Research Innovation Action

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DELIVERABLE 1.1

SMART4ALL Project Management Handbook

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Abstract

Document summarizing the administration and processes for SMART4ALL including data management plan, risk management, document storage and access, tendering, meetings and reporting.

History and Contributors

Ver	Date	Description	Contributors
00	5/02/2020	Document structure	UoP
01	20/2/2020	Aggregation of all contributions to be included	All Contributors
02/D	25/2/2020	Circulate the first complete version of document for internal review	UoP
03/R	27/2/2020	Comments received from internal reviewers	BTU, TUD
04/E	28/2/2020	Final version completed	UoP

Executive Summary

This Project Management Handbook is intended to support partners in the effective and efficient administration, procedural and financial management of the project. It focuses on project implementation procedures, structures and coordination and sets out key responsibilities for EU engagement and interaction. It is intended to support the achievement of project objectives, the effective management of partner progress and the timely delivery of project results.

This Project Management Handbook sets out:

- The procedures and standards to be used in the SMART4ALL project.
- The key roles, responsibilities and management structure.
- The quality procedures that will be followed to ensure that all objectives are met.
- The ethical considerations and the respective management plan.
- How the project will be carried out, measured, monitored, accounted for and safeguarded during the project.

Abbreviations and Acronyms

CLEC	Customized Low Energy Computing
CPS	Cyberphysical System
IoT	Internet of Things
DIH	Digital Innovation Hub
SEE	South Eastern Europe
SAE	Smart Anything Everywhere
PAE	Pathfinder Application Experiments
SME	Small and Medium-Sized Enterprises
KTE	Knowledge Transfer Experiments
FTTE	Focused Technology Transfer Experiments
CTTE	Cross domain Technology Transfer Experiments
MaaS	Marketplace as a Service
WP	Work Package
PC	Project Coordinator
EAB	External Advisory Board
DTTF	Digitized Transport Task Force
DAgTF	Digitized Agriculture Task Force
DETF	Digitized Environment Task Force
DATF	Digitized Anything Task Force
STF	SMEs Task Force
EC	European Commission
GA	General Assembly
GDPR	General Data Policy Regulations
SSL	Secure Socket Layer
KPI	Key Performance Indicator
NGO	Non-Governmental Organization

CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

1.1 Purpose and Scope

SMART4ALL focuses on building capacity amongst European stakeholders via the development of self-sustained, cross-border experiments that transfer knowledge and technology between academia and industry. It targets CLEC CPS and the IoT and combines a set of unique characteristics that join together under a common vision different cultures, policies, geographical areas and application domains. The overall vision of SMART4ALL are depicted in the following figure.
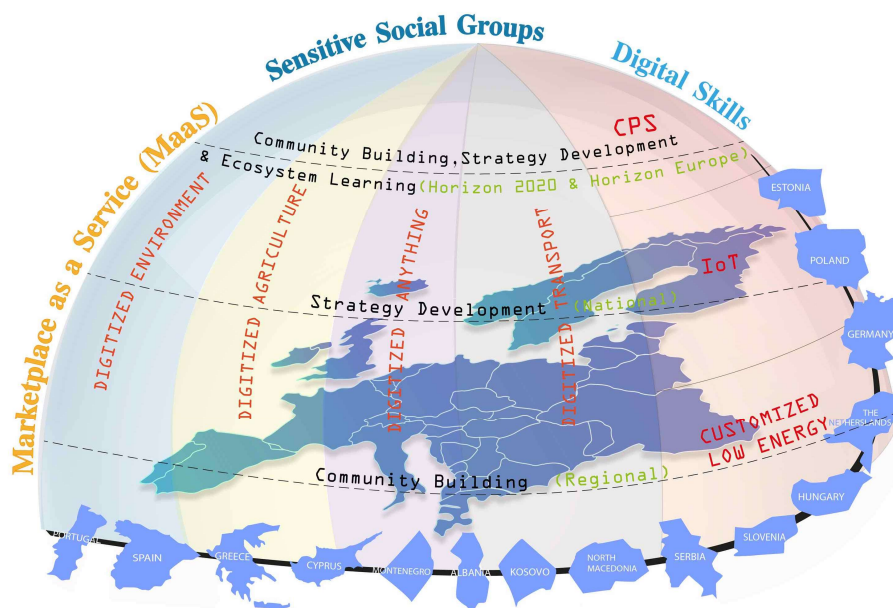
Figure 1: SMART4ALL Vision

SMART4ALL consortium comprises 25 partners originated from Central, South, and Eastern Europe, mainly from geographical areas that are underrepresented in European funding schemes and where is a lack of DIHs to support companies in their digital transformation. A critical overall goal is to enable community building, strategy development and ecosystem learning for boosting high-end research and development for CLEC CPS and the IoT in South Eastern Europe (SEE), through an efficient combination of regional, national, and European (Horizon 2020 and Horizon Europe) policies.

This will be achieved by supporting application areas, such as digitized environment, digitized agriculture, digitized anything, and digitized transport, that are not adequately represented in current SAE projects[1]. However, in this context, SMART4ALL promotes a new concept of marketplace which is offered as a service (MaaS) that acts as one-stop-smart-shop by offering tools, services, and platforms based mainly on open sources technologies as well as technology suppliers and, adopter matchmaking capabilities, customized to the four thematic pillars of the project.

Furthermore, SMART4ALL will devote significant effort in supporting the New Skills Agenda for Europe[2] and the Digital Skills and Jobs Coalition[3] by bringing together member state companies, social partners, non-profit organizations and education providers, who act to tackle the lack of digital skills in Europe.

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[1] https://smartanythingeverywhere.eu/success-stories/
[2] https://ec.europa.eu/social/main.jsp?catId=1223&langId=en
[3] https://ec.europa.eu/digital-single-market/digital-skills-jobs-coalition

Finally, a unique aspect of SMART4ALL purpose and goals is the support of sensitive social groups by considering the regional, national and European policies and by ensuring that innovation and technology will have major impact in the lives of people belonging in the specific categories.

1.2 Objectives

The purpose and goals of SMART4ALL will be achieved through a series of well-defined objectives. The specific objectives are carefully selected and described both qualitatively as well as quantitative by measured achievability and success criteria. The objectives defined include:

1. To bring innovative CLEC CPS and the IoT technologies to underrepresented business sectors.
2. Unlock South-Eastern parties' potentials, through links to investors across value chains and regions in order to accelerate CLEC CPS/IoT solutions development and industrialization.
3. Develop/offer novel tools to boost the use of CLEC CPS and the IoT technologies Europe wide.
4. To ensure post-project sustainability and growth of the SMART4ALL experiments and DIHs cluster.
5. To bring innovative CLEC CPS and the IoT technologies in the lives of sensitive social groups.
6. To support Digital Skills & Jobs policy of European Commission.

All the above form a multifaceted and comprehensive nexus of objectives covering all important aspects of the scope of SMART4ALL as a DIH project.

1.3 Approach

Aligned with the European strategy for innovation, SMART4ALL provides the means to join the fragmented European innovation and boost it to become a worldwide innovation leader. Through its DIH network, capacity building opportunities and novel marketplace services, SMART4ALL intends to play a key role in European innovation and Horizon Europe. SMART4ALL has designed a well-defined open call strategy to Pathfinder Application Experiments (PAEs) for supporting innovation and accelerating SMEs and startups. It also intends to establish a bilateral DIH based communication channel between market and innovation producers (SMEs, academia, and research centers).
In this direction, SMART4ALL offers the following opportunities and services:

- Set up through open calls three types of PAEs (KTE: Knowledge Transfer Experiments, FTTE: Focused Technology Transfer Experiments and CTTE: Cross-domain Technology Transfer Experiments) for PUSHing smart technologies to target sectors and PULLing smart technologies from the market.

- Marketplace-as-a-Service (MaaS), a unique one-stop-smart-shop for experts and non-expert third-parties seeking (open-source mainly) ICT technologies that will reduce the development time of a startup/SME/mid-cap that is doing business in one of the four SMART4ALL thematic areas. In addition, AI based match-making and collaboration activities will be hosted in the MaaS (provided by the SMART4ALL partner PUT).

- Coaching services from market experts for business development and funding of PAEs, from idea conceiving to proof of concept and, finally, product development.

SMART4ALL will put forward a new proposition transforming the one-stop-shop to one-stop-smart-shop through its Marketplace-as-a-Service (MaaS) platform. Delivering novel AI based services and tools MaaS aims to offer (i) practical technical tools/services to accelerate design, development, prototyping and manufacturing phases and (ii) brokerage, coaching and guidance to access funds and pave the path towards market growth and investment. SMART4ALL will focus on the following four

(4) underrepresented areas where the impact from promoting solutions with high computing capacity and low energy consumption would be a competitive advantage including: Digitized transport, Digitized Environment, Digitized Agriculture and Digitized Anything.

The different steps towards the realization of this concept is depicted in the Figure 2. It is worth stressing that for the part of the process that will be carried out by 3rd parties underfunded and underrepresented PAEs, SMART4ALL foresees a three-stage program: (1) each PAE will in the first month detail the PAE major concept, define concrete steps and activities and the responsible person/actor for each of them, (2) in the core-months of the PAE, the 3rd parties develop the application and set up the PAE, and (3) in the last months of the PAE, emphasis is on the preparation for the market. The implementation of the business plans and all other activities not included in the three steps happen outside the framework of SMART4ALL PAEs. The duration of each PAE, depending on its type, can be between 3 and 6 months.
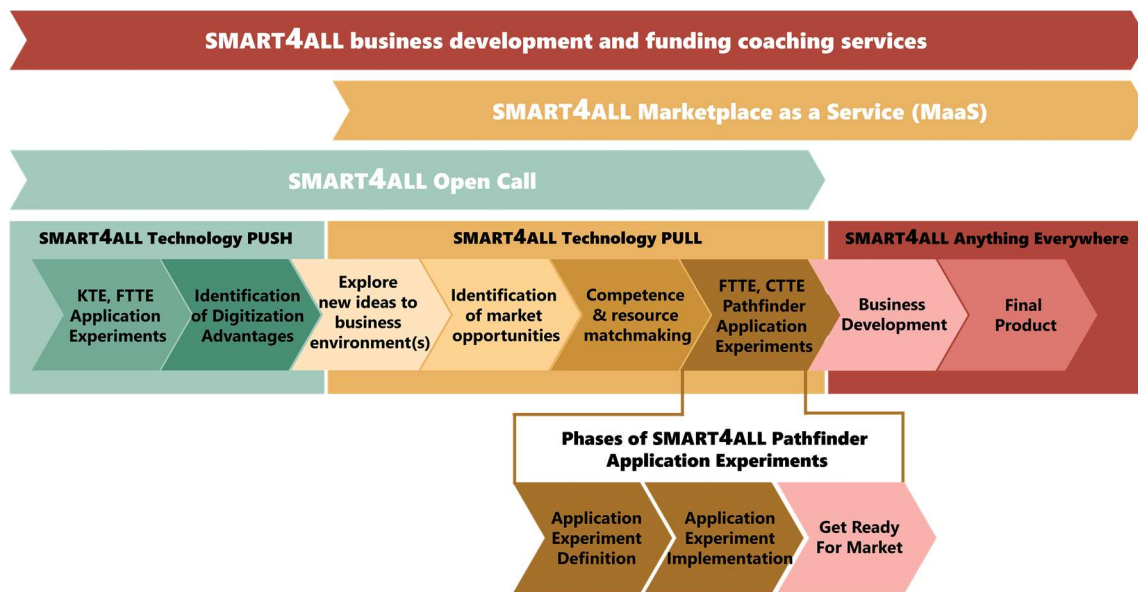
Figure 2: SMART4ALL Path to technology commercialization

To implement this concept, SMART4ALL establishes MaaS which acts as one-stop-smart-shop, offering both technological and business services and connect a) SMEs and mid-caps that are interested in going digital to b) (Competence Centers) CCs and SMEs possessing CLEC CPS and the IoT competencies and experimentation resources and c) other auxiliary yet mandatory competencies (such as business) required to create results with a product/market fit. In this way, SMART4ALL: a) fosters customer-business-market oriented product development and b) harvests the fruits and at the same time feeds back smart specialization strategy.

