



**SELSUSTAINED CROSS-BORDER CUSTOMIZED
CYBERPHYSICAL SYSTEM EXPERIMENTS
FOR CAPACITY BUILDING AMONG EUROPEAN STAKEHOLDERS**

SMART4ALL

Nikos Voros, University of Peloponnese
Project Coordinator



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of the European Union

DT-ICT-01-2019
Smart Anything Everywhere Area 2

www.smart4all-project.eu
Grant Agreement: 872614

SMART4ALL Overview

- **Innovation Action Project**
- Intends to build capacity amongst **South, East and Central European stakeholders** via the development of self-sustained, cross-border experiments that transfer knowledge and technology between academia and industry
- It targets **CLEC** (Customized low energy computing) CPS and the IoT
- Combines different cultures, different policies, different geographical areas and different application domains

Project Objectives

- Enforce the role of DIHs as a pillar towards “Digitizing European Industry Reaping the full benefits of a Digital Single Market” through a new ecosystem organization model
- Extend the role of DIHs across **South, East and Central Europe** in networks, improving cross-border collaboration, knowledge sharing and common good practices avoiding any kind of social exclusion
- Aim towards increasing manufacturing and technology readiness in all domains, especially those not adequately represented

Domains Targeted

**Digitized
Environment**



**Digitized
Agriculture**



**Digitized
Transport**

**Digitized
Anything**

Management Team

Project Management

External Advisory Board Members

Consortium Members



Nikolaos Voros

Project Coordinator

University of Peloponese

Greece



Michael Huebner

Project Sub-coordinator

Brandenburg University of
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Christos Antonopoulos

Technical Manager

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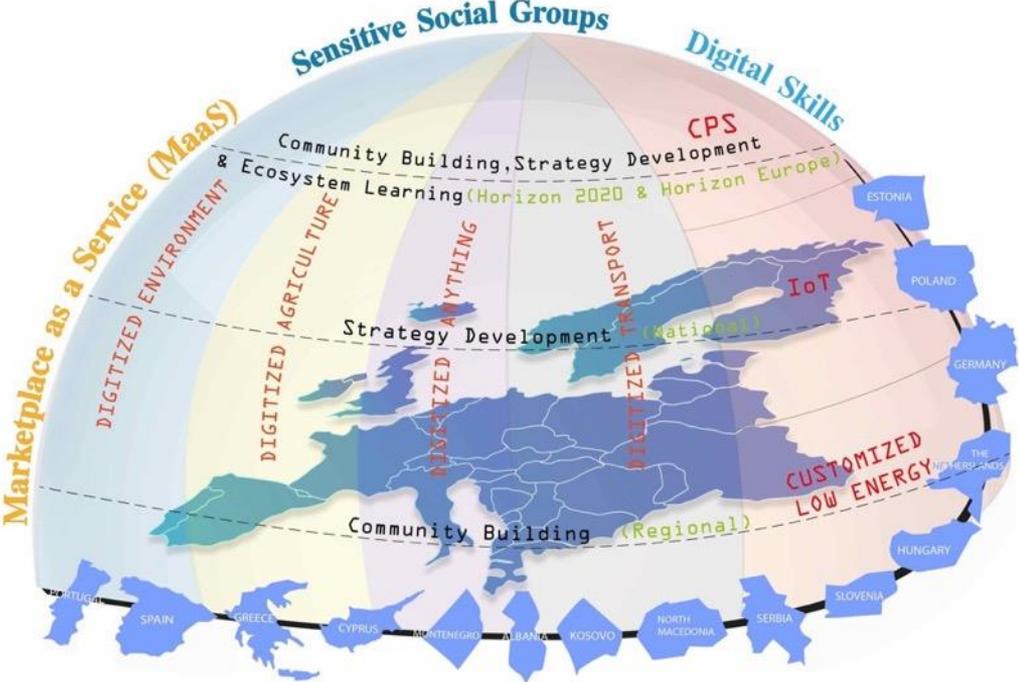
Task Forces

- **Five Task Forces:** One for each thematic pillar + SME Task Force
- Groups of 3-4 partners both at supply and demand side

