Horizon 2020 Program (2014-2020)

A computing toolkit for building efficient autonomous applications leveraging humanistic intelligence (TEACHING)

D6.1: Initial plans for stakeholders' engagement, dissemination and exploitation of results[†]

Contractual Date of Delivery	31/03/2020
Actual Date of Delivery	19/03/2020
Deliverable Security Class	Public
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[†] *The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 871385.*

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Document Revisions & Quality Assurance

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1. *Reviewer: George Bravos (ITML)*

Revisions

Version	Date	By	Overview
D.6.1-Final	19/03/2020	Editor	Final version
D.6.1.2	18/03/2020	Reviewer	Comments on first draft
D.6.1.1	11/03/2020	Editor	First draft
D6.1.0	24/02/2020	Editor	ToC

Table of Contents

List of Tables

List of Figures

List of Abbreviations

CDM Communication and Dissemination Manager

DOW Description of Work

EC European Commission

GA Grant Agreement

JSCo Joint Steering Committee

KPIs Key Performance Indicators

PSAC Project Scientific and Administrative Coordinator

WP Work Package

Executive Summary

This document sets out the initial plans for stakeholders' engagement, dissemination and exploitation of results of the TEACHING project. The objective of this deliverable is to primarily approach to the project dissemination, exploitation and stakeholders' engagement by presenting an initial strategy that will be enforced during the project lifetime. It introduces the dissemination and communication activities that project's consortium intends to carry out during the project lifespan. Furthermore, it provides all the steps needed to be taken during and after the project to achieve maximum effect of the dissemination process and reach to the relevant target audiences. Finally, it handles the exploitation strategy and plan within the project and highlights the guidelines that need to be followed by all consortium members during the project's lifecycle. The initial planning of exploitation is aligned with the TEACHING Description of Work (DOW) and the Grant Agreement (GA). In this context, this document presents the initial definition and proposed methodology of exploitation within the project.

Given the very early stage in the project development (M3) and the novelty of the TEACHING platform and its individual elements under development, the initial dissemination, communication and exploitation plans presented in this document are preliminary in nature and will be expanded and revised as more specific results and experiences from the project become available. Thus, the strategy and plan of dissemination and exploitation will be continually monitored, updated and reported during the project. In a sense it is a living document that will develop through the project and it will change in accordance with the needs of the dissemination, communication and exploitation process.

1 Introduction

This deliverable presents the communication, dissemination and exploitation plan which identifies, organises and defines the management of the promotion of the TEACHING project. It is based on the preliminary dissemination and exploitation plan drafted on the project proposal, adding relevant material on the dissemination and communication strategy. The deliverable objectives are to establish:

- The communication and dissemination strategy and timelines
- The communication and dissemination channels and activities to be applied in order to reach an optimal dissemination level
- Key Performance Indicators (KPIs) used to monitor the implementation of the dissemination strategy
- The relevant target stakeholder for communication, dissemination and exploitation activities
- The exploitation approach for the project which combines both the overall project expected impact and the individual exploitation perspectives of each partner.

1.1 Relation to other deliverables and work packages

The development and execution of the stakeholders' engagement, dissemination and exploitation strategy is supported by the Task 6.1, Task 6.2 and Task 6.3. The development of the project communication and dissemination strategy is a horizontal activity which spans the work of WP2, WP3, WP4, WP5 and WP6.

1.2 Structure of the deliverable

The document covers the following topics:

Chapter 2 presents an overview of the dissemination and communication strategy, outlining the, dissemination media and channels used in the project and communication timeline and activities. It also gives an overview of the Key Performance Indicators (KPIs) used to monitor the implementation of the dissemination strategy. Finally, a dissemination guidelines and timelines are presented.

Chapter 3 provides an overview of the TEACHING target group as well as stakeholder engagement and exploitation approach which combines both the overall project expected impact and the individual exploitation perspectives and interest of each partner.

2 Dissemination and communication strategy

The objective of the dissemination strategy is to identify and organise the activities to be performed with the aim of maximizing the impact of the project by delivering the outcomes of TEACHING to citizens, market/stakeholders and research community. The objectives of the dissemination strategy are:

- Maximizing the impact of the project aligning business opportunities with the technical and research activity.
- Assisting and complementing the technical development with the business perspective particularly, relating to future uptake and sustainability.
- Studying the external context for TEACHING results, providing input and requirements relating to market needs and trends and defining the market context for exploitation.
- Ensuring proper communication of the project results and subsequently raising awareness to the scientific, industrial, and general public communities.
- Following, contributing to, promoting and ensuring usage of the corresponding relevant standards, while also supporting the liaison and collaboration activities with other EC funded related projects and initiatives.

The dissemination strategy will follow principles and best practices successfully tested by the partners in other projects and in line with the EC guidelines for successful dissemination.

While the dissemination strategy will focus on spreading the main results achieved in TEACHING to main target groups by ensuring the maximum impact of the project, the communication strategy will focus on promoting every specific action in the project itself and its results to multitude of audiences-including the media and public. Communication plays an important role in maximizing the impact of the project and it is mandatory that project partners contribute to promote the TEACHING results.

The dissemination and communication activities will be supervised by the Communication and Dissemination Manager (CDM) with collaboration of the Project Scientific and Administrative Coordinator (PSAC).

Overall the dissemination and communication strategy will be based on the identification of the following milestones:

- The definition of dissemination action plan
- The definition of communication action plan
- The definition of timeline
- The identification of the target groups
- The dissemination and communication management

2.1 Dissemination action plan

In this section the Dissemination and Communication Plan of TEACHING is identified. It gathers a set of activities that is combination of communication activities will help to share the project's scope, objectives and results to the TEACHING target audiences. The following dissemination and communication activities are selected to execute:

2.1.1 Scientific publications and articles

Journal articles are a broad-based dissemination tool. The partners will strengthen the impact of dissemination activities by preparing and publishing reports and scientific articles. This will

ensure the long-lasting impact beyond project duration, particularly in relation to academic discourse in the area. The consortium will select the most appropriate journal(s) for each specific paper. Indicative list of targeted Journals and Magazines is given below.

