



Water Resources System **S**afe **O**perating **S**pace in a Changing Climate and Society

'International Collaboration in Horizon Europe'

Tuesday, 16 May 2023,

Partner no1 – IIASA

- Laxenburg (near Vienna), Austria
- International research institute that advances systems analysis to inform the design of policy solutions
- Water Security Research Group specialized in hydrological and hydro-economic modelling and stakeholder engagement tools to provide a holistic understanding of the coupled natural-human water system.
- Role: Project coordinator, Leading WP7&8 and T1.2, T2.6, T5.2, T5.4, T6.3



Partner no9 – EUTEMA Research Services

- Vienna, Austria and Tübingen, Germany
- Proposal Consultancy, Writing, Project Management, Communication & Dissemination
- 20+ years of experience, 30+ projects, currently 4 projects in the fields of Medical Research, Energy and Environment
- **Georg:** Reporting, Monitoring, WP lead
- **Silvia & Nicole:** Social Media, DISS & MNG Support





SOS-Water Consortium

11 partners:

Partner	Country
Internationales Institut für Angewandte Systemanalyse (IIASA)	AT
Universiteit Utrecht (UU)	NL
Universitat Politècnica de València (UPV)	ES
Politecnico di Milano (POLIMI)	IT
Leibniz-Institute for Freshwater Ecology and Inland Fisheries (IGB)	DE
EAWAG	CH
FutureWater SL (FW)	ES
GeoEcoMar	RO
Southern Institute for Water Resources Planning (SIWRP)	VN
Eutema Research Services GMBH (EUTEMA-RS)	AT
Aalborg University (AAU)	DK



AALBORG UNIVERSITY
DENMARK





SOS-Water

Funded within Horizon Europe – Cluster 6: Food, Bioeconomy, Natural Resources, Agriculture and Environment

Call: HORIZON-CL6-2021-CLIMATE-01 - Land, oceans, and water for climate action

Topic: Improved understanding, observation and monitoring of water resources availability.

... research studies across a wide range of river basins within and outside Europe should be considered.



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Call: HORIZON-CL6-2021-CLIMATE-01 - Land, oceans, and water for climate action

Topic: Improved understanding, observation and monitoring of water resources availability.

Scope

A comparative assessment of the state-of-the-art integrated river basin models that are currently used for assessing water availability and vulnerability in the context of climate change

Improve accuracy and spatiotemporal resolution of regional scale projections of changes in precipitation, soil moisture, runoff and groundwater availability

Development of techniques, monitoring tools and innovative sensors for advance measurement and calculation of current available water balances and future needs

Development of a long-term observation framework and capacity, in collaboration with the Copernicus programme and GEOSS and any other relevant global observation initiatives



Why Safe Operating Space?

Expected Outcome

Support decision makers defining the **safe operating space** in terms of water quantity and availability



Why Safe Operating Space?

Expected Outcome

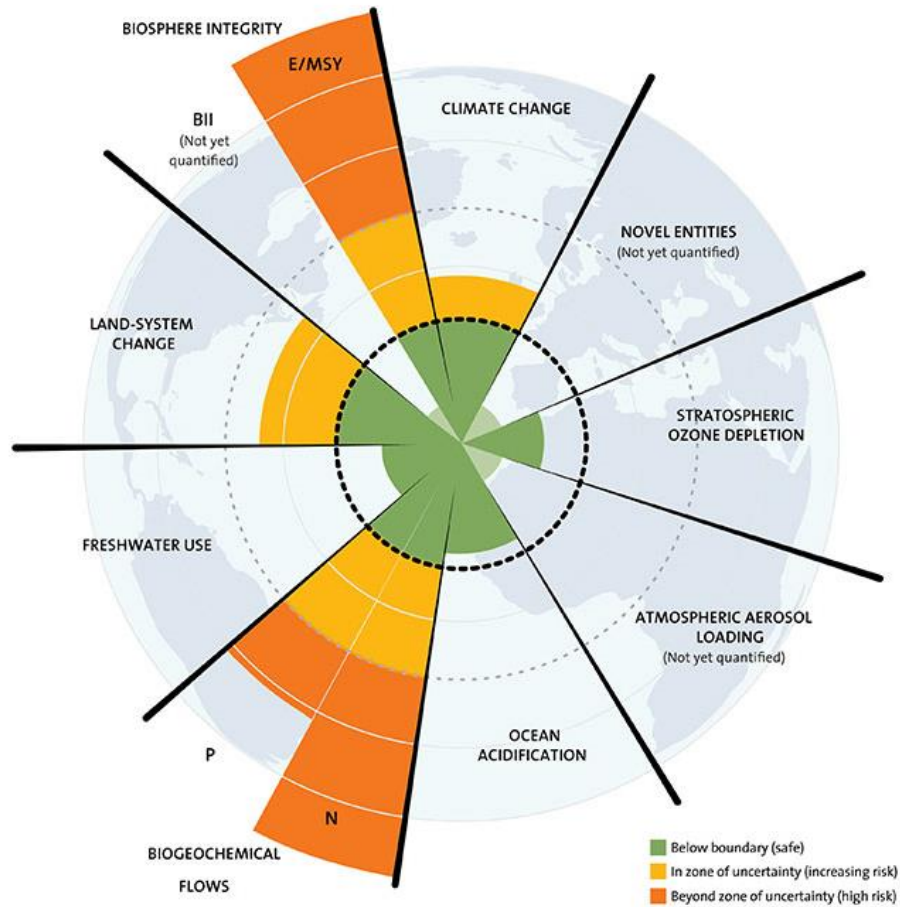
Support decision makers defining the **safe operating space** in terms of water quantity and availability