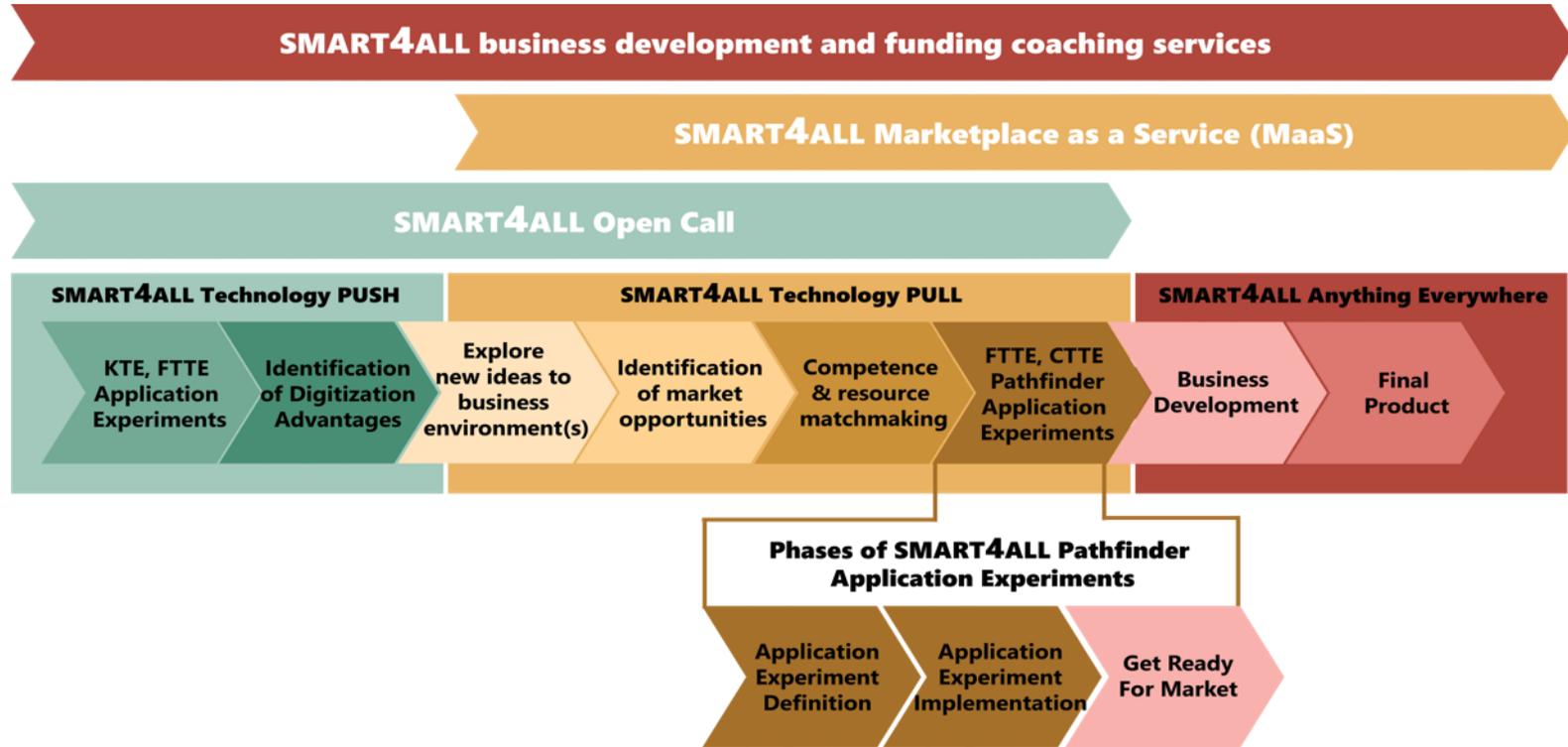
Digitized Transport Task Force (DTTF)	Digitized Agriculture Task Force (DAgTF)
Leader: DLR Members: TalTech, PUT	Leader: ATB Members: REZOS BRANDS, FTN
Digitized Environment Task Force (DETF)	Digitized Anything Task Force (DATF)
Leader: S&C Members: PSP, MTU	Leader: BME Members: UPZ, MARGARITA.VTC, UPV
SMEs Task Force (STF): SEEU (Leader), AVN, MAR, DPN, RP	

SMART4ALL Overview

Targets South, Eastern and Central Europe



SMART4ALL Overview



Open Calls – Introduction and Expected Schedule

SMART4ALL will identify **67 (External) Pathfinder Application Experiments (PAEs)** through **3 Types of Open Calls** with 3 deadlines each of them, addressing the prioritized verticals (Digitized Transport, Digitized Agriculture, Digitized Environment and Digitized Anything).