- International Journal of Cyber-Physical Systems (IJCPS)
- ACM Transactions on Cyber-Physical Systems (TCPS)
- IET Cyber-Physical Systems: Theory & Applications (IET-CPS)
- International Journal of Cybernetics and Cyber-Physical Systems
- IEEE Requirements Engineering journal
- Enterprise Information Systems
- International Journal of Information System Modelling
- Information Systems
- Data and Knowledge Engineering
- IEEE Transactions on Software Engineering
- International Journal of Social Computing and Cyber-Physical Systems
- The International Journal of eScience
- IEEE Systems Journal
- International Journal of Distributed Sensor Networks
- International Journal of Security and Its Applications
- Journal of Integrated Design and Process Science
- International Journal of Systems Applications
- Engineering & Development
- International Journal of Distributed and Parallel Systems (IJDPS) •
- Internet of Things Journal
- Infosecurity Magazine
- IEEE Software magazine (ISSN: 0740-7459)
- Requirements engineering magazine by IREB
- Computer Magazine
- AI magazine
- IEEE Computational Intelligence magazine

2.1.2 Participation in conferences

Industry of specific conferences will be excellent platform to disseminate project's findings and start direct conversations with various audiences. The preliminary list of TEACHING conferences includes:

- International Conference on Cyber Physical Systems and IoT
- International Conference on the Internet of Things
- International Conference on Frontiers of Artificial Intelligence and Machine Learning
- International Conference on High Performance Computing & Simulation
- Conference on Advanced Information Systems Engineering (CAiSE)
- Practice of Enterprise Modelling (PoEM)
- Research Challenges in Information Sciences
- International Conference on Conceptual Modelling (ER)
- IEEE Transactions on Industrial Informatics Special Section on Cyber -Physical Security
- International Conference on Cyber-Physical Systems
- IEEE/INNS International Joint Conference on Neural Networks

- European Symposium on Artificial Neural Networks and Learning Systems
- International Joint Conference on Artificial Intelligence
- European Conference on Machine Learning

2.1.3 Participation in events

The partners will participate at external events relevant to the project in order to: a) present the project and project results to broader audiences, b) promote the project, c) increase the project visibility, establish new contacts and d)exchange knowledge and experience. Events where partners plan to take part may include:

- Cyber-Physical System Security Workshop
- Industrial Control Systems (ICS) Cyber Security Conference
- GRAZ SYMPOSIUM VIRTUAL VEHICLE
- IoT Week
- VivaTech exhibition
- ESI symposium
- EFECS
- ICT Europe
- Artificial Intelligence Symposium
- WiCyS 2020
- Smart Edge Computing and Networking
- World Forum on the Internet of Things
- CYBERTECH EUROPE
- Infosecurity Europe

2.1.4 Networking and liaisons with other relevant projects

TEACHING consortium will pursue the establishment of an open dialogue with the other relevant projects. To begin with, an online research will be conducted about similar projects that belong in the same thematic area as TEACHING and first contact will be made with them. Furthermore, the TEACHING consortium has a group of public bodies, universities, industries and SMEs with strong networking profiles, which will be used to make collaboration with industry and public/private sectors.

2.2 Communication action plan

The following communication plan gathers a set of strategically planned communication activities aiming at promoting the results of TEACHING to a multitude of audiences (including media and public) in an effective manner and possibly engaging in a two-way exchange. These communication activities will be empowered by the dissemination manager, that will encourage TEACHING own community to be active in communication, having the contacts and resources to react in a timely and efficient way whenever something relevant happens. In the following subsections the TEACHING communication activities are presented.

2.2.1 Graphic identity (logo, templates)

The project logo is one of the most important elements of the project's identity. Its main purpose is to directly and effectively represent the core message of the project. That is why it is one of

the basic means of the dissemination strategy. The project's logo has already been designed and can be found Figure 2.

Figure 1:TEACHING logo

After the project logo has been designed, templates for different document types have been prepared (doc., exc., ppt). Templates enable the project to be represented in a uniform way.

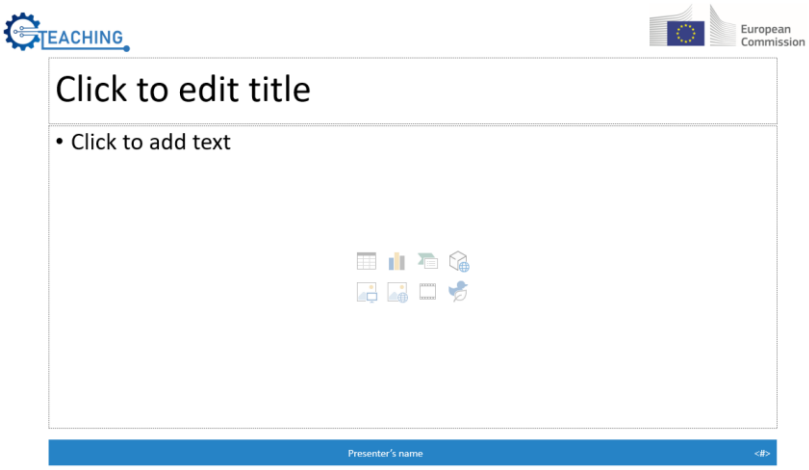

Figure 2:TEACHING power point presentation template

Additional templates will be added as required. All kind of documents, presentations etc. in TEACHING should be created by using the appropriate templates.

2.2.2 Project brochure/leaflet/factsheet

The main objective of the project's first leaflet is to provide audiences with an attractive and written overview of the project's main objectives and characteristics. The material is envisioned to be prepared and published on the project's website by M3. The printed form of the leaflet is envisioned to be handed out at various events (conferences, exhibitions, workshops, special sessions). As the project progresses and project consortium achieves tangible results a second version of the leaflet is also foreseen to be developed with an overview of preliminary results, aiming to attract TEACHING end-users and potential stakeholders.

2.2.3 Video release

To provide an audio - visual support to the whole project achievements and objectives, the video – record will be released in the main stages of the project. The video -record will be uploaded on the project website and on social media.

2.2.4 Newsletters

TEACHING news will be issued quarterly starting from M4. It will provide information about project's technical progress, accomplished events, deliverables, latest publications etc.

2.2.5 Basic poster and presentation

The basic project poster and presentation will be made, and all partners can use it for dissemination purposes. Furthermore, as project progresses, these materials will be constantly updated.