Main Objective

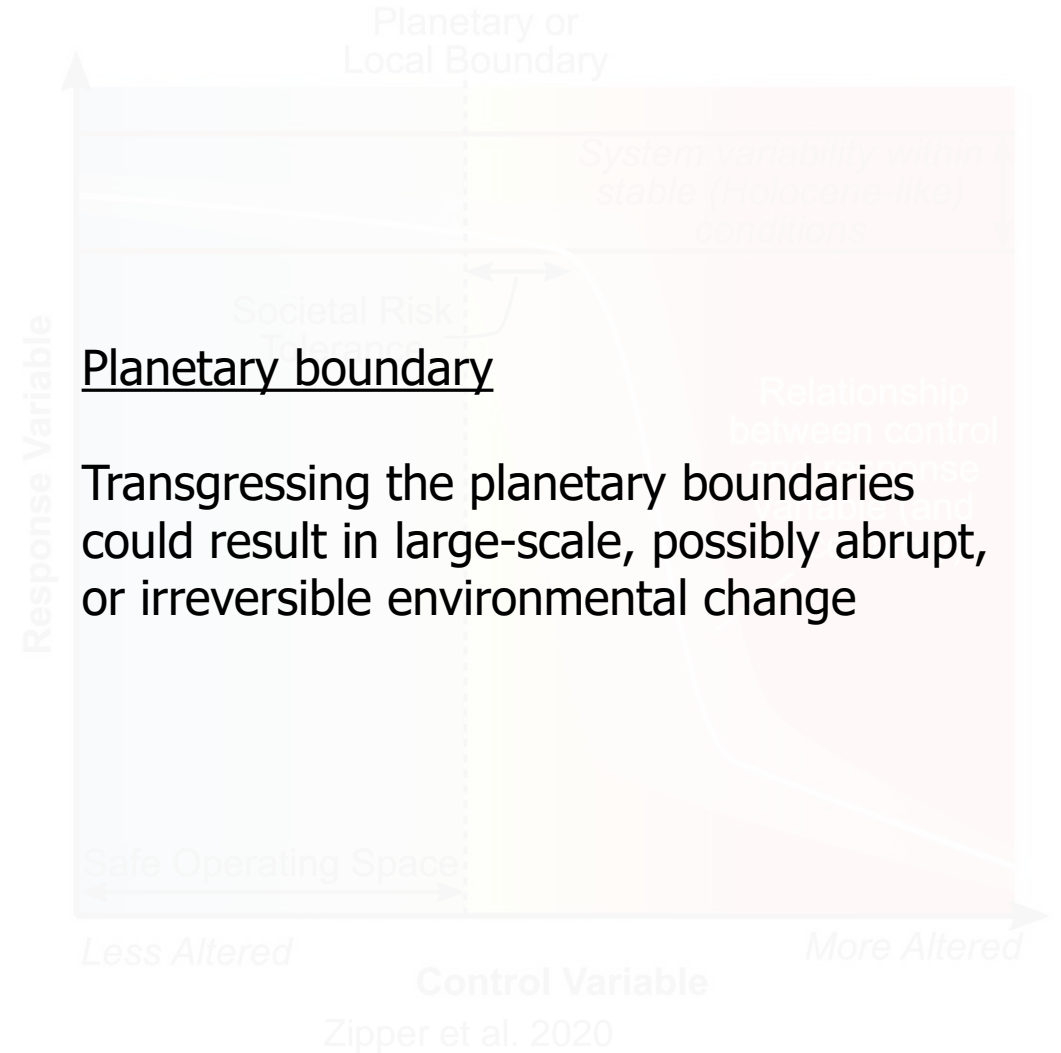
Create the foundation for a holistic and participatory assessment framework of the **safe operating space for the entire water resources system**, accounting concurrently for all relevant water dimensions across multiple sectors and spatial scales under the influence of socio-economic, policy, technological, and climatic changes.



Why Safe Operating Space?

