



D7.2 Dissemination, communications, exploitation and communities engagement strategy

Document Identification					
Status Final Due Date 28/02/2023					
Version	1.0	Submission Date	28/02/2023		

Related WP	WP7	Document Reference	D7.2
Related Deliverable(s)	D7.1	Dissemination Level (*)	PU
Lead Participant	TUBS	Lead Author	Michalke, Marc
Contributors	TUBS, FBA/FBC, ATOS, L-PIT, ZSCALE, XLAB, ENG, RHT, SUITE5, SSEA, FGC, CRF, PSNC, BSC, NCSRD, SIXSQ, NKUA, UPC, CeADAR, WSE	Reviewers	Rosalia, Davi, SSEA

Keywords:

Dissemination, activities, standards, exploitation, liasons, engagement

This document is issued within the frame and for the purpose of the ICOS project. This project has received funding from the European Union's Horizon Europe Framework Programme under Grant Agreement No. 101070177. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the European Commission.

The dissemination of this document reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains. This deliverable is subject to final acceptance by the European Commission.

This document and its content are the property of the ICOS Consortium. The content of all or parts of this document can be used and distributed provided that the ICOS project and the document are properly referenced.

Each ICOS Partner may use this document in conformity with the ICOS Consortium Grant Agreement provisions.

(*) Dissemination level: (PU) Public, fully open, e.g. web (Deliverables flagged as public will be automatically published in CORDIS project's page). (SEN) Sensitive, limited under the conditions of the Grant Agreement. (Classified EU-R) EU RESTRICTED under the Commission Decision No2015/444. (Classified EU-C) EU CONFIDENTIAL under the Commission Decision No2015/444. (Classified EU-S) EU SECRET under the Commission Decision No2015/444.



Document Information

List of Contributors	
Name	Partner
Marc Michalke	TUBS
Admela Jukan	TUBS
Fin Gentzen	TUBS
Francisco Carpio	TUBS
Lara López	ATOS
Claire Chain	BULL
Antonio Salvador	FundingBox
Ola Sawicka	FundingBox
Weronika Gąsior	FundingBox
Diana Järve	FundingBox
Julia Gościańska-Łowińska	L-PIT
Ivan Paez	ZSCALE
Nejc Bat	XLAB
Isabel Matranga	ENG
Jose Castillo Lema	RHT
Konstantinos Latanis	SUITE5
Mo Cloonan	SSEA
Michael Mulloy	SSEA
Alvaro Garcia Torres	FGC
Marina Giordanino	CRF
Marcin Plociennik	PSNC
Francesc Lordan	BSC
Anna Queralt	BSC
George Xilouris	NCSRD
Agathe Veillon	SIXSQ
Panagiotis Trakadas	NKUA
Panagiotis Gkonis	NKUA
Konstantinos Skianis	NKUA
Anastasios Giannopoulos	NKUA
Jordi Garcia	UPC
Xavier Masip-Bruin	UPC
Sergio Sanchez-Lopez	UPC
Ricardo Simon Carbajo	CeADAR

II)ocument name:	D7.2 Dissemination, communications, exploitation and communities engagement strategy			Page:	2 of 48		
Reference:	D7.2					Status:	Final



Sebastian Cajas Ordoñez	CeADAR
Andrés L Suárez-Cetrulo	CeADAR
Ignasi Garcia-Milà Vidal	WSE

Document F	Iistory		
Version	Date	Change editors	Changes
0.1	04/11/2022	Marc Michalke (TUBS)	Initial draft with TOC
0.2	13/11/2022	Marc Michalke (TUBS)	First version on TOC for partners to comment
0.3.1	01/12/2022	Marc Michalke (TUBS)	Incorporation of partner comments
0.4	06/02/2023	Marc Michalke (TUBS)	Incorporation of partner contributions
0.6	21/02/2023	Francisco Carpio (TUBS)	Merging of reviewers comments
1.0	28/02/2023	Carmen San Román (ATOS)	Final version to be submitted

Quality Control		
Role	Who (Partner short name)	Approval Date
Deliverable leader	Marc Michalke (TUBS)	21/02/2023
Quality manager	Carmen San Román (ATOS)	27/02/2023
Project Coordinator	Francesco D'Andria (ATOS)	28/02/2023

11)Ocument name.		7.2 Dissemination, communications, exploitation and ommunities engagement strategy				Page:	3 of 48
Reference:	D7.2	2 Dissemination: PU Version: 1.0					Final



Table of Contents

Document	Information	2
Table of Co	ontents	4
List of Tab	les	6
List of Figu	ıres	7
List of Acre	onyms	8
Executive S	Summary	9
1 Introduct	tion	10
1.1 Purp	ose of the document	10
1.2 Rela	tion to other project work	10
1.3 Struc	cture of the document	10
2 Dissemin	nation and Communication	11
2.1 ICOS	S in Events	11
2.1.1	Dedicated Events	11
2.1.2	Participation in external Events	11
2.2 Publ	ications	12
2.3 Liais	son with other Projects and Initiatives	12
2.4 Com	munication Channels and Tools	16
2.4.1	Visual and Identity Branding	16
2.4.2	Website	17
2.4.3	Social Networks	18
2.4.4	ICOS Community on Spaces	19
2.4.5	Newsletters	20
2.4.6	Blog	20
2.4.7	Press Releases.	21
2.4.8	Dissemination & Communication Toolkit	21
2.4.9	KPIs in Communication and Dissemination	22
2.5 Disse	emination and Communication Plan for Year 2	23
2.5.1	ATOS	23
2.5.2	BULL	23
2.5.3	ENG	23
2.5.4	ZSCALE	23
2.5.5	RHT	24
2.5.6	UPC	24
2.5.7	TUBS	24

11)Ocument name.		D7.2 Dissemination, communications, exploitation and communities engagement strategy				Page:	4 of 48
Reference:						Status:	Final



2.5.8	NKUA	24
2.5.9	BSC	25
2.5.10	CeADAR	25
2.5.11	WSE	25
2.5.12	XLAB	25
2.5.13	FBA	25
2.5.14	FBC	26
2.5.15	PSNC	28
2.5.16	L-PIT	28
2.5.17	FGC	29
2.5.18	CRF	29
2.5.19	SSEA	29
2.5.20	Suite5	30
2.5.21	SIXSQ	30
2.5.22	NCSRD	31
3 Open-So	urce Standardization	33
3.1 Open	n-source contributions	33
3.1.1	Eclipse Foundation	34
3.2 Activ	vities	34
4 Exploitat	ion	36
4.1 Over	view	36
4.1.1	KPIs	36
4.1.2	Interactions with other Tasks.	37
4.1.3	Plans for Year 2	37
4.2 Innov	vation Management	37
4.2.1	Exploitable Results	38
4.2.2	IPR Management	38
4.2.3	Individual Exploitation	39
4.2.4	Joint Exploitation	44
4.3 Exter	rnal Advisory Board	45
4.3.1	Affiliations, Roles and Responsibilities	46
4.3.2	First EAB Meeting	47
5 Conclusio	ons	48
6 Referenc	esError! Bookmark	not defined.
Annexes	Error! Bookmark	not defined.

II)ocument name:	D7.2 Dissemination, communications, exploitation and communities engagement strategy				Page:	5 of 48	
Reference:						Status:	Final



List of Tables

Table 1: List of Events ICOS participated in	11
Table 2: List of accepted Publications	12
Table 3: List of submitted Publications	12
Table 4: Potential Conferences, Workshop and Journals	12
Table 5: ICOS Collaboration Levels	13
Table 6: Related Projects, Communities and initiatives	13
Table 7: Newletter release	20
Table 8: Blog post responsibilities	20
Table 9: Communication and dissemination KPIs	22
Table 10: Open-Source Contributions	33
Table 11: Open-Source Event Activities	34
Table 12: Exploitation KPIs	36
Table 13: Exploitable results	38
Table 14: Main OS software licenses	45

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	6 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



List of Figures

Figure 1: ICOS logo	17
Figure 2: ICOS colour palette	
Figure 3: ICOS website	18
Figure 4: Example of an online community	
Figure 5: Example of post leading to a video +180 views	27
Figure 6: Overview Communication, Dissemination and Exploitation	36
Figure 7: Project Advisory Board	40

11)Ocument name.		issemination, com unities engageme	munications, expl ent strategy	oitation and	d	Page:	7 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



List of Acronyms

Abbreviation /	Description
acronym CSA	Coordination and Support Action
EAB	External Advisory Board
EC	European Commission
Dx.y	Deliverable number y belonging to WP x
OC	Open Call
OS	Open Source
WP	Work Package
SC	Scientific Community
OSC	Open Source communities
EA	Early Adopters
EU	End Users
I	Industry
XP	XaaS Providers
GP	General Public
SBI	Standardization bodies and other initiatives
PM	Policy Makers

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	8 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



Executive Summary

This document elaborates on the dissemination, communication, exploitation and communities' engagement activities of the first six months of the project, as well as the upcoming activities that have been planned to date. It will be updated by the "Dissemination, communications, exploitation and communities' engagement reports" D7.3 and D7.4 in M18 and M36. These activities are connected to WP7 of the project and involve all project partners.

The target groups for the activities span from scientific communities over industry, standardization bodies, open-source projects and communities, to the general public. A set of communication and dissemination tools used throughout the project will be presented to engage all of the above mentioned groups. Dissemination targets will primarily be industry, academia and researchers while communication will additionally include a more general/public audience.

Another part of the engagement with external bodies are the standardization activities which are also presented in this deliverable. This includes the identification of related open-source projects and standardization bodies, as well as the form of engagement with them.

To create a sustainable environment for ICOS growth even after the project lifespan, a set of exploitation activities which will ensure the maximization of the impact of the project results are planned and will be elaborated upon as well.

This deliverable is complemented by D7.1 which elaborates further on the ICOS community.

II)ocument name:		ssemination, com unities engageme		oitation and	d	Page:	9 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



1 Introduction

1.1 Purpose of the document

The purpose of this deliverable is to describe the activities in the area of dissemination, communications, exploitation, and communities' engagement that have been started and the ones that are planned for the first and second year of the project. This happens on project-global level by delivering a joint exploitation strategy, as well as on partner level by laying out individual exploitation plans.

1.2 Relation to other project work

Due to its horizontal nature, the activities in this deliverable are collaborating with all work packages by identifying impact and standardization opportunities, as well as further means for exploitation. Since community building has to be done via communication, there would be a considerable overlap with D7.1. To avoid this, the respective sections contain references to the deliverable D7.1 which is due in the same month as this deliverable. This deliverable will be updated in month 18 of the project via the first version of D7.3 by following up on these aspects and documenting how they have been pursued to date and how they are planned to be continued, forming a strategy for the remainder of the project.

1.3 Structure of the document

The document is structured as follows:

- ▶ Chapter 2 details the dissemination and communication activities, including the project's presence in external events, the creation of internal ones, the communication channels that will be used, and the dissemination and communication plan per partner for year 2.
- ▶ Chapter 3 describes the identified standardization opportunities, how they are followed up upon and which standardization bodies the project should be involved in, including the discussion of ongoing activities and contributions.
- ▶ Chapter 4 identifies the exploitable results and lays out a strategy for IPR management during the project and for the creation of an external advisory board. This is then complemented by the individual exploitation plans and the joint exploitation plan of all partners.

IDocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy				Page:	10 of 48	
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



2 Dissemination and Communication

2.1 ICOS in Events

This chapter describes the dissemination and communication activities planned and partially carried out within the first months of the project. The ICOS project will strive to gain a certain visibility early on in the project by widely communicating the expected results in the form of participation in events, conferences, and workshops, as well as creating relationships with other projects covering related topics.

