D6.1 Initial Dissemination and Communities Involvement Strategy and Plans

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Table of Contents

List of Tables

List of Figures

List of Acronyms

Abbreviation / acronym	Description
BBI	Bio-Based Industry
CoO	Club of Ossiach
Dx.y	deliverable number y belonging to WP x
EC	European Commission
EFITA	European Federation for Information Technology in Agriculture
EIP-AGRI	Agricultural European Innovation Partnership
ENoLL	European Network of Living Labs
EO	Earth Observation
EU	European Union
FAO	Food and Agriculture Organization
GEO	Group on Earth Observation
GEO-DAB	GEO Discovery and Access Broker
GEOSS	Global Earth Observation System of Systems
GODAN	Global Open Data for Agriculture & Nutrition
HPC	High Performance Computing
ICT	information and communication technologies
INSPIRE	Infrastructure for Spatial Information in the European Community
IoF2020	Internet of Food & Farm
IoT	Internet of things
ISO	International Organisation for Standardization
ISOBUS	ISO Binary Unit System
OGC	Open Geospatial Consortium
OSGeo	Open Source Geospatial Foundation
RDA	Research Data Alliance
SFSCs	Short Food Supply Chains
SKIN	Short Supply Chain Knowledge and Innovation Network
USTUTT	University of Stuttgart

Abbreviation / acronym	Description
W3C	World Wide Web Consortium
WP	work package

2. Executive Summary

EUXDAT is an EU project developing an e-infrastructure for processing large volumes of data coming from the agriculture domain. Agriculture is a, literally, vital industry. Not only important for nourishment, but also a key determinant of health, economic and political stability; employment; business and biological ecosystems; and society. Because of its importance, most attention focuses on productivity but it is essential to have a global view in order to address environment sustainability problems.

EUXDAT will deploy a state of the art, big data and hybrid HPC/cloud, data exploitation platform on top of the existing partners' infrastructures. This EUXDATA e-Infrastructure will enable users with different profiles (agriculture scientist and practices, planers, decision makers) to fully benefit from the underlying high processing capacities to explore new methods, build new innovative services and to perform predictions and simulations with extremely large and heterogeneous datasets.

During the project, EUXDAT will be in contact with scientific communities, in order to identify new trends and datasets, for guiding the evolution of the e-Infrastructure. The final result of the project will be and integrated e-Infrastructure which will encourage end users to create new applications for sustainable development.

This deliverable is one of the key documents for communicating and disseminating the outcomes of the EUXDAT project. It provides an overview of the main dissemination and communication channels, plans and strategies for stakeholder engagement. Furthermore, the document contains the very first identification of potential user groups. Finally, the document provides a set of success indicators for dissemination, communication and engagement activities.

3. Introduction

3.1 Purpose of the document

This document includes a plan for the project communication, dissemination and collaboration strategy, which will be periodically refined. This is the initial version of this plan and it will be updated on a yearly basis.

The document defines the initial plan for collaboration and a set of success indicators, which will be monitored and evaluated within the update cycle of this report. It identifies the main stakeholders and influencer groups and lays out the dissemination and communication plan for activities to reach out, communicate, and engage with stakeholders.

This deliverable reports about the concept of the website and communication channels and a set of marketing collateral materials including social media.

3.2 Relation to other project work

This document will serve as guidelines for awareness raising of the EUXDAT activities and uptake of the project results in practice ensuring their sustainability. The document relates to all work packages as communication, dissemination and collaboration should be a part of an everyday activity of all project partners.

3.3 Structure of the document

This document is structured in 7 chapters including:

- **Chapter 3 Dissemination and Communication** presents the outreach strategy and the main means for dissemination and communication such as website.
- **Chapter 4 Collaboration** presents the key initiatives and projects EUXDAT will collaborate with.
- **Chapter 5 Target Audiences and Involvement Strategy** presents the identified target user groups and a strategy for their involvement.
- **Chapter 6 Success Indicators** presents the target indicators for every year to be reached.
- **Chapter 7 Conclusions**

The document includes **Annex I** presenting an initial set of events partners intend to organise or participate in.

4. Dissemination and Communication

4.1 Graphical Identity

A visual identity has been created at the early stage of the project to secure a strong and unique brand. This includes the project logo, the obligations from the grant agreement and templates for presentations and documents.

4.1.1 Project Logo

The key visual identity item of the project is the project logo. The logo is part of the project communication and branding. The logo is depicted in Figure 1.

Figure 1: The EUXDAT project logo

4.1.1.1 EU Emblem

According to the Article 29.4 of the grant agreement no. 777549, any dissemination of the project results, in any form including electronic, must:

1. Display the EU emblem[1], and
2. Include the following text:

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement No. 777549

[1] The EU emblem can be accessed at https://europa.eu/european-union/about-eu/symbols/flag_en. When displayed together with another logo, the EU emblem must have appropriate prominence.

4.1.2 Project Templates

Three templates for presentations, deliverables and meeting minutes were created. As an example the first and the last slide of the presentation template are shown in Figure 2 and Figure 3.