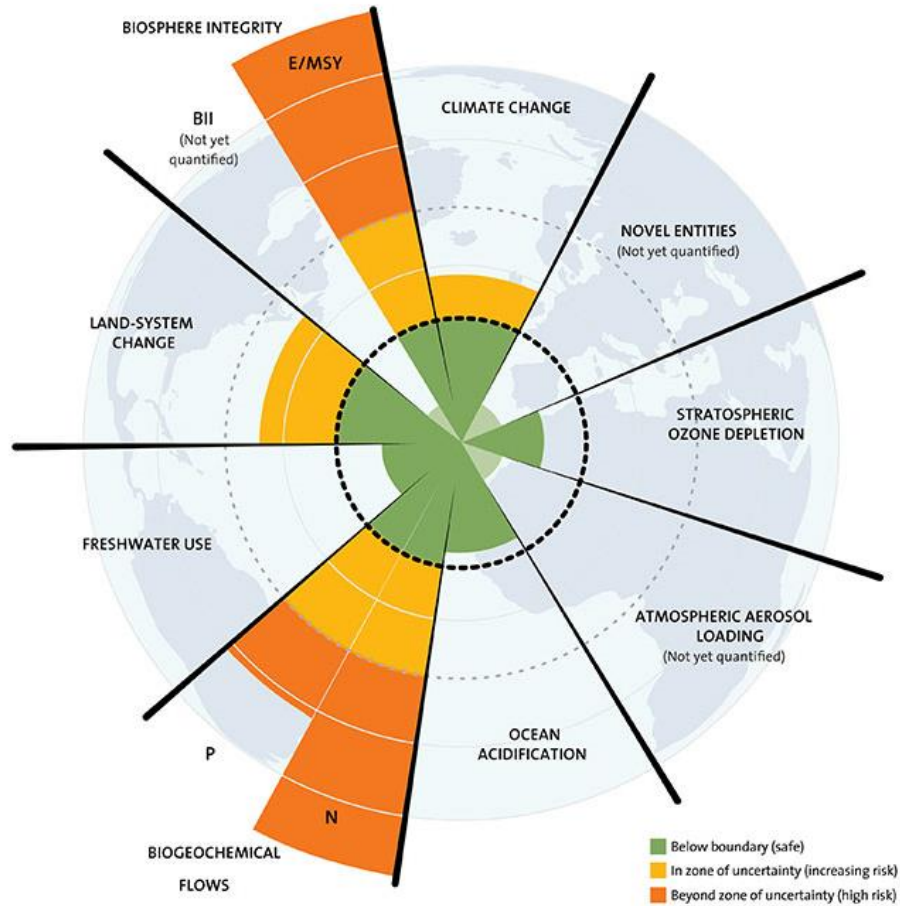


Steffen et al. 2015

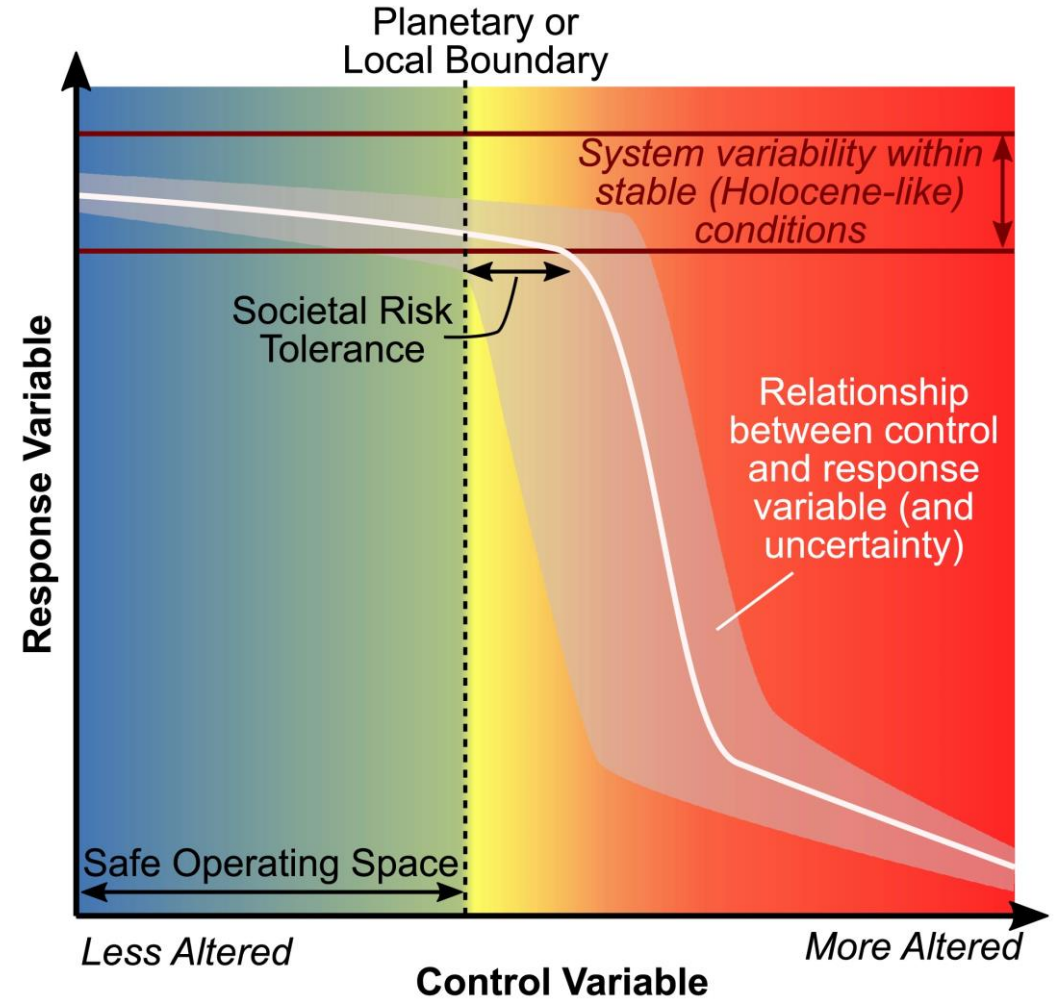




Why Safe Operating Space?



Steffen et al. 2015



Zipper et al. 2020

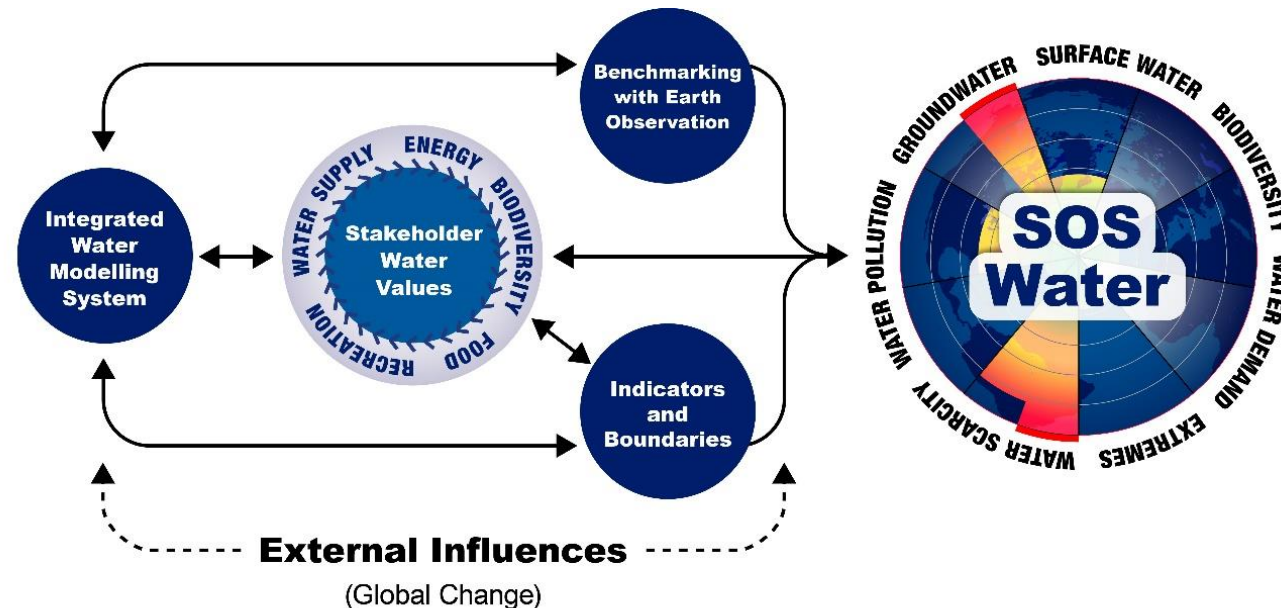


Objectives

SOS-Water aims to **link water modelling tools with local water values**, directly informing