PAE Type	Call 1	Call 2	Call 3
<i>Knowledge Transfer Experiments (KTE)</i>	M3	M15	M27
<i>Focused Technology Transfer Experiments (FTTE)</i>	M6	M18	M30
<i>Cross Domain Technology Transfer Experiments (CTTE)</i>	M12	M21	M33
<i>Number of Beneficiaries</i>	43	12	12

Application Experiments

PAEs

Pathfinder Application Experiments

KTEs

Knowledge Transfer Experiments

Funding: 8K Euros
Type: Internship

FTEs

Focused Technology Transfer Experiments

Funding: 80K Euros
Type: Project

CTTEs

Cross-domain Technology Transfer Experiments

Funding: 80K Euros
Type: Project

- **Internal:** 21 FTE (vertical) will be developed by SMART4ALL
- **External:** 67 KTEs/FTEs/CCTEs will be developed via open call funding

SMART4ALL Open Calls

Opening-Closure	Funding amount per Consortium	Organisation type eligible for Funding	Single Company or Consortium	Technology	Sub-Tech	Application Domain	Other important Aspect
1st call (KTE): 15/04/20 - 15/07/20 (may be extended)	8 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System integrators 	Consortium (2 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - 1 Staff Member of Academic/Industrial organisation to move to another Academic/Industrial one - SEE region prioritised - Solutions to Covid-19
2nd call (FTTE): 30/06/20 - 30/09/20 (may be extended)	80 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System integrators 	Single company or Consortium (1-3 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - Focused Technology Transfer (Ex. Development of a compression algorithm; Development of a hardware accelerator for image processing, etc) - SEE region prioritised - Solutions to Covid-19

SMART4ALL Open Calls

Opening-Closure	Funding amount per Consortium	Organisation type eligible for Funding	Single Company or Consortium	Technology	Sub-Tech	Application Domain	Other important Aspect
3rd call (CTTE): 01/12/20 - 01/03/21	80 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System Integrators 	Consortium (3 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - Cross-Domain Technology Transfer (Ex. A compression algorithm with adequate adaption/enhancement is used in wireless communication for medical purposes; a HW accelerator is integrated and used in surveillance or medical or ambient assisted living environments purposes) - SEE region prioritised
4th call (KTE): 01/03/21 - 01/06/21	8 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System integrators 	Consortium (2 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - 1 Staff Member of Academic/Industrial organisation to move to another Academic/Industrial one - SEE region prioritised

SMART4ALL Open Calls

Opening-Closure	Funding amount per Consortium	Organisation type eligible for Funding	Single Company or Consortium	Technology	Sub-Tech	Application Domain	Other important Aspect
5th call (FTTE): 30/04/21 - 31/07/21	80 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System integrators 	Single company or Consortium (1-3 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - Focused Technology Transfer (Ex. Development of a compression algorithm; Development of a hardware accelerator for image processing, etc) - SEE region prioritised
6th call (CTTE): 01/09/21 - 01/12/21	80 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System Integrators 	Consortium (3 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - Cross-Domain Technology Transfer (Ex. A compression algorithm with adequate adaption/enhancement is used in wireless communication for medical purposes; a HW accelerator is integrated and used in surveillance or medical or ambient assisted living environments purposes) - SEE region prioritised

SMART4ALL Open Calls

Opening-Closure	Funding amount per Consortium	Organisation type eligible for Funding	Single Company or Consortium	Technology	Sub-Tech	Application Domain	Other important Aspect
7th call (KTE): 01/03/22 - 01/06/22	8 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System integrators 	Consortium (2 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - 1 Staff Member of Academic/Industrial organisation to move to another Academic/Industrial one - SEE region prioritised
8th call (FTTE): 30/04/22 - 31/07/22	80 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System integrators 	Single company or Consortium (1-3 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - Focused Technology Transfer (Ex. Development of a compression algorithm; Development of a hardware accelerator for image processing, etc) - SEE region prioritised