2.1.1 Dedicated Events

In the beginning of the project, the consortium hosted several internal events to discuss the vision of ICOS. The first of these events was the physical kickoff meeting that took place in Villanova, Spain during November 2nd and 3rd of 2022. This event was followed up by an exploitation workshop in January 2023. A workshop in March 7th and the morning of March 8th 2023, followed up by our second general assembly on March 8th and 9th, both in Braunschweig, Germany.

The consortium plans to organize a total of five technical/user workshops, planned for the months M15, M18, M22, M28 and M32. For these, we plan to collaborate with related HORIZON projects or participate to international conferences, hence precise dates are yet to be determined. One such candidate is a potential workshop on June 15th, 2023, prior to the DevConf.CZ in Brno which will be decided upon in March 2023, as well as a potential workshop connected to the EURO-PAR conference.

In addition, the ICOS Community aspires to serve as one of the project's primary communication channels among stakeholders. It will be a thriving platform that will be constantly updated with information on current events. To maximize visibility and raise awareness and understanding of the project activities and outcomes among the relevant stakeholder communities, a specific section will be created to cross-disseminate events organized by the consortium on IoT, as well as sharing all events that are posted on ICOS and partners' social media channels.

In order to maximize our impact, we will organize interactive activities such as Q&A sessions, where users can receive direct support to clarify their doubts and be guided through various stages of the open call application process, to ensure they are fully informed. This allows us to provide direct support to our target groups by answering questions, providing additional materials, or clarifying any details of the proposal.

2.1.2 Participation in external Events

Besides the dedicated events, members of the consortium also represented ICOS in the following external events:

Table 1: List of Events ICOS participated in

Event	Date
IECON2022	October 17 th to October 20 th 2022
Alliance for IoT and Edge Computing Innovation 2022 (AIOTI)	November 30 th 2022
EUCloudEdgeIoT.eu	February 8 th 2023

Document name:	D7.2 Dissemination, communications, exploitation and communities engagement strategy				Page:	11 of 48	
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



2.2 Publications

To collect all publications of the project's consortium under a single umbrella, a publicly available publication repository has been created that can be found at:

https://zenodo.org/communities/icosproject/

The following publications have already been accepted for publication:

Table 2: List of accepted Publications

Authors and Title	Conference/Workshop/Journal
M. Bensalem, F. Carpio and A. Jukan, "Towards Optimal	ICC 2023 - 2023 IEEE International
Serverless Function Scaling in Edge Computing Network"	Conference on Communications (ICC)

In addition, the following publications have been submitted for publication:

Table 3: List of submitted Publications

Authors and Title	Conference/Workshop/Journal
M. Michalke, C. Muonagor and A. Jukan, "Fitting a	WS06 IEEE ICC 2023 Workshop on
Distributed ML function into an Edge Network Function-	Edge Learning over 5G Mobile
as-a-Service (FaaS) Testbed"	Networks and Beyond

For future publications, we consider these potential journals, conferences and workshops listed in Table 4, where consortium members will attempt to either submit papers or take editorial responsibilities in the context of ICOS:

Table 4: Potential Conferences, Workshop and Journals

Conference	Website
ICCN	http://www.iccen.org/
EURO-PAR	http://euro-par.org
ICC	https://ieee-icc.org/
GLOBECOM	https://ieee-globecom.org/
NOMS	https://ieee-noms.org/
IEEE Commag Magazine	https://www.comsoc.org/publications/magazines/ieee-communications-magazine

In addition, we also plan to release our first whitepaper about the project's architecture, as soon as its definition is finished.

2.3 Liaison with other Projects and Initiatives

The main objective of this activity is to establish long-term collaborations with related projects and activities for knowledge transfer that is expected to be beneficial for all involved stakeholders. As well as to promote results within the targeted groups previously identified in order to foster their adoption. All these activities will be performed into three main phases:

II)ocument name:		issemination, com unities engageme		oitation and	d	Page:	12 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



- ▶ PHASE A: As part of the initial communication and dissemination activities, ICOS will properly disseminate the objectives and expected results, to all related projects and initiatives, including all targeted stakeholders and potential community members.
- ▶ PHASE B: This second phase involves the development of targeted messages and material dedicate to each of the previously identified stakeholders' groups, aiming to engage them and gather feedback that will benefit the project development.
- ▶ PHASE C: The final phase relates on the organization of ICOS workshops, or joint ones as part of the collaboration activities with other projects or initiatives, to showcase project results, main innovations of potential benefits after adopting its results.

In order to monitor the results of all performed activities and be able to react on time, in case any action is required for improving them, ICOS has established three levels of collaboration as presented in the table below:

Table 5: ICOS Collaboration Levels

Level	Target	Activities				
1	Other DATA-01-05 projects, CSAs, other related research projects and initiatives	Joint publications, knowledge-share, joint workshops, participation in marketplaces				
2	Related organizations not directly involved in the project: EAB, OCs' Community, standardisation bodies and/or OS communities	Gather usability feedback and validation				
3	External stakeholders representing the whole project value chain	Gather on demand feedback based on their profile				

During the first months of the project, all partners have identified related projects, communities or initiatives with whom to share project information. The initial candidates are as follows:

Table 6: Related Projects, Communities and initiatives

Target	Name	Short description	Main activities
European project	aerOS	DATA-01-05 project that aims to provide a common framework for transparently utilise the continuum resources for application enablement.	
	FLUIDOS	DATA-01-05 project that will develop an open and collaborative ecosystem, focused on the development of a multistakeholder market of edge services and applications.	Find common points for collaboration. Joint publications. Knowledge transfer
	NEPHELE	DATA-01-05 project aiming to develop an efficient and secure end-to-end orchestration system for hyper-distributed applications.	and/or technology sharing. Joint workshops.
	NEMO	DATA-01-05 project developing a flexible, secure and adaptable meta-operating system for the continuum.	

II)ocument name:		ssemination, com unities engageme		oitation and	d	Page:	13 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



	NebulOus	DATA-01-05 project which aims to enable application provisioning and reconfiguration over the continuum.	
	OpenContinuum	DATA-01-07 project aiming to integrate efforts to develop an integrated open ecosystem for the continuum.	Participate in their activities. Promote results through
	UNLOCK-CEI	DATA-01-07 project aiming to create a proactive dialogue between research projects and supply stakeholders.	their channels.
National project			
Initiative	eCEIc	European Continuum initiative for business and research	Contribute to its task forces (e.g., for developing a common taxonomy for the continuum). Participate in its activities (such as concertation events).
Community	Open-source comin Section 3.	nmunities, and related standardisation bodio	es, are described in detail

▶ Communities:

- The European Innovation Partnership for Agricultural Productivity and Sustainability (EIP-AGRI) has been launched in 2012 to contribute to the European Union's strategy 'Europe 2020' for smart, sustainable and inclusive growth. Members can share innovative project ideas and practices, information about research and innovation projects, including projects' results. ICOS results can be easily shared within the community.
- Agricultural and Rural Innovation Network (SIR) Polish community whose aim is to support innovation in agriculture, food production and forestry and in rural areas. SIR facilitates the creation and functioning of a network of contacts between farmers, advisory entities, scientific units, entrepreneurs of the agri-food sector and other entities, supporting the implementation of innovations in agriculture and rural areas. It helps to exchange the expertise and good practices in the field innovation in agriculture and rural areas. Lukasiewicz-PIT is a SIR's partner. It is a channel for communicating the development of innovations, including promoting the results of the ICOS project.
- The Polish Chamber of Commerce of Agricultural Machines and Facilities (PIGMiuR) is the independent and self-financing organisation of industrial self-government representing a sector. Organisation covers whole Poland, as only an organisation of this type can act effectively and influence the economic situation in Poland. Due to the fact that the L-PIT is a member of the PIGMiuR, the opportunity opens up to promote the results of the project, to interest potential customers in the created system and its application in practice especially autonomous machines' sector.
- ▶ Project Test and Experiment Facilities for the Agri-Food Domain (agrifoodTEF); Grant Agreement no. 101100622

The large-scale reference testing and experimentation facilities (TEFs) will offer a combination of physical and virtual facilities, in which technology providers can get primarily technical support to

11)Ocument name.	communities engagement strategy				Page:	14 of 48	
Reference:						Status:	Final



test their latest AI-based software and hardware technologies (including AI-powered robotics) in real-world environments. It opens a huge possibility to promote the ICOS project results in many areas. Lukasiewicz-PIT will have an opportunity to support technology/software providers and to involve end-users of the technologies to maximise its impact. During the TEF project Institute can bring ICOS projects results closer to the market in validating them in real environments.

SixSq is deeply involved in Research & Innovation projects, both at the Swiss and European levels. The company is currently participating in four different projects, within and outside the Horizon Europe framework.

- a) Horizon Europe projects: SixSq is involved in two Horizon Europe projects (in addition to the ICOS project):
 - ▶ ACES, "Autopoietic Cognitive Edge-cloud Services".

ACES is a three-year project focusing on cloud architectures. The project started in January 2023 and unites 11 academic and commercial partners.

Considering the rapid increase in the quantity and capabilities of edge devices (exchanging vast amounts of data), it generates a growing need for cloud services at the edge, and, as a matter of fact, for reliable cloud architectures at the edge.

Project partners expect to tackle several challenges related to cloud computing architectures at the edge within the life of the project. Here are some of the main challenges addressed:

- Ability to provide end-to-end transaction resiliency of applications broken down in distribution of microservices,
- Reliability and stability of automation in cloud management,
- Secure and timely handling of the increasing and latency-sensitive flow of sensitive data and apps,
- Need for explainable artificial intelligence and transparency of the increasing automation in edge-services platform by operators, software developers and end-users.

ACES partners want to achieve these goals by using autopoietic and cognition mechanisms, empowered with AI modules mainly dealing with workload placement, service and resource management, data, and policy management, at different levels of cloud management.

The ACES protocol will be tested in three use cases related to energy grids management: it will optimize an energy marketplace, energy flows between plants and will also enable predictive maintenance on the energy network thanks to IoT devices.

▶ EXTRACT, "A distributed data-mining software platform for EXTReme dAta across the Compute conTinuum".

EXTRACT is a three-year project around data mining and real-time data analytics. It started in January 2023. The EXTRACT Consortium is composed of 10 partners.

EXTRACT project partners will deliver an open-source software platform to tackle the challenge of processing data with extreme characteristics. Integrating the most relevant computing technologies, from edge to cloud to HPC into a unified compute continuum, this platform would enable the development of trustworthy, accurate, fair, and green data mining workflows.

It is foreseen that these extreme data mining workflows will generate high-quality actionable knowledge.

The EXTRACT platform aims to improve the entire lifecycle of extreme data processing, by enhancing performance, energy-efficiency, scalability, and security. The project will also adopt a holistic approach regarding "extreme characteristics" data can bear.

The EXTRACT platform will be tested in two different fields:

II)ocument name:		issemination, com unities engageme		oitation and	d	Page:	15 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



- To define the best evacuation routes for citizens in case of emergency via a mobile phone application. The protocol will be tested in the city of Venice, which counts more than a hundred islands, in case of flooding risk.
- To assess the solar activity in real-time thanks to low-frequency imaging of the sun enabled by a next-generation array-pathfinder.
- b) Projects outside the Horizon Europe scope: SixSq is involved in two projects that are not part of the Horizon Europe call: 5G-EMERGE, and SWARM.
 - ▶ 5G-EMERGE (satEllite Media dElivery micRo edGE) is a four-year Industry Driven Partnership Project led by the European Broadcasting Union for the European Space Agency, as part of the ARTES program.