Figure 2: The front page of the presentation template

Figure 3: The last page of the presentation template

4.2 Dissemination and Communication Channels

4.2.1 Website

The project website is the central point for all advertisements, dissemination and online communication. The website will become fully operational in January 2018 at the following web address: http://www.euxdat.eu/.

The project website has a WordPress based content management system with the following draft structure:

- **Home**
- **About**
  - *About EUXDAT*
  - *Objectives*
  - *Work packages*
  - *Pilots*
  - *Consortium*
- **News**
- **Blog**
- **Download**
  - *Publications*
  - *Deliverables*
  - *Press Releases*
  - *Promotion*
- **Contact**

The current draft of the website header is shown in Figure 4.

Figure 4: The header of the EUXDAT website

An important part of the website will be the developers' blog. This is a blog dedicated to technical advancements in the project. The project developers will be the main contributors. In addition to the

project progress, the blog will be open to any external developers working on the project solutions or any other relevant solutions. This can be for example a case of any hackathon EUXDAT will organise, the participants will be able to pitch their ideas and progress during the hackathons and share news with others.

The website will be interlinked with project social media channels including in Section 4.2.3 of this document. The website will be monitored by Google Analytics.

In addition to the project website, each partner will include the key project facts in their websites.

4.2.2 Workshops and Events

Workshops, hackathons and other events will be planned throughout the project to attract various user (see Chapter 6 for more details on target groups) groups and get them involved in the project activities. The list of preliminary events scheduled for 2018 is listed in Annex I.

Each workshop or event will be documented and the documentation including photos, minutes, presentations and lists of participants will be uploaded to the project repository. In addition to this, a dissemination log including further details on the activity, such as the estimated number of persons reached, will be filled in.

Partner organising or participating at events will be responsible for appropriate publicity. Each activity will be published in the news section on the EUXDAT website.

4.2.3 Social Media Channels

EUXDAT will communicate the project results through the following social network sites:

- LinkedIn (https://www.linkedin.com/groups/3374609) – EUXDAT adopted the LinkedIn group of the past SmartOpenData project. In this way, the group has got 380 members at the start of the project.
- Twitter (https://twitter.com/euxdat)
- Facebook (https://www.facebook.com/euxdat/)

4.2.4 Leaflets and Brochure

A project leaflet summarising the EUXDAT objectives, key facts and description of pilots will be produced by mid-2018.

A high-quality illustrated project brochure will be produced and published before the end of 2018. The brochure will present the main goals of EUXDAT, its pilots and preliminary results. It will be developed in English and uploaded on the project website for partners and the public to download.

4.2.5 Posters

Displaying eye-catching posters in prominent public positions is a useful technique to get interest of many people. Several posters will be produced during the course of the project to accompany poster sessions or other occasions with the EUXDAT project and its progress and results.

4.2.6 Newsletters

Regular newsletters at key points of project achievement provide already engaged stakeholders with an update of project activities, remind them of the benefits of EUXDAT and encourage them to stay involved or participate in any new tasks that we need input to. Two editions of newsletter per year are expected.

4.2.7 Publications

To increase the publicity of the project it is necessary to present its results in the form of publications with international impact, in professional and scientific journals. Publications in professional journals will attract the attention of researchers, as well as companies that are interested in innovation and increasing their competitiveness.

Open access publications will be written to attract researchers and scientists. Peer-reviewed papers will be published in conference proceedings, journals, impacted journals or in a particular community well accepted magazines.

4.2.8 Press Releases

To reach the wider society through magazines and newspapers, press releases will be issued by all partners at important milestones and events of the project. The press releases will be published on the project website and will be distributed to other communication channels including social network sites. Press releases will be sent electronically directly to magazines, newspapers and news agencies. The press releases will focus on all levels of the technological level of the project and the actual results of pilot solutions.

5. Collaboration

5.1 Collaboration Strategy

Project promotion and results dissemination will also be done through participation in fairs, conferences, exhibitions, workshops and other industry related events at national and international level. The project consortium will collaborate as much as possible with other ongoing projects to exploit opportunities for knowledge and experience exchange.

This chapter includes an overview of the main projects, standardisation bodies and other initiatives EUXDAT will collaborate with.

A major tool for collaboration will be hackathons. Hackathons will be mostly organised with other EU projects such as DataBio[2], IoF2020[3] and NextGEOSS[4] to reach wider audience and secure bigger impact. Selected projects are described in more detail in this chapter to provide a thematic context for collaboration. Project partners are involved in all of these projects and therefore, a close collaboration will be in place. EUXDAT will join the initiative of the Plan4all association organising the INSPIRE[5] Hack series. The details of the INSPIRE hackathons are included in the least section of this chapter.

5.2 Projects

5.2.1 DataBio

Website: http://www.databio.eu

Funding: H2020, ICT-15-2016-2017 Big Data PPP: Large Scale Pilot actions in sectors best benefitting from data-driven innovation

Duration: 01/2017 – 12/2019

This is one of the most relevant projects EUXDAT will collaborate with. The main goal of the DataBio project is to show the benefits of big data technologies in the raw material production from agriculture, forestry and fishery for the bioeconomy industry to produce food, energy and biomaterials responsibly and sustainably.