2 MANAGEMENT OF THE SMART4ALL PROJECT

2.1 Management structure and procedures

Project management is the strategic control of each Work Package (WP) and project management bodies by implementing efficient quality control mechanisms with appropriate standards. This section highlights the SMART4ALL management approach that has been adopted by the consortium to ensure the successful and on time implementation of all project objectives. The total management structure of the project is depicted in the following figure:
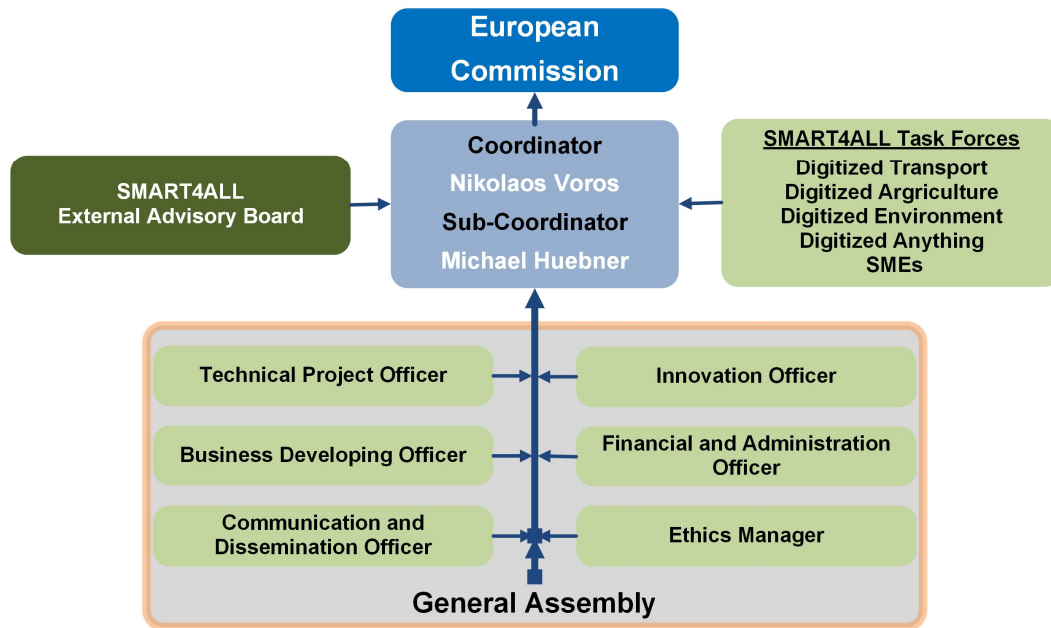
Figure 3: SMART4ALL Organization Structure

2.2 Coordinator and Sub-Coordinator

The Coordinator is the legal entity acting as the intermediary between the Parties and the Funding Authority. The Coordinator shall, in addition to its responsibilities as a Party, perform the tasks assigned to it as described in the Grant Agreement and this Consortium Agreement. The role of the Sub-Coordinator will be to assist the PC in all day-to-day decisions of the project. Also, in case the coordinator becomes unavailable for any reasons or in case of a conflict of interest, the sub-coordinator will act a deputy coordinator.

2.3 General Assembly (GA)

General Assembly is the ultimate decision-making body of the consortium. At the beginning of the Project, a General Assembly (GA) will be established. It will meet annually face-to-face in the framework of the consortium meetings and is the main decision-making body. Additional meetings (including on-line meetings) may be convened as needed. It is composed of one representative for each Project partner. The chairman of the body will be Prof. Dr. Nikolaos Voros (UoP) (project coordinator) and can be substituted by Prof. Dr. Michael Huebner (BTU) (project sub-coordinator) if necessary.

2.4 Executive Board

Executive Board as the body is in charge of the scientific planning and monitoring of the execution of the Project. The Executive Board is comprised of the work package leaders and the Project coordinators. The Board will be responsible for detailed scientific planning and progress monitoring. The board shall implement a progress monitoring procedure, to monitor the timelines for deliverables, milestones and progress reporting. The executive board shall meet regularly, at least every 3 months, generally through web/teleconference, and once per year face-to-face, usually in the framework of the General Assembly meetings. At every meeting, the Project progress shall be checked and mirrored against the work plan, and Project priorities for the 6 months of the Project duration shall be determined. The members of the Executive Board shall maintain regular informal contact among each other and with the participants of their work package. They will report challenges, problems and solutions arising within the work package to the Executive Board. At the General Assembly, the Executive Board shall be responsible for the annual progress presentation and scientific foresight. The GA shall then agree on the proposed further proceedings of the scientific plan. In this regard, the Executive Board might propose changes, new directions and deliverables.

2.5 Project External Advisory Board

The role of the External Advisory Board (EAB) is to provide external feedback mainly focusing on defining the sustainability strategy of the project. More specifically, the EAB will monitor the progress of all WP activities and suggest corrective actions to the GA. Physical meetings with the EAB will be arranged annually. The EAB members have been selected to cover all the aspects of the project (individual experts in the four thematic areas of SMART4ALL, Business Developers and Policy Makers, and experts in Ethics Management). The External Advisory Board Members shall be allowed to participate in General Assembly meetings upon invitation but have not any voting rights. The General Assembly shall invite the Advisors to participate in agreed meetings. The Coordinator will make sure that the Advisors shall sign separate nondisclosure agreements before attendance at the aforementioned meetings.

2.6 Task Forces

The SMART4ALL Task Forces are in charge of implementing and monitoring specialized activities. The SMART4ALL Task Forces (and the associated leaders) are defined as follows: Digitized Transport Task Force (DTTF), Digitized Agriculture Task Force (DAgTF), Digitized Environment Task Force (DETF), Digitized Anything Task Force (DATF), SMEs Task Force (STF). The role of DTTF, DAgTF, DETF, and DATF is to implement and monitor the technical, financial and Business Development aspects for each of the four thematic areas of the SMART4ALL project. The second main role of these Task Forces is to execute targeted brokerage activities between potential third party applicants, to seek third party applications with high impact potential (e.g., to maximize the participation of SMEs and mid-caps in the open calls), and to bring together applicants with complementary expertise. The role of the STF will be to oversee the SMART4ALL activities and provide specific technical expertise related to PAE execution and Marketplace. Also, SFT will provide feedback to the project from the start-up and SME point of view.

3 PROJECT WORK PLAN & IMPLEMENTATION

3.1 Overview of Project Components

The Work Package (WP) structure is organized in such a way to cover all the development and innovation aspects of the project. In particular, in addition to the management (WP1) and the dissemination and promotion (WP2) Work Packages, there are four development WPs (WP3, WP5, WP6, WP7), one WP (WP4) targeting to formulate and execute the sustainability strategy of the project, and one WP (WP8) dedicated to continuously monitor the impact and evolution of the project and accordingly orchestrate the developments activities toward achieving its objectives.
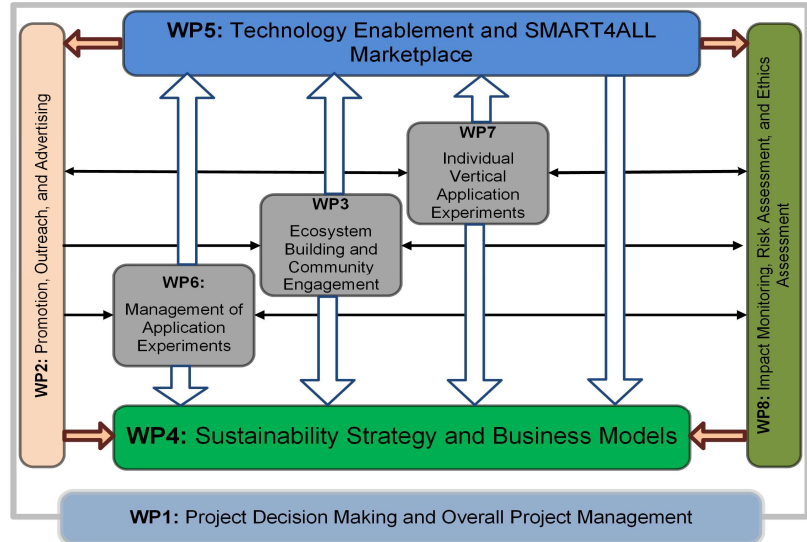
Figure 4: High-level representation of the Work Packages and their relationships

More specifically the objectives of its work package are as follows:

- **WP1:** General coordination and management of the project, both internally within the Consortium and externally with the Commission and the sub-grantees. The specific objectives in this WP are the following:
    - o To comply with the legal, contractual, financial, and reporting requirements of H2020 and EC.
    - o To ensure that the project activities are developed and deliver the expected outcome on time.
    - o To provide the link for the technical and financial reporting between the Consortium and the EC.
    - o To manage the project finances and funds to partner and sub-grantees.
    - o To define and execute the data management plan of the project.
- **WP2:** The purpose of this WP is to perform the wide dissemination of the projects results across Europe leading to a sustainable SMART4ALL Ecosystem for the SAE initiative. The objectives of this WP are:
    - o To develop a cohesive public outreach strategy.
    - o To maximize the number of relevant stakeholders and third-parties reached during the project on regional, national, and European level.
    - o To promote and advertise the services provided by the SMART4ALL.
    - o To organize at least 1 summer school and/or workshop per year.
- **WP3:** The target of this WP is to build the SMART4ALL ecosystem consisting of various (new and existing) Innovation Hubs (including the SMART4ALL DIHs). Targeted activities will be performed for each of the four pillars of the project (Digitized Transport, Digitized Agriculture, Digitized Environment, Digitized Anything) orchestrated by the corresponding Task Forces (DTTF, DAgTF, DETF, DATF). The specific objectives of this WP are:
    - o To build the SMART4ALL DIHs.
    - o To create suitable conditions to engage SMART4ALL related stakeholders.

- o To connect with other DIHs and relevant centers and accelerators launched under SAE initiatives.
  - o To educate about the value creation potential of SMART4ALL.
- **WP4:** The main goal of this WP is to pave the way and position the SMART4ALL beyond the lifetime of the project. Therefore, this WP will take as inputs the outcomes of all WPs and especially the feedback formulated inWP8. The specific objectives of this WP are:
  - o To exploit project results and develop the sustainability plan of the project.
  - o To perform actions to ensure SMART4ALL presence without EC funding.
  - o To develop business models for all SMART4ALL thematic areas.
  - o To identify the most relevant funding (public or private) for each third party.
  - o To identify financial opportunities for SMART4ALL DIHs.
  - o To enable access to regional and national investment opportunities.
- **WP5:** The SMART4ALL Marketplace will offer various services (including training services) to third parties and will act as a mean to ensure the sustainability of the project. All the technical partners of the project will be involved in this WP as technology providers. The specific objectives of this WP are:
  - o To deliver the SMART4ALL Marketplace and design the SMART4ALL services.
  - o To populate the Marketplace with various tools and Technologies related to SMART4ALL thematic areas.
  - o To produce open-courses and training sessions related to the marketplace and SMART4ALL services.
- **WP6:** WP6 is aimed to launch and manage **12 Open Calls** along the duration of SMART4ALL project to select 66 PAE projects and to implement an impartial and competitive procedure to evaluate and select the best ones to be part of the SMART4ALL Project. The specific objectives of this WP are:
  - o To manage all preparatory activities before launching the Open Calls.
  - o To support applicants in submitting quality proposal.
  - o To manage the full process of open calls following EC standards.
  - o To ensure the selection of a critical mass of most suitable proposals.
  - o To ensure the right execution of PAE, including technological and business coaching.
  - o To check the IP management of the project with respect to exploitation rules.
- **WP7:** In this WP, each SMART4ALL technical partner will design and execute an individual PAE with one or more third parties.
- **WP8:** This WP will include a self-assessment process for all the activities and tasks of the SMART4ALL project. The outcome of this WP will be used to improve the efficacy of WP2, WP3, WP5, WP6, but most importantly will provide valuable and continuous feedback to the sustainability strategy of the project (WP4). The specific objectives of this WP are:
  - o To continuously monitor a number of impact indicators and statistics.
  - o To organize Impact Assessment Work Sessions every 6 months and inform the General Assembly.
  - o To formulate targeted risk mitigation action items.
  - o To provide feedback to activities performed in the other WPs.
  - o To ensure that all the activities of the project are compliant with the ethical standards of EC.

The consortium strongly believes that this iterative and incremental development model is more appropriate for highly dynamic and multidisciplinary projects such as SMART4ALL. Figure 4 above, depicts a high-level representation of the WPs and illustrates their relationships. As it is evident from the figure, the centerpiece of the SMART4ALL project is WP4 (Sustainability Strategy and Business Models). The detailed work plan is presented in the following section. Each task contains a

description of the roles of the partners involved in that particular task. The work plan is controlled by various project-wide milestones that help to chart the progress.

3.2 Work Package Management

Each Work Package is led and co-ordinated by a Work Package Leader. It is their responsibility to co-ordinate the activities in the work package. They are responsible for:

- The performance and progress of the WP with regard to the planned milestones.
- The transfer of information to other WPL and to the UoW technical team.
- Reporting of any possible problems to the Project Coordinator.