2.2.6 Project website

TEACHING website (find it here) has been designed in M2. It includes following sections:

- **Home page:** Providing a brief project information highlighting the background, purpose, objectives, work plan use-cases
- **Consortium:** Giving a short information of each of the TEACHING partners and a link to their websites
- **Results:** Enabling an access to TEACHING public deliverables, publications and other dissemination materials
- **News & events:** Summarizing the latest information about TEACHING events including consortium meetings, attendance to conferences, workshops, fairs, etc.
- Footnote: Direct access to the Social media pages (LinkedIn and Twitter)
- It also illustrates the key facts of the project and duly acknowledges EU for funding by claiming "*This project has received funding from the European Union's Horizon 2020 Research and Innovation program under grant agreement No 871385*".

The website will be continually updated throughout the project so that it will constantly present updated information for the interested stakeholders. In addition, aiming at extending the TEACHING audience, links to the TEACHING website will be included by project partners.

2.2.7 Social Media

Social media tools are the emerging platform for sharing and tracking of citizens' needs and wishes on public awareness. The presence of the TEACHING project in social media will be one of the key actions for dissemination and communication activities.

The LinkedIn profile of the project (find it here) has already been set up and will be used to raise awareness about the TEACHING results and attract the attention of both scientific and non-scientific audiences.

The Project's twitter page (find it here) has also been set up and will be used as a dissemination and communication tool for reaching the general public.

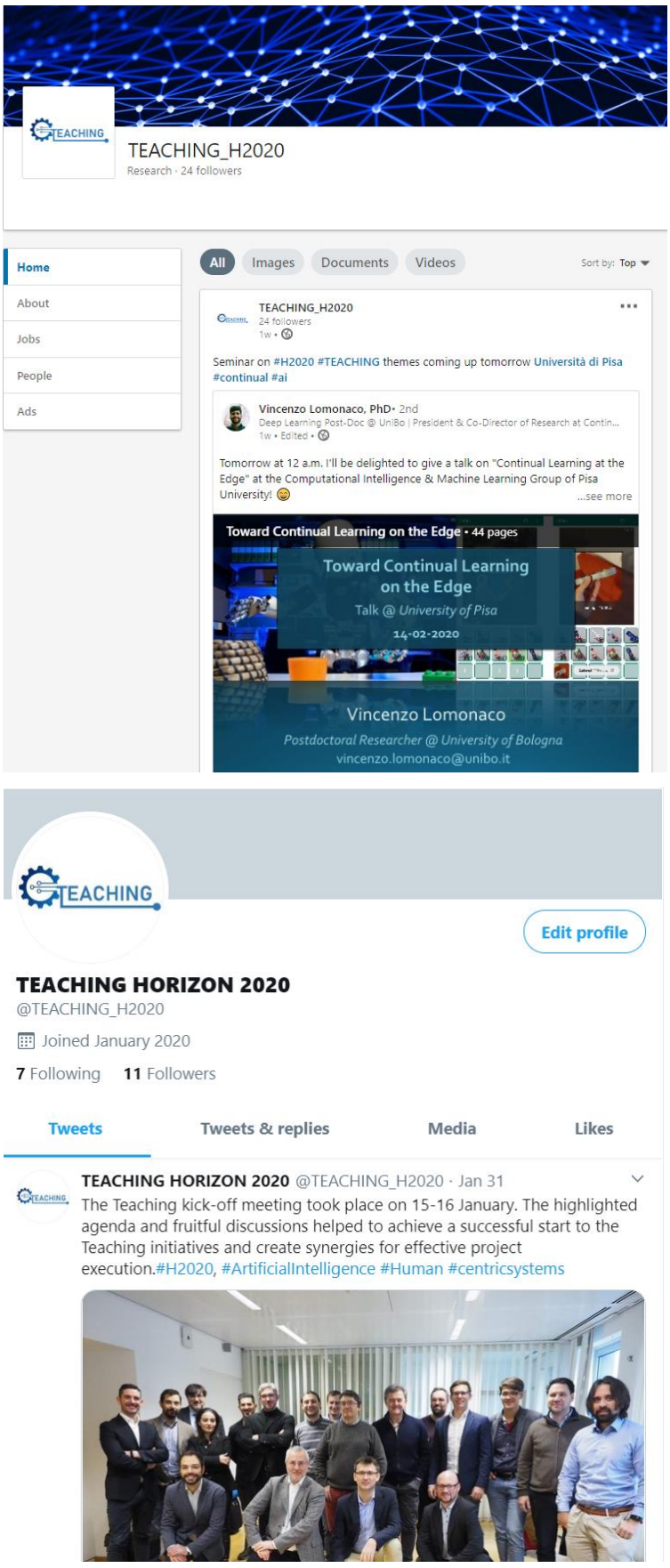

Figure 3: Screenshots of the TEACHING LinkedIn and Twitter Profiles

2.3 WP6 phases and timing

Dissemination activities are planned in accordance with stage of the development in the project as planned in the Description of Action (DoA). Based on this plan the dissemination and communication strategy will follow three main phases which are summarized below.

Phase-I: Initial awareness (M1-M12): this phase aims to promoting the project, putting emphasis on awareness raising, ensuring that the project is appropriately recognised on a wide scale and securing interest and engagement of key stakeholders. The project's visibility will be achieved by: designing the project logo which is the project's unique identity, designing and developing the project website, launching the social media profiles of the project, setting a clear communication and dissemination strategy and an action plan, designing and creating the first communication materials.

Phase-II: Diffuse knowledge (M13-M24): this phase focused on development and understading of project's technical specifications and requirements and the planning of the workshops in the pilot sites will be planned. WP6 will disseminate the interim results and will encourage further engagement with key stakeholders to motivate their participation. Finally, WP6 will continue establishing contacts and relations with new stakeholders and initiate knowledge sharing with other similar projects. Within this phase, an updated set of various promotional materials will be prepared (press release, brochures per co-creation event, posters, newsletter, etc.) will be created focusing on TEACHING platform and the co-creation events.

Phase III: Intensify communication phase (M25-36): this phase involves the wide and effective dissemination of the final results via online and offline activities, building on the project's favorable reputation and established relationships with the target groups. Moreover, WP6 will motivate further participation of stakeholders in the project events and promote exchange of experiences and knowledge sharing with related initiatives and take-up of the project results. Finally, it will also include the formulation of business model and go-to-market strategies. The table below indicates briefly the phases, the goal of each phase and the dissemination tools to be used during the respective phase.