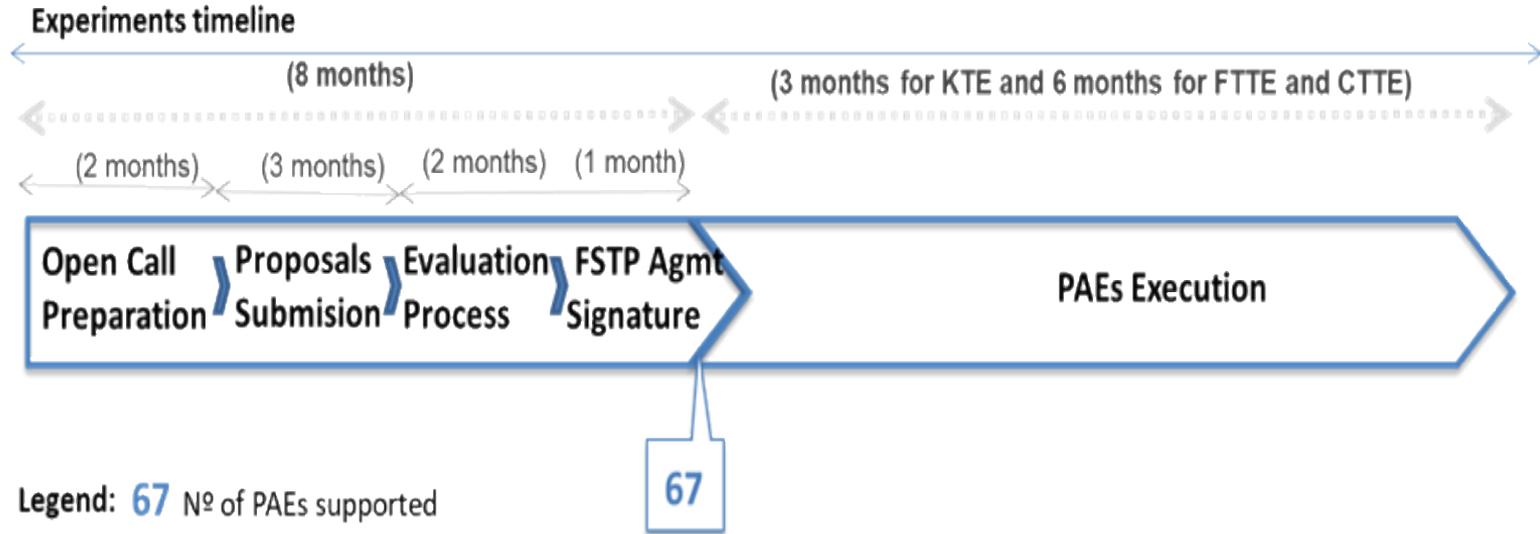
SMART4ALL Open Calls

Opening-Closure	Funding amount per Consortium	Organisation type eligible for Funding	Single Company or Consortium	Technology	Sub-Tech	Application Domain	Other important Aspect
9th call (CTTE): 01/09/22 - 01/12/22	80 k€	<ul style="list-style-type: none"> - Industrial entities (SMEs/Slightly Bigger Companies) - Academic Institutions - System Integrators 	Consortium (3 partners, 1 Industrial leader compulsory)	CLEC	<ul style="list-style-type: none"> - CPS - IoT 	<ul style="list-style-type: none"> - Digitized Transport - Digitized Environment - Digitized Agriculture - Digitized Anything 	<ul style="list-style-type: none"> - Cross-Domain Technology Transfer (Ex. A compression algorithm with adequate adaption/enhancement is used in wireless communication for medical purposes; a HW accelerator is integrated and used in surveillance or medical or ambient assisted living environments purposes) - SEE region prioritised

Open Calls - Funding

- **2,2 Million Euros** will be available for funding the 67 third party Application Experiments via open calls
- BTU is in charge of third party funding (Open Calls)
 - Funded consortia will sign contracts with BTU
 - BTU will control the money transfer process
- **The funding process will be monitored by:**
 - SMART4ALL Steering Committee

