geological and geotechnical phenomena and rock masses. The main themes of his work are: a) the monitoring and characterization of landslides, land subsidence and infrastructures using SAR Interferometry; b) rock mass characterization and monitoring using 3D point clouds; and d) rock mass geomechanic classifications and intact rock characterization when subjected to high temperatures or saturation.

Helena Los, expert Showcase Water

Helena Los (DME) is a Project Engineer at DEIMOS Engenharia. She graduated from the Faculty of Geodesy and Cartography at the Warsaw University of Technology from where she also obtained her PhD. In the PhD dissertation she analysed an influence of Synthetic Aperture Radar (SAR) data on results of river ice detection. As a SAR data analyst, she was involved in a project aiming for flood risk assessment (Safedam). Apart from SAR data, she also has experience with optical spaceborne data and GIS analysis used for estimation of drought and crop conditions (SoilAqChar). In DEIMOS Engenharia she works in projects that apply EO data in marine domain and for land cover classification. Helena Los participated in a traineeship programme of the European Maritime Safety Agency during which she was responsible for quality control of data uploaded by Member States to the SafeSeaNet system. She is a founder member of Polish Space Professional Associations.

Jasper Van Loon, expert Showcase Disasters

Jasper van Loon is a Senior Advisor at the Netherlands Space Office (NSO), which is the space agency of the Dutch government. He is the delegate towards the Copernicus Committee of the EC and the Program Board Earth Observation of ESA. On a national level, he is responsible for the national Satellite Data Portal and coordinates several projects to stimulate the use of satellite data within the Netherlands.

Andrea Vadja, expert Showcase Climate

Dr. Andrea Vajda (female) is a senior Research Scientist working in the Seasonal and Climate applications group of the Weather and Climate change impact Research unit with 20 years experience in climate research. She received her PhD in 2007 in Geography from the University of Helsinki. She has been leading the Climate Application group in FMI during 2015-2017. She's been involved and acting as PI for FMI in several EU projects (FP7 RAIN, Copernicus Climate Change service Clim4Energy) and co-leader in national project CLIPS, also leading FMI's seasonal forecast strategy implementation work during 2016-2018. Her recent and current research

projects focus on the assessment of extreme weather events and their impact on various sectors and also sub-seasonal and seasonal forecast product development and piloting in the research-based service design. She has been a co-author 21 publications and almost 40 scientific papers including conference proceedings.

4. Process to evaluate the applications

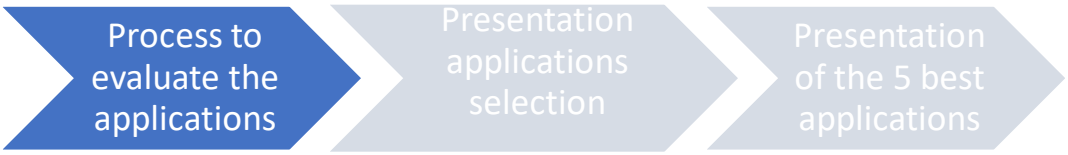

Figure 1-First phase: Process to evaluate the applications

In this first phase (Figure 1), EARSC uploaded and divided the applications per showcase on the on-boarding 2020 Evaluation Application page on Confluence.

Each application passed through a pass or fail eligibility check on completeness of the application.

Eligible applications have been evaluated on 8 independent criteria. Each criterion has been scored 0-5 and was not weighted. Therefore, the theoretical maximum score per evaluation was 40 points.

The criteria were defined as follow:

1. Compliance with the e-shape's KPIs
2. Demonstrated potential and willingness to upscale, based on the elements listed by the "Application" section,
3. The strengthening and promotion of links between GEOSS and Copernicus, showcasing mutual benefits. This also includes European national contributions to and benefits from GEOSS,
4. The coordinated downstream data exploitation of European EO datasets available through the GEOSS (such as Copernicus data sets, data sets from the different European research infrastructures, citizen science initiatives, and national databases of in-situ observations),
5. Coherent data management, using GEOSS Data Management Principles and best practices (INSPIRE-compliant),
6. Significant advances in Earth System Science modelling and downstream product development,
7. Capacity building among current and potential users,
8. Minimum Technology Readiness Level of 7 and clarity of plans to improve to 8/9.