A summary of the Leads for each Work Package and Task outlined in Table 1 below.

WP Number	1	Lead Beneficiary	UoP
WP Title	Project Decision Making and Overall Project Management		
Task 1.1	Strategic Decision Making		(Leader: UoP)
Task 1.2	Legal and Financial Coordination		(Leader: UoP)
Task 1.3	Operational Project Management		(Leader: UoP)
Task 1.4	Cascade Funding Financial Management		(Leader: BTU CS)
Task 1.5	Management Meetings and Project Reviews		(Leader: UoP)
Task 1.6	Data Management & Strategy Plan		(Leader: TU Delft)
WP Number	2	Lead Beneficiary	PSP
WP Title	Promotion, Outreach, and Advertising		
Task 2.1	Online Presence Management		(Leader: UoP)
Task 2.2	Public Outreach Strategy and Design		(Leader: FBA)
Task 2.3	Multimedia Promotional Material Development		(Leader: TalTech)
Task 2.4	Summer Schools and Workshop		(Leader: TU Delft)
Task 2.5	Calls & Programme Dissemination and Promotion		(Leader: FTN)
WP Number	3	Lead Beneficiary	MECOnet
WP Title	Ecosystem Building and Community Engagement		
Task 3.1	Network Management and Coordination		(Leader: MECOnet)
Task 3.2	Connection and Collaboration with SAE Initiatives		(Leader: TU Delft)
Task 3.3	Connection and Collaboration with EU DIHs		(Leader: UPV)
Task 3.4	Building the Local Community Ecosystems		(Leader: MECOnet)
Task 3.5	DIHs Setup & Growth		(Leader: MECOnet)
Task 3.6	SME Outreach		(Leader: FORTH)
Task 3.7	Helpdesk and Education		(Leader: MECOnet)
Task 3.8	Brokerage & Consortium Building Support		(Leader: DLR)
Task 3.9	Community Evolution		(Leader: MECOnet)
WP Number	4	Lead Beneficiary	FORTH
WP Title	Sustainability Strategy and Business Models		

Task 4.1	Supply Chain Establishment	(Leader: GM)
Task 4.2	Access to Private Funding	(Leader: GM)
Task 4.3	Access to Public Funding	(Leader: FORTH)
Task 4.4	Business Plan	(Leader: S&C)
Task 4.5	DIH Customised Actions and Business Planning	(Leader: FORTH)
Task 4.6	Innovation Life Cycle Management	(Leader: FORTH)
Task 4.7	Development & Launching of a Sustainability Plan	(Leader: FORTH)

WP Number	5	Lead Beneficiary	BTU CS
WP Title	Technology Enablement and SMART4ALL Marketplace		
Task 5.1	Management & Synchronize DIH Services		(Leader: BTU CS)
Task 5.2	Technology Portal Development and Maintenance		(Leader: UoP)
Task 5.3	Cloud Services Access and Support		(Leader: PUT)
Task 5.4	Platforms Access and Support		(Leader: Red Pitaya d.d.)
Task 5.5	Tools and Middleware Access and Support		(Leader: SEEU)
Task 5.6	Design Services Access and Support		(Leader: DPN)
Task 5.7	Technology Training and Open Courses		(Leader: FTN)

WP Number	6	Lead Beneficiary	FBA
WP Title	Management of Pathfinder Application Experiments		
Task 6.1	Call for Proposals Preparatory Tasks		(Leader: FBA)
Task 6.2	Open Calls Launch and Management		(Leader: FBA)
Task 6.3	Evaluation and Selection of Proposals		(Leader: FBA)
Task 6.4	FSTP Agreement signature		(Leader: UoP.)
Task 6.5	Coaching Framework and Templates		(Leader: FBA)
Task 6.6	Coaching Execution and Coordination		(Leader: AVN)
Task 6.7	IP Management		(Leader: MECOnet)

WP Number	7	Lead Beneficiary	UoP
WP Title	Individual Pathfinder Application Experiments		
Task 7.1	Pathfinder Application Experiment for Partner UoP		(Leader: UoP)
Task 7.2	Pathfinder Application Experiment for Partner DLR		(Leader: DLR)
Task 7.3	Pathfinder Application Experiment for Partner BTU CS		(Leader: BTU CS)
Task 7.4	Pathfinder Application Experiment for Partner PSP		(Leader: PSP.)
Task 7.5	Pathfinder Application Experiment for Partner S&C		(Leader: S&C)
Task 7.6	Pathfinder Application Experiment for Partner TU Delft		(Leader: TU Delft)
Task 7.7	Pathfinder Application Experiment for Partner MTU		(Leader: MTU)
Task 7.8	Pathfinder Application Experiment for Partner BME		(Leader: BME)
Task 7.9	Pathfinder Application Experiment for Partner REZOS BRANDS		(Leader: REZOS BRANDS)

Task 7.10	Pathfinder Application Experiment for Partner ATB	(Leader: ATB)
Task 7.11	Pathfinder Application Experiment for Partner FTN	(Leader: FTN)
Task 7.12	Pathfinder Application Experiment for Partner AVN	(Leader: AVN)
Task 7.13	Pathfinder Application Experiment for Partner MECOnet	(Leader: MECOnet)
Task 7.14	Pathfinder Application Experiment for Partner UPV	(Leader: UPV)
Task 7.15	Pathfinder Application Experiment for Partner TalTech	(Leader: TalTech)
Task 7.16	Pathfinder Application Experiment for Partner SEEU	(Leader: SEEU)
Task 7.17	Pathfinder Application Experiment for Partner Marseco	(Leader: Marseco)
Task 7.18	Pathfinder Application Experiment for Partner UPZ	(Leader: UPZ)
Task 7.19	Pathfinder Application Experiment for Partner DPN	(Leader: DPN)
Task 7.20	Pathfinder Application Experiment for Partner Red Pitaya d.d.	(Leader: Red Pitaya d.d.)
Task 7.21	Pathfinder Application Experiment for Partner PUT	(Leader: PUT)

WP Number	8	Lead Beneficiary	UPV
WP Title	**Impact Monitoring, Risk Assessment, and Ethics Assessment**		
Task 8.1	Improvement of Processes, Templates and Tools		(Leader: MECOnet)
Task 8.2	Assessment of Anticipated Impact Metrics		(Leader: UPV)
Task 8.3	Risk Assessment		(Leader: SEEU)
Task 8.4	Analysis of the Value Chains and Policy Recommendations		(Leader: FORTH)
Task 8.5	Evaluation, Selection, Analytics and Assessment		(Leader: UPV)
Task 8.6	Feedback on Coaching Framework and Templates		(Leader: SEEU)
Task 8.7	Feedback on Technology Enablement Framework		(Leader: MTU)
Task 8.8	Ethics Assessment		(Leader: MARGARITA.VTC)

Table 1: Work Package and Task Lead Partners

3.3 Work Plan

A full description of work plan, including Work Package tasks, deliverables and associated milestones is contain in the Grant Agreement Annex 1. This will be used as the main reference point for the project.

3.4 Project Deliverables

All project deliverables are associated with a specific work package task. It will be the responsibility of the task leader to co-ordinate the drafting of the deliverable and ensure the inputs of other partners where necessary. Table 2 provides an overview of all the deliverables, the lead partner and the deadlines for internal review and submission to the Commission.

Deliv. No.	Deliverable Name	WP No.	Lead Partic.	Type	Diss. Level	Internal Review	Due Date
D1.1	SMART4ALL Project Management Handbook	1	UoP	R	PU	M01	M02

D1.2	First Version of Data Management Plan (DMP)	1	TUD	R	PU	M05	M06
D1.3	Second Version of Data Management Plan (DMP)	1	TU Delft	R	PU	M11	M12
D1.4	Third Version of Data Management Plan (DMP)	1	TU Delft	R	PU	M29	M30
D1.5	Final Version of Data Management Plan (DMP)	1	TU Delft	R	PU	M47	M48
D1.6	SMART4ALL Final Achievements and Lesson Learned	1	UoP	R	PU	M47	M48
D2.1	SMART4ALL website	2	UoP	R	PU	M2	M3
D2.2	Public Outreach Strategy	2	FBA	R	CO	M2	M3
D2.3	Project Collaterals	2	TalTech	R	PU	M2	M3
D2.4	First Periodic Report on Dissemination and Communication Activities	2	PSP	R	PU	M11	M12
D2.5	Second Periodic Report on Dissemination and Communication Activities	2	PSP	R	PU	M29	M30
D2.6	Final Periodic Report on Dissemination and Communication Activities	2	PSP	R	PU	M47	M48
D3.1	SMART4ALL Community Engagement Plan and Model	3	MECOnet	R	CO	M5	M6
D3.2	First Periodic Report on Smart4ALL Ecosystem Activities	3	MCN	R	PU	M11	M12
D3.3	Second Periodic Report on Smart4ALL Ecosystem Activities	3	MECOnet	R	PU	M29	M30
D3.4	Third Periodic Report on Smart4ALL Ecosystem Activities	3	MECOnet	R	PU	M47	M48
D4.1	SMART4ALL Sustainability Plan	4	FORTH	R	PU	M47	M48
D4.2	First Version of SMART4ALL DIHs Business Plan	4	FORTH	R	PU	M11	M12
D4.3	Second Version of SMART4ALL DIHs Business Plan	4	FORTH	R	PU	M29	M30
D4.4	Final Version of SMART4ALL DIHs Business Plan	4	FORTH	R	PU	M47	M48
D4.5	First Version of Business Plan of the SMART4ALL Thematic Areas	4	DLR	R	PU	M11	M12
D4.6	Second version of Business Plan of the SMART4ALL Thematic Areas	4	DLR	R	PU	M29	M30

D4.7	Final Version of Business Plan of the SMART4ALL Thematic Areas	4	DLR	R	PU	M47	M48
D5.1	SMART4ALL Technology Portal	5	UoP	DEM	PU	M3	M4
D5.2	First Version of SMART4ALL Technology Services Handbook	5	BTU CS	R	PU	M11	M12
D5.3	Second Version of SMART4ALL Technology Services Handbook	5	BTU CS	R	PU	M29	M30
D5.4	Final Version of SMART4ALL Technology Services Handbook	5	BTU CS	R	PU	M47	M48
D6.1	Open Call Package of Documents 1	6	FBA	R	PU	M1	M2
D6.2	Open Call Package of Documents 2	6	FBA	R	PU	M4	M5
D6.3	Open Call Package of Documents 3	6	FBA	R	PU	M10	M11
D6.4	Open Call Package of Documents 4	6	FBA	R	PU	M13	M14
D6.5	Open Call Package of Documents 5	6	FBA	R	PU	M16	M17
D6.6	Open Call Package of Documents 6	6	FBA	R	PU	M19	M20
D6.7	Open Call Package of Documents 7	6	FBA	R	PU	M25	M26
D6.8	Open Call Package of Documents 8	6	FBA	R	PU	M28	M29
D6.9	Open Call Package of Documents 9	6	FBA	R	PU	M33	M32
D6.10	Open Call Evaluation Reports 1	6	FBA	R	PU	M9	M10
D6.11	Open Call Evaluation Reports 2	6	FBA	R	PU	M11	M12
D6.12	Open Call Evaluation Reports 3	6	FBA	R	PU	M17	M18
D6.13	Open Call Evaluation Reports 4	6	FBA	R	PU	M20	M21
D6.14	Open Call Evaluation Reports 5	6	FBA	R	PU	M23	M24
D6.15	Open Call Evaluation Reports 6	6	FBA	R	PU	M26	M27
D6.16	Open Call Evaluation Reports 7	6	FBA	R	PU	M32	M33
D6.17	Open Call Evaluation Reports 8	6	FBA	R	PU	M35	M36
D6.18	Open Call Evaluation Reports 9	6	FBA	R	PU	M38	M39
D7.1	Report of Pathfinder Application Experiment by Partner UoP	7	UoP	R	PU	M45	M46
D7.1	Report of Pathfinder Application Experiment by Partner UoP	7	UoP	R	PU	M45	M46
D7.2	Report of Pathfinder Application Experiment by Partner DLR	7	DLR	R	PU	M45	M46
D7.3	Report of Pathfinder Application Experiment by Partner BTU CS	7	BTU CS	R	PU	M45	M46
D7.4	Report of Pathfinder Application Experiment by Partner PSP	7	PSP	R	PU	M45	M46
D7.5	Report of Pathfinder Application Experiment by Partner S&C	7	S&C	R	PU	M45	M46