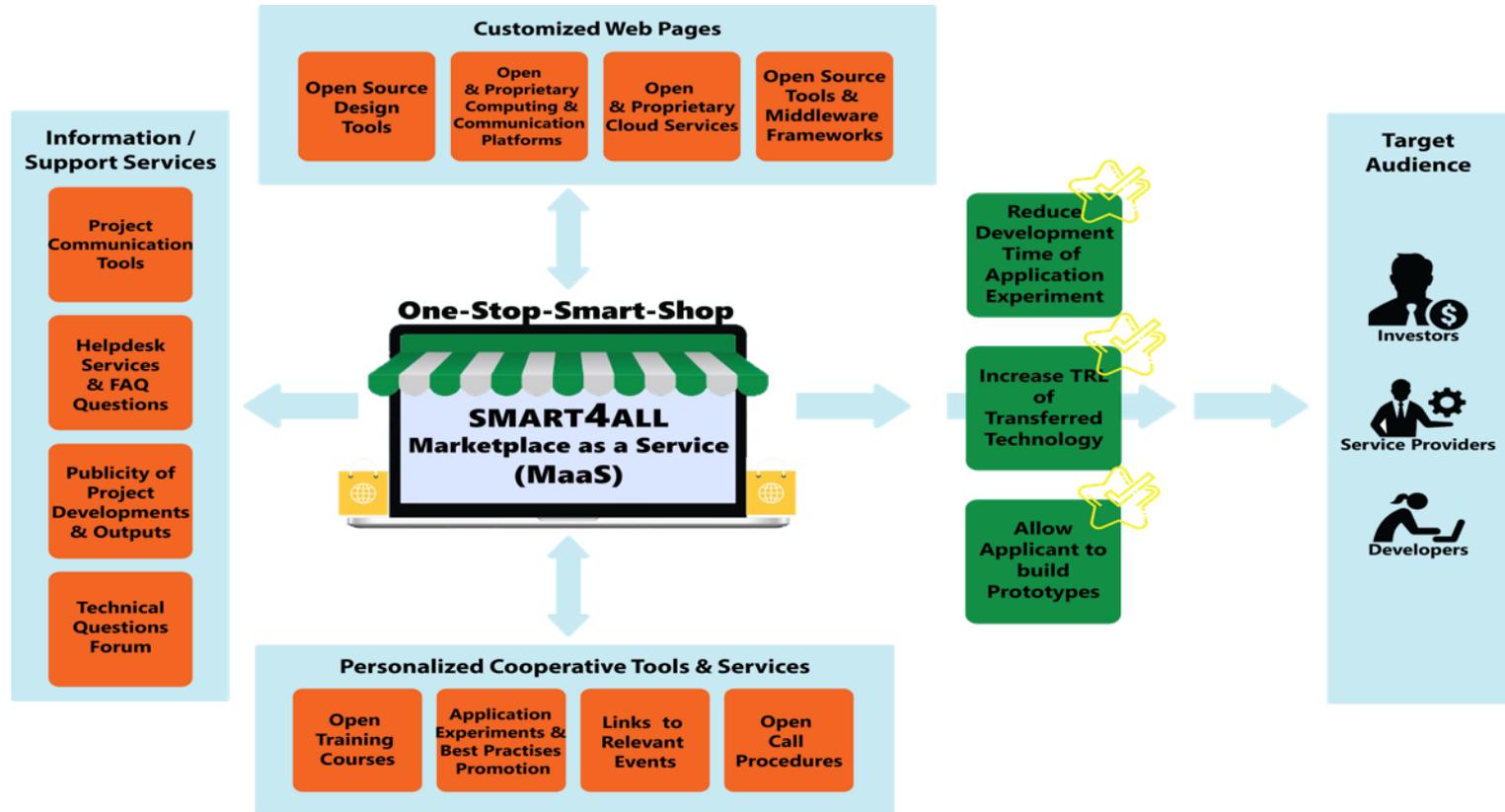
Open Calls - Timeline



Marketplace as a Service Concept is one the cornerstones/flagships of SMART4ALL

- **What is it ?** A novel one-stop-smart-shop for experts and non-expert third parties seeking (open-source mainly) ICT technologies
- **What is its main target ?** reduce the development time of an startup /SME/mid-cap that is doing business in one of the four SMART4ALL thematic areas
- **Unique selling point:** AI based match-making and collaboration activities will be hosted in the MaaS

SMART4ALL Marketplace



SMART4ALL Marketplace



Filters

Domain Category Type License

SEARCH

Artifacts

<p>Object Recognition Service Docker container</p> <p>v1.0</p>	<p>OVFsim simulator Virtual machine</p> <p>v1.0</p>	<p>Business Development Document</p> <p>v2.0</p>	<p>Flight Simulator Virtual Machine</p> <p>v0.3</p>
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Match Making

Describe Your Entity... Describe Your Needs... Get Your Match!!!