Table 1:Dissemination and communication phases, goals of each phase and the respective dissemination tools

Phases and timing	Goal	Dissemination and communication action
Phase I: Initial awareness (M1-M12)	•Raise awareness •Create online and offline tools •Announce the project widely •Define the dissemination strategy and action plan •Identify the target groups	•Project logo •Project website •Project social media •Project posters, brochure, presentation, templates, •Project newsletter •Contact with other projects and networks •Project deliverables
Phase II: Diffuse knowledge (M13-M24)	•Better understanding of the project •Intensification of dissemination activities focused on the platform and the services •Dissemination of the interim results •Encouragement of further engagement with key stakeholders •Update of promotional materials	•Organisation of events •Participation in third party events •Publishing activities •Co-creation workshops •Newsletters and other promotional materials TEACHING platform and its services

Phase III: Intensify communication phase (M25-36)	•Effective dissemination of the project results •Creation of the final promotional tools •Organization of the final dissemination activities •Support further take-up of the project's results	•Final conference •Final brochure and video for promotional purposes of the co-creation events •Exploitation plan, business models and go-to market strategies

2.4 Dissemination and communication management

2.4.1 Distribution of responsibilities

According to the Article 29.1 of the EC-GA "Each beneficiary must — as soon as possible 'disseminate' its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium)".

Thus every possible opportunity will be embraced by partners to make TEACHING known and visible among target audiences and general public. All TEACHING partners will contribute to the dissimination and communication activities via actively participating and giving presentations at conferences, events, publishing papers, networking and liasion activities.

The Communication and Dissemination Manager (CDM) is the person that leads and supervises the project's communication and dissemintion activities. In TEACHING this person coincides with the PSAC, as PSAC has a higher overall view of the status of the whole project.

For successful internal workflow, the facilitation of communication among partners and their successful collaboration CDM will ask TEACHING partners to define a main contact point indicating one or two people from his/her organisation who will be responsible for the WP6 tasks and issues.

2.4.2 Dissemiantion and Communication policy and rules

Dissemination activities in TEACHING project are deeply linked with the intellectual property (IP) rights protection which is clearly started in GA. Practical application of IP rights protection agreed among TEACHING partners is adjusted in the Consortium Agreement (CA). GA states that "*A beneficiary that intends to disseminate its results must give advance notice to the other beneficiaries of — unless agreed otherwise — at least 45 days, together with sufficient information on the results it will disseminate. Any other beneficiary may object within — unless agreed otherwise — 30 days of receiving notification, if it can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the dissemination may not take place unless appropriate steps are taken to safeguard these legitimate interests".*

All draft articles must be sent to the PSAC, CDM and all beneficiaries before publication or production for reporting and achiving purposes. This will allow checking if they fulfil the dissemination requirements or whether they conflict with other existing paper. Moreover the JSCo (Joint Steering Committee) will decide whether it is appropriate to make the document accessible on the project website. For dissemination actions, a common graphic identity will be defined to allow for better visibility and recognition of the porject. All dissemiantion material (deliverbales, reports, presentation) will include:

- the name and the logo of the project

- the website of the project
- acknowledge to EC public fund with the official EC logo indicating the Horizion 2020 below

All TEACHING actions based on work funded by EC should acknowledge their affiliation to TEACHING and bear recognition to the EC funding. This will require the addition of the following items:

- EU emblem
- Text: "*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.871385*"

2.4.3 Dissemination monitoring and reporting

Reporting communication and dissemination activities is very important for the successful implementation of WP6 and it demands the collaboration of all partners. Therefore, partners will be responsible for undertaking their activities and reporting back to CDM. For this purpose, CDM will circulate a Dissemination Activities Reporting Template (see APPENDIX I – Activities Reporting templates) to all partners requesting to complete and conducted activities. Annual dissemination reports will then be easily drafted as the required information will be tracked. Tracked input from partners will be also used as content in the "Project News" section of the newsletters and on the relevant news section of the website. Besides, to increase the effectiveness of sharing the project's news in social channels, TEACHING partners are encouraged to report the results of each dissemiantion activity during the events or immediately after the event accompleshment. The reports shall include:

- the date and place of the action,
- target group addressed,
- number of persons reached out
- any other information (photos, feedback gathered and contacts gained)

For monitoring purposes, the dissemiantion activities will be analysed and reassessed regularly by the CDM and incorporated to the corresponding project periodic reports.

For purposes of evaluation of TEACHING dissemiantion and communication activities, quantitative indicators and metrics have been already set up in DOA. The list of these metrics are also available in Table 2.

Table 2: KPIs per Dissemiantion and communication activity

Dissemination & communication activity	KPIs
TEACHING website	• 100 visitors (monthly) • 5000 site access (annually) • 500 downloads (monthly)
Social Media (Twitter)	• 30 push announcements (monthly) • 20 new followers (monthly) • 50 re-tweets
Social Media (LinkedIn)	• 30 push announcements (monthly) • 30 new discussions (monthly) • 60 profile view (monthly)

Journal-Magazine paper publications	• 6 journal publications • 6 magazine publications • 2 special issues
Conferences	• 12 conference participations
TEACHING events	• 1 conference (Tutorials/special sessions) • 3 workshops • 1 hackathon
Events (exhibitions, fairs, info days, webinars, workshops/seminars, networking events, brokerage etc.)	• 5 events (with min participants 25) • 10 events (with min participants 25-100) • 10 events (with more than 100 participants)
TEACHING brand supporting material	• 9 newsletters • 1 brochure (1000 hard copy distributed and 1000 downloads) • 1 video (500 views)

2.5 TEACHING partner's specific dissemination plan

The tentative TEACHING dissemination, communication and exploitation activities plan per cateogry and per partner are listed in the following tables. Given the fact that the project is in its early stage (M2 the time of input collections from TEACHING partners) this plan may be a subject of minor deviations depending on the project's progress as well as achievements of tangible results. In this context, a mid term report on Dissemination and Communication activities will be provided reporitng the main results and upgraded plan for future activites (M20).