D7.6	Report of Pathfinder Application Experiment by Partner TU Delft	7	TU Delft	R	PU	M45	M46
D7.7	Report of Pathfinder Application Experiment by Partner MTU	7	MTU	R	PU	M45	M46
D7.8	Report of Pathfinder Application Experiment by Partner BME	7	BME	R	PU	M45	M46
D7.9	Report of Pathfinder Application Experiment by Partner REZOS BRANDS	7	REZOS BRANDS	R	PU	M45	M46
D7.10	Report of Pathfinder Application Experiment by Partner ATB	7	ATB	R	PU	M45	M46
D7.11	Report of Pathfinder Application Experiment by Partner FTN	7	FTN	R	PU	M45	M46
D7.12	Report of Pathfinder Application Experiment by Partner AVN	7	AVN	R	PU	M45	M46
D7.13	Report of Pathfinder Application Experiment by Partner MECOnet	7	MECOnet	R	PU	M45	M46
D7.14	Report of Pathfinder Application Experiment by Partner UPV	7	UPV	R	PU	M45	M46
D7.15	Report of Pathfinder Application Experiment by Partner TalTech	7	TalTech	R	PU	M45	M46
D7.16	Report of Pathfinder Application Experiment by Partner SEEU	7	SEEU	R	PU	M45	M46
D7.17	Report of Pathfinder Application Experiment by Partner Marseco	7	Marseco	R	PU	M45	M46
D7.18	Report of Pathfinder Application Experiment by Partner UPZ	7	UPZ	R	PU	M45	M46
D7.19	Report of Pathfinder Application Experiment by Partner DPN	7	DPN	R	PU	M45	M46
D7.20	Report of Pathfinder Application Experiment by Partner Red Pitaya d.d.	7	Red Pitaya d.d.	R	PU	M45	M46
D7.21	Report of Pathfinder Application Experiment by Partner PUT	7	PUT	R	PU	M45	M46
D8.1	First Periodic Impact Analysis Report	8	UPV	R	CO	M11	M12
D8.2	Second Periodic Impact Analysis Report	8	UPV	R	CO	M29	M30
D8.3	Final Periodic Impact Analysis Report	8	UPV	R	CO	M47	M48
D8.4	Ethics Requirements	8	MARGARITA.VTC	R	PU	M5	M6

	Ethics Assessment	8	MAR GARIT A.VTC	R	CO	M47	M48
D8.5							

Table 2: Project Deliverables, Lead Partner and Deadlines

A deliverable template has been developed that used during the duration of the project for all written deliverables. More details about this are presented in Section 6 of this deliverable.

3.5   Project Milestones

Milestones are the control points that help to chart progress and ensure that strategic decisions will be taken according how the project achievements will be meeting the success criteria defined. We have identified several milestones related mainly to open-call and PAE execution as well as major dissemination/networking activities.

Table 3 provides an overview of all the project milestones, the associated WPs, and the expected deadline for achieving the specific milestone.

MS. No.	Milestone Name	Related WPs	Estimated Date
MS1	Public project website ready for 1st open call	WP2	M3
MS2	1st KTE Open Call Launched	WP6	M3
MS3	Market Place platform in place	WP5	M4
MS4	1st FTTE Open Call Launched	WP6	M6
MS5	KTE PAE (from 1st Open Call) running and being coached	WP6	M7
MS6	FTTE PAE (from 1st Open Call) running and being coached	WP6	M10
MS7	1st CTTE Open Call Launched	WP6	M12
MS8	1st EAB Meeting	WP1	M12
MS9	1st Workshop or Tutorial	WP2	M12
MS10	2nd KTE Open Call Launched	WP6	M15
MS11	CTTE PAE (from 1st Open Call) running and being coached	WP6	M16
MS12	1st Joint Workshop with other DIH or SAE Initiatives	WP3	M18
MS13	2nd FTTE Open Call Launched	WP6	M18
MS14	KTE PAE (from 2nd Open Call) running and being coached	WP6	M19
MS15	2nd CTTE Open Call Launched	WP6	M21
MS16	Completed FTTE PAEs (from 1st Open Call) connected with funding agencies	WP4	M22
MS17	FTTE PAE (from 2nd Open Call) running and being coached	WP6	M22
MS18	2nd EAB Meeting	WP1	M24
MS19	2nd Workshop or Tutorial	WP2	M24
MS20	1st DIH business plan for sustainability in place	WP4	M24
MS21	CTTE PAE (from 2nd Open Call) running and being coached	WP6	M25
MS22	3rd KTE Open Call Launched	WP6	M27

MS23	Completed CTTE PAEs (from 1st Open Call) connected with funding agencies	WP4	M28
MS24	3rd FTTE Open Call Launched	WP6	M30
MS25	KTE PAE (from 3rd Open Call) running and being coached	WP6	M31
MS26	3rd CTTE Open Call Launched	WP6	M33
MS27	FTTE PAE (from 3rd Open Call) running and being coached	WP6	M34
MS28	Completed FTTE PAEs (from 2nd Open Call) connected with funding agencies	WP4	M34
MS29	3rd EAB Meeting	WP1	M36
MS30	3rd Workshop or Tutorial	WP2	M36
MS31	2nd Joint Workshop with other DIH or SAE Initiatives	WP3	M36
MS32	CTTE PAE (from 3rd Open Call) running and being coached	WP6	M37
MS33	Completed CTTE PAEs (from 2nd Open Call) connected with funding agencies	WP4	M37
MS34	Completed FTTE PAEs (from 3rd Open Call) connected with funding agencies	WP4	M46
MS35	Completed CTTE PAEs (from 3rd Open Call) connected with funding agencies	WP4	M48
MS36	4th EAB Meeting	WP1	M48
MS37	4th Workshop or Tutorial	WP2	M48
MS38	2nd DIH business plan for sustainability in place	WP4	M48

Table 3: Project Milestones

4 PROJECT PROGRESS MONITORING

4.1 Periodic Reporting

Each Beneficiary undertakes to take part in the efficient implementation of the Project, and to cooperate, perform and fulfil, promptly and on time, all of its obligations under the Grant Agreement and Consortium Agreement as may be reasonably required from it and in a manner of good faith. Each Beneficiary undertakes to notify promptly, any significant information, fact, problem or delay likely to affect the Project in a systematic manner[4] described within this paragraph.

Each beneficiary should provide all necessary input and reports of the progress within the reporting period using the templates created by Coordinating Beneficiary and by describing in detail all needed, in form of review, details.

Each progress report should both include implemented tasks and the consumed budget.

The Coordinating Beneficiary is responsible of validating the implemented tasks and allocation of resources in accordance with the total Action implementation. Is entitled to ask of corrections, justification and further reporting in case of lucking reports or inconsistent records.

An excel template is created in terms of reporting the allocation of resources per work package and Beneficiary (Person months and Costs), Appendix I. A review of the data recorded per Beneficiary will be made by the Financial Manager of the Project Consortium on behalf of the Coordinating Beneficiary and in total cooperation with the Executive Board and Chairman of the General Assembly.

The Coordinating Beneficiary is responsible of finalizing and unifying the report of resources' allocation for the whole Consortium, submitting it to the Chairman of the General Assembly. The Chairman, should have the assent of each General Assembly member by email before processing next actions in relation of the report (interim payments if applicable).

In the context of sound management, the Consortium have agreed upon the first periodic report (internally) on month 8 by submitting the above mentioned excel file to Coordinating Beneficiary with all effort allocated and resources committed. This procedure will launch the interim payment according to Article 7.3.2 of the Consortium Agreement.

During the rest project lifetime, progress reports (along with the Excel template) should be made along with the reporting periods of the Action (in accordance of the provisions of Article 20.2 of the Grant Agreement), covering the corresponding periods and no later than 20 days after the end of the relevant period. In particular:

- Interim report: M1- M8, no later than 20/09/2020
- 1st periodic report: M1 – M12, no later than 20/01/2021
- 2nd periodic report: M13 – M30, no later than 20/07/2022
- Final periodic report: M31 – M48, no later than 20/01/2024

According to Article 20 of the Grant Agreement (GA), each periodic report (not interim report of M8) should include a periodic technical report containing:

(i)   an explanation of the work carried out by the beneficiaries;
(ii)   an overview of the progress towards the objectives of the action, including milestones and deliverables identified in Annex 1. This report must include explanations justifying the

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[4] Action Consortium Agreement (2020), Section 4: Responsibilities of Parties

differences between work expected to be carried out in accordance with Annex 1 and that actually carried out. The report must detail the exploitation and dissemination of the results and must indicate the communication activities;

(iii)   a summary for publication by the Commission;

(iv)   the answers to the 'questionnaire', covering issues related to the action implementation and the economic and societal impact, notably in the context of the Horizon 2020 key performance indicators and the Horizon 2020 monitoring requirements;

In addition, it should include a 'periodic financial report' containing:

(i)   an 'individual financial statement' (see Annex 4 of GA) from each beneficiary and from each linked third party, for the reporting period concerned. The individual financial statement must detail the eligible costs (actual costs, unit costs and flat-rate costs; see Article 6 of GA) for each budget category (see Annex 2 of GA). Amounts which are not declared in the individual financial statement will not be taken into account by the Commission. If an individual financial statement is not submitted for a reporting period, it may be included in the periodic financial report for the next reporting period. The individual financial statements of the last reporting period must also detail the receipts of the action (see Article 5.3.3 of GA). Each beneficiary and each linked third party must certify that: - the information provided is full, reliable and true; - the costs declared are eligible (see Article 6 of GA); - the costs can be substantiated by adequate records and supporting documentation (see Article 18 of GA) that will be produced upon request (see Article 17 of GA) or in the context of checks, reviews, audits and investigations (see Article 22 of GA), and - for the last reporting period: that all the receipts have been declared (see Article 5.3.3 of GA);

(ii)   an explanation of the use of resources and the information on subcontracting (see Article 13 of GA) and in-kind contributions provided by third parties (see Articles 11 and 12 of GA) from each beneficiary and from each linked third party, for the reporting period concerned;

(iii)   a 'periodic summary financial statement', created automatically by the electronic exchange system, consolidating the individual financial statements for the reporting period concerned and including — except for the last reporting period — the request for interim payment.

Data collected by each periodic report will provide feedback to the Executive Board in order to monitor the Action implementation in a systematic manner (timelines for deliverables, milestones and work packages' progress). Challenges, problems and deviations should be included in details, allowing the Executive Board to propose solutions, changes, updates, new directions and deliverables to the General Assembly.

5 INTERNAL CONSORTIUM COMMUNICATION

5.1 Overview

SMART4ALL utilizes popular open-source project management and collaboration tools that automates the monitoring of the project's progress and facilitate the collaboration between the project's partners. The adopted collaboration tools are self-hosted deployment installed in UoP premises supported by cloud web services. Special care has been given in handling the users' personal data that the tools handle. Therefore, all the appropriate mechanisms that comply with the latest guidelines of security and privacy along with GDPR regulations have been adopted, such as:

- The websites for all the tools to be presented are securely served over https to support encrypted communication
- Databases and user files used by the tools are stored in encrypted filesystem.
- Passwords are stored in databases encrypted.
- Users not allowed to use weak passwords.
- All the required personal data are handled by the tools with users' consent.

Name	Scope	URL
Management	Task Management & Monitoring	https://management.smart4all-project.eu/
Repository	File Sharing	https://repository.smart4all-project.eu/apps/files/
Talk	Internal Communication	https://repository.smart4all-project.eu/apps/spreed/
Zoom	Teleconference	https://zoom.us/

Table 4: Management Tools

5.2 Management Tools

The main tool used for project management is the OpenProject. OpenProject is a web-based project management system for location-independent team collaboration. This open-source application is released under the GNU General Public License Version 3 and available as a community edition and chargeable Enterprise Edition. SMART4ALL is using the community edition of OpenProject.

The main features of OpenProject utilized by SMART4ALL are listed below:

- Project management and milestones
- Issue management
- Project timelines
- Project news
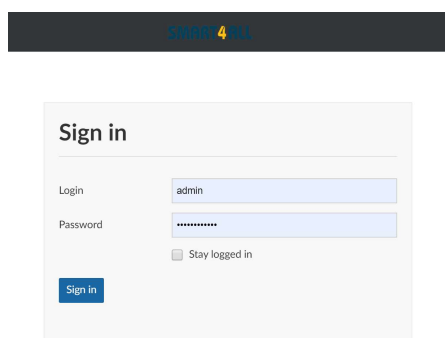
OpenProject supports a quite flexible user management system with roles and permissions for each user group. The users of the OpenProject are all affiliated staff of the members of the consortium and each one of them are authenticated through their personal accounts (login page depicted in **Error! Reference source not found.**).