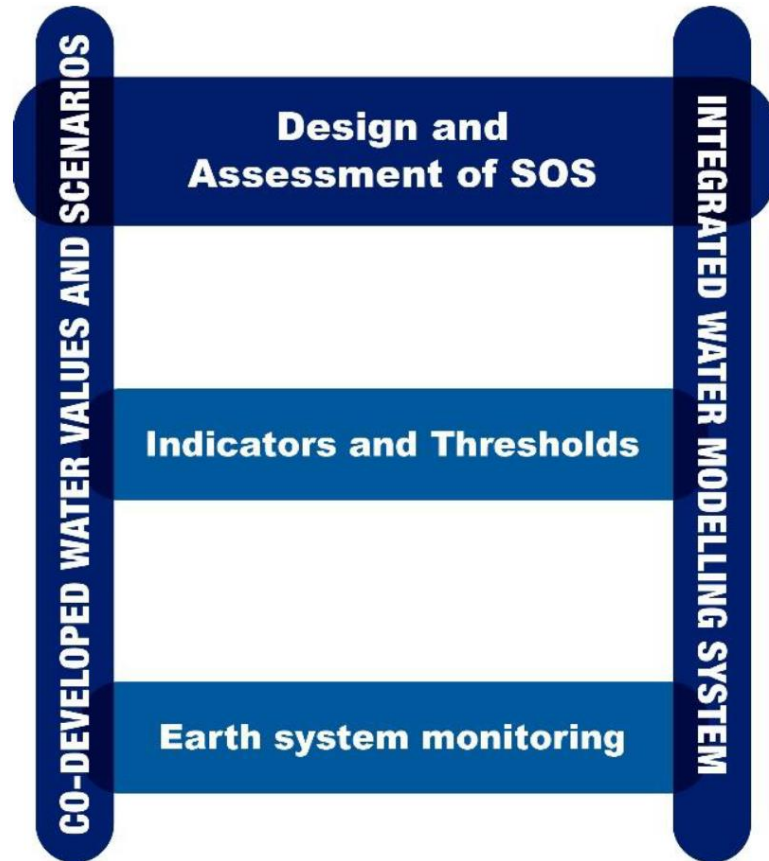
- the identification of **water system indicators**
- the **monitoring process**, and
- **scenarios** with stakeholder knowledge and preferences

to develop the concept of the **water system SOS**





Implementation



WP1 - Link water modelling tools with local water values building on stakeholder knowledge and preferences

WP2 - Advance water system models and establish links between water system models and impact models

WP3 - Identify discrepancies between available environmental information services and information needs for the SOS

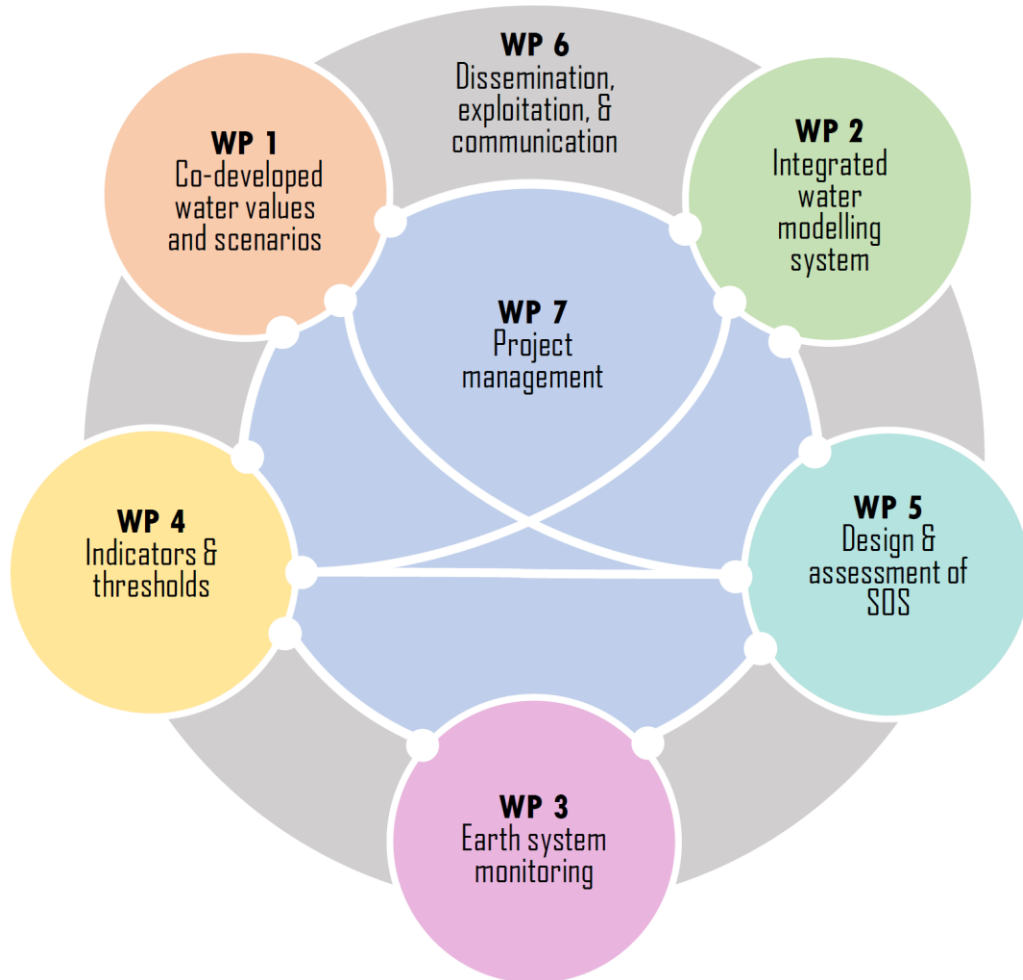
WP4 - Assess state-of-the-art water indicators and build a system of meta-indicators to improve water resources assessments

WP5 - Develop the SOS as a multi-dimensional space of policies and water management pathways across a broad set of scenarios

guided by an effective (**WP6**) DEC process and (**WP7**) project management



Implementation



WP1 - Link water modelling tools with local water values building on stakeholder knowledge and preferences