DataBio addresses this issue by designing and deploying innovative big data solutions based on the partners‘ infrastructures, and demonstrating their power through agriculture, forestry and fishery pilots. The solutions include big data acquisition and curation, predictive analytics and machine learning, real-time analytics and stream processing as well as advanced visualisation.

[2] https://www.databio.eu/
[3] https://www.iof2020.eu/
[4] http://nextgeoss.eu/
[5] https://inspire.ec.europa.eu/

DataBio showcases an effective utilisation of big data for wider uptake by the European ICT industry. This will support efficient decision making and productivity increase in the bioeconomy sector and increase investments in this area.

Agriculture pilot:

- Big data technologies are driving the entire economy including low-tech industries such as agriculture where it is implemented under the banner of precision farming.
- Big data technologies build on geo-coded maps of agricultural fields and the real-time monitoring of activities on the farm in order to increase the efficiency of resource use and reduce the uncertainty of management decisions. Under precision farming, yield is increased due to the precise selection and application of exact types and doses of agricultural inputs (crop varieties, fertilizers, pesticides, herbicides, irrigation water) for optimum crop growth and development.

5.2.2 IoF2020

Website: http://iof2020.eu/

Funding: H2020, IoT-01-2016 - Large Scale Pilots

Duration: 01/2017 – 12/2020

The IoF2020 project is dedicated to accelerate the adoption of the Internet of Things (IoT) for securing sufficient, safe and healthy food and to strengthen competitiveness of farming and food chains in Europe. IoF2020 will consolidate Europe's leading position in the global IoT industry by fostering a symbiotic ecosystem of farmers, food industry, technology providers and research institutes.

The IoF2020 consortium of 73 partners, led by Wageningen University & Research and other core partners of previous key projects such as FIWARE and IoT-A, will leverage the ecosystem and architecture that was established in those projects.

The heart of the project is formed by 19 use cases grouped in 5 trials with end users from the arable, dairy, fruits, vegetables and meat verticals and IoT integrators that will demonstrate the business case of innovative IoT solutions for a large number of application areas.

A lean multi-actor approach focusing on user acceptability, stakeholder engagement and sustainable business models will boost technology and market readiness levels and bring end user adoption to the next stage.

This development will be enhanced by an open IoT architecture and infrastructure of reusable components based on existing standards and a security and privacy framework.

Anticipating vast technological developments and emerging challenges for farming and food, the 4-year project stays agile through dynamic budgeting and adaptive decision-making by an implementation board of representatives from key user organizations. A 6 M€ mid-term open call will allow for testing intermediate results and extending the project with technical solutions and test sites.

A coherent dissemination strategy for use case products and project learnings supported by leading user organizations will ensure a high market visibility and an increased learning curve.

Thus IoF2020 will pave the way for data-driven farming, autonomous operations, virtual food chains and personalized nutrition for European citizens.

5.2.3 NextGEOSS

Website: http://nextgeoss.eu/

Funding: H2020, SC5-20-2016 - European data hub of the GEOSS information system

Duration: 12/2016 – 05/2020

The NextGEOSS project will implement a federated data hub for access and exploitation of Earth Observation data, including user-friendly tools for data mining, discovery, access and exploitation. This data hub will be supported by a strong commitment to the engagement of Earth Observation and related communities, with the view of supporting the creation of innovative and business oriented applications. The main general objectives for NextGEOSS are to

- deliver the next generation data hub and Earth Observation exploitation for innovation and business;
- engage communities, promoting innovative GEOSS powered applications from Europe; and
- advocate GEOSS as a sustainable European approach for Earth Observation data distribution and exploitation.

NextGEOSS engages main providers of Earth Observation data, including Copernicus Collaborative Ground Segments and Core Services. While continuing to support the GEO-DAB and OpenSearch as the middleware components in charge of interconnecting the heterogeneous and distributed capacities contributing to GEOSS, NextGEOSS focuses on a fundamental change to facilitate the connectivity to the European and global data centres with new discovery and processing methods. It will leverage Web and cloud technologies, offering seamless and user-friendly access to all the relevant data repositories, as well as providing efficient operations for search, retrieval, processing/re-processing, visualization, analysis and combination of products from federated sources. NextGEOSS includes a set of demonstrative pilot activities, which will showcase the system's capabilities, and a number of initiatives devoted to engagement of GEO and other EO-related communities.

5.2.4 SKIN

Website: http://www.shortfoodchain.eu/

Funding: H2020, RUR-10-2016-2017 - Thematic Networks compiling knowledge ready for practice

Duration: 11/2016 – 10/2019

SKIN is an ambitious initiative of 20 partners in 14 countries in the area of Short Food Supply Chains (SFSCs). It intends to systematise and bring knowledge to practitioners, promote collaboration within a demand-driven innovation logic and provide inputs to policymaking through links to the EIP-AGRI. SKIN will build and animate a community of about 500 stakeholders, with the strategic objective of setting up, at the conclusion of the project, a European association permanently working for the

improvement of SFSCs efficiency and for the benefit of stakeholders and growth in the sector. The community will be built and animated around the identification of good practices in short supply chains across Europe. Partners will scout, analyse and classify a significant number of cases in different countries. “Best practices” (at least 100) will be systematised, processed into highly usable formats (including video and page-flows) and made accessible to stakeholders via the web (following the EIP-AGRI formats) and through the set-up of regional nodes, to allow a deeper penetration of existing knowledge into practice. The work on good practices will also allow identifying key issues (hindrances or opportunities) around SFSCs. Such issues will be the main themes of 6 “innovation challenges workshops” the purpose of which is to stimulate stakeholders to propose new ideas for innovation based research or innovation uptake. These will be supported in a coaching phase where consortium partners deliver guidance to stakeholders for the full development of those innovative ideas.