5. Process of application selection

Figure 2- Process of selection of the application

The second phase (Figure 2) corresponds to the process of the selection of applications which has been the following:

- EARSC did a first eligibility check based on the requirement of minimum TRL 7 as stated in the Guide for Applicants.
- Each internal Jury member provided EARSC with their scoring through the dedicated Confluence "On-boarding 2020 evaluation application" page. External Jury members provided them through an excel table by email.
- 9 applications failed and were removed from the evaluation process. 25 applications eligible went through the evaluation selection process.
- For each jury member and for each application, all the 8 criteria were summed and represent the score of a jury member for one application.
- For each application EARSC computed the arithmetic mean from all the jury members that evaluated the application. This mean represented the application mark.
- EARSC presented to the Project Management Team the table with all the applications and the evaluations. The 5 applications with the highest application mark were proposed to join the e-shape consortium.
- EARSC informed the Showcase representatives about the future potential pilots they will have to onboard.
- PMT organized the final vote towards the e-shape General Assembly the 12-16 October 2020. 66% of positive responses from e-shape consortium is needed to finalize the selection (outcomes of the vote are presented Section 7).
- As soon as the 5 applicants were selected, PMT sent them a Non-Disclosure Agreement to access the e-shape Grant Agreement and the e-shape Consortium Agreement.
- PMT organized the signing of the necessary contractual documents for the administrative on-boarding of the pilot teams.
- EARSC organizes in December a kick-off meeting with the new pilots and relevant e-shape partners (PMT, Work Package Leaders and Showcase leaders).

6. Presentation of the 5 best applications

Figure 3- Presentation of the 5 best applications

In the following table the 5 applications proposed to the consortium are displayed.

Title	**Recognition Gmbh (no title)**	**Rank: 1** **Score: 34,47/ 40**
Partners	Riscognition GmBH (DE), eVineyard (SO)	
Showcase	Agriculture (S1)	
Rationale	The overall goal is to provide water regime and plant specific information for automated farm management decision support based on Sentinel-1 and Sentinel-2 imagery for dense temporal coverage. Climate change is affecting local production of agricultural commodities. Fruits, including grapes produced in vineyards and other fruits that are grown in orchards can be significantly affected by a number of climatic and environmental changes which reduces productivity and potentially affects the entire harvest. The challenge is to provide farmers and growers with actionable and timely information to improve their productivity and farming solution sustainability. Our aim is to provide the derived information through an open Applications Programing Interface (API) to our champion user eVineyard which offers a vineyard and orchard management software for optimised fruit cultivation.	
Objectives	1. Integration of water management and plant monitoring API services based on Sentinel-1 and Sentinel-2 imagery into partner decision support system (DSS) going from TRL7 and reaching TRL 9 during the piloting phase 2. Take advantage of e-Shape's co-design and pilot implementation to fast-track the integration of EO based services into the partner DSS. 3. Business development through the integration of e-Shape platforms and the marketing support available through the piloting process to achieve business sustainability.	
Title	**NASU-SSAU - Showcase Agriculture (no title)**	**Rank: 2** **Score: 33,52 / 40**
Partners	Space Research Institute NASU-SSAU (Ukraine), CREODIAS (Poland), Ukrainian Hydrometeorological Center of the State Emergency Service of Ukraine (Ukraine)	
Showcase	Agriculture (S1)	
Rationale	We propose a service for SDGs indicators assessment (2.4.1 and 15.3.1) based on our methodology of 10 m agricultural land productivity and crop type mapping on Sentinel-2 data as well as Sen-4-CAP. This product was developed within GEO-ESSENTIAL|ERA-PLANET project and already has been implemented for small piloting area in Ukraine using AWS and CREODIAS.	

	Within the E-shape project we are going to extend piloting area to the full territory of Ukraine and some of EU and neighboring countries. It will help to extend European best practices (such as Common Agricultural Policy, INSPIRE) to the neighboring countries. Our service is valuable for governmental institutions as an instrument for SDGs and Sendai Framework goals assessment. Commercial companies will get a new source of information for field level productivity and land valuation. Innovative MsSci program and training courses will facilitate capacity building in the area of satellite monitoring in developing countries.	
Objectives	• SDGs indicators monitoring (15.3.1, 2.4.1) • Providing land cover and in-season crop specific maps on regular basis; • Crop area estimation and land cover change detection; • Estimation of land productivity based on time-series of satellite data.	
Title	**EO based phytoplankton biomass for WFD reporting**	**Rank: 3** **Score: 32,4 / 40**
Partners	Water Insight B.V.(the Netherlands)	
Showcase	Water (S5)	
Rationale	A good water quality is the base of a healthy ecosystem with rich biodiversity. Aquatic ecosystems also provide essential services for drinking water, irrigation, recreation, aquaculture and fisheries. The EU Water Framework Directive recognizes this and requires member states to monitor and, if necessary, improve water quality. Although the spatial component is key to gain insight in the processes in water, regular sample-based monitoring only provides point data. The use of earth observation (EO) data for this purpose was promoted by the H2020 EOMORES and CoastObs white paper [1]. To generate further recognition and support for EO based products in the scope of the WFD at political, administrative and management levels, WFD ecological status maps of phytoplankton biomass based on EO data will be provided for selected water bodies, thereby adjusting to local water types and WFD threshold differences.	
Objectives	• Provide WFD ecological status products of phytoplankton biomass for management of selected water bodies, based on Chlorophyll-a concentrations derived from EO data. • Rolling out the approach as a larger-scale service with a potential of a European coverage, thereby adjusting to local water types and WFD threshold differences. • Generate recognition and support for EO-based products in the scope of the WFD at political, administrative and management levels. • Push towards the recommendations as formulated in the white paper 'Satellite-assisted monitoring of water quality to support the implementation of the Water Framework Directive'.	
Title	**Rheticus® AquaculturePlus**	**Rank: 4** **Score: 32,2 / 40**
Partners	Planetek Italia (Italy), BlueFarm srl (Italy)	