In order to accomplish a more fine-grained authorization policy, each user belongs to the user group that reflects to the organization he or she represents. Additionally, auxiliary user groups are created such as smart4all_members, advisory

Figure 5: Login page

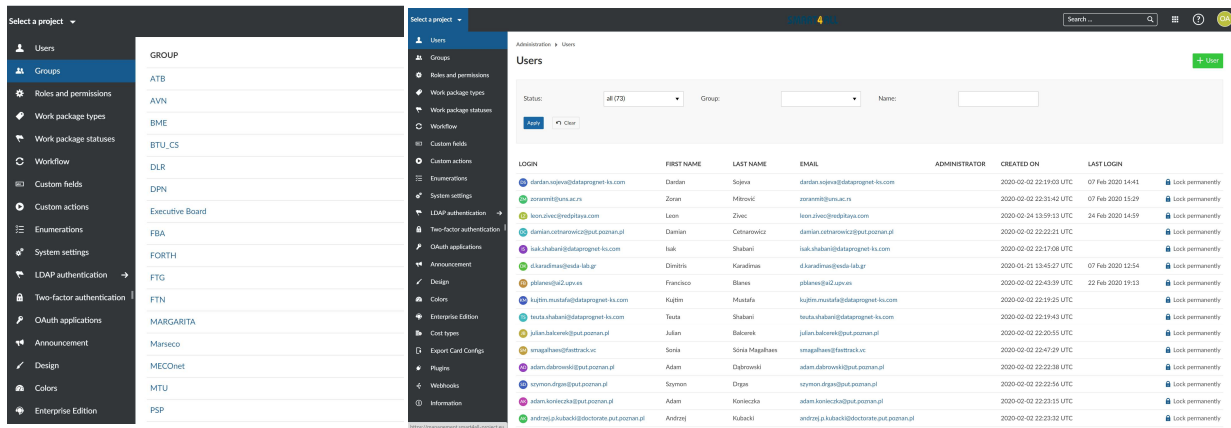boards, etc (**Error! Reference source not found.**).

Figure 6: Users and groups

As long as the user authenticates through the authentication mechanism of the OpenProject (username and password) the landing page is loaded (**Error! Reference source not found.**). In landing page, basic information presented such as the latest registered users, latest published news and links for the user's account page, change password page and of course a link to existing projects of the platform. In the context of SMART4ALL only the respective project is present along with a couple demo projects used by the users to get familiar with the platform.
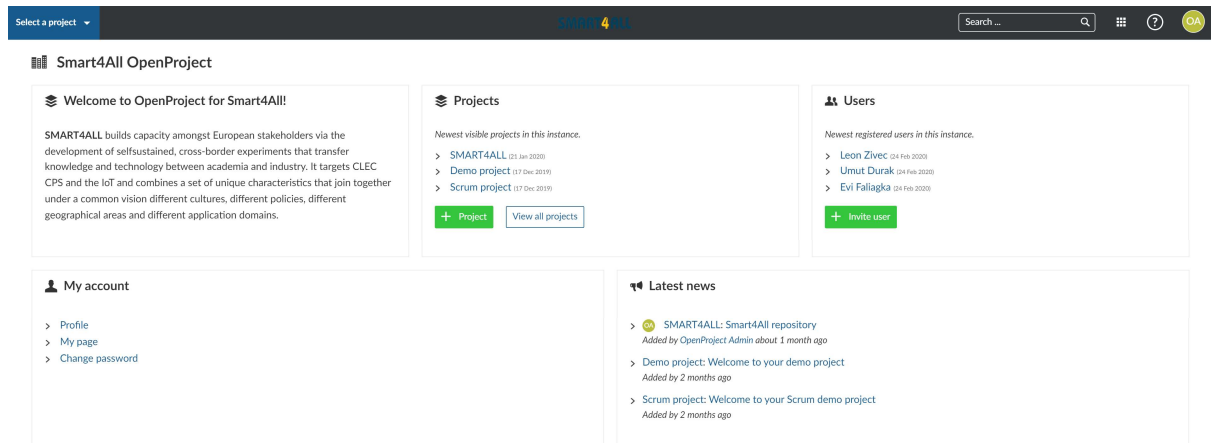
Figure 7: Landing page after authentication

By entering the project's space, a front-page with useful information presented. This information regards project's description, the users of the project, latest news as published by the administrator of the project and finally an overview of the work packages and their statuses (**Error! Reference source not found.**).
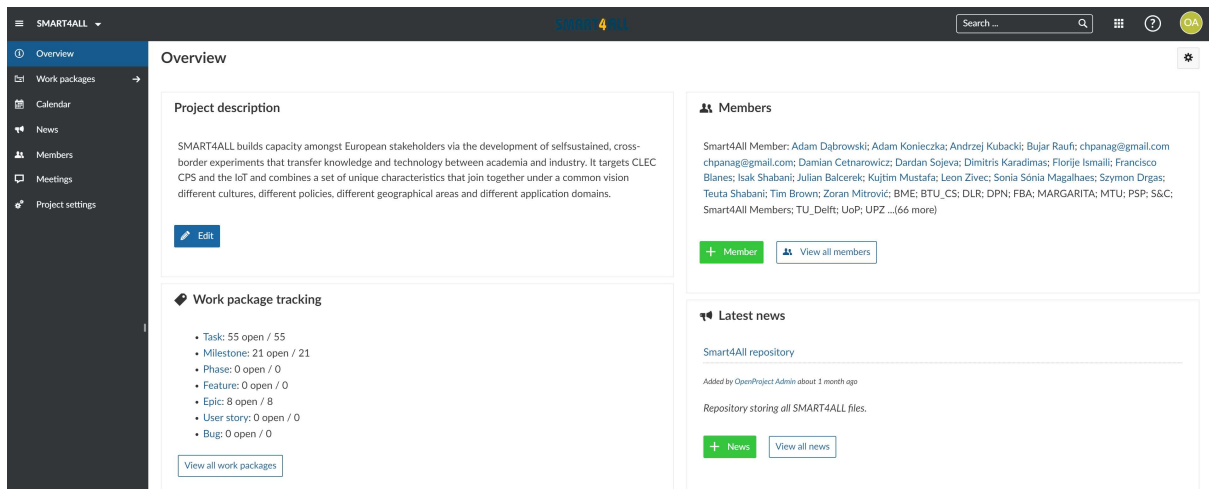
Figure 8: Frontpage for SMART4ALL at OpenProject

The most important functionality for OpenProject in the context of SMART4ALL is of course the task management. Task management is offered by OpenProject at the work packages page (**Error! Reference source not found.**). The structure of the work package is already defined by the administrator of the platform and the respective tasks and deliverables are assigned to the responsible member of the consortium as described in the workplan of the project. OpenProject supports custom views of the tasks and work packages in order to serve the needs of the users. The administrator of the platform has defined and made available to the users and alternate view presenting the start date and the end date of each activity (work package, task, deliverable). Thus, users will facilitate the users to keep track of their activities and deliver their assignments within the project's deadlines. In the same context, the work packages page gives to the users the ability to present the tasks in a GANTT chart view (**Error! Reference source not found.**).

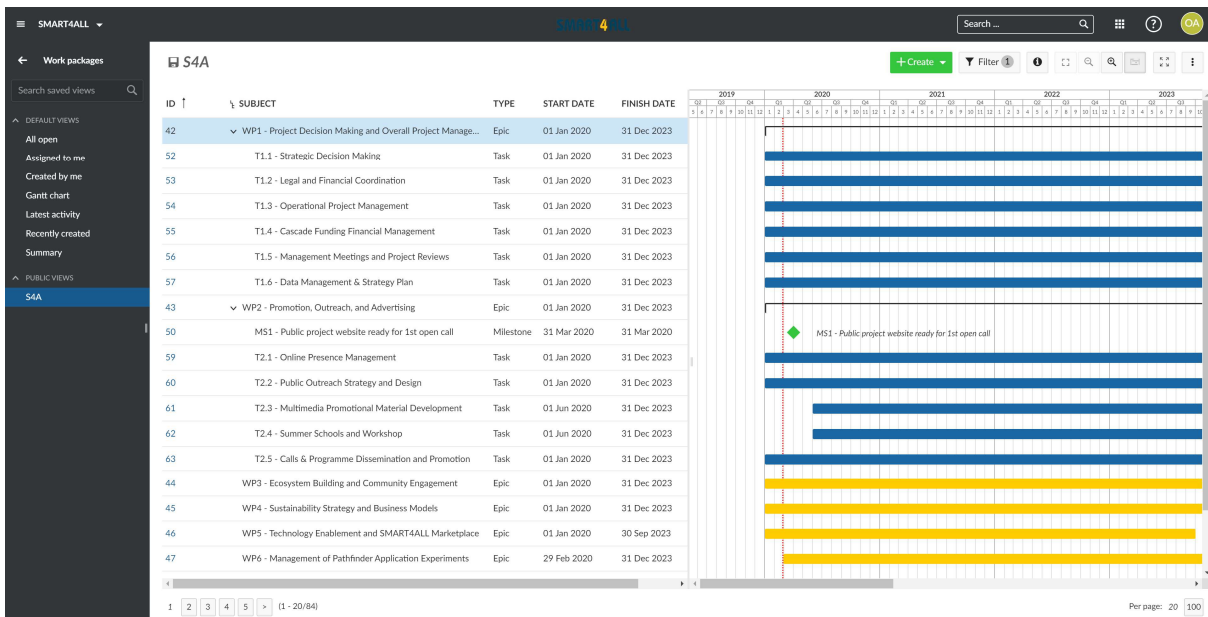

Figure 9: Work packages at OpenProject

Figure 10: GANTT Chart

Additional auxiliary functionalities are also supported by the OpenProject platform. Particularly, the users have access to the calendar of the project. In this calendar all the important events and deadline are presented. Such deadline and event may regard deliverables, project meetings, teleconferences of dissemination events (Figure 11).
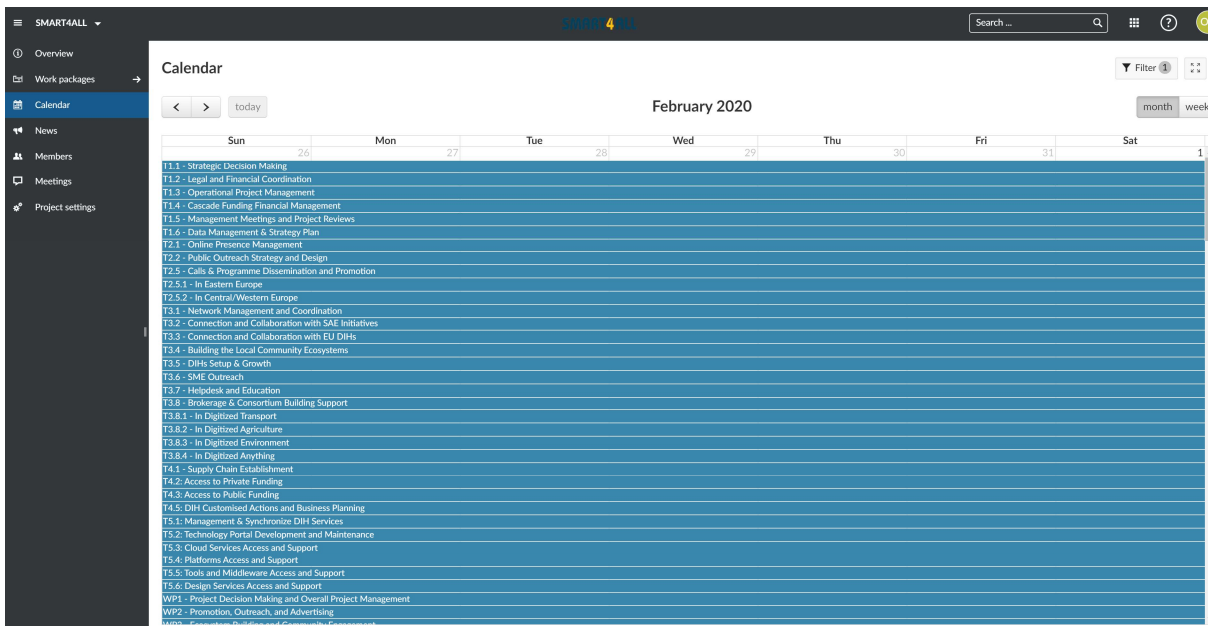

Figure 11: Calendar

5.3   File Sharing

File sharing is another required functionality that needed to be supported for the collaboration of the 25 partners of the SMART4ALL consortium. Nextcloud is the respective popular platform that was employed for that purpose. Nextcloud is a suite of client-server software for creating and using file hosting services. Nextcloud application functionally is similar to Dropbox but unlike Dropbox, Nextcloud does not offer off-premises file storage hosting. Nextcloud is free and open-source, which

means that anyone is allowed to install and operate it on their own private server devices. In contrast to proprietary services like Dropbox, Office 365 or Google Drive, the open architecture enables users to have full control of their data.
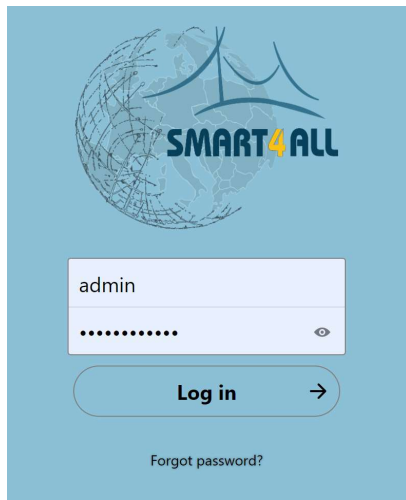

Figure 12: Repository login page

The SMART4ALL repository permits user and group administration and authenticates users through the respective login page where credentials are entered (username & password).