SKIN puts significant efforts in dissemination, to reach as many stakeholders as possible, and exploitation, to plan post projects developments in the form of a permanent association that would give continuity to the activities launched with the project (community expansion, circulation of good practices, promotion of research based innovation and linkages with the EIP and policy making instances).

5.2.5 ENABLING

Website: not available at the moment of the deliverable writing

Funding: H2020, RUR-10-2016-2017 Thematic Networks compiling knowledge ready for practice

Duration: 12/2017 – 11/2020

ENABLING is the initiative of 16 partners in 13 EU and associated countries. The main goal to support the spreading of best practices and innovation in the provision (production, pre-processing) of biomass for the BBI (Bio-Based Industry). In particular, ENABLING aims at creating appropriate conditions for the development of efficient biomass to BBPs (Bio-Based Products and Processes) value chains. The consortium’s vision is that Europe bears a huge potential for optimising the supply of biomass into innovative bio-based processes and products. Upscaling biomass production and pre-processing, and combining streams towards the BBPs with those of more traditional bioenergy chains would enhance at least three interlinked types of impact:

- biomass production gains scale to meet higher demand in both sectors (bioenergy and the BBI);
- reinforcement of biomass supply for the BBI benefits smaller BBI players, helping them diversify and consolidate biomass input sources;
- reinforcement of biomass and BBPs linkages may contribute to job-creation, due to the increased need for specialised workers.

To realise such potential, ENABLING also anticipates its longer-term exploitation pathways. In the intention of the consortium, the project should aggregate and engage partners for the establishment of a permanent innovation brokerage platform, likely to become in the future, one of the main

marketplaces and innovation transfer accelerators at European level. In this sense, the project organises its work around two building blocks: one relates to animating the stakeholders (on the farming and BBPs sides), identifying best practices, turning them into easy to access content (in the EIP format) for their potential users and providing stakeholders with coaching and guidance on innovation. The other one looks at future developments, with the consolidation, in a self-sustainable way, of the innovation brokerage platforms after the end of the EU funded initiative.

5.2.6 Aggregate Farming in the Cloud (AFarCloud)

Website: not available at the moment of the deliverable writing

Funding: ECSEL, Electronic Components and Systems for European Leadership

Duration: mid 2018 – mid 2021

Farming is facing many economic challenges in terms of productivity and cost-effectiveness, as well as an increasing labour shortage partly due to depopulation of rural areas. Furthermore, reliable detection, accurate identification and proper quantification of pathogens and other factors affecting both plant and animal health, are critical to be kept under control in order to reduce economic expenditures, trade disruptions and even human health risks.

AFarCloud will provide a distributed platform for autonomous farming that will allow the integration and cooperation of agriculture Cyber Physical Systems in real-time in order to increase efficiency, productivity, animal health, food quality and reduce farm labour costs. This platform will be integrated with farm management software and will support monitoring and decision-making solutions based on big data and real time data mining techniques.

The AFarCloud project also aims to make farming robots accessible to more users by enabling farming vehicles to work in a cooperative mesh, thus opening up new applications and ensuring re-usability, as heterogeneous standard vehicles can combine their capabilities in order to lift farmer revenue and reduce labour costs. The achievements from AFarCloud will be demonstrated in 3 holistic demonstrators (Finland, Spain and Italy), including cropping and livestock management scenarios and 8 local demonstrators (Latvia, Sweden, Spain and Czech Republic) in order to test specific functionalities and validate project results in relevant environments located in different European regions. AFarCloud outcomes will strengthen partners' market position boosting their innovation capacity and addressing industrial needs both at EU and international levels. The consortium represents the whole ICT-based farming solutions' value chain, including all key actors needed for the development, demonstration and future market uptake of the precision farming framework targeted in the project.

5.2.7 Living Labs in Rural Areas (LIVERUR)

Website: not available at the moment of the deliverable writing

Funding: H2020-RUR-2016-2017

Duration: 2018 – 2021

LIVERUR aims at expanding an extremely innovative business model called Living Labs among the rural regions. Living labs are user-centred, open-innovation ecosystems often operating in a territorial context, integrating concurrent research and innovation process within a public-private partnership. The basis for the strategic development of a rural Living Lab is in establishing a sustainable stakeholder partnership; users, policy-makers, companies, researchers enter into agreements on the basis of which they may engage in longer term collaboration. However, a successful Living lab business design can be expected to be highly affected by the specific context of the Living Lab rural environment and by its specific objectives and ambitions. LIVERUR project identifies Living Labs as innovative business models that are currently developing in rural areas, and it will undertake socio-economic analysis to identify, describe and benchmark differences between the new Living Lab approach and more entrepreneurial traditional approaches (mass production, development of prices, optimising the cost structures with the enterprises, rationalisation). LIVERUR project pays particular attention to Living Labs, since they foster a more sustainable mobilisation of resources, improved cooperation between operators along the value chain and lead to new services. Living Lab utilizes the open innovation concept in a wider sense, with success/failure rate determined by empirically based research key factors. Since there is still a lack of empirically grounded studies, the short term objective of LIVERUR is to improve knowledge of business models growing in rural areas, including a thorough understanding of their potential. In the long term the project will increase the potential for rural economic diversification.