Showcase	Water (S5)
Rationale	We intend to bring Rheticus® Aquaculture service from TRL 7 to 9. The service is under development for plants in high sea, and is under demonstration in the Adriatic Sea. We want to enhance it and bring to the market (TRL-9) by developing and validating an algorithm that will make it available both on high sea and near cost. These achievements will be done exploiting Planetek and BlueFarm's expertise, infrastructures and models. Using satellite data and derived measurements of water parameters and a model for shellfish growth, we will provide information about mussels' growth rates, consisting in weekly bulletin, with indicators calculated by the algorithms. Aquafarmers' issues are related to the impact of extreme events due to climate change, leading to changes in the sea temperature and phytoplankton, affecting growth rates and mortality of shellfishes and, therefore, the productivity of farms and the quality of products.
Objectives	• Codesign an enhanced and enriched sustainable service for aquaculture farming, together with selected end-users represented by the AMA – Aquaculture Mediterranean Association • Bring to market the enhanced service (TRL-9), by: 1. Developing a processing chain to obtain water quality parameters close to the shoreline 2. Integrating weather forecast 3. Developing web and mobile apps that will allow a better user experience • Deploy the service on the DIAS, federating the service with the proprietary Rheticus® platform • Organize pilots lasting one year in selected plants (about 10) in Friuli, Veneto and/or Apulia regions. The actual sites will be identified with AMA. • Share and support the Sustainable Development Goals (SDG) / Agenda 2030, and FAO's vision for sustainable food and agriculture
Title	**WindSight - First class input data for wind energy models** / **Rank: 5** / **Score: 31,53 / 40**
Partners	DHI GRAS A/S (Denmark), Technical University of Denmark, Denmark (DTU)
Showcase	Energy (S3)
Rationale	The cost and financing of new wind energy projects on land depends on the Annual Energy Production (AEP) and how accurate it can be estimated. High quality input data for modeling the AEP is valuable for the wind energy industry prior to wind farm construction. WindSight is a suite of novel EO-based products for characterization of the land surface roughness and topography anywhere in the world. Together with state-of-the-art flow modeling tools for wind energy planning and prospecting, WindSight can replace current procedures for land surface characterization,

	which are based on manual assessment, coarse global data sets, or costly airborne measurement campaigns. Provisioning of EO based data sets for wind energy planning must be sustainable. To achieve this, end user requirements at different stages of a wind farm project cycle need to be fully understood and taken into account. Co-creation is the ideal pathway to delivering a service tailored specifically to the needs of each user type. Wind power is one of the fastest-growing renewable energy technologies and the global installed capacity in 2019 exceeded 600 GW. More than 95% of this capacity was installed on land (https://www.irena.org/wind). The business potential of delivering EO data to the wind energy industry is thus enormous. WindSight offers a timely, complementary pilot to on-going e-shape pilots on renewable energy.
Objectives	• Mapping the requirements and the willingness to pay for data at different stages of land based wind farm planning. • Establish co-creation cycles with end users from the wind energy industry. • Develop a sustainable business case for the provisioning of EO data and derived products over land to the wind energy industry.

7. On-boarding2020: presenting the findings

The main findings derived by this first On-boarding process are:

Number of Applications

34 applicants submitted their applications through the e-shape helpdesk. The applicants were private companies, research institutes and universities.