The aim of the project is to take advantage of cutting-edge technologies, such as 5G-connectivity, edge computing and satellite broadcasting. Bridging them into a single functional ecosystem will allow customers to access live and on-demand content streamed in high-quality at home, in cars or on public transportation, such as ships.

The project is divided into two phases: the first is dedicated to the development of a prototype, while the second will focus on industrialisation of this first demonstrator.

- 21 Consortium partners from the space/satellite, network, broadcasting, software development industries are participating in this project. Phase 1 started last July and will end in June 2024.
- ▶ SWARM (Smart and Widely distributed Appliances for Renewable energy Management) is a three-year project funded by the Eurostars program and Innosuisse (promoting research and innovation between Switzerland and foreign countries).

The aim of SWARM is to create and demonstrate the Smart Energy Management Appliance (SEMA): this innovative connected energy product will offer supply/usage prediction, but also flexibility and energy transaction negotiation while upholding grid stability. Thanks to SEMA, users will become direct beneficiaries of a liberalised energy market.

SEMAs will be linked to a marketplace platform to support technical and financial interactions between stakeholders. They will be sold to customers via electric power suppliers.

Five energy and software providers from Sweden and Switzerland have been working on this project since September 2021.

2.4 Communication Channels and Tools

2.4.1 Visual and Identity Branding

To ensure a distinct and easily recognizable visual style, the visual identity of ICOS was defined very early in the project. It includes a logo, colors and typography which will be presented in this chapter.

2.4.1.1 Logo

The ICOS logo is used in all project material, including documents and presentations, as well as in all the online channels, such as website and social media channels. As it has been said before, the logo is one of the key pillars of the brand identity and should made easy to identify the project.

II)ocument name:		issemination, com unities engageme		oitation and	d	Page:	16 of 48
Reference:						Status:	Final





Figure 1: ICOS logo

ICOS logo design is quite simple, and it is thought to be used twofold: i) as a whole, including name and icon, as the main project reference; or ii) the icon only, in those communications with smaller spaces.

2.4.1.2 Colors & Typography

All project templates use the same color palette as the logo to create the brand identity of ICOS, and Calibri as preferred font. Templates are available for all partners in the internal project repository so they can be used not only internally, but also in any external interaction, e.g., presentations in events.

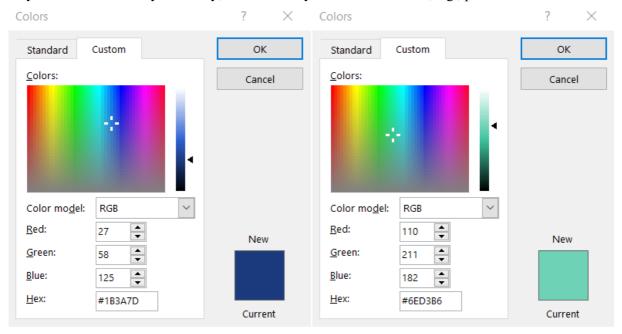


Figure 2: ICOS colour palette

2.4.1.3 Pictures

There are not any mandatory pictures to be used neither in the project documentation nor in the online presence, apart from the logo.

However, it is recommended to follow the same colour palette whenever an icon is created from scratch.

2.4.2 Website

The ICOS website, as one of the main dissemination tools of the project, follows the project's graphic identity and presents the project's overview, including an overview main page, showing a brief

II)ocument name:		issemination, com unities engageme		oitation and	d	Page:	17 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



description of the project, as well as the four use cases. It also comprises a technology page which describes the architecture, the use cases, and in a future iteration, the methodology and KERs will be added. The project page shows the objectives and the consortium and is constantly updated with the deliverables and accepted publications. Section News and Events shows the latest news and events that we want to share with our visitors. while the Blog is updated every month with a new blog post showing the latest activities in the project.

The website has been designed and implemented by TUBS with the final version released in December 2022. It is designed to present an overview of the project while also providing more detailed information in the respective subsections. The focus thus lies on less abstract aspects like the objectives and use cases, as well as the current news and blog posts of the project. The website includes the logo of the European Commission as well as the funding disclaimer. A screenshot of the website can be seen below:



Home Technology v Project v News 8

News & Events

Blog

Contact

ICOS

Towards a functional continuum operating system

The continuum

The unstoppable proliferation of novel computing and sensing device technologies, and the ever-growing demand for data-intensive applications in the edge and cloud, are driving the next wave of transformation

Figure 3: ICOS website

2.4.3 Social Networks

An additional channel for engaging stakeholders and communicating ICOS's results is the use of social media. Social media allows for easy estimation of the impact of the project by, for instance, using the number of views, likes, etc. Currently, ICOS created accounts for the following channels:

▶ Linkedln: https://www.linkedin.com/company/icos-project

▶ Twitter: https://twitter.com/icos project

▶ YouTube: https://www.youtube.com/@icos project

Twitter will be used to share project results, for instance, WP progress, deliverables, open-source resources, etc.; experience and project news, such as WP and consortium meetings, publications, announcement of blog posts, scientific publications, presence in events, etc. Twitter can also be useful to communicate information, results and knowledge of related projects to the ICOS context. ICOS presence on Twitter will address both scientific community and general public. The Impact in this social network will be measured using appropriate tools, for instance Twitter analytics.

LinkedIn account has been created to target more specialized audience including related Horizon projects, companies, academic world, etc. Communication in this social network will be more technical

Document name:	communities engagement strategy				Page:	18 of 48	
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



and focused on scientific publications, blog posts, objectives of the project, information about the use cases, technical achievements, etc.

YouTube will be the platform where the ICOS videos will be uploaded, since it is the largest platform of its kind and therefore has the biggest potential to generate attention for the project's videos. As listed in the KPIs, a total of four videos are planned for publication over the project's lifetime with the first one being planned for month 15. The YouTube channel will thus remain inactive until the first planned upload of the project.

2.4.4 ICOS Community on Spaces

The ICOS community is facilitated by the FundingBox platform, also called "Spaces", which is a collaboration tool that allows communities to build knowledge and networks at https://spaces.fundingbox.com/. The platform provides communication services to foster collaborative work, aiming at facilitating interaction among stakeholders while providing information on best practices, funding opportunities, events, market trends, among others. See an example of an online community on the figure below.

Artificial Intelligence (AI) Community

The AI Revolution needs better funding. Do not miss out on the latest AI News and Alerts.

Browse by category Get Funding in AI Find AI News & Events Network with AI Leaders, Experts & the Ecosystem Get Support & Check our Guidelines Community Spaces Get to Know the Latest in AI Last message: 5 days ago Showcase of AI news across industries Showcase of AI news across industries Find Information on funding opportunities in place AI AI Funding Opportunities in place AI AI Funding Opportunities in place AI Funding Opportunities in place AI Funding Opportunities in opportunities in place AI Funding Opportunities in opportunities in place AI Funding Opportunities in opportunities in place

Figure 4: Example of an online community

The ICOS community platform (on FundingBox's Spaces) aims to develop our network by including the ICOS stakeholders and end-users directly in our ecosystem. We envision a platform specialized for the needs of the project and initiatives, as well as including other market participants that can share knowledge and engage in conversations through their personal channels in order to create an ecosystem around them.

II)ocument name:		issemination, com unities engageme		oitation and	b	Page:	19 of 48
Reference:						Status:	Final



Spaces offers a flexible, easy to use and sophisticated networking platform to help build a sustainable professional social network community. Spaces includes a wide range of features such as user's feedbacks, SEO ranking analysis, online members availability check, direct chat and files upload among others. Furthermore, Spaces allows for continuous improvement: it gathers information about its users monthly usage patterns and combines this with industry trends to constantly improve its features and offer an ideal tool to build up a sustainable networking community over time.

To promote and ensure the establishment and long-term maintenance of the ICOS community, specific copies for social networks will be posted on Twitter and LinkedIn with a call to action designed to redirect users to the community, highlighting and stressing the content that performs best according to the internal community analytics.

2.4.5 Newsletters

The ICOS newsletter allows for a direct proactive communication to the targeted stakeholders, the European Commission, researchers and potential interested investors. It will be published through the website and also promoted through the ICOS social media channels. It will be written to reach a more general audience. The newsletter will be released every six months, at every key stage of the project:

Month	Topic
03/2023	Overview of the ongoing activities to date
09/2023	ICOS architecture and recap of year 1
03/2024	To be defined
09/2024	To be defined
03/2025	To be defined
08/2025	To be defined

Table 7: Newletter release

2.4.6 Blog

A blog will be used to share details on the project progress in an easy, non-technical and understandable language. ICOS blogs will have an extension of approximately one page including graphical material, such as pictures, graphs, infographics, etc. In order to make it more attractive for ICOS stakeholders, some of these may also be published like videoblogs. The posts will address a general audience and shared through a menu option in the Home page of the project website. Posts will also be promoted in LinkedIn and Twitter. The ICOS posts will cover a variety of topics including project results and achievements, news, or general information related to the project. A list of past and potential future topics of the blog with their accordingly responsible partners can be seen below:

Month	Partner	Topic
11/2022	ATOS	Project start
12/2022	RHT	Open-Source workshop
01/2023	ENG	Predictive Monitoring and Maintenance
02/2023	ZSCALE	To be defined
03/2023	UPC	To be defined
04/2023	TUBS	Serverless Computing
05/2023	NKUA	To be defined

Table 8: Blog post responsibilities

II)ocument name:	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	20 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



Month	Partner	Topic
06/2023	BSC	To be defined
07/2023	CEADAR	To be defined
08/2023	SIXSQ	To be defined
09/2023	WSE	To be defined
10/2023	XLAB	To be defined
11/2023	FBA	Financial Support to 3 rd parties/cascade funding
12/2023	PSNC	To be defined
01/2024	BULL	To be defined
02/2024	CRF	To be defined
03/2024	SSEA	To be defined
04/2024	SUITE5	To be defined
05/2024	L-PIT	To be defined
06/2024	FBC	To be defined
07/2024	FGC	To be defined
08/2024	NCSR	To be defined

2.4.7 Press Releases

Press releases are a relevant and useful tool for disseminating the most relevant project results. Although not initially contemplated in the proposal list of KPIs, the project will release a minimum of 4: one at the beginning of the project and one at the end as well as one per open call promoting project results and activities.

2.4.8 Dissemination & Communication Toolkit

Dissemination & Communication Toolkit for open call will include descriptions, banners, graphics, links, and an ICOS community comprehensive tutorial with snapshots. The document will be tailored to the ICOS visual identity. These materials will summarize the project's scope (in the early phases) and major results (in the later stages) using visually appealing and easily understood information. They will offer a summary of the project, reflect the brand identity, and provide crucial information that will be highlighted to maximize visual impact, providing the project international recognition.

FBC will produce open call communication toolkits, in addition to the general communication toolkit, to facilitate the dissemination of open calls for partners. This kit will include:

- online banners and event invitations,
- ▶ a press release,
- ▶ an overview presentation of the project and open calls,
- ▶ logos,
- email templates,
- banners/leaflets that partners can use on their own websites.

The open call toolkit's content and call to action will be focused on applying for the open call. These articles will be created in English and distributed in an editable format. Each partner should spread it through their networks, attempting to reach out to the media and other stakeholders.

II)ocument name:		issemination, com unities engageme		oitation and	d	Page:	21 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



2.4.9 KPIs in Communication and Dissemination

In order to measure the success of the WP7 activities, a set of performance indicators has been defined in the grant agreement. They are listed below to provide an initial reference and will be followed up on in the consecutive deliverables.