The administrator can fully manage the users and groups of the platform. Apart from creating or de-activating users, the administrator can set quota limit for each user in order to manage optimally the storage capacity of the repository. For each user of the SMART4ALL repository the quota limit is set to 1GB while the admin has a quota limit of 5GB. Of course, if needed, these limits can be updated upon request. The view for user and group management is presented in **Error! Reference source not found.**. Following the same approach of OpenProject groups for each partner are created along with auxiliary groups. Each user belongs at least to the group of the organization they are affiliated and the group of the SMART4ALL project (name member).

Figure 13: Repository users and groups

Nextcloud files are stored in conventional directory structure and are encrypted during transit and storage. The SMART4ALL administrator created the required file structure of the project as presented in **Error! Reference source not found.**14.
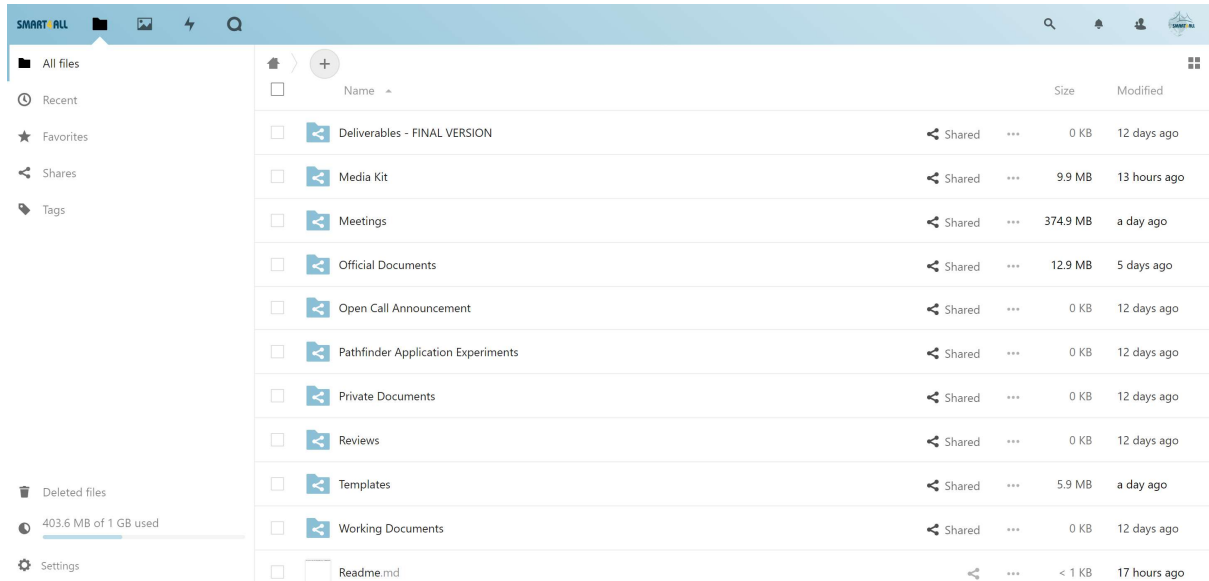

Figure 14: Repository file structure

Content can be shared by defining granular read/write permissions between users and groups (**Error! Reference source not found.**). Alternatively, Nextcloud users can create public URLs when sharing files. Logging of file-related actions, as well as disallowing access based on file access rules is also available.
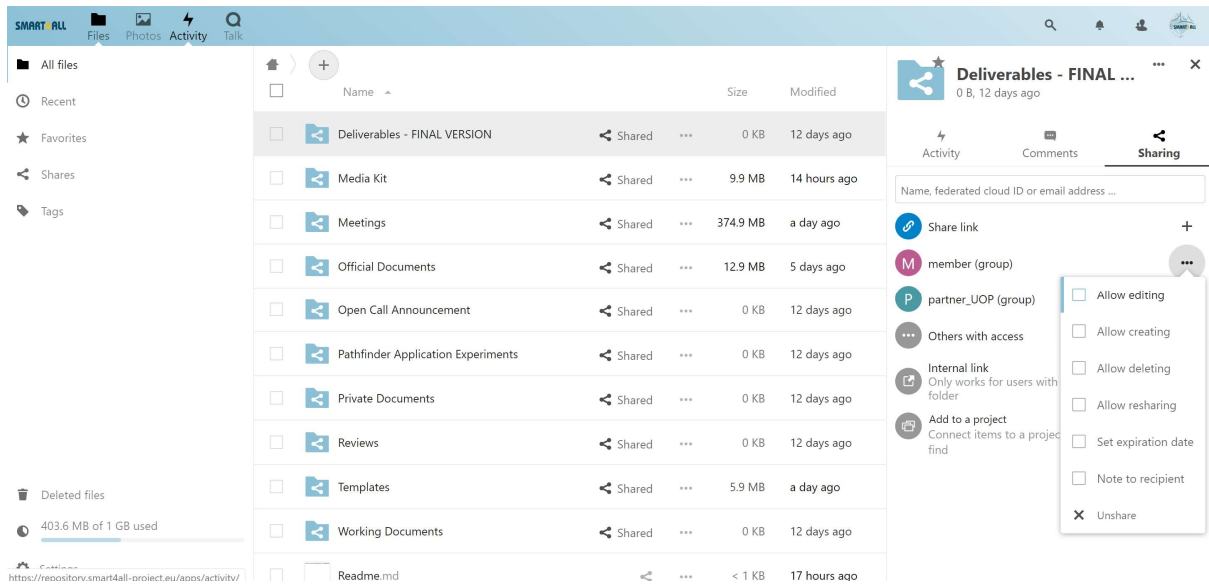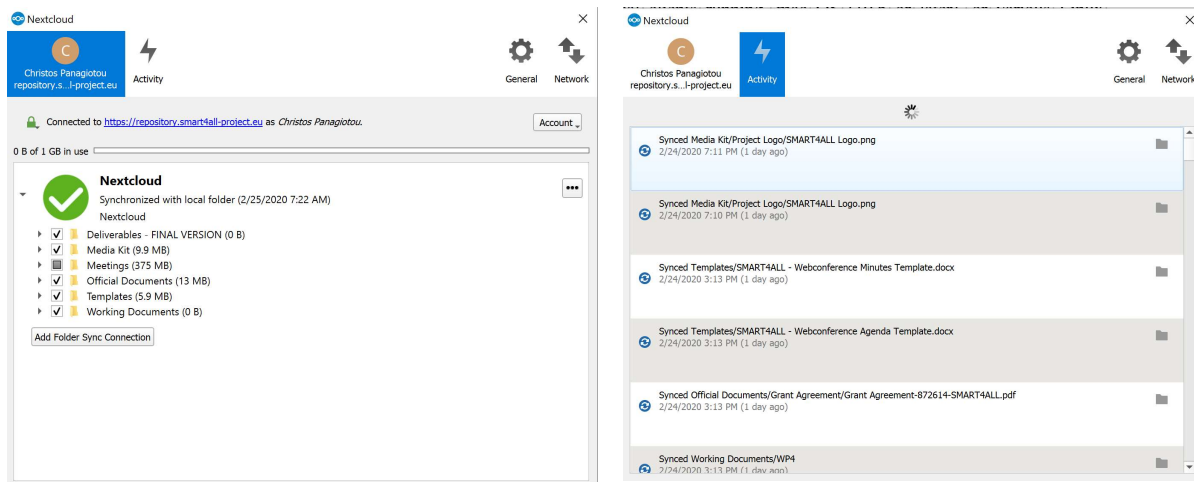

Figure 15: Sharing Capabilities

Figure 16: Repository Client

Nextcloud can synchronise with local clients running, MAC OS (10.6 or later), or various Linux distributions (**Error! Reference source not found.**16). Client also supports notifications for new activities on the repository (creating files, editing, deleting, sharing, etc.). Of course the client cannot override the permissions the user has on the platform.

Nextcloud is introducing new features such as monitoring capabilities and full-text search, as well as audio/video conferencing. Since the software is modular, it can be extended with plugins to implement extra functionality. Developers can offer their extensions to other users for installation via a manufacturer-operated platform. This platform communicates with the Nextcloud instances via an open protocol and the App Store[10] already contains over 200 extensions. With the help of these extensions, many functionalities can be added to improve collaboration among the SMART4ALL consortium member including:

- browser-based text editor
- gallery
- document viewer tools from within Nextcloud
- connection to Dropbox, Google Drive and Amazon S3

5.4 Video, Tele-Conference, E-meetings

External communication tool aim to facilitate the needs of the consortium for setting up call and meeting remotely through the web. The UoP team holds an account on the popular zoom platform and schedules meetings. The meeting events and details (url, password, etc.) are shared through email to the participating members of the meeting. Communication over the zoom platform is encrypted while can be further protected through a password to protect against un-invited entities. Zoom offers significant functionalities such as voice and video chatting, sharing screen of the user, sharing presentation. The platform has been used several times and has proven its capability to serve high demanding web conferences with many participants. The administration interface of the Zoom platform is given in **Error! Reference source not found.**
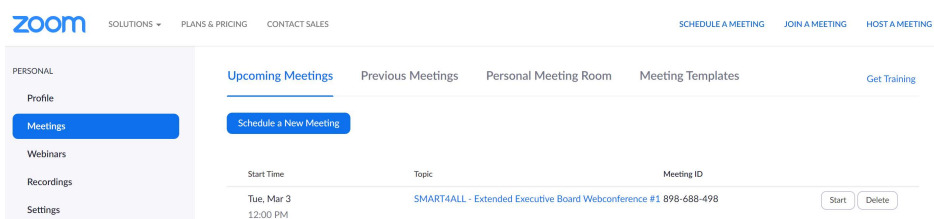
Figure 17: Zoom Scheduled Meetings

5.5 Internal Communication

By the start of the project, the requirement for an alternate conversation tool was raised. Users needed to get in touch with each other without the need for a scheduled Zoom web meeting (UoP needed to

schedule it) or sharing their Skype contacts. For that purpose, the repository's efficient plugin system was employed in order to install and activate the Talk plugin as provided by the Nextcloud directory of apps (**Error! Reference source not found.**).
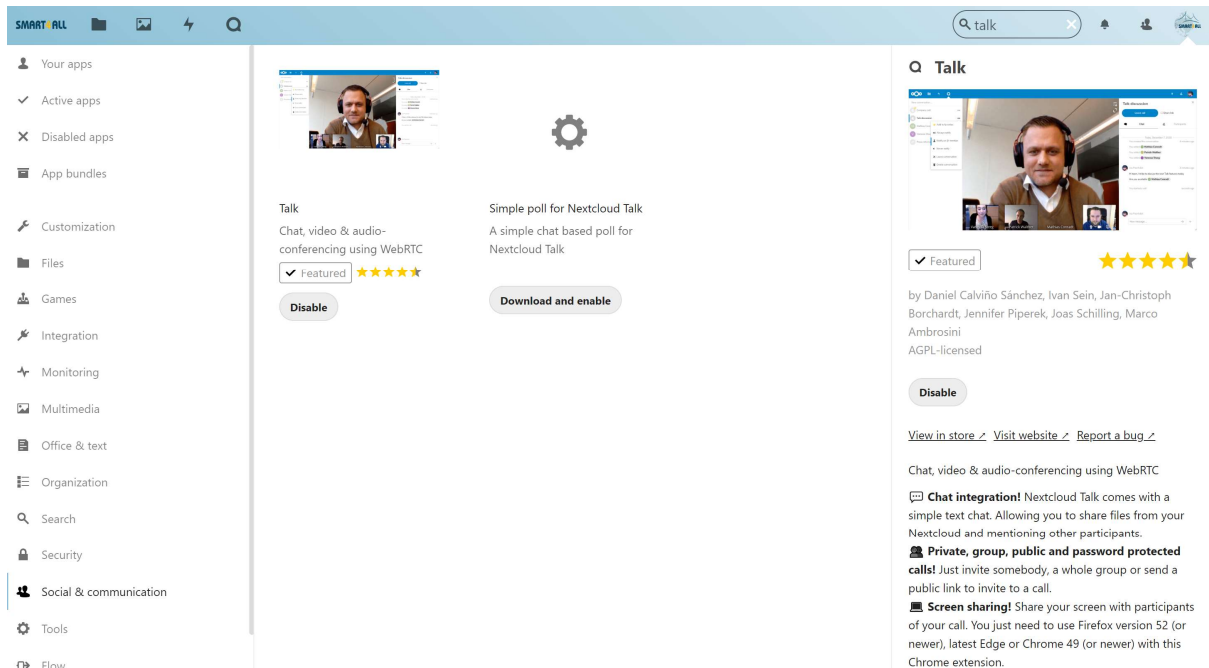
Figure 18: The Talk Plugin