Table 3: Tentative plan for journal/magazine paper publication

Partner	Type of publication Journal / Magazine/ Conference paper	Estimated date of submission
1st project year		
CNR	Journal: IEEE Access	Q2/2020
CNR	Journal: IEEE Journal on Selected Areas in Communications	Q2/2020
CNR	Journal: Internet of Things Journal	Q2/2020
CNR	Special Issue "Optimization and Cloud Computing in Networks" on Sensors	Q3/2020
UNIPI	Journal: Nature Machine Intelligence	Q4 2020
CNR/UNIPI	Magazine: IEEE Pervasive Computing	Q4 2020
2nd and 3rd project years		
UNIPI	Journal: Pattern Recognition	Q1/2021
UNIPI	Magazine: IEEE Internet of Things Magazine	Q1/2021
UNIPI	Journal: IEEE Transactions on Neural Networks and Learning Systems (TNNLS)	Q1/2021
UNIPI	Journal: Neural Networks & Journal: Neurocomputing	Q2/2021

UNIPI	Magazine: IEEE Robotics and Automation Magazine	Q2/2021
UNIPI	Magazine: IEEE Intelligent Systems	Q4/2021
CNR	Journal: IEEE Transactions on Parallel & Distributed Systems	2nd and/or 3rd project year
UNIPI	Special Issue Proposal on IEEE Internet of Things Magazine	Q1/2022
UNIPI	Magazine: IEEE Systems, Man, and Cybernetics Magazine	Q1/2022
UNIPI	Magazine: Communications of the ACM	Q2/2022
CNR	Journal: Journal of Grid Computing	2nd and/or 3rd project year
HUA	Journal: Future Generation Computer Systems	2nd and/or 3rd project year
HUA	Journal: Journal of Systems and Software	2nd and/or 3rd project year
HUA	Journal: IEEE Systems	2nd and/or 3rd project year
HUA	Journal: IEEE Access	2nd and/or 3rd project year
HUA	Journal: Knowledge-Based Systems	2nd and/or 3rd project year

Table 4: Tentative plan for participation in conferences

Partner	Conference / Workshop	Estimated Date	Further information
1st project year			
UNIPI	Safe Machine Learning — SafeML workshop of ECAI 2020	Q3/2020	https://safeml.bitbucket.io/
AVL/TUG	DSN-2020 (IEEE Int. Conf. on Dependable Sys. and Networks)	Q3/2020	https://dsn2020.webs.upv.es/
IFAG	ICML 2020	Q3/2020	https://icml.cc/Conferences/2020
TRT	ECRTS 2020	Q3/2020	https://www.ecrts.org/
CNR	SMARTCOMP 2020	Q3/2020	http://www.smart-comp.org/
UNIPI	KDD 2020	Q3/2020	https://www.kdd.org/kdd2020/
IFAG/UNIPI	ECML-PKDD 2020	Q3/2020	https://ecmlpkdd2020.net/
AVL/TUG	EuroSPI 2020	Q3/2020	http://2020.eurospi.net/
UNIPI	ICANN 2020	Q3/2020	https://e-nns.org/icann2020/
M&M	DDI2020	Q4/2020	https://ddi2020.sciencesconf.org/
UNIPI	NeurIPS 2020	Q4/2020	https://nips.cc/Conferences/2020
2nd and 3rd project years			
TRT	ERTS 2021	Q1/2021	N.a.
UNIPI	Hipeac 2021	Q1/2021	https://www.hipeac.net/2021/budapest/#/

TUG/AVL	Conf. on Key Tech. for Car and Mobility of the Future	2021	N.a.
UNIPI	ESANN 2021	Q2/2021	https://www.esann.org/
AVL/TUG	ARES2021	Q3/2021	https://www.ares-conference.eu/
TRT	ECRTS2021	Q3/2021	N.a.
UNIPI	ICLR 2021	Q4/2021	https://waset.org/learning-representations-conference-in-december-2021-in-sydney
TUG	EuroSPI 2021 & 2022	Q3/2021&22	http://2020.eurospi.net/
TRT	ERTSS or ECRTS or HiPEAC	3rd project year	N.a.

Table 5: Tentative plan for participation in third party events

Partner	Events	App. period	Further information
UNIPI/CNR	DevFest Pisa 2020	Q2/2020	Dissemination of the Project activities (especially WP4 and WP2)
CNR	H-Cloud Meeting	Q2/2020	Topics: MEC, AI, heterogeneous computing
TRT	Journées de Palaiseau	Q3/2020	Presentation of the project to technical representative of cross-domain Thales Business Units
IFAG	Infineon Innovation Week 2020	Q4/2020	During the Campeon Innovation Week we invite our innovation partners to the University Evening. Together we would like to continue strengthening the network between Infineon, universities and research institutes.
TRT	TRT Highlight	Q4/2020 & Q3/2022	Presentation of the project to management representative of cross-domain Thales Business Units
2nd and 3rd project years			
CNR	Summer school for PhD	Q2/2021	Topics: MEC, autonomous systems, CPSOS, AI, embedded systems, vehicular tech.
CNR	Summer school for PhD	Q1/2022	
UNIPI	AI Forum (networking and technology transfer event)	Q2/2021	Plenary or parallel session speech presenting project technologies and applications
M&M	Autonomous Vehicle Technology Expo 2021	Q2/2021	Dissemination and presentation of achieved results
TRT	HiPEAC/ECRTS/DAC/DATE (to be selected one event)	Q2/2022	Last project year dissemination of results. A nice conference would include both AI and real-time embedded systems.
ITML	EFECS	Q4/2021	Exploitation of achieved results, negotiation with potential stakeholders

Table 6: Tentative plan for Networking

Partner	Project name	Further information and activity
HUA	H2020 ACCORDION	Leverage knowledge on edge computing architectures
CNR	H2020 NESTORE	Leverage knowledge on wearable devices and sensors for wellbeing
CNR	POR-FESR INTESA	Leverage knowledge on APIs and integration of sensors for galvanic skin response and heart rate analysis
CNR	H2020 SoBigData++	Leverage knowledge on decentralized data management and processing
CNR	H2020 BigDataGrapes	Leverage knowledge on edge computing architectures
CNR	H2020 MASTER	Leverage knowledge on vehicles behavior characterization
TRT	H2020 ELASTIC	Autonomous tram including edge / cloud activities, IT/OT convergence, Smart City big data analysis
IFAG/ITML	ECSEL AI4DI	Leverage results for European-wide digital industries, with a focus on human-centric systems
ITML	ECSEL New Control	Exploitation of project results in respect to smart AI-based systems
UNIPI	H2020 BONSEYES	Exploitation of project results as concerns smart CPS
UNIPI	H2020 ALOHA	Leverage results and knowledge on distributed, embedded and dependable learning systems
UNIPI	H2020 DECENTER	Leverage results and knowledge on design of decentralised AI-based systems