Table 9: Communication and dissemination KPIs

Means and KPI	Timing	Target Audience		
Journal papers: 10	M15, M22 and M32	SC		
Conference papers: 15	M36	SC, OSC		
Technical / User workshops: 5	M15, M18, M22, M28, M32	SC, EA		
Project website: 1 / Product website: 1	M2, M18	SC, EU, I, XP		
Technical / Business whitepapers: 5	M15, M22, M32, M36	SC, EU		
Technical / Non-technical videos: 4	M15, M22, M28, M32	SC, GP		
Posters: 1	M9	SC		
Leaflets: 2	M9, M22	SC, EA, EU, XP		
Supportive partners: 20	M36	EA		
Community members: 400	M36	SC, EA, SBI, OS		
Open Calls: 2	M18, M28	EA		
Articles in online magazines: 10	M6, M15, M22, M32, M36	EA, EU, GP, OSC		
UCs showcase: 4	M36	EU, I		
Demonstrators: 4	M15, M22, M32, M36	SC, XP, EU, I		
ICOS micro-economic analysis:	M36	PM, I, EU, XP, SBI		
Number of liaisons: 3	M36	SBI		
Number of joint activities: 4	M36	SBI		
Number of used standards: 4	M36	SBI		
Number of OSS components: 4	M36	OSC		
Newsletters: 6	1 every 6 months	EA, SC, XP		
Social media followers: 400 in Twitter,150 in LinkedIn	M36	GP, SC, EA, EU, XP, I		
Number of innovations in the market: 5	M36	EA, EU, XP, I		
Number of B2B/B2B2C: 2	M36	EA		

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	22 of 48
Reference:	D7.2	Dissemination:	PU	Status:	Final		



2.5 Dissemination and Communication Plan for Year 2

Since the activities between partners can differ drastically, we define individual dissemination and communication plans for each of them. These plans are detailed in the following subsections.

2.5.1 ATOS

ATOS, as project coordinator, will have an active role promoting ICOS results and main activities through its channels or using the project ones. This includes 'breaking the ice' with the first press release, also published in the Blog section of the website.

Within the project channels, ATOS will contribute in:

- ▶ Providing content for the project website.
- ▶ Writing blog posts.
- ▶ Writing small pieces of news for social media channels.

While internally, ATOS will promote project activities through its social media channels, such as Twitter, internal newsletters, or its research booklet.

At the same time, ATOS will make use of the EC channels, such as the Horizon Results Platform or the Open Research Europe publishing one. In addition, it will also suggest topics to CORDIS, Futuris or Horizon magazine editors with the most prominent news from the project. ATOS will also participate in joint scientific publications and, on behalf of the project, in different events promoting ICOS results, including the two planned open calls.

2.5.2 BULL

BULL, as its affiliated entity, will support ATOS in the dissemination and communication activities planned for the ICOS project, such as participating in the events related to edge and HPC activities, writing blog post relating to our activities.

2.5.3 ENG

Engineering will support communication activities of ICOS project by sharing and communicating ICOS activities and achievements whenever relevant and according to an internal communication plan which is prepared monthly together with our Corporate Marketing team. We will target both an internal and external audience according to the kind of information being conveyed.

Communication activities will be performed mainly through Engineering's website and social network channels. More in detail, a web page will be prepared during the first year of the project providing general information on the project (approach, solution and main results) the page will also provide information on the funding programme and body. After the publication of the web page the project will be communicated through Engineering's social network accounts which are as follows:

- ▶ Twitter: @EngineeringSpa with 8.448 followers
- LinkedIn: https://www.linkedin.com/company/engineering-ingegneria-informatica-spa/ with 108.171 followers.

Through the same channels, Engineering's project team whenever relevant will share other official communication material released by the ICOS communication team, and original content (e.g., participation in events).

Our team will participate in the preparation of ICOS blog post articles on the topics we master in the project and will support the communication team in proofreading the communication material produced by WP7 team.

2.5.4 ZSCALE

ZSCALE plans to participate in dissemination and communication activities that have the goal of raising

Document name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	23 of 48
Reference:						Status:	Final



awareness of the ICOS results in a technical community, i.e., working in the same field of research. Activities such as peer-reviewed publications in scientific conferences and journals, and through participation in technical events (e.g., workshops, tutorials, etc.).

ZSCALE plans to participate in open-source related events representing ICOS, such as the Open Source Task Force Event organised by OpenContinuum and the Eclipse Foundation, as well as EclipseCon 2023, and Eclipse IoT and Edge Days 2023.

2.5.5 RHT

RHT plans in participating in the events Open Infra Summit and/or Kubecon as well as other relevant research and upstream communities such as the local Kubernetes meetups to provide additional exposure of the project results. It will be actively involved in upstream development through communication tools and gatherings. RHT furthermore plans to participate in the Red Hat Research days, DevConf and FOSS communities aiming to further promote project results. Other activities include the organization of a periodic internal workshop, led by Red Hat, with the main target of increasing the contributions and engagement with upstream projects. Red Hat will share its know-how about the process and help identify possible upstream communities, helping partners with the onboarding.

2.5.6 UPC

The Universitat Politècnica de Catalunya (UPC) is a relevant European university in all areas of the engineering. Being an academic institution, the main UPC dissemination actions for the ICOS outcomes will focus on the edition of scientific communications to be submitted in relevant international conferences and journals. We will prioritize high impact conferences and indexed journals, all in areas relevant to the scope of the ICOS project. Furthermore, the main ICOS project highlights and main activities will be disseminated at international events with UPC active participation.

And finally, UPC will also organize different internal meetings to discuss novel ideas and eventually identifying new collaborations for the ICOS project, and therefore contributing to the current state of the art along with other projects in the meta-OS domain.

2.5.7 TUBS

As an academic partner, TUBS will contribute to the project dissemination via publications in international peer reviewed journals, conferences, and workshops. Furthermore, TUBS will contribute through its internal channels of online dissemination as well as its teaching activities. This includes also the design and supervision of Bachelor and Master theses. Like they did in the first year of the project, TUBS will continue to manage and publish the blog posts on the ICOS website and update the news and events on the website, as well as the social media channels.

TUBS is also responsible for the organization of training courses/workshops and summer camps.

2.5.8 NKUA

Being and academic partner, the NKUA team is highly interested in research activities related to the deployment of efficient AI/ML models in the ICOS continuum. In this context, various challenging fields will be investigated, such as federated learning approaches, edge AI/ML as well appropriate inference models. The outputs of the aforementioned research activities will be disseminated via the presentation of the results in international high-impact scientific journals, magazines and conferences. In particular, the NKUA team plans to submit scientific publications in at least four (4) journals and four (4) conferences at the second year of the project. Moreover, NKUA will also internally disseminate the ICOS results in order to obtain novel ideas, new research and collaboration opportunities and thus maximise the exploitation impact of the project. Finally, the NKUA team also plans to organize two (2) workshops, one at the end of the second year of the project and the last one at the end of the project, where the novel concepts of ICOS will be presented to a broad audience of the academic and scientific

II)ocument name:		ssemination, com unities engageme		oitation and	d	Page:	24 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



community as well as to invited members from industry.

2.5.9 BSC

The Barcelona Supercomputing Center is the leading supercomputing center in Spain. The mission of the center is to research, develop and manage information technologies in order to facilitate scientific progress. As a research institution, BSC is highly interested in the efficient workload orchestration and data orchestration across the Compute Continuum and envisages performing cutting-edge research on both area within the scope of the ICOS project. The outcomes of such research activities will be disseminated in articles published in high-impact international conferences or journals. The BSC team plans to submit three articles - two (2) conference papers and one (1) international journal - by the end of the second year.

Besides, BSC will take part of the communication strategy defined by the ICOS Consortium. BSC will share through the relevant communication channels (website and social media profiles) the official communications of the project, as well as original content, related to the project overall progress, the scientific contributions and the results achieved within the scope of the use cases and the projects of the open calls.

2.5.10 CeADAR

CeADAR will distribute and communicate ICOS-related content through their social media channels to achieve better visibility of the project. Other planned activities are the publication of scientific papers through conferences and journals, as well as the contribution to the to the current state of the art along with other projects in the concept of Machine Learning on the continuum. CeADAR will furthermore disseminate the project in international events and European initiatives CeADAR participates to.

2.5.11 WSE

Worldsensing will be communicating the ICOS project and its associated activities through a specific project page at the company website. Also, the social media channels of the company (LinkedIn 18.000 followers, Twitter 3.800) will be used to communicate relevant events and technology advancements of the project. Specific content which might be relevant to the company target audiences will be prepared to publish blog posts and the preparation of relevant use cases documents to explain use of ICOS solutions in relevant environments. Finally, Worldsensing will also communicate and promote project solutions in relevant events for industrial and scientific purposes.

2.5.12 XLAB

XLAB will focus its dissemination activities primarily on promoting the results achieved within ICOS. To this extent at the time of writing this document XLAB had two articles in the pipeline that will describe the technologies developed within ICOS. The Articles are due for submission early in 2023, and – if accepted – will be presented in H1 of 2023.

In terms of general dissemination XLAB is continuously promoting projects and their results within the scope of events that are being visited.

Dissemination activities in terms of web presence are synced with individual projects, and the same will be done for ICOS. The main channels that XLAB is using are Twitter and LinkedIn where "cross-contamination" is done. XLAB is also planning to establish a tech blog, where contents like ICOS developments will be applicable.

2.5.13 FBA

All activities related to communication and dissemination activities will be led by FBA's affiliated entity, FBC. See section 2.5.14.

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	25 of 48
Reference:							Final



2.5.14 FBC

Dissemination of 1st OC's Results

During year 2, after the initial open call closes, a press release along with an infographic detailing the outcomes and the quantity of applications received will be posted on our social media channels and online community. Using Urchin Tracking Modules (also applied/used in all actions), we will also analyze and evaluate all dissemination actions during the first open call. With the use of this information, we will be able to choose the strategy that works the best for the second open call.

The initial open call's beneficiaries will serve as success stories that will be highlighted throughout the project's channels. Find an example of an open call beneficiary dissemination action in the figure below. On the community, a special area will be set aside for this use. Additionally, publicity materials featuring the open call recipients will be produced (including, but not limited to, interviews, brief videos/stories, articles, and testimonials). All applicants will thereafter get a survey regarding the open calls in order to get their views and enhance the procedure.

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	26 of 48
Reference:	D7.2	Dissemination:	PU	Version:	Status:	Final	







Figure 5: Example of post leading to a video +180 views

II)ocument name:		ssemination, com unities engageme	munications, explo	oitation and	d	Page:	27 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



Preparation for 2nd Open Call

The preparation stage for the 2nd open call will start at least 2 months before the launch. Activities for dissemination shall start one month before the introduction of the open call. These outreach efforts will comprise, among other activities, setting up a landing page for the open call and dynamising community spaces and social media networks (FundingBox, ICOS & and consortium ones). The creation of the open call communication toolkit for partners and stakeholders as needed during the open call is one of the communication actions. The FundingBox team will put up a package of marketing resources called the OC Communication Toolkit to assist with communication about the second open call.

2.5.15 PSNC

Being and R&D partner, the PSNC team is interested in research activities related to the development of the agriculture related use cases on top of the ICOS ecosystem including the deployment of efficient AI/ML models in the ICOS continuum. This in particular concerns one of the use case scenarios that focus on the agriculture field robots and related challenges.

In this context, various research fields will be investigated, such as edge AI/ML and adequate inference models, the EDGE-Cloud communication, optimization of the data transfer. The outputs of the aforementioned research activities will be disseminated via the presentation of the results in scientific journals, conferences and domain events (related to agriculture field).