5.3 Standardisation Bodies

Standardisation is a key activity of the project. Without standardisation, integration of data and tools from various sources is impossible. EUXDAT has got a dedicated task for this activity, Task 7.3 Standardization. In this section, key standardisation bodies that EUXDAT will closely collaborate with are presented.

5.3.1 Open Geospatial Consortium (OGC)

The OGC[6] is an international not for profit organization committed to making quality open standards for the global geospatial community. These standards are made through a consensus process and are freely available for anyone to use to improve sharing of the world's geospatial data.

OGC standards are used in a wide variety of domains including environment, defence, health, agriculture, meteorology and sustainable development.

5.3.2 World Wide Web Consortium (W3C)

[6] http://www.opengeospatial.org/

The W3C[7] is an industry consortium which seeks to promote standards for the evolution of the Web and interoperability between web products by producing specifications and reference software. Although W3C is funded by industrial members, it is vendor-neutral, and its products are freely available to all.

5.3.3 International Organisation for Standardization (ISO)

ISO[8] is an independent, non-governmental international organization with a membership of 162 national standards bodies.

The most relevant standards for EUXDAT include:

- International standards of 19100 series Geographic Information
- ISO11783 Tractors and machinery for agriculture and forestry -- Serial control and communications data network (ISOBUS) – It specifies a serial data network for control and communications on forestry or agricultural tractors and mounted, semi-mounted, towed or self-propelled implements. Its purpose is to standardise the method and format of transfer of data between sensors, actuators, control elements, and information-storage and -display units, whether mounted on, or part of, the tractor or implement.

5.3.4 Infrastructure for Spatial Information in the European Community (INSPIRE)

The INSPIRE Directive aims to create a European Union spatial data infrastructure for the purposes of EU environmental policies and policies or activities which may have an impact on the environment. This European Spatial Data Infrastructure will enable the sharing of environmental spatial information among public sector organisations, facilitate public access to spatial information across Europe and assist in policy-making across boundaries.

INSPIRE is based on the infrastructures for spatial information established and operated by the Member States of the European Union. The directive addresses 34 spatial data themes needed for environmental applications.

The directive came into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2021.

[7] https://www.w3.org/
[8] https://www.iso.org

5.4 Other Initiatives

EUXDAT partners are involved in several initiatives and associations that can be key players for collaboration and wider exploitation of the project results. An initial list of such initiatives and their short introduction is in this section.

5.4.1 European Federation for Information Technology in Agriculture (EFITA)

EFITA[9] is a European association for IT in agriculture founded in Wageningen in 1996. EFITA's mission is to facilitate the exchange of information and experience, the development of knowledge in the area of ICT in agriculture in order to enhance the competitiveness of Europe and to promote the awareness of ICT in agriculture.

5.4.2 Global Open Data for Agriculture & Nutrition (GODAN)

GODAN[10] supports the proactive sharing of open data to make information about agriculture and nutrition available, accessible and usable to deal with the urgent challenge of ensuring world food security. It is a rapidly growing group, currently with over 618 partners from national governments, non-governmental, international and private sector organisations that have committed to a joint Statement of Purpose.

The initiative focuses on building high-level support among governments, policymakers, international organizations and business. GODAN promotes collaboration to harness the growing volume of data generated by new technologies to solve long-standing problems and to benefit farmers and the health of consumers. We encourage collaboration and cooperation between stakeholders in the sector.

5.4.3 Plan4all

Plan4all[11] is a non-profit association sustaining and further enhancing the results of multiple research and innovation projects. Plan4all conducts research and experimental development and transfers the gained knowledge into practice.

Plan4all aggregates large open datasets related to planning activities in different specialisms including spatial planning, transport, urban planning, environment, tourism and precision farming. Plan4all makes sure that open data are easily accessible for reuse, data are maintained and their quality is improved.

[9] http://www.efita.org/
[10] http://www.godan.info/
[11] http://www.plan4all.eu/

Plan4all is an umbrella organisation of 38 partners from 18 countries including public bodies, universities, research organisations and business partners. Plan4all is a member of the Global Open Data for Agriculture and Nutrition (GODAN) initiative.

5.4.4 Global Earth Observation System of Systems (GEOSS)

GEOSS[12] is a set of coordinated, independent Earth observation, information and processing systems that interact and provide access to diverse information for a broad range of users in both public and private sectors. GEOSS links these systems to strengthen the monitoring of the state of the Earth. It facilitates the sharing of environmental data and information collected from the large array of observing systems contributed by countries and organizations within GEO. Further, GEOSS ensures that these data are accessible, of identified quality and provenance, and interoperable to support the development of tools and the delivery of information services. Thus, GEOSS increases our understanding of Earth processes and enhances predictive capabilities that underpin sound decision-making: it provides access to data, information and knowledge to a wide variety of users.