Users of the repository platform can reach other through the repository web site and create topics with one or more users. Of course private messages between the users is also supported through the Talk plugin. An indicative view of this app is given in **Error! Reference source not found.**.
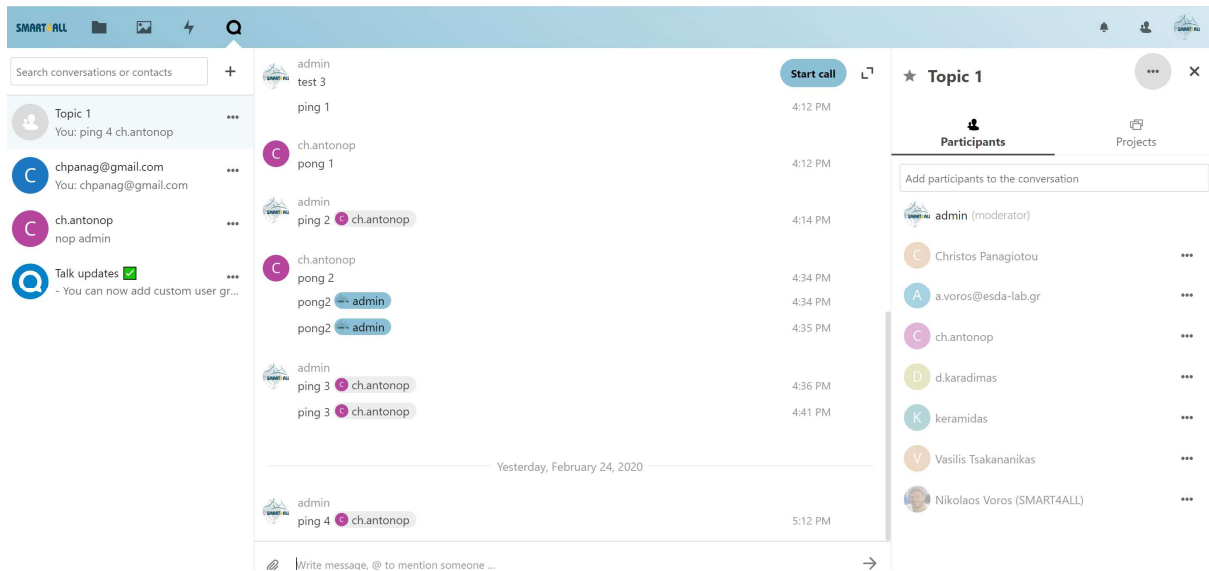
Figure 19: Conversation through talk

Additionally, apart from the traditional text messaging, Talk supports also speech/video conference along with screen sharing. Thus, Talk as offered through the SMART4ALL repository platform stands as the perfect alternative for ad-hoc meetings between the members of the consortium that facilitates their communication and collaboration in favor of the project's progress.

5.6 Project Meetings

The project meetings will be organized as follows:

- General Assembly meetings every six months (once a year a physical meeting will take place)
- Executive Board Meetings (at least) quarterly (either physical or via web conference)
- Extended Executive Board meetings, with the participation of Task Force Leaders in order to synchronize WPs and Task Forces on the achievement of the project goals. The meetings will take place every 1,5 month via web conference.
- Project Review meetings with the EC Project Officer. Three physical review meetings are scheduled. The first on M12, the second on M30 and the third on M48.

All meetings will be properly planned. The planning includes preparation of agendas, organization of venues (whenever required), and producing minutes and agreed actions. The key issues and action items will be maintained in the secure intranet of the project for ease of use and access.

6 QUALITY CONTROL

6.1 Procedures

Quality control focuses on the operational techniques and activities used by those involved in the project to fulfill the requirements for quality (i.e, inspections and testing) and to identify ways of eliminating causes of unsatisfactory performance.

Our approach to quality focused on ensuring that all deliverables have substantial and specific contribution to the SMART4ALL action's objectives and impact. The pre-final version of each deliverable is assessed by quality indicators (both objective and subjective) judging the completeness and the fitness-for-purpose of the deliverable. Assessment is carried out by testing for objective, quantifiable indicators and by inspection for subjective indicators

6.2 Roles

According to the action's steps and timetable for preparing deliverables, the following roles are involved in quality assurance up to delivery:

Executive Board: Depending on the nature of the work involved, the Technical Manager invites members of the Executive Board including at least (a) a Technical or Business or Ethical expert and (b) the pertinent WP Leader. They cooperate to refine the scope of delivery, assuming as a starting point the deliverable description and other relevant passages in the Grant Agreement, as well as relevant decisions of the SMART4ALL decision-making bodies.

Task leadership: The Technical Manager, the pertinent WP Leader, and the pertinent Task Leader (or Leaders, if multiple tasks contribute to a deliverable) cooperate to establish the exact table of contents and an estimated preparation date for a series of drafts of the deliverable. This cooperation establishes a constant communication between project-level management (EB) and task-level management.

Internal reviewer: A pre-final draft is given for internal review between 30 and 20 days before the foreseen date of delivery to the EC. The review period is one week. The internal reviewers assess the completeness and of the deliverable with respect to the table of contents established before as well as its technical quality.

Project Coordinator and Executive Board: The final draft is given to the Project Coordinator and the EB members listed above for approval. The PC and EB affirm that the expected contribution to project-level objectives has been made.

Project Coordinator: The Project Coordinator prepares the final deliverable and makes the submission to the EC. The PC ensures that deliverables have a consistent "look and feel" and comply with the Smart4All templates and editing guidelines.

6.3 Reviewing Guidelines

The assignment of reviewing duty to participants will comply to following rules:

- Assign deliverables to beneficiaries that have in their roster personnel capable of carrying out the review.
- Assign deliverables to beneficiaries that do not contribute towards the deliverable under review or, if that is not feasible due to the previous constraint, have as a minor a role as possible.
- Distribute reviewing duty roughly proportional to the distribution of effort.
- Distribute reviewing duty for each beneficiary roughly evenly throughout the action's duration.

6.4   Deliverables

SMART4ALL project deliverables will all use the deliverable template in MS Word.

Deliverables will use a file name convention as follows:

- The name of the project as the first part of the title.
- The deliverable number
- The revision number (see table);
- The delivery date in the format of month and year (e.g. January 2017 will be written as 'JAN17')
- The Deliverable Title

For example, this deliverable would be:

- SMART4ALL-D1.1-E1-FEB20-ProjectManagementHandbook

Revision Number	Description
D	Draft ready for internal review
R	Draft following internal review
E	Version submitted to European Commission (EC)
A	Version approved by the EC
PU	Version for dissemination (where different from E)

Table 5: Deliverables Revision Numbers

All deliverables will contain a version control table outlining changes made to the document.

7 DATA MANAGEMENT, RISK MANAGEMENT AND ETHICAL CONSIDERATIONS

7.1 Risks and Associated Contingency Plans

The objective of risk management is to add maximum sustainable value to all the activities of the project and to increase the probability of success, reducing the uncertainty of achieving the project's objectives. We have assessed all major administrative, exploitation/outreach/ethical/legal risks, and technical risks, and proposed possible mitigations. Risks are scored according to likelihood to occur. As a general rule, all issues should be raised and discussed with the PC who may consult the advisory board and designed PO. The following table contains all the foreseen risks and the proposed risk-mitigation measures. It has to noted that the time of writing no risk has been materialized yet.

Risk (Likelihood)	WP(s)	Proposed Risk-Mitigation Measures
A partner leaves the consortium *(Likelihood: Low)*	ALL	The Consortium Agreement will take care of handling the risks of a partner withdrawal including procedures for finding another partner to execute the remaining work. The EC will be immediately notified and the coordinator will negotiate with the designed PO and present an alternative in the next GA.
Delay in delivering funding to PAEs *(Likelihood: Low)*	WP1	The sub-PC and FO will negotiate with the designated PO to receive the 70% of the cascade funding at the beginning of the project, so as no unexpected delays will occur
Low interest from investors in PAEs *(Likelihood: Medium)*	WP4	The consortium (led by the partners GM and FORTH and the project coordinator) will increase the efforts towards communication and will arrange direct F2F contacts with national and international investors
PAE with limited business potential *(Likelihood: Medium)*	WP4	The evaluators would be a mix of technical and business experienced people. FBA with support of GM and FORTH will be responsible for the selection of the evaluators with business and market expertise. One

		additional business coach will be assigned to the PAE.
PAE submissions have low or average quality *(Likelihood: Low)*	WP2, WP3	The workplan includes several open-call promotions, open-call brokerage, and SME outreach activities. Various channels will be used for promoting the open-calls. In case of receiving submissions of low or average quality, the consortium will increase promotion activities. Also, we have put several cut-off dates and we believe that this will enforce a steady flow of submissions.
Selected PAE underperform due to technical issues *(Likelihood: Medium)*	WP6	The designated technical coach (consortium partner) is responsible to bring this issue in the next GA. The GA will assign a second technical coach and will intensify the sessions with the PAEs and technical coaches
Delays in Evaluation process *(Likelihood: Low)*	WP6	From the time of submission till the actual kick-off of the PAE, we have allocated 3 months. We have provisioned an elapsed time of 1 month for the PAE evaluations. Partner FBA has significant experience in running open-calls in previous projects. In case of a delay, each partner is obligated to propose at least one external evaluator.

Table 6: Project Foreseen Risks and the Proposed Risk Mitigation Actions

7.2 Data Management Plan

To comply with Horizon2020's Data Pilot, SMART4ALL will develop and implement a DMP in Task 1.6 Data Management & Strategy Planning. The DMP (formulated in D1.2) will cover the following: i) types of data to be collected and generated, ii) Data sharing and exploitation, and iii) preservation of the data. As a basic principle, the research data gathered in the project will be securely stored in a Trusted Digital Repository for technical-scientific research data. Special focus of Task 1.6 will be to define a process to ensure that all data collected and generated in the project does not violate any ethical or security issues. The second focus of Task 1.6 will be to maximize the access and reuse of the SMART4ALL data.

The SMART4ALL consortium has already designed partner TU Delft to be responsible for data curation and timely delivery into the repository. The first version of DMP will be delivered by M6 of the project (D1.2) and updated versions will be delivered at M12 (D1.3), M36 (D1.4), and M48 (D1.5) or when there are changes in the project that affect the management of the data. This series of

deliverables will also include a session to clearly identify the material and data exported from the SMART4ALL project to the non-EU partners of the project.

Regarding Data Management of the people with disabilities involved in SMART4ALL, Vocational Training Center MARGARITA in accordance with the General Data Protection Regulation (GDPR) 2016/679 and the legislation in force, will deliver to its beneficiaries / parents / court supporters information document for processing of their personal data including the following:

- *Purposes and legal basis of treatment:* MARGARITA collects, maintains and generally processes personal data (in particular identification data, contact data, health, insurance data etc.) on the basis of the request of the beneficiary for the provision of educational services, vocational training, support services in the context of social care and treatment of people with intellectual disabilities in accordance with applicable law frame. The data processing is done under the responsibility of a professional who is covered by professional secrecy. These data are collected from the beneficiaries at the commencement and during the provision of the above services and are necessary for meeting legal obligations and for the necessary communication for the deliverance of these services. If it is necessary further processing of the data for other purposes, an update will follow and if it is also required, a consent will be asked.
- *Recipients of the beneficiaries data:* The recipients of the data are staff and partners, as long as this is necessary for the performance of their duties and with the commitment of confidentiality. Recipients of absolutely necessary data may also be MARGARITA's supervisory authority, insurance fund for the collection of any health benefits or the authorities and bodies that fund MARGARITA's operation or provide specific services to beneficiaries.
- These notifications are necessary either in application of the law or to enable the provision of MARGARITA's services as described above. MARGARITA will not disclose the beneficiaries data to other third parties without their consent or if MARGARITA is obliged to do so by inspection or investigation by a competent public authority in accordance with applicable law. MARGARITA, also will not forward beneficiaries' data to third parties countries outside the European Union or international organizations. Beneficiaries data set may be kept electronically for their safety and be stored in cloud services provided by a company located in a country of the European Union or a company having appropriate safeguards to protect the beneficiaries data in accordance with GDPR.
- *Time retaining beneficiaries data:* Personal data is only kept for as long as it is required for the fulfillment of the above objectives and in accordance with the applicable legislation. The medical record is kept for 10 years from the date of discontinuation services to beneficiaries. If the processing is based on consent, data is retained until it is recalled. After the lapse of time data retention or with the withdrawal of consent, data is safely destroyed.
- *Rights – Information:* Personal data is available at any time, and are available for requesting correction or, where appropriate, their deletion, its limitation, refuse to process or, if they are electronically maintained, to request that they be given or transmitted to commonly read electronic form. In case the beneficiary feels that they are infringing the relevant rights they can contact the Personal Data Protection Authority.