In particular, the PSNC team plans to submit 1 scientific publication and participate in 2 events/conferences (in Sielinko and Bednary) at the second year of the project.

The PSNC team also plans to co-organize workshop focused on the innovations applied in agriculture, where the novel concepts of ICOS will be presented to Polish ecosystem a broad audience of the academic as well as members from industry.

The outputs will be also disseminated through the governmental ICT AI and IoT related groups (industrial ecosystem).

2.5.16 L-PIT

Communication and dissemination activities are important part of the project for Lukasiewicz-PIT. Institute will ensure that all project activities and results are communicated to relevant stakeholders in a clear and consistent manner.

In order to establish an appropriate path of action tailored to the objectives of the project, L-PIT will analyse the potential stakeholders (communities, technology providers, end-users, local authorities, etc.), dissemination platforms (websites, social media, scientific publications), participation in partners and third party events (relevant to the project); media/other dissemination activities (tv programmes, podcasts, experts interviews, etc.), scientific/other publications (publications to be derived from work on the project – especially from Case Studies), co-ordination with other related projects with similar aims, any others possible synergies.

Activities planned for Year 2:

- ▶ Maintaining the relation with identified target audiences:
 - European and national farming associations and agricultural co-operatives (EIP Agri, SIR, etc.),
 - Machinery manufacturers and associations (PIGMiuR, etc.),
 - Other initiatives,
 - Technology providers (autonomous machinery manufacturers), software developers,
 - Research Institutions (institutes, academia, etc.).
- ▶ Organising Stakeholder Meetings presenting the project outline, aims and first results during:
 - Trade agricultural fairs,
 - Scientific conferences,
 - Meetings with manufacturers of autonomous agricultural machinery.

II)ocument name:		D7.2 Dissemination, communications, exploitation and communities engagement strategy		Page:	28 of 48		
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



- ▶ Focusing on communication channels:
 - Additionally presenting the objectives, partners and activities of the project on the L-PIT's website,
 - Presentations and participation at workshops, conferences and exhibition fairs,
 - Visual dissemination materials with basic information about the project and current results,
 - Project meetings and workshops,
 - Publications in scientific literature and dedicated journals,
 - Recording the short tv promotional films, podcasts and experts' interviews.
- ▶ Keeping project branding provide a consistent and clear message to audiences and stakeholders outside of the ICOS project consortium.
- ▶ Publications and use of knowledge publication of project results expected in national and international peer-reviewed journals, in order to make the ICOS project results available to a wider scientific community.
- ▶ Organising and taking part in the events:
 - Workshops
 - Fair trades

2.5.17 FGC

FGC will carry out the following dissemination and communication actions to promote and disseminate the ICOS project.

The ICOS project will be promoted and disseminated on the FGC website. Additionally, FGC will participate in national and international events such as UIC events, UITP events, Mobile World Congress, and Smart City Expo World Congress, to further spread the word about the project.

FGC will also promote and disseminate the progress of ICOS, whenever possible, through the bulletin and other communication channels of the Government of Catalonia.

Internally, FGC will disseminate the development of ICOS to enhance commitment to the benefits of the project.

2.5.18 CRF

As Stellantis Company the dissemination and communication strategy in collaborative projects on connectivity is planned to be discussed and agreed on a monthly basis together with the related Stellantis Communication Department and the Stellantis project Technical Area.

The dissemination and communication strategy includes the possibility to potentially prepare technical papers, as main author or co-author, to participate to technical Congresses, to present project outcomes, to participate to project public events, the publication of project publishable outcomes via Stellantis Social Media or press releases.

This short list is just an example of what can be performed in terms of dissemination and communication; on a case by case basis the Company will plan what is optimal to contribute to disseminate project results.

2.5.19 SSEA

As part of the ICOS project, SSE Airtricity is planning a series of dissemination activities spanning through the lifetime of the project. These activities aim at promoting the project and build awareness both internally in SSE Airtricity and to the wider public. These will include the publication of articles into the internal intranet of SSE Airtricity and into the SSEA consumer website linking with the ICOS project website for people to explore more.

Social media channels such as LinkedIn and Twitter will also be used to provide broader public updates regarding project progress and milestones. This will include targeting specific demographics and profiles to maximise interest and engagement. Finally, SSEA will actively participate in the publication

11)Ocument name.		ommunities engagement strategy			Page:	29 of 48
Reference:					Status:	Final



of peer review articles, press releases and dissemination activities of the wider ICOS project.

Website story example: Introducing project ICOS (IoT2Cloud Operating System)

SSE Airtricity is a proud project partner in a 3-year EU Horizon project called ICOS. The project focuses on building an operating system, that integrates seamlessly with smart devices (Internet of Things, IoT devices), bringing automated decision making that benefits end users while maintaining data security, data privacy and protection. The project consortium features 19 partners from across the EU, all working together to achieve the main objective of project ICOS: To design, develop and validate a meta operating system for a continuum.

The project ICOS consortium will do this by addressing the challenges of:

- ▶ Devices' volatility and heterogeneity, continuum infrastructure virtualization and diverse network connectivity
- ▶ Optimized and scalable service execution and performance, as well as resources consumptions, including power consumption
- ▶ Guaranteed trust, security, and privacy
- ▶ Reduction of integration costs and effective mitigation of cloud provider lock-in effects, in a data driven system built upon the principles of openness, adaptability, data sharing and a future edge market scenario for services and data.

SSE Airtricity's involvement in this project focuses on energy cost optimisation for domestic customers. Imagine a future when your solar panels, electric vehicle (EV) and smart home devices are working together to ensure that energy costs are minimised. This is possible as the ICOS continuum would be seamlessly deciding when to charge the EV from the solar panels and/or grid and when to pull power from the EV to run the home or provide flexibility to the grid – with the customer being paid for this.

The Algorithm within the ICOS device works by anticipating future demand, knowing what demand is schedulable, forecasting solar Photovoltaic output, knowing EV charging requirements, and knowing or anticipating future retail cost signals. It solves the difficult problems of whether it's best to use, store or sell energy when demand, supply and costs are all dynamic. This gives the customer the option of automating the complex cost optimisation decisions, but still allows them to retain control over which decisions they would prefer to make themselves.

For more information, please visit https://www.icos-project.eu/

2.5.20 Suite5

Suite5, as the Ethics Expert in the ICOS project, will ensure that accepted principles of ethical, legal, privacy monitoring and regulatory compliance and professional conduct will be followed. In this context, Suite5 will participate in various endeavours for journal and conference papers focusing on the ethical and legal aspects of the project, while contributing, in parallel, to the communication activities of the project through its social media accounts.

2.5.21 SIXSQ

SixSq will take part in sharing the different communications made by the ICOS Consortium (posts, press releases, videos, website, spaces, etc.).

Through relevant communication channels, the SixSq project team will take part in both sharing the official communications emitted by the ICOS communication team, and creating original content related to:

- ▶ Project overall progress,
- ▶ Scientific publications and findings,
- ▶ Project meetings like General Assemblies, or events where ICOS will be represented,
- ▶ Calls and results of the two open calls.

11)Ocument name.		D7.2 Dissemination, communications, exploitation and communities engagement strategy			Page:	30 of 48	
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



Our input will consist of:

- ▶ Disseminating the concept and objectives of the ICOS project through a dedicated "R&D" section from the SixSq website. General dissemination will also be done through other relevant communication tools like social media, events, user groups.
- ▶ Sharing outcomes related to the face-to-face meetings through:
 - The "blog" section on our website, where we can post articles. See the one regarding the first face-to-face meeting in Vilanova (https://sixsq.com/blog/discover/2022/11/16/icos-remove-boundaries-between-iot-edge-cloud.html).
 - Social media (LinkedIn), where we post 2 times per week. Blog articles are usually shared when published.
- ▶ Promoting the use cases and highlighting the value proposition of ICOS, thanks to use case providers interviews. These interviews will be used to write articles around each use case, to describe in simple words how ICOS will be used in the industry. The outcome of the interviews will be posted on our blog and shared on social media. If relevant, the interviews can also be filmed and posted on YouTube.
- ▶ Promoting ICOS, sharing experience on the Horizon Europe framework, and, if relevant, sharing information on the Open Calls during congresses, business events and fairs. SixSq participates in 10 to 20 venues per year, both in Europe and in other continents.
- ▶ Sharing technical progress and scientific publications through:
 - The classic communication channels mentioned above (social media, website),
 - Technical tools' user groups (such as Clojure) where we can share experience and feedback on the workflow, functionalities, etc. of the technology. These user groups can be used as a vector for disseminating the Open Calls.

Each content we will create for the project can be reused and reposted through other partners' communications channels.

Furthermore, we will participate in the ICOS blog by writing articles on technical topics related to the project that we master.

All these communication actions will be disseminated to our audience. SixSq is part of the European Edge computing ecosystem, with connections in other continents such as North America. This includes:

- ▶ SMEs to big businesses software providers, such as app vendors (who upload their software on the marketplace to be deployed through Nuvla) from Switzerland, Europe, North America. Institutional and Academic partners from Switzerland and Europe.
- ▶ Telecommunications and service providers.
- ▶ Businesses related to retail, energy, transportation, or broadcasting fields.

2.5.22 NCSRD

NCSRD is a national multidisciplinary research center, the team involved in ICOS project focuses on Cybersecurity, edge cloud technologies and smart networks. Within ICOS outcomes, NCSRD is primarily interested in activities focusing on cloud continuum creation, resource management and orchestration and intelligence deployment over the cloud continuum. In this context, a series of challenges will be investigated while addressing the main ICOS objectives and implanting its concept. The outcomes of the efforts and in general the ICOS concept and produced artifacts will be disseminated in peer-reviewed, international high-impact scientific journals, magazines and conferences. It is planned that NCSRD will produce/participate in at least 3 publications during the second year. The project results will be also disseminated to new scientist and to the rest of the NCSRD personnel during the annual Summer School hosted in NCSRD Campus and through the Institute of Telecommunications and Informatics quarterly editioned newsletter¹. In addition, as NCSRD hosts the "Lefkippos" Scientific

¹ https://www.iit.demokritos.gr/newsletters/

II)ocument name:		D7.2 Dissemination, communications, exploitation and communities engagement strategy			Page:	31 of 48	
Reference:	D7.2					Status:	Final



Park² with more than 40 participating companies (small SMEs and start-ups) available channels will be utilised to achieve targeted communication of the project results.

² <u>http://lefkippos.demokritos.gr</u>

11)ocument name:		issemination, com unities engageme		oitation and	d	Page:	32 of 48
Reference:	D7.2					Status:	Final



3 Open-Source Standardization

The ICOS project includes standardization activities largely focused on contributing to upstream opensource projects and communities, which are the de-facto software standards (i.e.: by contributing to Kubernetes, the de-facto standard for container orchestration and cloud native development).

In the first half year of the project, we have focused on identifying the initial set of standardization bodies and open-source projects that are relevant and to which ICOS is defining an approach on how to get engaged and contribute. As the project reaches maturity, more contributions are expected to be made during the second and third years of the project. At this stage, we foresee that we will have advanced on the development of the different ICOS components. Nevertheless, the project is already keeping close track of them to ensure alignment from the very beginning. Different partners will receive a template to record, both their contributions (both upstream code and community engagement) as well as their future/tentative plan. This approach will be used to internally track the progress.