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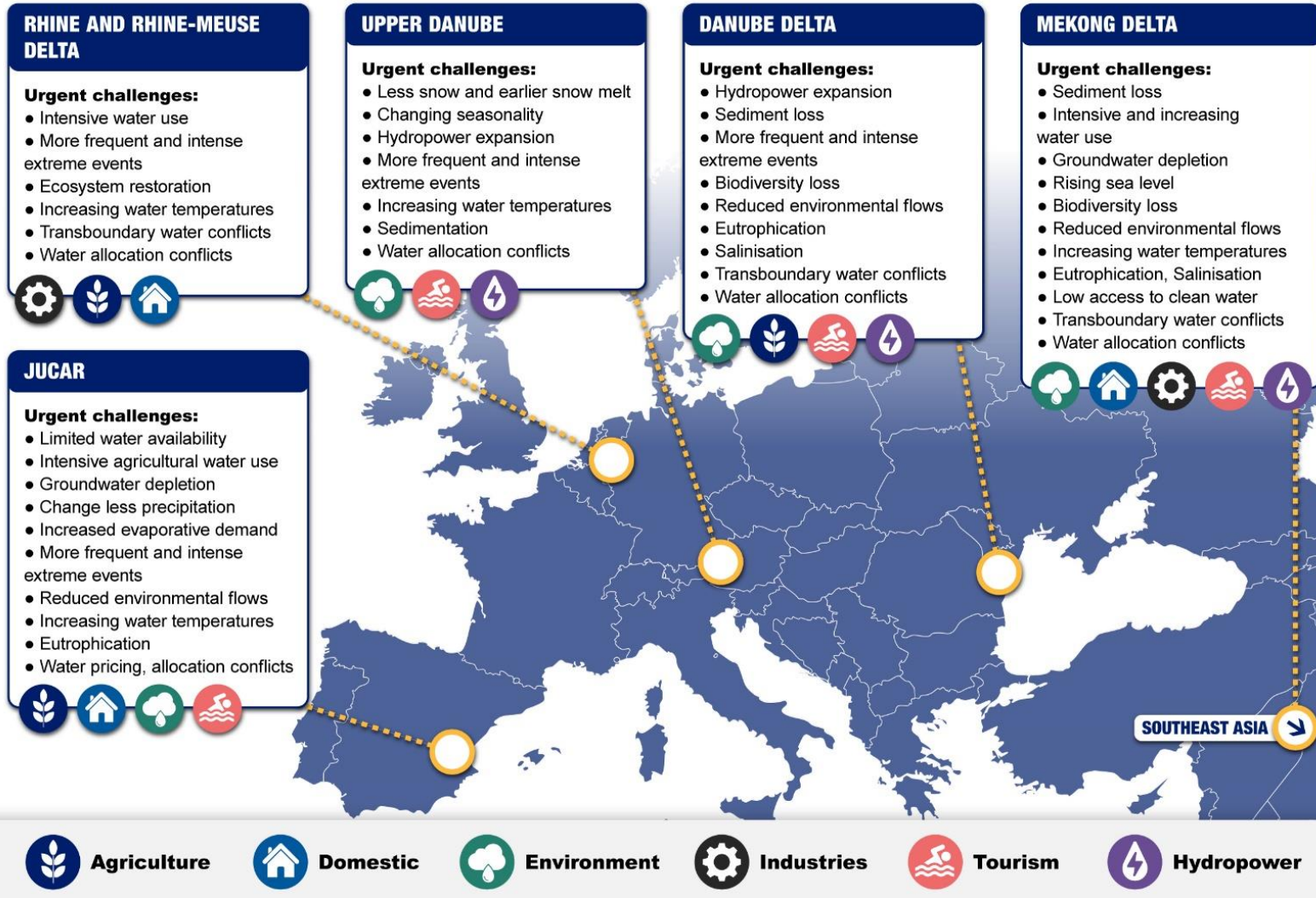
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Implementation – Case studies





Implementation – Timeline

4 years

11 partners

5 case studies

482 person months

7 WPs

22 milestones

27 (+4) deliverables

	Lead	Year 1				Year 2				Year 3				Year 4			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
WP1: Co-developed water values and scenarios	IGB																
T1.1: Development of stakeholder engagement roadmaps and problem-framing	IGB																
T1.2: Co-creation of future water scenarios including local stakeholder water futures	IIASA																
T1.3: Modelling current distributions of local water values and projecting	IGB																
T1.4: Identification of stakeholder preferences	IGB																
T1.5: Co-creation of local management pathways with stakeholders towards water system SOS	IGB																
T1.6: Review and refinement of the SOS-framework and spatially optimised management plans	IGB																
<i>Milestones</i>																	
WP2: Integrated water modelling system	UU																
T2.1: Improved water use modelling	POLIMI																
T2.2: Advancing state-of-the-art WSMS and linking with regional IMs	UU																
T2.3: Linking WSMS with IMs to model water values	IGB																
T2.4: Benchmarking IWMS	UU																
T2.5: Historical and business as usual simulations	UPV																
T2.6: Simulations under intervention scenarios	IIASA																
<i>Milestones</i>																	
WP3: Earth system monitoring	EAWAG																
T3.1: Monitoring data inventory and database creation	EAWAG																
T3.2: Improved EO applications	EAWAG																
T3.3: Basin-scale EO data integration	FW																
T3.4: Copernicus/GEOSS evolution	EAWAG																
<i>Milestones</i>																	
WP4: Co-design of indicators and thresholds	UPV																
T4.1: Assessment of current indicators and identification of indicator gaps	UPV																
T4.2: Definition of innovative indicators to cover the gaps identified	UPV																
T4.3: Development of a framework to build systems of indicators	POLIMI																
T4.4: System of indicators for the case studies	UPV																
<i>Milestones</i>																	
WP5: Design and assessment of SOS	POLIMI																
T5.1: SOS Evaluation	POLIMI																
T5.2: Analysis and synthesis of SOS	IIASA																
T5.3: Uncertainty and robustness analysis	POLIMI																
T5.4: Reconciling SOS across scales	IIASA																
<i>Milestones</i>																	
WP6: Dissemination, exploitation, and communication	EUTEMA																
<i>Milestones</i>																	
WP7: Project management and coordination	IIASA																
<i>Milestones</i>																	