This 'system of systems', through its Common Infrastructure, proactively links together existing and planned observing systems around the world and support the need for the development of new systems where gaps currently exist. It will promote common technical standards so that data from the thousands of different instruments can be combined into coherent data sets.

The 'GEOSS Portal' offers a single Internet access point for users seeking data, imagery and analytical software packages relevant to all parts of the globe. It connects users to existing data bases and portals and provides reliable, up-to-date and user friendly information – vital for the work of decision makers, planners and emergency managers.

5.4.5 Club of Ossiach

The Club of Ossiach is a group of agriculturists, agribusiness managers, agriculture and forestry technologists, environmentalists and agricultural ICT specialists from around the world. They meet periodically at Ossiach to collectively discuss and collaboratively act on influencing the use of information and communications technologies (ICTs) to improve agricultural productivity, profitability and contribution to food and nutritional security and safety globally.

[12] https://www.earthobservations.org/geoss.php

5.4.6 Food and Agriculture Organization (FAO)

The FAO[13] is a specialised agency of the United Nations that leads international efforts to defeat hunger. Serving both developed and developing countries, FAO acts as a neutral forum where all nations meet as equals to negotiate arguments and debate policy.

FAO is also a source of knowledge and information, and helps developing countries in transition modernize and improve agriculture, forestry and fisheries practices, ensuring good nutrition and food security for all.

5.4.7 European Network of Living Labs (ENoLL)

The ENoLL[14] is a community of Living Labs with a sustainable strategy for enhancing innovation on a systematic basis. The overall objective is to contribute to the creation of a dynamic European innovation system. ENoLL aims to support co-creative, human-centric and user-driven research, development and innovation in order to better cater for people's needs.

5.4.8 Open Source Geospatial Foundation (OSGeo)

The OSGeo[15] is a not-for-profit organization whose mission is to support the collaborative development of open source geospatial software, and promote its widespread use.

5.4.9 Research Data Alliance (RDA)

The RDA[16] builds the social and technical bridges that enable open sharing of data. The RDA vision is researchers and innovators openly sharing data across technologies, disciplines, and countries to address the grand challenges of society.

The current global research data landscape is highly fragmented, by disciplines or by domains, from oceanography, life sciences and health, to agriculture, space and climate. When it comes to cross-disciplinary activities, the notions of "building blocks" of common data infrastructures and building specific "data bridges" are becoming accepted metaphors for approaching the data complexity and enable data sharing. The Research Data Alliance enables data to be shared across barriers through focused Working Groups and Interest Groups, formed of experts from around the world – from academia, industry and government. Participation in RDA is open to anyone who agrees to its guiding principles of openness, consensus, balance, harmonisation, with a community driven and non-profit approach.

[13] http://fao.org/
[14] http://www.openlivinglabs.eu/
[15] http://www.osgeo.org/
[16] https://www.rd-alliance.org/

The RDA was launched as a community-driven organization in 2013 by the European Commission, the United States National Science Foundation and National Institute of Standards and Technology, and the Australian Government's Department of Innovation with the goal of building the social and technical infrastructure to enable open sharing of data.

With over 6,300 members from 132 countries (December 2017), RDA provides a neutral space where its members can come together through focused global Working and Interest Groups to develop and adopt infrastructure that promotes data-sharing and data-driven research, and accelerate the growth of a cohesive data community that integrates contributors across domain, research, national, geographical and generational boundaries.

5.5 INSPIRE Hackathon Series

In 2016, the INSPIRE Conference hosted the first INSPIRE hackathon on volunteered geographic information and citizen observatories - the INSPIRE Hack. The organisers, mostly representatives from European research and innovation projects, continued with this activity during the next INSPIRE Conference 2017.

The INSPIRE Hack is a collaborative event for developers, researchers, designers and others interested in open data, volunteered geographic information and citizen observatories. The main driving force of the INSPIRE Hack are experts from existing EU projects.

The main objective of the INSPIRE Hack is to share knowledge and experience between the participants and show to wider audiences the power of data and information supported by modern technologies and common standards coming from INSPIRE, Copernicus, GEOSS and other initiatives.

There are three main outcomes of the series of hackathons:

- Enhanced access to data and tools;
- Improved interoperability of open data, volunteered geographical data, and data from citizen observatories;
- Integrated capacity building.

As part of the hackathons, data and tools from the projects are made available to the participants. In making the resources available for the hackathon, others will also benefit from improved access. Since the resources are listed in one place, it is also easy for others to find it and therefore the hackathon represent additional dissemination of the project results also after the lifetime of the project itself.

Several projects and initiatives, including the INSPIRE directive itself, are contributing to the interoperability of inhomogeneous data from various sources. However, often the last steps of interoperability remains before actually making it work.