Table 7: Tentative plan for TEACHING events' organization

Partner	Conference / Workshop	Estimated Date	Further information
UNIPI & all partners	ESANN 2021	Q2/2021	Organization of a special session on the AI topics of the project
UNIPI & all partners	IJCAI 2022	Q3/2022	Targeting organization of a workshop/session on the project themes (>50 participants)
UNIPI & all partners	WCCI 2022	Q3/2022	Targeting organization of a workshop/session on the project themes (>50 participants)
UNIPI & all partners	ECML-PKDD 2021	Q3/2022	Targeting an organization of a tutorial on the AI topics of the project
CNR	Special Track at "SMART 2020"	Q3/2020	Targeting a special issue/track on topics related to TEACHING project such as ML and DL in Edge, Fog and heterogenous devices
CNR	Special Issue "Smart Camera Sensor Networks"	Q3/2020	

Table 8: Plan for releasing the TEACHING's brand supporting material

Partner	Type of material	Estimated Date	Further information
UNIPI	Press Release + Newspaper article (national newspapers)	Q2/2020 & Q4/2022	a) Press release (in Italian) on the project kick-off and following up a dissemination event that will be held to present TEACHING at UNIPI.

			b) Press release (in Italian) on the project results and legacy. The material will be released on the social media channels and made available on the project's website.
UNIPI/ITML Inputs from partners	Teaching Newsletters	Quarterly starting from M4	UNIPI/ITML will organise and collect news, updates regarding the project progress. Inputs will be required from all partners. The proof-reading will be conducted WP leaders according to the scheduled plan. The newsletters will be released on the social media channels and made available on the project's website.
ITML	Poster	Q2/2020	General poster and brochure presenting the project's core information, objectives, impact and use cases. The material will be available on the project's website.
ITML	Brochure	Q2/2020	
UNIPI/ITML	Video	Q3/2020& Q4/2022	a) Short video by UNIPI/ITML (input from all partners) introducing the key concepts and contributions of TEACHING. b) Short video by UNIPI/ITML (input from all partners) by introducing TEACHING's applications and demos. The video will be released on the social media channels and made available on the project's website.

3 Stakeholder engagement and exploitation activities

3.1 Target audiences

The identification of the stakeholders and target groups who will be approached during the project's implementation is one of the major steps in developing a successful and effective communication and dissemination strategy adapted to the project objectives. In order to ensure the maximization of the potential of dissemination activities and successfully promote the project's outcome the project partners have identified target audiences and areas. Accordingly, TEACHING's target audience is divided in the following segments.

Table 9: Key stakeholders group identified as target audience of TEACHING

TEACHING target audience	Approaching paths
Potential clients/SMEs including (CPSoS communities, European vehicle manufacturers and their suppliers, aviation industry)	by offering business solutions for the automation and aviation industries that might be interested in TEACHING's solutions and methodologies used.
Research community	by exchanging knowledge and experience with individuals engaged in research initiatives and/or working in research/academic institutes conducting core or application research on AI-based solutions and technologies applied in CPSoS, data analytics, cloud engineering, regarding the research outcomes of the project.
Policy, decision makers (EC, EU, national governments, authorities, standardization bodies):	by promoting the project's social, economic and innovation impact. This will be achieved through organization of various events and promoting smooth collaboration and synergies.
EU projects working in similar domains	by offering the opportunity to establish quick links among parties through common participants by exchanging experience and knowledge.
General public	by approaching individuals who benefit from the project outcomes. Acquire new expertise and utilise the project results in scenarios that are addressed to the general public for gathering feedback. This will be attained through organization and participation at relevant events, the project's website and social media accounts.

These groups will be first invited to provide insights and feedback on the project's development. Their involvement will bring a major added value to the performance of the project. In the longer term it will play a key role in the exploitation of TEACHING tools and methodologies after the end of the project. Given that the communication is an active, two-way process, the dissemination strategy as a "push out" towards the target groups and audience is essentially effective when feedback from the target audiences is achieved. This feedback enables

evaluation prior to progression to the creation of the next set of dissemination actions and the updating of overall strategy.

3.2 Exploitation strategy

The strategy for the exploitation of the project results was elaborated from the beginning, in collaboration with the dissemination and communication planning, in order to enable the most extensive use of the project outputs, the maximisation of the project impacts as well as the delivery of policy innovation starting from the a) consortium members, continuing with the b) agora members (main stakeholders of the project) and ending with the c) general public.

Exploitation outcomes of the project are based on three main inputs: the market context, the project capabilities and constraints and the individual partner's interests and opportunities.

The market context helps identify and evaluate opportunities for the exploitation, puts the project in context with respect to other initiatives (commercial or research) and leads to a strong market position towards potential competitors. The market analysis will focus on the specific areas of opportunity for TEACHING exploitation and will evolve through time, both as the market in general will develop and as the project will identify clear areas for exploitation.

Capabilities and constraints of the technology determine what can and cannot be done and the innovation of the solution provides the uniqueness which will give project's potential results in a commercial environment. Also included in this input are the limitations of the licensing decisions taken by the consortium and the ability of the partners to form commercial endeavours after the project end.

Finally, individual partner's interests and opportunities will drive TEACHING exploitation: if TEACHING will not fall within the broad strategy of the project members, it would be impossible to secure investment. However, in the course of defining the exploitation it has not been limited to immediate opportunities but the potential for a more collaborative exploitation. This latter exploitation will be explored jointly but reflecting each partner's position. Consequently, the strategy for individual partners is driven by the near-term goals of those partners and the broader term project vision shaped by the partner's long-term strategies. This long-term vision is as important as the near-term vision for leading TEACHING towards maximum value and impact creation.

In light of above, the TEACHING exploitation will be split into two paths. The first path will seek to define a longer-term vision for TEACHING which partners can shape as they see fit (joint exploitation). The second path will seek to enable each partner to take the project results and exploit them to their own ends (individual exploitation).