EPIC

EU-Pacific Partnerships for ICT RDI

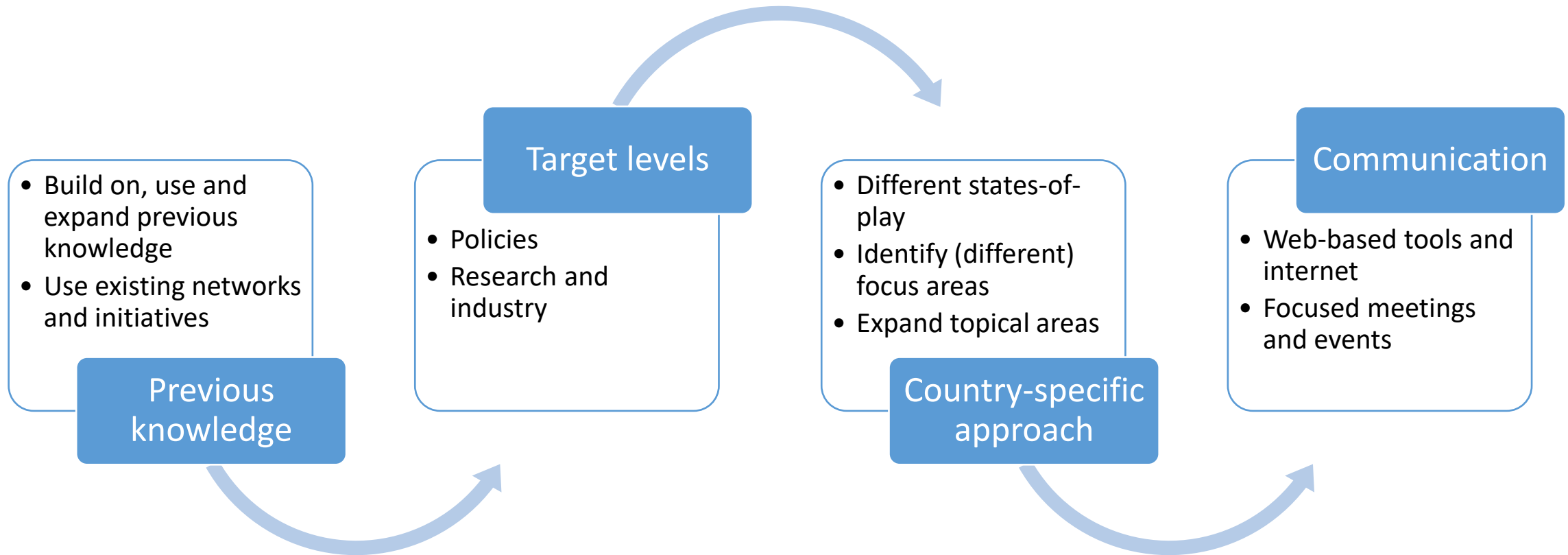
Georg Melzer-Venturi, eutema

Main objectives

The main objectives of the project are:

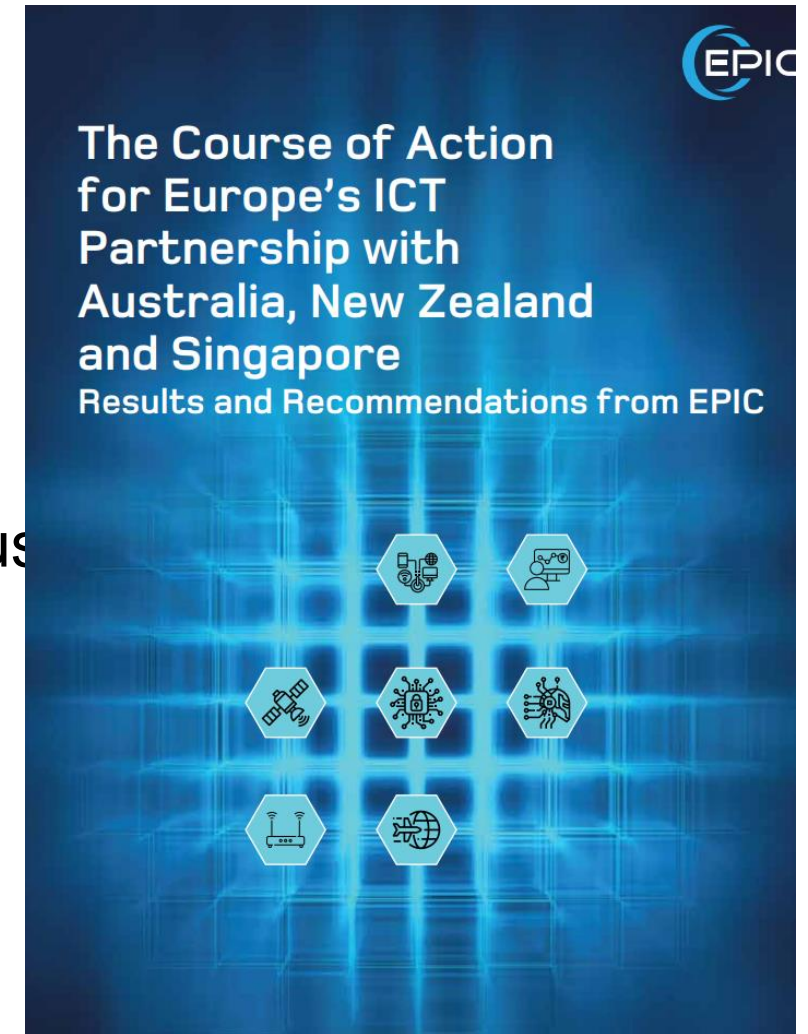
- Identify, update and detail 3rd country programs, common R&D priorities and future cooperation opportunities
- Develop recommendations for improved cooperation
- Organizing and supporting **events** that are synchronized with dialogue meetings and contribute to increase their focus and visibility
- **Reinforce industrial cooperation** on ICT research and development through improved networking activities
- Support EU organizations/individuals in **accessing third country programs**
- Establish linkages with EC programs and initiatives and with MS/AC programs
- Widely disseminate the objectives and results of the project among relevant stakeholders through a carefully designed dissemination strategy

Overall Approach



Project outputs

- **Increasing RTDI collaboration between EU and SG**
- priority research topics list for collaboration for EU-AU, EU-NZ, EU-SG
- research-related workshops or seminars in the focus topics
- create a roadmap for stronger cooperation
- <https://www.eutema.com/wp-content/uploads/2020/03/EPIC-Course-of-Action-Report.pdf>





Enabling the exploitation of Insects as a Sustainable Source of Protein for Animal Feed and Human Nutrition

[Fact Sheet](#)[Results in Brief](#)[Reporting](#)[Results](#)[News & Multimedia](#)

Objective

Food security is a global challenge. Within the overall increased demand for food, and particularly meat production, there is also an urgent need to increase supply of protein from sustainable sources. The principle objective of the international and multidisciplinary PROteINSECT consortium is to facilitate the exploitation of insects as an alternative protein source for animal and human nutrition. Advances have been made in rearing of insects for incorporation in animal feed in countries including China and Mali. The consortium brings together expertise in these countries together with European insect breeders and feed production companies in order to optimise systems and set up pilot scale production facilities in the EU. The project will demonstrate the feasibility of the use of insect-derived proteins in animal feed through trials with fish, poultry and pigs. Quality and safety along the food chain from insect protein itself, to incorporation in feed and ultimately human consumption of insect-protein reared livestock, will be evaluated. The use of waste streams that focus on animal rather than plant material for insect rearing will be examined. To optimise the economic viability of the use of insect proteins, uses for the residual flows from the production system will be determined. Life cycle analyses will enable the design of optimised and sustainable production systems suitable for adoption in both ICPC and European countries. Key to uptake is ensuring that a regulatory framework is in place and this will be encouraged by the preparation of a White Paper following consultation with key stakeholders, experts and consumers. PROteINSECT will build a pro-insect platform in Europe to encourage adoption of sustainable protein production technologies in order to reduce the reliance of the feed industry on plant/fish derived proteins in the short term, and promote the acceptance of insect protein as a direct component of human food in the longer term.