Through bringing expert of all ages together, and including students as well, capacity building is implicitly taking place. In addition, some of the tributary hackathons are directed directly to students. The hackathons have also contributed to sustainability of the networks and stakeholder groups engaged in the various projects as the hackathons provide a meeting place for the interested individuals after the end of projects

Based on the experiences described above, an INSPIRE Hackathon concept has been developed. Using the INSPIRE infrastructure as an umbrella or framework for continuous inclusion of new contributions from European and international professional networks and projects such as the H2020, GEOSS and Copernicus.

In addition to the main INSPIRE Hackathon included in the annual INSPIRE conference, several so-called satellite Hackathons will be organized. The satellite hacks serves two purposes; they provide continuity and they allow new experts, groups and networks to join. These continuous satellite hacks involving more and more communities will gradually grow the hackathon. It also ensures that attention is given to new challenges in a timely manner. Another aspect of the INSPIRE hackathon concept is the capacity building. Maintaining a hackathon network will result in transfer of knowledge and skills across the existing smaller focused groups and networks, and a growing network of experts can also allow some training of younger talents/experts.

Below follows a description of a vision for the INSPIRE hackathon. This vision is meant to be used in recruiting new organizations and individuals. The authors have identified several organizations that would benefit from taking part in the INSPIRE hackathons, such as OGC, EuroGeographics, GODAN, etc.

6. Target Audiences and Involvement Strategy

EUXDAT will build up a large data analytics-as-a-service e-infrastructure with several software layers supporting sustainable and productive agriculture, soil protection, water protection, regional biodiversity and green infrastructure development. The robust e-infrastructure will be connected to heterogeneous data sources, combining expertise from various disciplines and the results of past successful projects in the areas of agriculture, forestry, green infrastructure, spatial and environmental planning, geomatics and ecosystems.

EUXDAT research activities will support cooperation of different scientist, citizens and industries on development of innovative knowledge management that will support sustainable development by means of complex data analytics on the extremely large datasets that are generated and those that are already available. Research activities will be supported by three pilots, which will be realized in cooperation of all partners and which will also invite external users. Scenarios including land monitoring and management, soil protection and energy efficiency analysis produce huge amounts of data and will produce much more in the subsequent years. Therefore, it is necessary to address the scalability and variety issues with the adequate tools for analysis.

In the case of scientific communities related to Earth observation and environmental sciences, the use of new technologies such as array databases is gaining momentum, thanks to their performance and capability to exploit the parallelization and scalability available in HPC infrastructures. Therefore, the proposed solution should facilitate the integration and usage of this kind of technology, together to novel technologies for real-time analytics.

In addition, groups of the Research Data Alliance (RDA) have raised some issues related to the data preservation in the long-term and the e-infrastructures that should support it. It is clear that more and more data will be created, processed and stored in the coming years, which could be useful for the research community, but such an amount of storage cannot be provided by a single infrastructure owner or end user. Consequently, it is necessary to provide a solution, which will assume that datasets will be distributed among different infrastructures and that their accessibility could be complex, needing to have mechanism that facilitate data retrieval, processing, manipulation and visualization as much as possible.

Building an efficient and reliable infrastructure is as difficult as optimising the use of the available resources. The openness of the available infrastructure to external user adoption and the efforts put in this direction are as important as the technical challenges of building the actual infrastructure. It is these efforts that lead to the infrastructure sustainability, that enlarge its user base and that ultimately maximize the societal benefits from its use.

EUXDAT presents an effective way of maximising the benefits from the existing European e-infrastructure assets, building on national and pan-European projects, which will be useful for actual and future European challenges in sustainable development.

Outside of consortium EUXDAT will focus on three specific target audiences:

- Academic and Research audience;
- Technical staff and the Management of industrial organizations;
- Specific Public Authorities.

Within each of the audiences, different stakeholders for exploitation will be identified (e.g. those focusing on a technology specialism, a segment of the market or on use case fields such as energy or transport), that will be involved in the activities.

Additionally, other audiences include policymakers, students, analysts and the media, although the larger portion of the actions aimed at these latter groups will be part of the communication activities. Involvement activities will differ from dissemination involving professional and technological knowledge aiming to a larger public (including a wide number of targets: from citizens, to end-users and stakeholders at large) and necessarily focusing on a few key headlines outlining the project's results to promote the project and enhance its visibility.

Involvement strategy is focused on transferring knowledge, and depending on the knowledge to be transferred and the target audience:

- **Academic and research community** - is best targeted through journals and conferences, management roles through short whitepapers and webinar briefings, Scientific papers reflecting the progress and the most promising developments and achievements in EUXDAT project will be published in renowned peer-reviewed open-access journals and also presented at the major conferences in the field, namely by the scientific partners.
- **Industrial audience** - the EUXDAT technologies will be presented by the industrial partners in fairs and exhibitions. To this purpose, information material for the industry will be created and distributed. More importantly, the consortium members will use their connections to current industrial partners to disseminate the results and launch future collaborations applying the EUXDAT goals. This can be technology suppliers as well as end-users. The publication of articles promoting the project and its most promising results will also be made in industrial technical and marketing magazines specialized in the agriculture/farming field.
- **Public authorities awareness** - local and national authorities will also be informed of EUXDAT results and benefits, not only for producers but also for the public administration: such a comprehensive information and decision system could be critical for the development of future public policies, adapting them to the actual needs and prospective of a changing climate and economy. Due to the characteristics of the agricultural sector and its high dependency on public policies and funds, the involvement of the administration will be key for a broad and efficient implementation of HPC solutions in agriculture, adapted to each producer's needs.
- **Demonstrator sites** - the EUXDAT demonstrator sites will act as test benches for the new technology solutions in agriculture. Series of demo days, workshops and online content will be arranged in the end of the project, involving all the three different audience.