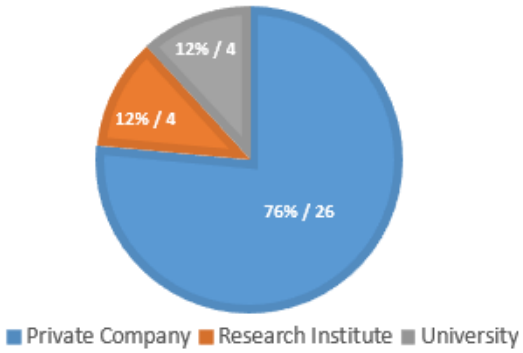

Figure 4-Number of applications

As shown by the graph (Figure 4), the 76% are private companies, the remaining equally divided between universities and research institutes, confirming the interest of the private sector in knowing the GEO ecosystem and contributing to the EuroGEO community.

Country representation

The stakeholders of e-shape are numerous, located across Europe and outside. Several organisations were already part of the project. Of these 34 applications, 3 applications are led by a current-e-shape beneficiary.

The geographic distribution of the applications (Figure 5) shows the interest at European and international level towards the Call for EO-based Products 2020. Besides the countries already part of the e-shape consortium, new countries applied, among which India, Ukraine, Serbia, and Croatia.

This graph shows the first country is Italy with 6, followed by Netherlands, Spain and Germany with 4 applications each.

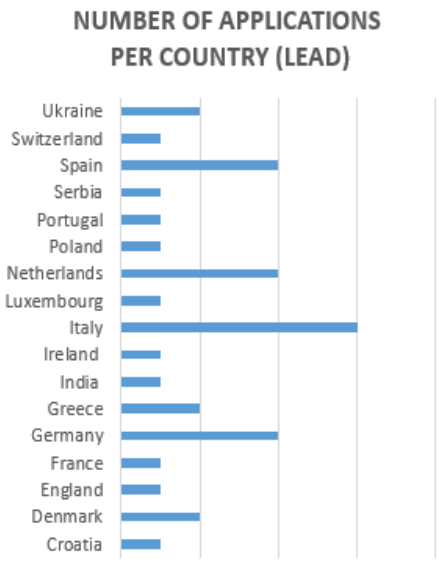

Figure 5-Provenience of the applications

Showcase application

Afront of 34 applicants, a total of 50 applications were evaluated as some applications have multiple showcase targets. This graph (Figure 6), shows that 44% of the total applications are focused in two showcases with the same number of applications, Agriculture and the Climate. 16% is distributed between the Disasters and Water showcase.

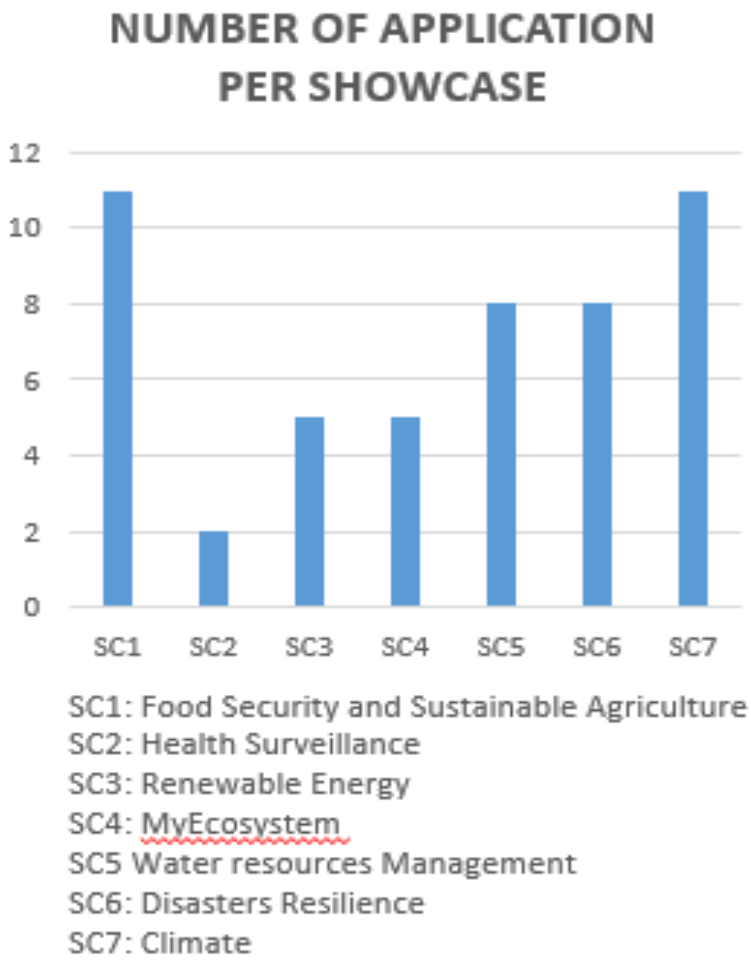

Figure 6-Number of applications per showcase

The General Assembly vote:

The General Assembly was required to vote on the 5 best applications EARSC proposed to PMT. PMT organized the final vote towards the e-shape General Assembly the 12-16 October 2020. 66% of positive responses from e-shape consortium were needed to finalize the selection.