3.1 Open-source contributions

Besides the plan of contributing some of the ICOS components as open-source (public git repositories), we have also identified a few upstream communities where parts of the ICOS contributions are targeted. The ICOS project will also work on creating new communities around new/starting projects:

Table 10: Open-Source Contributions

Leading partner	Upstream project	Contributions
Red Hat	Open Cluster Management	
		➤ Submariner integration
Red Hat	uShift	▶ Maturing this k8s distro for low-footprint/edge devices
		▶ Support for Raspberry-PIs
		▶ Integration with Submariner
		▶ Integration with Open Cluster Management
		▶ Support multinodes deployment
Red Hat	Submariner	Extending the multicluster network connectivity with:
		▶ Integration with Open Cluster Management
		▶ Integration with uShift
		▶ Integration of different CNI, in this case ovn-kubernetes
TUBS	BenchFaaS	Benchmarking Serverless Functions in an Edge Computing Network
		Testbed (https://github.com/tubskns/benchfaas)
TUBS	OpenFaaS	Repository of OpenFaas functions
	functions	(https://github.com/tubskns/openfaas-functions)
TUBS,	NoTE Lab	NoTE Lab: Network of Things Engineering Lab
UPC		(https://github.com/tubskns/notelab-code)
BSC	COMPSs	Programming model and distributed execution runtime for edge-to-cloud
BSC	dataClay	Transparent distributed data management platform for edge-to-cloud
ZettaScale	Eclipse	The aim of Eclipse Zenoh is to provide a protocol suite for adaptive and

11)Ocument name.		D7.2 Dissemination, communications, exploitation and communities engagement strategy			Page:	33 of 48	
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



Lead partn	 Upstream project	Contributions
	Zenoh	distributed data-sharing, to enhance data distribution and flexibility.

This subsection presents the open-source activities used or contributed by ICOS project.

3.1.1 Eclipse Foundation

The Eclipse Foundation³ is an independent, Europe-based not-for-profit corporation that acts as a steward of the Eclipse opensource software development community.

It is an organization supported by over 350 members and represents the world's largest sponsored collection of Open-Source projects and developers.

In particular, the Edge Native Working Group⁴ initiative fosters openly accessible solutions for Edge and Fog computing and has taken a major lead in this domain. It provides Open-Source edge compute platforms to solve the complex challenges in decentralized environments at the mobile network edge. ZSCALE, a partner in ICOS, is a founder and steering member of the Edge Native Working Group.

Under ICOS, ZSCALE will provide a release for the Eclipse Zenoh⁵ project planned for Q3/2023 and will be available in the official repository. The Eclipse Zenoh is a decentralized and distributed data management platform that unifies data in motion, data at rest and computations. It carefully blends traditional pub/sub with geo-distributed storages, queries and computations. ZSCALE will continue to actively participate in the different events of Eclipse IoT and Eclipse Edge.

3.2 Activities

The ICOS project partners are currently involved in various ongoing activities to support the project's including participation in upstream development communication tools and gatherings (i.e.: Open Infra Summit and/or Kubecon).

The project will continue to participate in relevant research and upstream communities such as the local Kubernetes meetups aiming at additional presentations of the project results. It will continue to contribute in Open Infra Summit and/or Kubecon and its active involvement in upstream development through communication tools and gatherings. It will also participate in Red Hat Research days as well as aim at publishing more blog posts on Red Hat research blog. It will also continue to take part in DevConf and FOSS communities aiming to further promote project results. It also plans to organize a periodic internal workshop, led by Red Hat, with the main target of increasing the contributions and engagement with upstream projects. Red Hat will share its know-how about the process and help identify possible upstream communities, helping partners with onboarding on them. The project also plans to present to relevant research and upstream communities, by attending/presenting at their summits, and being engaged in their recurring meetings and discussion channels:

Table 11: Open-Source Event Activities

Partner	Event/Activity	Description of the activity	Status
Red Ha	5	https://research.redhat.com/blog/research_project/icos/	Done
	research.redhat.com		

⁵ https://github.com/eclipse-zenoh/zenoh

II)ocument name:		issemination, comi unities engageme		oitation and	b	Page:	34 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final

³ https://www.eclipse.org/

⁴ https://edgenative.eclipse.org/



Partner	Event/Activity	Description of the activity	Status
Red Hat	Press release at research.redhat.com	Press release of the first General Assembly: https://research.redhat.com/blog/2023/01/03/operating-system-for-the-cloud-continuum-eu-funded-project-icos-launches/	Done
Red Hat	Blog post at ICOS website	Blog post about the relevance open source and upstream communities for research activities	Done
Red Hat	of the open source	Report on the health of the main open-source projects identified in D2.1 ICOS ecosystem: Technologies, requirements and state of the art	Ongoing
Red Hat	Open Infrastructure Summit	Present on the Open Infrastructure Summit	Planning
Red Hat	Kubecon	Present on the KubeCon summit, where k8s community gathers	Planning
Red Hat	K8s Meetups	Present some of the developments at some local k8s meetup	Planning
Red Hat	PTG, Slack, IRC, mailing lists	Get involved into upstream development communications tools, to sync on the best way of contributing the features, maximizing the impact as well as chances of adoption	Planning
Red Hat	Blog Post at research.redhat.com	Blog post about Red Hat role at ICOS	Planning
TUBS, UPC	Tutorial workshop	"Putting Open source Tools and Concepts in Practice in IoT, Edge and Cloud Continuum"	Planning
ZettaScale	Open source task force event,	Attend the event which will be organized by the eclipse foundation in the context of a joint work done by two CSAs working on of the Cloud-Edge-IoT continuum. This work (task force) is pushed by the EC.	Done
ZettaScale	Eclipse IoT and Edge Days, Jan 2023	Yearly event organized by Eclipse to foster the edge computing community.	Planning
ZettaScale	-	Yearly event organized by Eclipse to foster the edge native open-source projects.	Planning
ZettaScale	Eclipse Con Europe, Ludwigsbourg, Germany, Oct 16-19, 2023	Yearly event organized by Eclipse Europe	Planning

11)ocument name:		D7.2 Dissemination, communications, exploitation and communities engagement strategy			Page:	35 of 48
Reference:					Status:	Final



4 Exploitation

The main goal of the exploitation activities within ICOS project is to create a sustainable environment for ICOS growth even after the project lifespan in order to ensure the maximization of the impact of the project results. In the following paragraphs we provide an overview of the approach and the current status of exploitation activities.

4.1 Overview

Exploitation activities will be dedicated, together with the Dissemination activities, to raising awareness towards the project, in engaging stakeholders, while also setting a solid basis for the future sustainability of project results. In order to reach such objective dissemination, communication and exploitation, activities will be closely intertwined.



Figure 6: Overview Communication, Dissemination and Exploitation

The Exploitation Plan is organised around four main steps which will be managed mainly by WP7:

- ▶ Identification and assessment of the key Exploitable Assets of the ICOS project. During this phase all partners are involved in order to jointly define the exploitable results and at the same time identify, whenever possible, groups of assets which may benefit from a joint exploitation.
- ▶ Management of IP to maximise the impact of the project and make informed and strategic decisions regarding the project assets.
- ▶ Analysis of the macro-economic landscape to assess how and if the exploitable assets identified actually fit the market. This includes the analysis of the needs of the target stakeholders, of existing market trends and competitors.
- ▶ Analysis and identification of potential strategies to reach each type of client/user and the type of product/service to be proposed.
- ▶ Strategic implementation of the tools to maximise the impact of the project results which might be achieved by a number of methods e.g., further research, licensing, new services/products, standards.

4.1.1 KPIs

As there is a strong connection among Communication, Dissemination and Exploitation activities, KPIs are shared among the different task in WP7 and all of them support the reaching of the exploitation objectives. Nevertheless, below is a list of the KPIs more relevant to Exploitation.

Table 12: Exploitation KPIs

II)ocument name:	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	36 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



Name	KPI	Timing
ICOS micro-economic analysis	1	M36
Business whitepaper	1	M36
Number of innovations in the market	5	M36
Number of B2B/B2B2C	2	M36

4.1.2 Interactions with other Tasks

In ICOS project a strong cooperation is foreseen among the tasks of WP7 which together take care of the implementation of dissemination and communication activities and the capitalisation of the innovation achieved by analysing the market and planning and developing actions for future sustainability and further. Cooperation is also foreseen with the other WPs in order to keep track of the project advancements and innovations and support partners in having a continuous view also on market needs and trends.

4.1.3 Plans for Year 2

Exploitation activities have started in Year 1 with the analysis of ICOS from a customer oriented point of view. Workshops are being organised to discuss customer needs and identify ICOS value proposition. The results of these first activities will become the basis of Year 2 activities and will also be passed onto the dissemination and communication tasks to support the actions related to raising awareness and interest towards ICOS results. Partners have also started developing individual exploitation strategies complementing their dissemination plans, a first version of which can be found in the following paragraphs.

In Year 2 the Consortium will continue analysing ICOS as a whole and will start the analysis of other Key Exploitable Results from a more "marketing" point of view by looking at potential customer needs, market trends, competitors, innovation potential, unique selling point. This analysis will be supported by well-suited techniques like the SWOT analysis, Strategyzer Value Proposition Canvas and the Lean Canvas (an adaptation by Ash Maurya of the Business Model Canvas by Alexander Osterwalder). Discussions regarding joint exploitation plans focusing on the overall project results or bundles of them will also start in Year 2.

The task has also started the work related to IP management and reporting, for this purpose an IP registry has been set up and is going to be kept up to date during the whole project lifetime.

The results of the activities performed in Year 2 will be summarized in D7.3 - Dissemination, communications, exploitation and communities engagement report - Intermediate version.

L-PIT has identified several exploitation activities to be planned in Year 2. In the ICOS project Institute carries out a case study that presents innovative ideas and concepts. Actions taken will examine market potential.

Worldsensing is acting as an end-user of the ICOS solutions. Therefore, will not be in charge of the exploitation of the solutions generated, but will provide all relevant information to reach possible users and ensure there is a value proposal which is relevant.

4.2 Innovation Management

There is a strong commitment from all the partners to guarantee a high level of innovation for the project results with the aim to reach the highest number of sectors and satisfy the user needs in the best possible manner. When dealing with innovation the most difficult process is however its management, for this reason the Consortium will keep track of the most valuable innovations, it will manage their IP and will analyse the innovative results from the point of view of their alignment with market trends, customer

Document name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy				Page:	37 of 48
					Status:	Final



desirability and their feasibility and viability in terms of resources, costs and revenues. In the next paragraphs the first activities and the plans for the next months are outlined.

4.2.1 Exploitable Results

ICOS has currently identified five Key Exploitable Results (KERs), with high innovation potential, which are shown in the following table. These are going to be analysed in the following months by focusing at first on the target audience addressed and their needs, then Exploitation and Dissemination measures are going to be identified and analysed together with the expected outcomes for each Key Result. In the table below the 5 KER currently identified are listed.

Name	Description	Lead partner
ICOS platform	Complete set of features and functionalities easing the IoT-edge-cloud continuum management	ATOS
Data Management	A single data platform to facilitate the management of data distributed across the continuum, able to seamlessly run on heterogeneous and possibly small devices.	BSC
Security and Trustworthy Layer	Security Layer including security and trustworthy as key fundamental pillars.	XLAB
Meta-Kernel	Adaptation engine, for monitoring, scheduling and orchestrating workloads across the continuum.	ATOS
Intelligent Continuum	Set of techniques for optimizing and pruning ML models to be adapted to the characteristics of edge devices without losing accuracy.	CEADAR
ICOS AI Marketplace	ICOS AI marketplace connected to other existing model repositories.	CEADAR

Table 13: Exploitable results

For the first three assets in the list, currently a joint exploitation plan is considered more suitable. For this reason, a special attention will be put on the management of IP to determine the most suitable paths for their exploitation according to individual partner's intentions. For the other two KER exploitation by a single partner is more likely to take place. As stated above a thorough analyses of each KER will be performed in Year 2. Among the tools to support the promotion of results towards stakeholder (investor or adopter) the Consortium will also use the Horizon Results Platform.