Project Information

PROTEINSECT

Grant agreement ID: 312084



Closed project

Start date

1 February 2013

End date

30 April 2016

Funded under

FP7-KBBE

Overall budget

€ 3 879 739,91

EU contribution

€ 2 946 537



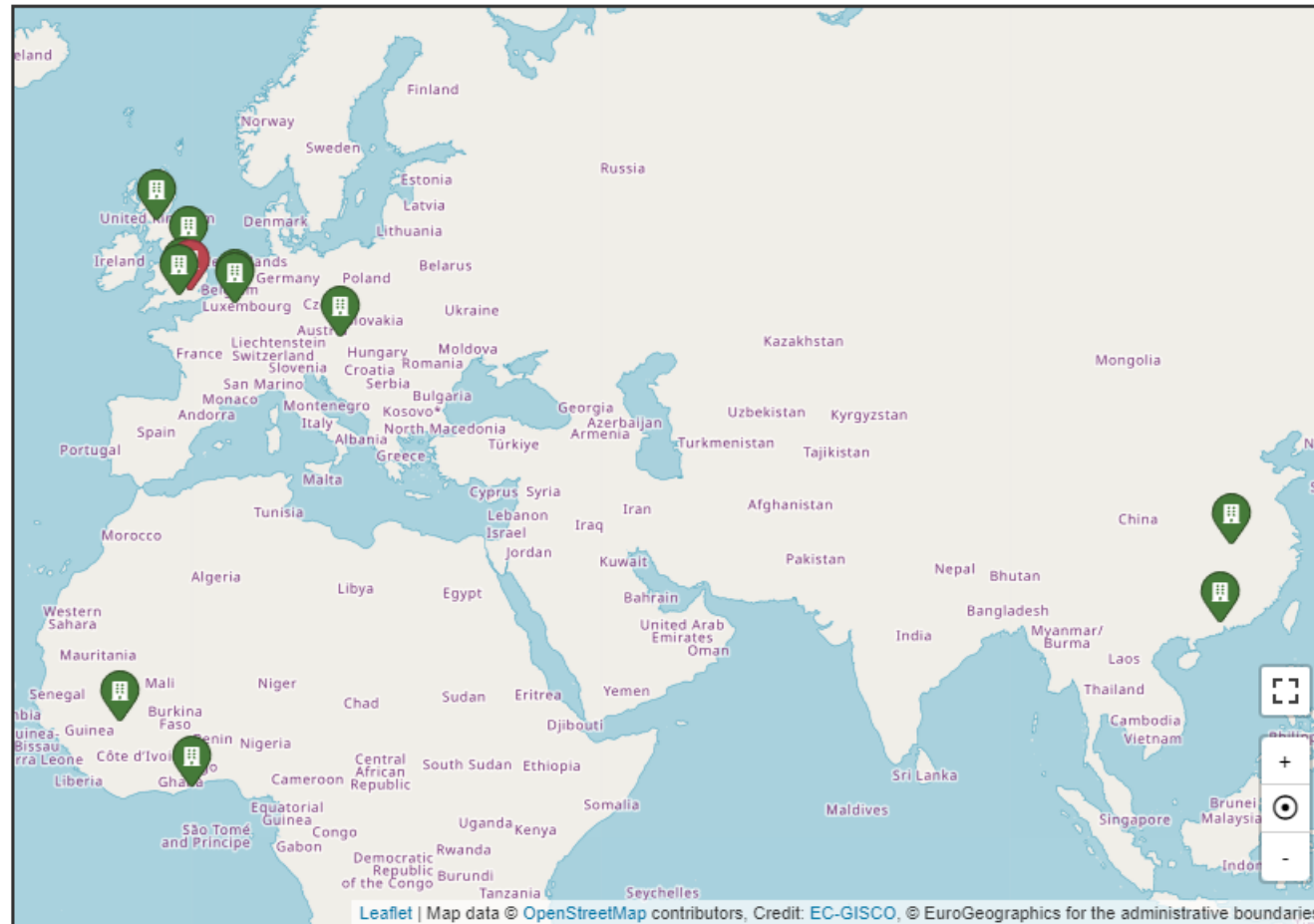
Coordinated by

FERA SCIENCE LIMITED

United Kingdom

Funding Scheme

CP-FP-SICA - Small/medium-scale focused research project for specific cooperation actions dedicated to international cooperation partner countries(SICA)



... but how do I do it....?

- Examples:
- **Safe, Resilient Transport and Smart Mobility services for passengers and goods (HORIZON-CL5-2023-D6-01)**
- Infrastructure-enabled solutions for improving the continuity or extension of Operational Design Domains (ODDs) (CCAM Partnership)
- <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl5-2023-d6-01-03;callCode=HORIZON-CL5-2023-D6-01>

Proposed actions for this topic are expected to address all of the following aspects:

- Improve the availability of real-time information beyond the reach of vehicle on-board sensors by developing and demonstrating system, data and service architectures for Digital Twins for road transport infrastructure.
- Remove the discontinuity of the GNSS positioning signal in challenging road environments such as urban canyons and canopies, tunnels, mountainous areas and northern latitudes. Actions should develop approaches to improve the robustness and reliability of the positioning information by local positioning services, landmarks, modules, new procedures and redundancy processes etc.
- Develop novel solutions for the management of and navigation through road works and incident sites for CCAM enabled vehicles, making such high-risk zones much safer for road users (including vulnerable road users), but also for road workers and rescue organisation personnel. Advancing CCAM from information only to services with automated actions requires cooperation in higher classes (“agreement seeking” according to SAE J 3216^[9]). Safe and secure communication, transfer learning, distributed data processing as well as tools and enablers for improving the vehicles’ capabilities of coping with infrastructure imperfections (such as sub-standard infrastructure maintenance) are expected to be addressed. Furthermore, harmonised local traffic management measures at road works and incident sites to support their safe navigation should also be addressed.