Check out the following artifacts...

<p>Object Recognition Service Docker container</p> <p>v1.0</p>	<p>OVFsim simulator Virtual machine</p> <p>v1.0</p>
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SMART4ALL Website

<https://www.smart4all-project.eu>



SMART4ALL Management Tool

The screenshot shows the 'Overview' page in the OpenProject management tool. The interface includes a left sidebar with navigation options like Overview, Activity, Work packages, Backlog, Calendar, News, Wiki, Members, Documents, Budget, Meetings, and Project settings. The main content area is divided into several sections: 'Project description' with an 'Edit' button, 'Members' listing team members and a '+ Monitor' button, 'Project details', 'Latest news', and 'Work package tracking' which provides a summary of task, milestone, phase, feature, epic, user story, bug, and project work package counts.

The screenshot displays the 'Gantt chart' view in the OpenProject management tool. It features a table of work packages on the left and a corresponding Gantt chart on the right. The table lists tasks with IDs and subjects, such as 'MCU Cable Estimation', 'Raspberry Cluster Dimensions', and 'APPLICATION PROGRAMMING INTERFACE (API)'. The Gantt chart visualizes the duration of these tasks on a timeline from 2019 to 2020, with bars representing task periods and dependencies between them.

ID	SUBJECT
43	MCU Cable Estimation
44	Raspberry Cluster Dimensions
45	MCU Flow Charts
46	1st Integration (SLAM)
47	1st Integration (MCU)
48	Cart Images from Super Market
49	Specific Products Selection for Cloud Infrastructure
50	Finalized Cloud-Localization System
51	Specific Products Selection for Routing
52	Design Time Routing Tool
53	APPLICATION PROGRAMMING INTERFACE (API)
54	1st Level Mapping
55	2nd Level Mapping
56	Deliverables Subversions

FBOX - Open Call Submission Portal

★ 1	Applicant's main contact*	Fill
2	Legal information (Optional)	Fill
★ 3	Information on partner no. 1: academic partner (or SME in well justified cases only)*	Fill
★ 4	Information on partner no. 2: industrial partner (preferably SME)*	Fill
★ 5	TTX key data*	Fill
★ 6	Description of the TTX*	Fill

One academic partner (publicly funded, university/polytechnics, or research organisation) or SME (in well justified cases only) based in an EU member state or in a country associated to HORIZON2020 transfers a particular novel HW or SW technology in the domain of Customized Low- Energy Computing (CLEC) for cyber-physical systems (CPS) and the Internet of Things (IoT) to a receiving industry partner (privately funded, preferably SME or other for-profit company (mid-cap, large industry) from a different EU country. The receiving partner adopts and deploys this technology to enable improved products or processes (e.g. by gains concerning product cost, performance, or power consumption). Thereby, the technology receiver will achieve innovation and measurable impact, e.g. in terms of increased revenue or newly created jobs.

Apply now

Value Chain Oriented and Interdisciplinary TTX calls

Mid-term (10-12 months) application experiments will be implemented between three or more partners (in case a multidisciplinary collaboration is needed) from at least two different EU member states and/or countries associated to HORIZON 2020.

For instance, a university acts as a technology provider and intends to transfer a novel CLEC technology to a manufacturing company as a technology receiver, together with training, services, and documentation, etc. as necessary. The technology receiver intends to experimentally use the new technology in order to enable improved products, processes, or services, thus acting as an OEM and early technology adopter (preferably SME or other for-profit company (mid-cap, large industry). In case, the developed technology could be generalized and applied to other industries as well, another specialized partner could engage as a "catalyst" (not competing with the technology receiver; preferably SME, or other for-profit company (mid-cap, large industry)) to extend the value chain by productizing and maintaining the technology, e.g. in the form of customizable software tools, hardware IP and/or professional services, so as to serve a much broader market.

Apply now

Thank you for your attention - Questions?