In order to define the joint exploitation, while maximising the TEACHING impact, the subsequent steps will be followed:

- Identification of TEACING offering
- Identification of potential business models
- Analysis of the possibility, likelihood, pitfalls and benefits of each model
- Reconciliation of the model with the joint sustainability plan and individual plans
- Reconciliation of the model with the technical plan
- Definition of a business plan for the solution delivery

3.3 TEACHING Offering

The TEACHING offering will consist of both tangible and intangible results. The tangible results will be determined from the services and tools provided by the platform and will be analysed in depth once developed. The intangible results of the TEACHING project will be mostly based on the knowledge and experience gained during the project, such as project deliverables, methodology and user community.

3.4 Business model

In order to achieve the expected impact, the business model of TEACHING, illustrating the project's value creation, delivery and capture has been structured and depicted in Figure 4. At a project level it is a strategic framework consisting of nine (9) main blocks and depicting key elements in TEACHING value proposition, infrastructure, customers and finances (cost structures and revenue streams). The elaboration of each block is given as follows:

- **Key Partners:** Project's partners satisfy all the categories needed from research and industry community in ICT aviation and automation sectors. They are the front-line companies and organisations to exploit the project technologically and commercially. We will also approach EU officials and cPPP representatives, achieving business development goals, getting marketing and business consulting and collaborating with third party software and hardware vendors and service providers.
- **Key Activities:** The key activites will be handled by the TEACHING consortium are implementation of the training platform, development-improvement and support of the platform operation, as well as maintain close relationships with the stakeholders and focus on promoting the framework. TEACHING partners are skilled in these processes and have a lot of experience in running and developing such infrastructures.
- **Key Resources:** The key resources are strong partnership with the research community and key industries across Europe that will develop and run the framework. The most important assets required to run the business are software services, an existing technical infrastructure, and skilled human resources providing consulting services. The human capital is identified as the most significant resource for the success of this business plan, so every partner plays an important and integral role in the project. Finally, existing tools (assurance platform; visualization tools; training platforms; simulation environments etc.) provided by the TEACHING partners are also key resources for the project's success.
- **Value Propositions:** TEACHING will focus on delivering following seven assets:
    - **Asset 1:** Framework targeting heterogeneous computing resources for AI-based applications on CPSoS
    - **Asset 2:** Smart communication for real-time and energy aware information exchange on CPSoS
    - **Asset 3:** CPSoS computing system supporting a cross-platform cloud-edge continuum
    - **Asset 4:** Architectural patterns and dependability-engineering framework for runtime adaptive CPSoS
    - **Asset 5:** Tools for dependable and secure CPSoS
    - **Asset 6:** Human centered, distributed AI-as-a-service toolkit
    - **Asset 7:** Autonomous driving and aviation demonstrators
- **Customer Relationships:** TEACHING aims to build its customer relationships based on strategic partnerships to reach the broader exploitation channels possible. Activities

will include direct interaction with customers to support integration and/or deployment of TEACHING solutions for customer products.

- **Channels:**The main channels will include partners' distributed networks, various offline channels (dissemination activities, industrial and scietific events). The project will also be highly visible in every digital channel with an emphasis on digital communication over GDPR-approved segmented mailing lists.
- **Customer Segments:** TEACHING aims to reach and serve as customer segments industry pioneers, CPSoS communities, European vehicle manufacturers and their suppliers, aviation industry partners, research community including individual researchers, research centres and universities and potential investors interested in new technologies exploitation. The consortium will also actively liaise with public authorities and policy makers to promote the value of the TEACHING platform.
- **Revenue Streams:** TEACHING revenue streams main include product selling, after-sales services, various engineering services to customers, license-based revenues etc.
- **Cost Structure:** Most of the costs to bring TEACHING to commercial maturity are personnel-related for R&D, marketing and business development, hardware and software costs associated to the CPSoS systems, as well as potentially standardisation/certification activities.

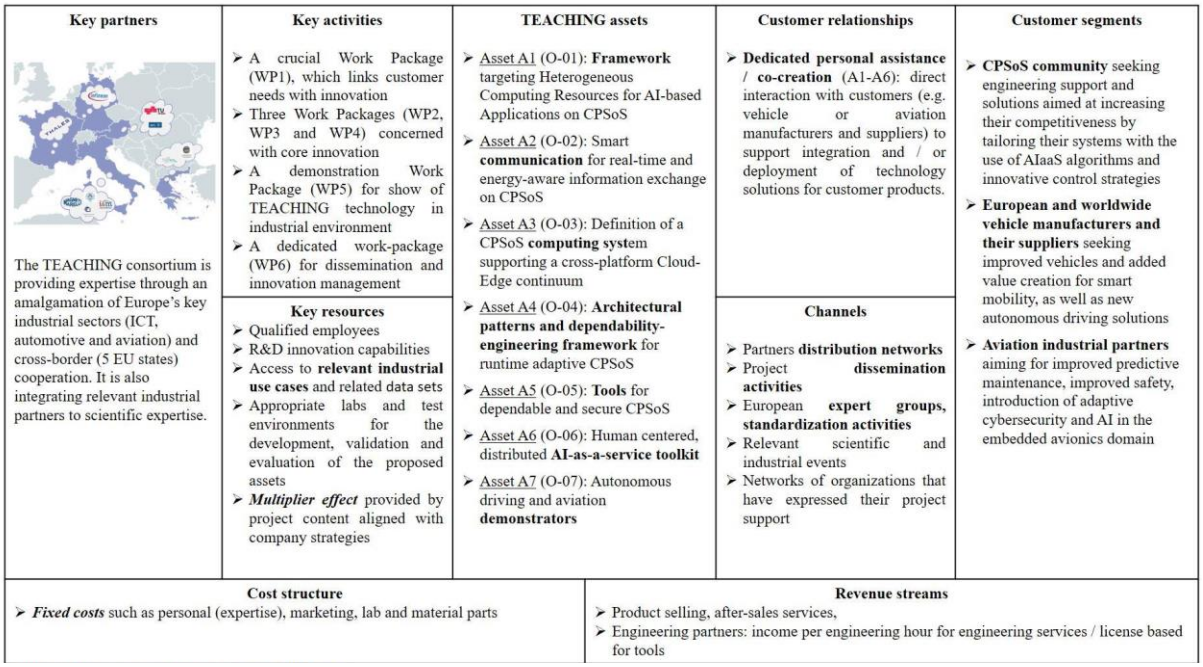

Figure 4. TEACHING business model canvas

3.5 TEACHING partners' specific exploitation plans

This section provides the TEACHING partners' individual exploitation plans. The organisations have been categorised into three groups, in line with the original proposal:

- Research and academia partners:
- IT Service and Technology provider:
- End-users

Table 10: TEACHING Partners' exploitation interest

Partner	Organization type	Exploitation interests	Initial plans & strategies
UNIPI	Academy	1) Middleware for distributed and embedded AI over cloud and edge devices; 2) functional safety methodologies for AI-based systems; 3) FPGA-based AI techologies	Seek opportunities for exploitation of 1 and 2 by leveraging UNIPI involvement in local technology transfer centrers (GATE, Polo Tecnologico Navacchio) and national competence centers for technology transfer in Industry 4.0 (ARTES4.0). Seek opportunities for exploitation of 3 by leveraging UNIPI partnership with Dell-EMC and Intel (UNIPI being the Dell-Intel centre of competence for AI).
HUA	Academy	1) online training and degradation factors; 2) AI models distance metrics; 3) interpretable AI	Identification of real-world scenarios for testing and proof-of-concept system development
CNR	Academy	1) edge platforms 2)federated learning architectures 3) efficient communications	Survey and review of the state of the art relatively to edge architectures and platforms
TUG	Academy	1) methodologies for dependability engineering of AI-based systems; 2) improved/novel CPSoS engineering methods; 3) basic AI safety concepts	Development of a CPSoS demonstrator in cooperation with AVL and evaluation of existing methods for dependability engineering in context of AI-based systems. Generation of industry accepted development patterns teaching purpose and generation of novel course material.
AVL	Pilot owner (End-user)	1. driving simulator technology and the supporting sensing solutions, 2. Improvement of the human centered algorithms and related strategies that also incorporate safety 3. Improved/new existing CPSoS engineering methods	Increased market share through a) exploitation of advances of the existing solutions that head towards autonomous driving and their integration into future comercial offers b) business models innovation based on improvements in the mix of the AI and Automotive Safety
MM	SME	AI methodologies for autonomous vehicles	Dissemination of Teaching research innovations about AI toward Autonomous Vehicles Team within Marelli Company. Organization of some workshops in the next years of the project with two objectives: to leverage the innovations of Teaching toward Marelli team of AV, and to receive feedback useful to make the activity of the Teaching project closer to the expectations of Marelli, seen as a stakeholder for AI.
I&M	SME	TEACHING CPS platform for both for automotive and avionic applications.	I&M is strongly committed to exploring new business opportunities for the next generation of autonomous and green vehicles where unconventional automotive solutions will be the key to success.
TRT	Pilot owner (End-user)	Coupling AI techniques with monitoring features in a safety critical or security critical	Promote research performed and technology bricks developped in the Teaching project to Thales Business

		context, where we are use to perfromed statistical analysis instead. Focus on the explainability aspect of the AI-based solution for post-moretem requirements	Units. This process is defined as "gates" in TRT, and associated with increase of TRL level of the proposed technologies.
ITML	SME	Intelligent management of the control of CPSoS and training services	Through TEACHING, ITML will seek opportunities to meet various stakeholders in order to exploit its existing tools and technologies related to Machine Learning and AI (3ACEs) as well as cybersecurity threats' identifcation and mitigation (Security Infusion) on the basis of the project's findings
IFAG	SME	1) Middleware to run AI techniques in Infineon Microcontrollers (e.g. XMC, Aurix). 2) Examples showcasing Infineon sensors' sinergies when combined with ML techniques in real environments. 3) Analysis of safety and security assurances in the contect of ML network.	Provision of libraries to customers, combining low-level routines (1) and high-level examples (2) as well as including safety and security features (3).

4 Conclusions

The current communication and dissemination plan described in detail the strategy to serve towards the objective of raising awareness and visibility of the project. The document provides a clear understanding of the WP6 objectives, the activities that will be undertaken to achieve the objectives, the roles and responsibilities of WP6 partners towards these activities and the timeline that these activities will be performed. Moreover, the strategy is addressed to various stakeholder engagement activities that will be used to approach to the potential stakeholders of the project.

To achieve successful and effective communication, dissemination and exploitation activities throughout the project the project's performance will be measured based on several indicators set in this deliverable. Finally, it is generally accepted that marketing of the project is a collective effort and depends on the efforts of all partners. Therefore, ITML as WP6 leader will be in close collaboration and direct communication with all project partners in order to effectively fulfil not only the project's marketing activities but also all the WP6 tasks throughout the project's timeline.

The future deliverables D6.3 and D6.4 (M20) will illustrate detailed market analysis, more precise business plan based on the known business canvas model as well as will report on mid-term dissemination, exploitation and stakeholder engagement activities.

5 APPENDIX I – Activities Reporting templates

PUBLICATIONS

Partner(s) & Contact Person	Type of publication Journal / Magazine/ Conference paper	Estimated date of submission	Further information

PARTICIPATION IN CONFERENCES

Partner(s) & Contact Person	Conference / Workshop	Date and location	Further information

ORGANIZATION OF EVENTS

Partners & responsible Person	TEACHING EVENTS (conference, workshops, hackathon, special sessions, tutorials)	App. period	Further information

PARTICIPATION IN EVENTS

Partner(s) & Contact Person	Any project relevant event (exhibitions, fairs, infodays, webinars, workshop/seminars, brokerages, networking events etc.)	Estimated date	Expected number of participants	Further information

PARTICIPATION IN EVENTS

Type of dissemination material (newsletters, leaflets, brochures, posters, press releases, videos etc.)	Date	Responsible partner	Further information

NETWORKING WITH REVELANT PROJECTS

Partner(s) & Contact Person	Project name	Contact person of the other project	Further information/ Activity description

STAKEHOLDER ENGAGEMENT

Partner(s) & Contact Person	Stakeholder name	Communication mean (email, face-to-face meeting, social media, etc.)	Activity description

PARTNERS' INITIAL EXPLOITATION PLANS & STRATEGIES

Partner name	Exploitation interests	Initial plans & strategies