MARGARITA's staff have signed a statement of confidentiality:

- As an employee / trainee / volunteer at MARGARITA they commit themselves for the confidentiality of personal data which processes "MARGARITA" as its controller to the extent that they have or will have access to it in the future or perform processing operations in accordance with their job duties or generally on the basis of their employment in the service / of their exercise-training.
- MARGARITA's staff treats the personal data with utmost respect and the specific data categories of all involved parties with "MARGARITA", which operates in the sensitive area of people with intellectual disabilities.

In particular, they undertake and declare that throughout the term of their contract and after its termination or termination in any way and forever, they will respect confidentiality and will not disclose to any third party the personal data they processed or edited in the context of their tasks or

came across or it came to their knowledge in the performance of their duties but also on occasion of this, in the context of their overall collaboration with MARGARITA, with the rest staff or external partners and their contact with them beneficiaries or third parties (e.g., other health professionals).

7.3 Ethics Management Plan

SMART4ALL, as a project, will deal with ethics issues related to 'Protection of Data' because it will collect general data of European companies, through an online form within FundingBox Platform, to select the cross border Pathfinder Application Experiments (PAEs). The Data to be collected are (non-exhaustive list): Country; Organization name; Project name; Address; Number of team members; Funds requested; Verticals Targeted; Solution type; Name of coordinator and name of the team members; Abstract; Brief description; Company years of experience, etc. SMART4ALL will guarantee a proper use of hose data as introduced in Section 2, which would be further detailed in deliverables *D1.2-5: Data Management Plan*. Data collected within the open calls are limited to the data necessary to evaluate an application. Personal data collected are mainly data of the team members and information about their experience and professional career. Participation in the open call is voluntary as well as providing personal information (except contact details).

SMART4ALL will also take care that the 67 PAEs selected through Open Calls will also apply the ethical standards and guidelines of Horizon2020 regardless of the country in which the projects are located. Specific support actions regarding protection of personal data will be provided, to each experiment, by the Coordinator. This support will be done depending on the specific needs of each project.

The Coordinator, will set up a process to ensure that the initiatives and projects which it funds conform to the ethical standards and guidelines of Horizon2020.

To this end, an Ethical Committee will be established which includes relevant expertise to supervise and monitor the ethical concerns in the project, especially regarding the experiments. The SMART4ALL Ethics Manager and the Advisory Board Ethics Expert will be reviewing all the PAEs selected. The Ethical Committee will subject all PAEs selected to strict ethical screening/requirements on personal data protection and any other potential ethical issue. The Committee will produce a Report according with the ethical guidelines of Horizon2020. If any of the PAEs seems to have Ethical issues the Committee will indicate the specific tasks to be done and will participate in the monitoring sessions of these experiments.

Each Experiment, before sub grant agreement signature, will be reviewed by 1 ethical experts that will provide his/her ethical recommendation. H2020 ethical recommendation applies to all Experiments, regardless of the Beneficiary seat.

All Experiments has to be run in compliance with national and international law. Experiments that are forbidden or illegal under EU law cannot be implemented in non-EU country (even if legal under this country legislation).

Those recommendations shall constitute an annex to the sub-grant agreement. Ethical evaluation will be repeated before Experiment final review. Ethical evaluator will review whether their recommendation is implemented. Failure to implement the ethical recommendation results in a termination of the grant. Relevant provisions will be included in the sub-grant agreement. Beneficiary will be responsible for obtaining approvals, consents, and authorization required by law.

Having said that, SMART4ALL will promote specific activities to guarantee the accomplishment of the following ethics issues regarding the **protection of personal data**:

- *D1.2: Data Management Plan* will be defined, in M6, as indicated in WP1 and revised periodically at M12, M30, M48, based on information provided in Section 2.
- It will contain detailed information on the procedures that will be implemented for data collection, storage, protection, retention and destruction and confirmation that they comply with national and EU legislation.
- Templates of the informed consent forms and information sheet will be also included.

- Detailed information on the informed consent procedures that will be implemented regarding personal data will be submitted on request.

SMART4ALL will collect data of the applicants, through an online form within FBA Platform which will be used during the project´s Open Calls and other administration processes managed by FBA. Data will be deposited and secured in the FBA platform. The information will be captured through online forms and will be recorded and stored in FBA Cloud infrastructure as an object database. The information will be accessible through an online Dashboard application and only the anonymized data will be downloadable in csv and xls formats. Only authorized users will be allowed to access the data sets via authentication.

The FBA platform applies technological and organizational measures to secure processing of personal data against publishing to unauthorized persons, processing in violation of the law and change, loss, damage or destruction.

FBA platform security measures:

- **Information security:** SSL (Secure Socket Layer) certificates are applied. In order to ensure the appropriate level of security, the password for the account will exist on the platform only in a coded form. Registration on and logging in to the platform proceeds in a secure https connection. Use of password to access data sets: the FBA platform offers 4 different access levels/roles (administrators, developers, evaluators and invitees) to secure access to data by unauthorized users. Communication between the User's device and the servers will be encoded using the SSL protocol.
- **Options for reading data:** the platform offers the possibility to make data available in a read-only or downloadable format, hindering the access to information by unauthorized users. Once an Open Call finishes information is archived, so it's no longer publicly accessible, only administrators will have access to the historic data in a read-only mode.
- **Back-up policy:** complete and redundant backups are done every hour. Moreover, every time a modification is done an older version is saved.
- **Accidental deletion or modifications:** in case of a catastrophic event that implies the partial or complete deletion of the data sets, the data from the most recent backup will be automatically restored (back-up won't be older than 60 minutes). In case of accidental deletion or modification only the most recent document will be restored, so in case of accidental changes or deletion data can be easily recovered.
- **Deletion or modification of data by users:** only administrators have the rights to delete or modify the information included in the datasets. Under exceptional circumstances administrators can be given the permission to delete applications (utilities offered by the FBA platform) but the user responsible of its creation will be notified before doing so.
- **Deletion of data by participants in open calls:** users having started the application process can withdraw any time using the FBA platform before the deadline for submission.
- **Terms and conditions:** the FBA platform have specific terms of use and conditions that have to be accepted by all users of the platform.
    - Funding Box terms of service: https://fundingbox.com/about/terms
    - Funding Box platform privacy policy https://fundingbox.com/about/privacy

Each partner is responsible for all obtained data during their processing and acquisition in their own organization. Each partner is obliged to implement appropriate security measures to ensure the confidentiality of the data. Each partner has to keep on file detailed information on the informed consent procedures in regard to data processing and templates of the informed consent forms and information sheets.

7.3.1 Ethics for Persons Belonging to Special Social Groups

According to the Convention on the Rights of Persons with Disabilities, which is being implemented in the European Union, guarantees the rights of the people with disabilities who will be involved in SMART4ALL project.

Specifically, service providers (NGOs, associations, private and public bodies from social care sector, SMEs) which will lead activities in the framework of SMART4ALL for the benefit of their service users, will respect:

- The right of people with disabilities to participate and express any opinion on issues that concern them.
- The obligation to provide accessible information concerning any activity in which they will participate
- The right for equal treatment and non-discrimination on grounds of disability.

In the light of the above, it is self-evident that a person with a disability has the right to express any issue or desire or problem that concerns him or her with people who have a direct relationship with him or her and with whom he or she feels safe.

These people can be:

- Care givers, who may be either a family member or a related professional within a community structure (e.g., Day Care Center, Supported Living Structure).
- Professional in a service structure having jurisdiction (e.g., Social worker or psychologist)

In any case, the professional or caregiver dedicates time, depending on the communication needs of the person with a disability, to listen to his / her request / problem / desire.

After discussing this with him/her, and recording it, if he/she is a professional, then he/she mediates with the family or the caregiver so that the issue can be resolved or the situation can be modified accordingly to satisfy the person with a disability.

Professionals who receive the request or are called upon to manage the issue must investigate how it can be resolved or achieved, always in collaboration with the family or support network, co-designing the personalized action plan.

Nothing is done without informing and having the approval of the person with disability, regardless of the severity of their disability, all the relevant parties work together for the benefit of the person with disability always respecting his/her wish.

Parents should again be able to report on such issues to the relevant Community or State or welfare structures. At all cases, and especially for people with intellectual disabilities, we must take into account any restrictions on their legal status quo (partial or total judicial support / prohibition), but this is not an alibi for not exercising their rights.

We therefore act, based on the social model of disability, overcoming the medical-centric model that treats people with disabilities as patients. This will be the base for the identification of service providers who respect these principles and can benefit by the application of CLEC CPS and the IoT technologies in services targeting people from sensitive social groups. This approach will also be used by professionals for the identification of the needs of sensitive social groups which can be covered through the use of CLEC CPS and the IoT technologies.

The above will be the base for the fulfilment of SMART4ALL's Objective 5 KPIs.

Based on the social model of disability and with the support of professional staff sensitive social groups will be engaged in SMART4ALL. The organizations involved will put in high priority the satisfaction of the needs of sensitive social groups related to the use of low energy computing powering CPS and IoT products and services. Any low energy computing powering CPS and IoT products and services will be used to improve the quality of life of people from sensitive social groups. The definition of what is "quality of life" will be based on the opinion, needs and wishes of the beneficiaries in order to increase accordingly the number of services for people from sensitive social groups that utilize low energy computing powering CPS and IoT products and services.

7.3.2   Ethics Manager

The role of the Ethic Manager is to formulate the ethics requirements of the project and to ensure that all activities are in accordance to the ethics regulations of the EC.

The SMART4ALL Ethics Manager will be Mr. Dimitris Tourlidas from R&D Department of ''MARGARITA'' VTC. Dimitris is a Sociologist and he is currently studying for his master degree in the Department of Philosophy, at National and Kapodistrian University. He is a trainee Researcher at National Center for Social Sciences and since 2017 he is a trainee Researcher at the Center of Biopolitics which is established at Panteion University. At ''Margarita'' VTC he is in charge of the ethical perspective of the activities and the projects designed and he is also responsible for the implementation of inclusive strategies regarding ethical and sociological aspects.

8 PERIODIC MONITORING, REPORTING AND BUDGETS

8.1 Periodic Reporting

All periodic reports described in detail at Section 4.1.

8.2 Timesheets

Each Beneficiary should keep records of the time allocated (to the all Actions) per staff member involved, since it is strongly advised as best practice of direct measurement. A reliable system of time recording should be adopted by each Beneficiary (on paper or in a computer-based recording system) avoiding the Commission to question the reliability of the effort allocated.

The minimum requirements of a timesheet are: the title and number of the action/s, type of employment, Employee, Number of annual productive hours, Month of reporting, Year, Hours per work package. Is it proposed hourly rate and total costs of the hours recorded also to be mentioned.

Each timesheet should be signed by both Employee and Employer at monthly basis. Employer should be the person in charge of reviewing the effort devoted and results produced.

9 TENDERING

9.1 Coaching

PAEs selected will be supported with a totally customized service, where high level coaches and top professionals will be selected to fit the PAEs' needs (see WP6 and particularly T6.5, T6.6). Each PAE will be linked with a Technical and Business Coach, offering coaching and guidance to maximizing the absorption capabilities of the Transfer Experiments funded and access funds (public and private) in their way to the market growth and further investments. More specifically, once PAEs will be selected, SMART4ALL will offer to the partners and 3rd parties (Open Call beneficiaries):

- The role of the **technical coach** is to offer technological support, including technical coaching and IPR and open access support through a specialized technological mentor for each experiment.
- The role of the **business coach** is to offer business support and funding access, including support for development of a business plan and identification of public and private funding sources through a specialized business mentor for each experiment.