Proposed actions should advance the infrastructure-enabled solutions for ODD continuity and/or extension to TRL 6/7 on the way towards (pre-)deployment as an important contribution to large-scale demonstration actions^[10]. EU-wide/global harmonisation is key in this action, enabling broad uptake of services in the common single market and paving the way towards coordinated deployment of necessary infrastructure support for CCAM. Potential needs for standardisation or input for future regulatory action should be identified. Proposed actions should build on NAP (National Access Points) and a Common European Mobility Dataspace to ensure alignment with existing framework.

In order to achieve the expected outcomes, international cooperation is encouraged, in particular with **Japan and the United States** but also with other relevant strategic partners in third countries.

This topic implements the co-programmed European Partnership on ‘Connected, Cooperative and Automated Mobility’ (CCAM). As such, projects resulting from this topic will be expected to report on results to the European Partnership ‘Connected, Cooperative and Automated Mobility’ (CCAM) in support of the monitoring of its KPIs.

Specific Topic Conditions:

Partner search announcements

27

Searches of partners to collaborate on this topic

[View / Edit](#)

LEARs, Account Administrators or self-registrants can publish partner requests for open and forthcoming topics after logging into this Portal, as well as any user having an active public Person profile.

RISC SOFTWARE GMBH

[Organisation](#)
[Contact](#)


The non-profit RTO RISC Software GmbH conducts research in neural networks, fuzzy algorithms and machine learning methods (in combination with visual analytics and big data technologies). RISC has participated in EU projects (eg Platform Zero, MetaFacturing, Boost 4.0), national funding projects (eg nARvibrain, MEDUSA), as well as worked with clients such as Shell, EADS, RHI, Magna, voestalpine, FILL, DS Automotion, TRUMPF or ÖBB (www.risc-software.at).

Organisation type	Research Organisation	Type of request	Expertise offer
Country	 Austria	Request date	02 May 2023
Status	Published		

NUROMEDIA GMBH

[Organisation](#)
[Contact](#)


Nuromedia GmbH is a German software engineering & multimedia company with more than 15 years of experience in national and EU funded projects. Our team offers competences like software engineering, gamification, 2D/3D animation, UI/UX design, AR, MR & VR development, smart city, 5G, IoT, big data, digital twin and machine learning/AI. Our industry focus is Health, Energy, Telecommunication, E-learning, Education, Industry 4.0, Agriculture, Automotive. Contact info: anush.hayrapetyan@nuromedia.com

Organisation type	Small or medium-size enterprise	Type of request	Expertise offer
Country	 Germany	Request date	12 May 2023
Status	Published		

REMEDIA ITALIA SRL

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ReMedia Group is a communication agency with a strong expertise in the field of Science and Research. It has a long experience in the design of traditional and digital contents and tools that support all the activities performed in the field of Outreach & Dissemination, Marketing & Digital Communication. The agency has a solid experience in video production and shooting, 3D modelling, web development as well as in the e-learning domain both in content and in platforms development and management.

Organisation type	Small or medium-size enterprise	Type of request	Expertise offer
Country	 Italy	Request date	09 May 2023
Status	Published		

EFESTO

[Organisation](#)
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EFESTO develops sustainable 0 emissions pure electric and hybrid power trains for the marine, aerospace and automotive industry producing Vehicle Control Units with an integrated GSM GPS system for monitoring fleets in real time, software, inverters, auxiliary generators, electric motors, and high voltage battery packs. Efesto can provide a tech centre for application demonstrations for testing development of new products and providing end user use cases demo vehicles www.efesto.fr

Organisation type	Small or medium-size enterprise	Type of request	Expertise offer
Country	 France	Request date	10 May 2023
Status	Published		

Knowledge Pixels AG

[Organisation](#)
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We are a startup working on a revolution of scholarly communication by applying the FAIR principles not just to data but also to research findings (materials/diseases/people/etc.) and their contexts (communities/studies/equipment/reviews/etc.). We can increase your project's novelty with cutting-edge semantic technology (nanopublications) and first-hand FAIR expertise (our co-founder Tobias Kuhn contributed to and co-authored the FAIR principles). Contact us at: tobias@knowledgepixels.com

Specific Topic Conditions:

Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B.

[1] A digital twin is a virtual representation that serves as the real-time digital counterpart of a physical object or process, in the context here a virtual representation of road transport infrastructure.

[2] <https://www.inframix.eu/>

[3] <https://www.transaid.eu/>

[4] <http://www.maven-its.eu/>

[5] “Physical and Digital Infrastructure (PDI), connectivity and cooperation enabling and supporting CCAM”

[6] “European demonstrators for integrated shared automated mobility solutions for people and goods”

[7] CCAM Partnership, Strategic Research and Innovation Agenda 2021-2027, December 2021, <https://www.ccam.eu/>, Lessons Learned from completed projects: <https://connectedautomateddriving.eu/projects/lessons-learned/>, Horizon Europe Work Programme 2021-2022, Climate, Energy and Mobility, *European Commission Decision C(2021)4200 of 15 June 2021*.

- Objectives
- Expected Impact
- Consortium
- Liaison

DID YOU MISS THE INFRAMIX FINAL EVENT?

ALL MATERIAL IS ONLINE!

 This project has received funding from the European Union's Horizon 2020 research and innovation programme under



F I N A L E V E N T

26 May, 2020

Project coordinator

AustriaTech – Gesellschaft des Bundes für
technologienpolitische Maßnahmen GmbH
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IMPRINT

February 7th, 2020

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Interview to Mohamed Berrazouane

Occasioned by the recently published paper entitled as "Analysis and initial observations on varying penetration rates of automated vehicles in mixed traffic flow utilizing sumo." [...]

February 6th, 2020

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How do I get in?

1. Contact
2. Offer help
 1. For FREE
3. You need to show that you are a reliable partner
4. only then will you be an attractive partner



SOS-Water

Thank you!

DI Georg Melzer-Venturi

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Web: www.eutema-research.eu

LinkedIn www.linkedin.com/company/sos-water/