4.2.2 IPR Management

To manage effectively and efficiently IP throughout the project and beyond, the Partners have included in the Consortium Agreement a set of main principles that apply when managing project background and results. The Agreement includes the background brought into the project by each partner with information on limitation for implementation and for exploitation (if any); it outlines rules on ownership and transfer of results, access rights and dissemination of project results.

To support the "day by day" IP management, an IP registry has been set up and is going to be kept up to date by all partners. It includes all the information needed to manage IP supporting the detection of issues as soon as they arise (if any). It also supports partners in having an overall view of the results being produced by the project, their ownership, licenses, and when it comes to software components, dependencies, TRL etc.

ICOS will follow the doctrine promulgated by the European Patent Office (EPO) for those partners aiming to proceed with software patenting as part of their commercialization strategy. For those partners

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	38 of 48
Reference:						Status:	Final



willing to follow an open-source software strategy, as open-source licenses and patents are not exclusive, the consortium will explore the possibility of using dual licenses: free for research and education purposes and protected for commercial ones. And finally, with regards to publications, the project will use the green open access publication model, ensuring the access to scientific results while reducing costs associated to fees.

Regarding the IP management for the technology projects during open calls, the protection and ownership of the results will be carefully considered. Each partner and the corresponding 'Third party beneficiary' will be responsible for taking the appropriate steps for securing IPR created during the open calls.

4.2.3 Individual Exploitation

In the following paragraphs Partners have outlined their individual exploitation plans which will be updated and further detailed in the next version of this deliverable.

4.2.3.1 ENG

Engineering is the Digital Transformation Company, leader in Italy and expanding its global footprint, with around 12,000 associates, with over 60 offices spread across Europe, the United States, and South America and global delivery. To meet the needs of agility and flexibility of our clients, we adopt a hybrid cloud model, which integrates our 4 proprietary data centers with the main hyper-scale market cloud players to offer our multi-cloud offer. This is done through a dedicated company, Engineering D.HUB part of Engineering Group. Engineering R&D team passes onto Engineering D.HUB the knowledge and tools developed during the ICOS project. This is done through the organisation of online meetings during which Engineering R&D team and Engineering D.HUB technical and management teams meet to share project results and discuss functionalities and requirements in the light of real customer needs and commercial level service/products managed by D.HUB.

4.2.3.2 ATOS

ATOS, as an industrial partner, aims to develop innovative software functionalities that may be incorporated into the company's portfolio.

It is foreseen that ATOS main contributions focus on automatic management and orchestration according to configurable service level compliance. As a cloud and edge service and infrastructure provider these developments fully match with their current offering performing research that can increase the company's revenue.

Once results are progressing, they will be mapped with the existing ATOS products in order to identify gaps that will allow to categorize and rank features to be incorporated in them.

This work will be performed along the project lifespan with a twofold goal: i) integrate developments in new or existing products; and ii) identify and develop new research lines for the coming years.

4.2.3.3 TUBS

As an academic partner, TUBS is interested in allowing students to conduct research projects, as well as to participate in open-source efforts. The graduate students that are working on this project will benefit from the research through creation of high quality publications, while the undergraduate students will benefit from the research through creation of high quality theses.

4.2.3.4 L-PIT

Main exploitation activities for L-PIT will focus on carrying out tests in individual farms. The institute will engage individual farmers, gather their feedback on functionality from the user's point of view. In most cases, the farms will be located in Western Poland. L-PIT will also involve a pilot farm run by Greater Poland Agricultural Advisory Centre. Tests will be carried out in Sielinko (Western Poland) -

11)Ocument name.		issemination, com unities engageme		oitation and	d	Page:	39 of 48
Reference:					Status:	Final	



the area open to testing innovative solutions. Additionally, the Institute will conduct a demonstration during fairs (National Field Days) and other agri-food exhibitions. One of the most important zones at the Fourth National Field Days Sielinko 2023 will be the demonstration plot zone. On more than 18 hectares of land, all visitors (farmers, technology providers) will be able to see more than 400 varieties of crops. Each on-farm test will be organised in accordance with the adopted methodology that includes targeting farmers in line with objective, ensure good location and facilities of demo-site, balanced organisation team, multiple communication channels and evaluation of achieved targets.

L-PIT will actively cooperate with potential companies interested in the production of field/forestry robots in order to validate the ICOS assumptions in terms of future commercial use of the results.

4.2.3.5 NKUA

NKUA foresees three important routes towards exploitation of the results. The first is focusing on exploiting the ICOS results in education; the second focuses on enriching the scientific status of the involved personnel; and the third one is targeting on exploiting the project outcomes in future research projects.

On the first exploitation strand, since the NKUA team is actively involved in the design of appropriate AI/ML approaches for resource optimization and dynamic network configuration, this will introduce modern and innovative PhD Dissertations. In fact, there are two active PhD candidates in the NKUA team, focusing on decentralized machine learning approaches and cloud resources optimization.

With respect to the second exploitation strand, NKUA sees the participation in ICOS as a clear step towards the exploitation of the technical and scientific advancements, which will be developed in close collaboration with the rest of the project partners. NKUA will be mainly involved in the design and implementation of AI/ML tools and algorithms that will be applied both in the security as well as in the intelligence modules. Moreover, NKUA will also have an active role in the technical performance assessment of the ICOS platform. Therefore, the deployment of decentralized ML approaches that can run across various ICOS instances will make the ICOS solution challenging and applicable in a wide variety of highly demanding use case scenarios.

Finally, with respect to the third exploitation field, NKUA will leverage the outcomes of this project and build upon the gained expertise to be exploited in new research projects that would give the opportunity to further promote research in these areas. The NKUA involvement in a highly innovative project with industrial partnerships will allow its establishment as a significant European research and development organisation and it will increase the visibility, recognition, and publication record of the University.

4.2.3.6 RHT

Red Hat model is "upstream first", hence everything we do, we try to do in a way that is first submitted upstream to its relevant community repository. Then, after being part of the upstream project, this may become later part of the Red Hat portfolio. Red Hat will develop software components and API extensions for the infrastructure layers (Kubernetes, Submariner, OCM, ...), and contribute them to their respective open-source repositories.

The extensions made to the infrastructure will be available in Red Hat portfolio offering after being merged upstream. The work done in ICOS will help extending the infrastructure capabilities to support new use cases, as well as further testing those infrastructure components in different scenarios.

4.2.3.7 SIXSO

SixSq provides solutions for application and device management.

Founded in August 2007, and acquired in November 2021 by the French telecommunications provider Ekinops, the company has built a solid reputation over the years as a leading European cloud and edge expert, thanks to its participation to numerous international research and development initiatives.

Indeed, SixSq will leverage knowledge from other former European projects for the purpose of ICOS.

11)Ocument name.		ssemination, com unities engageme		oitation and	d	Page:	40 of 48
Reference:					Status:	Final	



SixSq offers two solutions to the market:

- ▶ The NuvlaEdge, a plug and play software component which enables customers to turn any Linux device into an edge device.
- ▶ The Nuvla platform, a simple dashboard from where customers can manage the edge devices mentioned above, but also deploy and update applications. Nuvla allows to simply manage cloud and edge infrastructures.

In the context of ICOS, SixSq will bring its knowledge of the IoT and edge-to-cloud domains, and its expertise in running a commercial edge management platform.

Furthermore, SixSq will bring the ICOS foundation software, as an Edge-to-Cloud platform that offers automatic discovery, categorisation, and data routing of IoT peripherals that are connected to the NuvlaEdge appliance software.

In addition, ICOS will give SixSq the opportunity to improve its two pieces of software to meet the challenges the project is addressing. Shaping and developing the ICOS platform will directly benefit the evolution of Nuvla.

Hence, the lessons learnt from ICOS will bring Nuvla to the next level as a tool for telecommunications customers and networking service providers. As most of them use uCPE (universal Customer Premises Equipment) infrastructure to deploy applications virtually generating network components (network monitoring, security software for instance), improving Nuvla with new and updated features related to remote management will be of added value for them.

In fact, the remote management of their edge devices and IoT sensors end-to-end will enable easy device monitoring, predictive maintenance, and quality of service assessment, and will result in cost savings for customers.

The Nuvla and NuvlaEdge features are also exploited during Proofs-of-Concept. Improvements to the software resulting from ICOS will directly benefit the remote management of edge devices in diverse industrial fields: public transportation ticketing, energy, telecommunications/services providers or health data management.

All the exploitable results and achievements made through will be shared on our website, social media, and events the SixSq team is attending.

4.2.3.8 ZSCALE

ZSCALE seeks to exploit ICOS innovations related to the mobile edge and fog computing domain, with a strong focus on the design and implementation of platforms for the control of heterogeneous, geodistributed mobile edge data fabrics.

Specifically, the expected innovations of ICOS will enable ZSCALE to augment its current intelligent computing platform for Edge Computing with a more dynamic management of the resources and services required at the distributed meta-kernel layer design.

ZSCALE seeks the transfer of the developed technologies by first fostering open-source projects to later build a complete value chain. Part of ICOS innovations will be fed into the open-source project Eclipse Zenoh currently led by ZSCALE. The aim of Eclipse Zenoh is to provide a protocol suite for adaptive and distributed data-sharing, to enhance data distribution and flexibility.

4.2.3.9 UPC

As part of the individual exploitation plans, the UPC involves some students in the development of the ICOS project. In particular, one PhD student is directly involved in the project activities, aiming at pursuing his PhD Thesis directly related to some of the ICOS core concepts. Additionally, another MsC student is also engaged into the ICOS project.

II)ocument name:		ssemination, com unities engageme		oitation and	d	Page:	41 of 48
Reference:					Status:	Final	



4.2.3.10 WSE

Worldsensing will support exploitation activities by providing the end-user vision. Ensuring that there is value provided by the solutions generated in ICOS.

Worldsensing will be also deploying and building relevant use cases for Structural Health Monitoring, which will take advantage of ICOS. According to the maturity of the solutions, Worldsensing may act as first user for several of ICOS components and therefore be able to provide direct information regarding market proposition and pricing.

4.2.3.11 PSNC

PSNC foresees two main routes towards exploitation of the results.

The first is focusing on the exploiting ICOS results for the Agriculture Robots in close collaboration with L-PIT. This part has demonstration (the demonstration farms/agriculture fields) and industrial exploitation path (close collaboration with the robot producers), and is described more in details in L-PIT description of the exploitation (4.2.3.4)

The second is focusing on additional exploitation of the ICOS results for definition of further scenarios and appliance of the results in future research projects. This concerns both the exploitation of ICOS system itself (from technical/technological perspective) and the gained expertise to be exploited in new research projects (and application of the technology also in other demanding domains) that would give the opportunity to further promote research. This is important for increasing the visibility and recognition of PSNC in the area of EDGE-CLOUD area.

4.2.3.12 SSEA

The Energy use case study (UC4) will establish robust data integration and data security/data privacy protocols between in house technology (e.g., Smart Meters, Solar PhotoVoltaic generation and inverter, Home Battery, Electric Vehicles etc) and optimisation engines, and build SSE's ability through data analysis, machine learning and AI models, to better understand and optimise customer's energy consumption.

With the energy industry in continuous evolvement, customers with Electric Vehicles, Heat Pumps, storage capabilities and green energy generating systems will play a fundamental role in the transition towards net zero emission energy systems.