Out of 55 partners, 42 have voted (78%): quorum was 66%.

In details:

- Yes: 36 (84%)
- No: 1 (2%)
- Not pronounced: 6 (14%)

8. Scope and actions

In the following table we describe the scopes and the respective actions to consider for the On-boarding process in 2021.

Scope	Actions
Guide for Applicant • **Call for EO-based products 2020 open to current e-shape partners** • **Evaluation process and scoring procedure** • **Criteria**	• States clearly the eligibility of the current e-shape members to participate to the Call for EO-based Products 2020. • Improve the description of the evaluation process addressing the scoring procedure. • Improve the clarity of the criteria on which the applications will be evaluated upon and include the KPIs as a criterion.
Application Form (applicant point of view) • **Lack of clarity of the criteria**	• Improve the clarity and understanding of the criteria.
Jury • **Contact external Jury experts**	• Consider back up experts for the jury.
Help Desk • **Help Desk – submitting application**	• In the Guide for Applicants improve the description of how the Help Desk works for submitting the applications and get in contact with the SC leaders for questions/opinions. Consider attaching WP6 online guide in the Guide for Applicants.

9. Success stories

Jury selection

The large number of applications received highlighted a potential bottleneck in the selection phase. The external jury's mandate was to provide a technical and strategic point of view for all the applications across the 7 showcases. Initially 2 experts were supposed to review the applications, which was not sufficient with regards to the timeline and manpower required to evaluate each proposal into details. Instead, it was decided to assign one expert for each showcase: in this way, each expert evaluated from 5 to 10 applications corresponding to its expertise, providing added values and comments to each application. Therefore, from a potential problem it resulted in a positive outcome for the evaluation of the applications.

The results in terms of interest and answers to the Call for EO-based Products 2020 exceeded the expectations: from 20 applications expected, 34 proposals were submitted to the e-shape Help Desk (50% more).

Efficient communication

To reach this result, EARSC and NOA have put in place an efficient communication campaign divided in 3 phases:

1) Pre-campaign: May 2020
2) Main campaign: June 2020
3) Post-campaign: September – October 2020

The pre-campaign started the 18th of May 2020. Under EARSC lead, NOA has conducted a teasing campaign of the Call for EO-based products 2020 on the e-shape social media accounts (

-twitter, linkedin, facebook) to reach out to multipliers in the private and research sector.

The main campaign started the 8th of June and lasted until the closure of the Call. This has been the main and most important phase where the reach out process has been completed: EARSC has reach out to its members, EOmall and EOpages database with dedicated emails. The communication outreach was also supported by the e-shape pilots who shared their testimonies on the social media about the concrete actions e-shape is providing them with.

Figure 7- Communication outreach

The post-campaign started the 4th of September and concluded the 21st of October. In this final phase, the communication was to show the success of this initiative and to interact with future potential applicants for the Call for EO-based Products 2021.

10. Conclusion

The on-boarding process is a key element of the e-shape project. It has been a challenging task carried out within the time and modalities detailed by the Deliverable D5.1 “On-boarding Process Refinement”.

For the Call EO-based products 2020, 34 applications have been submitted through the e-shape Help Desk. Most of the applications were from the private sector, testifying the interest of this sector in supporting synergies among the different stakeholders for the greater value of EuroGEO.

A jury formed by the sustainability team, PMT, and external experts evaluated the applications across the 7 showcases. Following the selection process, 5 best applications have been presented to the e-shape consortium and approved by the e-shape General Assembly. They will be formally onboarded after the signing of the necessary contractual documents.

The on-boarding process highlighted the success of the e-shape project, attracting innovative external solutions and private investments solutions into the project, increasing synergies between several of the current initiatives i.e. DIAS, FPA’s, Copernicus Services, GEOSS, Copernicus Accelerator etc. and between Copernicus and GEO institutional arrangements.

The capacity to overcome potential bottlenecks and transform them in success stories through the cooperation of the stakeholders involved, makes the e-shape team a successful one and the result is the on-boarding itself.

Another on-boarding call will be launched in June 2021 and 5 new entities will join the EuroGEO community and contribute to the expansion of the EuroGEO ecosystem.