7. Success Indicators

EUXDAT will evaluate the impact and results achieved through the dissemination and communication campaigns by means of success indicators. Evaluation of communication results will be carried out at the end of each year.

If there are substantial differences between the planned results, the consortium will evaluate the impact and decide on the measures to be taken to ensure the quality and effectiveness of dissemination and communication.

Table 1: Success Indictors

No.	Indicator	Description	Expected numbers		
			Year 1	Year 2	Year 3
1	Website visits	Number of unique monthly website visitors	100	180	250
2	Project events	Number of events organised or co-organised by EUXDAT	4	5	6
3	Participation at events	Number of event where EUXDAT partners will actively participate	10	15	20
4	LinkedIn	Number of LinkedIn EUXDAT group members	450	500	550
5	Press releases	Number of press releases	2	2	2
6	Publications	Number of scientific publications	2	3	4
7	Newsletter	Number of newsletters	2	2	2
8	Blog posts	Number of blog posts on the EUXDAT website	10	20	20

No.	Indicator	Description	Expected numbers		
			Year 1	Year 2	Year 3
9	Hackathons	Number of organised or co-organised hackathons	2	2	2
10	Twinning	Number of projects or initiatives EUXDAT is twinning with	4	8	12

8. Conclusions

This deliverable includes initial ideas, plans and strategies for dissemination, communication and collaboration. The project is at its start and some of the strategies or plans will need to be adapted or extended to reflect the actual status of the project development and any unforeseen actions.

The most important will be to keep track of all the activities, record them and compare with the success indicators defined in Chapter 7 Success Indicators. The evaluation of the success indicators will be done on an annual basis. However, recording of the activities, reached audience etc. will be happening instantly at the time when the dissemination activity is happening or is starting to be planned. The evaluation will result in necessary actions to improve the project visibility and uptake, taking into account the success indicators and feedback from end users obtained during the dissemination and communication activities.

EUXDAT is a complex project as it is mainly focused on technical advancements and research. There 2 out of 9 partners acting as liaisons between EUXDAT and large communities of farming oriented organisations (members of Club of Ossiach) and geospatial open data organisations (members of Plan4all). These two organisations will play a crucial role in uptake of the project results, which will need to be translated into easy and understandable messages and communication for the end users.

9. Annex I: Initial List of Events

Table 2 lists foreseen events which will be either organised by EUXDAT or where EUXDAT will be presented.

Table 2: Initial list of events for 2018

Event	Location	Date	Website	Description
Big, Open Data and Open Source Software in Practice	Prague	22/01/2018	http://www.wirelessinfo.cz/cs/workshop-velka-a-otevrena-data-a-otevreny-software-pro-praxi/	A joint event of open geodata and open source software
Prague INSPIRE Hack 2018	Prague	23-24/01/2018	http://www.plan4all.eu/prague-inspire-hack-2018/	One of the hackathon of the INSPIRE Hack series
EUDAT Conference "Putting the EOSC vision into practice"	Porto	22-25/01/2018	https://eudat.eu/eudat-conference-2018-programme	Presentation of EUXDAT project (presenter: ATOS)
EUDAT Conference "Putting the EOSC vision into practice"	Porto	22-25/01/2018	https://eudat.eu/eudat-conference-2018-programme	Presentation of EUXDAT project (presenter: ATOS)
Inspirujme se …	Prague	27-28/02/2018	http://www.inspirujmese.cz/	A national INSPIRE conference.
DataBio Stakeholder Event	Almeria	01/03/2018		A joint event of DataBio and IoF2020
OGCE Meeting	Orleans	19-23/03/2018		A hackathon will be organised by EUXDAT and other EU projects
Workshop on Sustained Simulation	Sendai	21-22/03/2018	Individual registration, not yet available	Presentation of the architecture considered (USTUTT)

Event	Location	Date	Website	Description
Performance	Stuttgart	TBD		
ISC High Performance 2018	Frankfurt	24-28/06/2018	http://isc-hpc.com/	Automated presentation at USTUTT booth
INSPIRE Conference 2018	Antwerp	17-21/09/2018	https://inspire.ec.europa.eu/portfolio/inspire-conferences	INSPIRE Hack 2018, common workshops with other EU projects, presentations and posters
Joint conference of ISAF, Geomatics in Projects and Plan4all	Pilsen	03-04/10/2018	https://kgm.zcu.cz/geomatics-in-projects-2017/	The Joint conference brings together three different conferences, but all focused to applications of geosciences
SuperComputing 2018	Dallas	11. – 16/11/2018	https://sc18.supercomputing.org/	Automated presentation at USTUTT booth