While the scope of the optimisation has yet to be determined throughout the ICOS project life e.g., based on maximisation of renewable energy / reduction of costs / grid flexibility service provision, SSE Airtricity intends to build further engines following the completion of the ICOS project. These will exploit the knowledge attained during the ICOS trial to enable SSE to assist domestic and business users providing more detailed energy reporting, and to develop new customer offerings and viable energy solutions for optimal, cost effective and reliable energy usage to support customers in their transition to become Active Energy Citizens.

4.2.3.13 BSC

As research institution, BSC will take advantage of the results and knowledge gained from the ICOS project in two main directions: research, and knowledge transfer. On the research side, new concepts developed within ICOS will lead to the production of scientific publications enabling BSC to gain visibility in conferences and events beyond the HPC area and to participate in other European or national projects in a wider number of topics. Integrating such concepts into BSC's software products will push the technology solutions beyond the state of the art, thus increasing the potential number of users of BSC products and of new partners from academia and industry.

Regarding knowledge transfer, concepts and knowledge obtained from ICOS will be incorporated in courses and seminars given as part of BSC training, as well as in graduate and postgraduate courses

11)Ocument name.		issemination, com unities engageme		oitation and	d	Page:	42 of 48
Reference:					Status:	Final	



given by BSC staff at the Universitat Politècnica de Catalunya. Also, Master and PhD thesis can be offered based on this knowledge, and thus attract new talents from more diverse profiles and skills.

4.2.3.14 CeADAR

CeADAR's involvement in the intelligent component will be made available first to the project and may become part of its portfolio at a later stage. CeADAR may develop different use cases or software extensions fitting with the work performed by them during the project at a later stage. This extra work would be made present in CeADAR's open-source repositories.

4.2.3.15 CRF

As Research Company CRF represents Stellantis in European and National collaborative research programs, joining pre-competitive projects and promoting networking actions with the aim to develop and transfer innovative solutions and methodologies together with innovation expertise in order to improve the competitiveness of Stellantis products.

In this context, the exploitation activities are indeed the core activities together with the project technical activities and are performed periodically to guarantee a wide spread of the project technical outcomes within Stellantis. This is done via technical sharing in specific meetings with Stellantis Experts in Europe and worldwide, with organising internal workshops and proof of concept demonstrations.

The sharing of project outcomes is a vital ingredient of collaborative projects for Stellantis being a Tech Company, correspondingly the task is performed timely and with a periodicity and instruments that are specifically planned on a case by case basis.

As part of an automotive company, CRF is particular interested in exploring innovative solution that enable flexible and scalable end to end connected services able to grant high Quality of Experience.

The work done in ICOS will help to extend the current infrastructure capabilities to support new use cases, and services as well as further testing those infrastructure components in different scenarios.

The Automotive PoC (IAIMM: In-car Advanced Infotainment and Multimedia Management system) that will be implemented using the ICOS solution will be the first vehicle for the exploitation of the project results at any stage of the development.

4.2.3.16 XLAB

Precise exploitation plans are difficult to establish early in the project lifetime. However, XLAB plans to leverage the experience gained within ICOS to strengthen the technologies in its own field. XLAB is contributing its Spotter and LOMOS technology assets to ICOS. It is expected that in the long term (beyond the project), the developments are transferred as sub-components into XLABs commercial offering.

4.2.3.17 Suite5

Suite5, as the Ethics Expert of the ICOS project, will take advantage of the tangible and intangible results of the project in order to further enhance its position in the European and worldwide scene through various ways. More specifically, Suite5 will exploit the experience on the Ethics landscape in other EC-driven proposals and contribute accordingly to the potential consortia. In addition, such knowledge will facilitate the IPR activities of the company regarding any commercial endeavours. Moreover, the capabilities of the ICOS system will further boost the expertise of the company in the AI domain for both Edge and Continuum solutions.

4.2.3.18 NCSRD

As an academic/research partner two are the basic exploitation areas relevant to ICOS outcomes. The first area is about establishing of NCSRD positioning in the field. NCSRD will exploit ICOS to establish NCSRD positioning in the research areas about Cloud and Edge technologies, building on top of our established expertise in telecoms and especially 5G. This will provide more visibility for the

11)Ocument name.		issemination, com unities engageme		oitation and	d	Page:	43 of 48
Reference:					Status:	Final	



organisation and provide more opportunities to participate in future research projects further promoting our research agenda in these areas.

The other exploitation area is the education, exploiting funding and resources to set start to innovative dissertations and PhDs in cutting edge technologies. The NCSRD involvement in the development and deployment environment of ICOS, will provide opportunities to provide access to students and PhD candidates in an actual cloud continuum setting. Furthermore, it will provide a greenfield environment where organisation researchers can further evolved their research skills and interests.

4.2.3.19 FGC

FGC, as a public railway company, acts as a facilitator of the tests and demonstrations necessary for the development of ICOS, as well as providing and transmitting the needs of the sector. Once developed and brought to market, FGC acts as an end user and therefore does not exploit the products or development. Hence, there is no individual exploitation plan from FGC side.

4.2.3.20 BULL

BULL, as a manufacturer and provider of edge and HPC servers, will make 2 edge servers available for the ICOS platform that will be most suitable to the project needs. The relevant outcomes of the ICOS project useful to edge server may be candidates to future edge server roadmap. The know-how gained from the ICOS project will definitely strengthen our experience in edge server design and sizing.

4.2.4 Joint Exploitation

A joint exploitation plan of ICOS results will be analysed. Most of the activities related to the identification of joint exploitation plans will be performed in Year 2 and 3. Some main elements that will support the joint exploitation have been identified like the open-source approach described below and the IP management principles agreed upon by all the Consortium and described in 4.2.2.

ICOS Partners agree to use and release Open-source Software (OSS) contributing to the Open-source communities. Specific details concerning the OSS use are addressed in the Consortium Agreement (CA) signed by the partners at the beginning of the project.

The ICOS OSS strategy will be based on three pillars, described below in detail:

- ▶ OSS community code release
- ▶ Commercial licensing in support of OSS business models
- ▶ Sustained maintenance of live instance of ICOS for enhancement by the OSS community, after the end of the project.

In conformance with the internal IP management processes identified in ICOS, most of the software modules developed in ICOS will be released as open-source. The overall functionality of the ICOS platform released in open-source will not be compromised by the possibility of developing the sophisticated or added value features to promote also the commercialization of ICOS related results and, at the same time, the OS version of the ICOS platform will not preclude the development of sophisticated features by any member of the open-source community. For this purpose, the open-source software to be used as a baseline in the context of ICOS will follow a commercially friendly license which supports the reuse of software for commercial purposes.

ICOS will establish an open-source repository for those components that can be released as OSS. The exact license used will be decided later during project activities and will be dependent on the platforms and technologies adopted and integrated into the ICOS solution. The solution may actually include multiple licenses or the different licensed software components may be released individually.

The above open-source strategy does not apply to the background IP and software that participants have brought into ICOS, and the extensions thereof.

As part of the OS approach ICOS is going to analyse OS based business models which may be based on:

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy				Page:	44 of 48
Reference:					Status:	Final



- services to support the integration of the open-source components into 3rd party commercial products,
- commercial support and maintenance services of the open-source software,
- ▶ extended commercial products and applications with features that are complementary to the open-source components.

To support the Open Source strategy and the management of IPR activities, an analysis of the main software licenses has been performed a summary of which is reported in the table below:

Table 14: Main OS software licenses

License name	Can	Must	Not allower	Derivative works
AGPL	Commercial Use Modify Distribute	Include Copyright Include License State Changes Disclose Source	Sublicence	Must be AGPL
Apache License V2.0	Commercial Use Modify Distribute Sublicense	Include Copyright Include License State Changes		Any license
GPL-3	Commercial Use Modify Distribute	Include Original State Changes Disclose Source Include License Include Copyright	Sublicense	Must be GPL
AML (MIT)	Commercial Use Modify Distribute Sublicense	Include License Include Copyright		Any license
MPL-2.0	Commercial Use Modify Distribute Sublicense	Include Copyright Include License Disclose Source Include Original		Must be MPL
EPL	Commercial Use Modify Distribute Sublicense	Include License Disclose Source Include Copyright Include Original		Must be EPL

4.3 External Advisory Board

Advisory Boards are a useful tool to gather initial feedback from relevant stakeholders of the value chain to improve and/or validate project results.

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	45 of 48
Reference:						Status:	Final



Project Based Advisory Boards

PROJECT BASED ADVISORY BOARDS ARE AN ECONOMICAL AND SMART TOOL TO GAIN TARGETED ADVICE FOR A TIME- LOCATION- OR STRATEGIC-BASED GOAL.



Figure 7: Project Advisory Board⁶

For this reason, ICOS will set up an External Advisory Board (EAB) composed by industry and academia representatives with recognised knowledge and experience in the three layers of the continuum: Cloud, Edge and IoT, as well as other more transversal ones such as data management, security or open- source activities. The EAB will provide a fresh a clean view of the project achievements and results as its members are not involved in the daily activities.

4.3.1 Affiliations, Roles and Responsibilities

It was agreed from the beginning of the project that, ideally, the EAB will not have less than 3 members and more than 5-6. In this way, ICOS will still receive useful feedback and avoid an overload of mismatched information when requirements from different layers collide. Criteria for selecting the advisory board is as follows: i) Location: European or worldwide, also to avoid too many members from the same country that may have a similar point of view but not representing the whole European ecosystem; ii) Provenance: industry or academia, to cover research and business aspects; iii) Area of experience: Edge, Cloud or IoT, to have at least one representative per each of them; and iv) Other experience: such as security, data or open-source, among others, that are also indirectly addressed by the project.

In order to set up the EAB, ATOS, as project coordinator and task leader, has elaborated an initial proposal with a set of candidates from industry and academia that have demonstrated experience in, at least, one of the topics covered by the project. All partners are invited to share their opinion, vote for the preferred candidates and/or suggest new potential members.

Once selected, the coordinator will invite them to participate in the EAB. At least two additional names will be kept as a backup in case of any refusal. Those who accept will sign a non-disclosure agreement preventing information share outside the consortium.

The initial list of responsibilities of the EAB is as follows:

⁶ https://www.advisoryboardcentre.com/insight/how-project-based-advisory-boards-support-organisations

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	46 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



- ▶ Participate in dedicated EAB meetings and assess on project scientific and technical progress, relevance and innovation capacity.
- ▶ Validate project approach according to research/industry needs.
- ▶ Suggest new tools, requirements, procedures or whatever it is needed to improve project results.
- ▶ Support the exploitation and dissemination activities of the project.

4.3.2 First EAB Meeting

Project representatives will regularly meet with the EAB in order to accomplish the most relevant milestones according to the time plan.

The first EAB meeting is planned within the first six months of the project, so EAB members will have the opportunity to be introduced to the project scope, objectives and expected results.

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	47 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final



5 Conclusions

This document presented the main actions executed and planned for the ICOS dissemination, communication, exploitation and communities' engagement strategy. It elaborated on the goals of WP7, its connected activities and their execution.

The consortium has defined a graphical identity for the project and has started to engage with different audiences by means of scientific publications, the creation of a website, regular publication of blog posts and their promotion on social media channels, dedicated for ICOS. The project was also promoted on external events and on partner's websites to gain a wider visibility. Related EU and open-source projects have been identified and strategies for their engagement have been defined. A joint exploitation strategy has been defined which will ensure an impact beyond the project's lifespan.

All activities and strategies will be updated, adjusted and improved in the deliverables D7.3 and D7.4 in M18 and M36 according to the project's development.

11)Ocument name.	D7.2 Dissemination, communications, exploitation and communities engagement strategy					Page:	48 of 48
Reference:	D7.2	Dissemination:	PU	Version:	1.0	Status:	Final