Open Call Topic Proposal

SHORT TOPIC NAME
Generic Traceability Component

1 - SPECIFIC CHALLENGE

1.1 Problem and business need

Describe the challenge from a user point of view to be addressed by engaging external SMEs for a 6-month period.
Max 600 words

The need of traceability in agriculture domain is well-know and it could be applied in numerous scenarios from simple supply chain monitoring, procurement tracking, crop and food production, insurance, to land registration and payment of services. The main challenge of the existing blockchain-based implementations is that they still suffer from traditional challenges such as a lack of or poor infrastructure, failures of interoperability, and what is most important the ability to easily integrate in an existing farmer system. Blockchain offers independently verifiable data storage and processing capabilities, perfectly suited to multi-stakeholder environments without centralised control/power over the system.

1.2 Interoperability challenge

Identify and describe which systems needs to be made interoperable and by which solutions
Max 600 words

The interoperability and traceability challenge should be addressed by providing the high TRL Systematic traceability blockchain component, which is already well tested and used in commercial services. The component should implement DEMETER defined semantic model, documented step-by-step integration manual and expose service online which in few steps could lead to integration of the component with any agri-food vertical.

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2 - TOPIC JUSTIFICATION Why is that type of solution important to the DEMETER's ecosystem? Map the topic to the DEMETER project objectives. Max 300 words
Demeter ecosystem strives to provide multi-stakeholder environment with transformative impact in the EC food and agriculture sector. The blockchain tends to disrupt traditional value chain offering new opportunities in this sector. Ability of DEMETER to support such innovation will increase impact and showcase the readiness of the project to provide agile infrastructure and adopt new value models beyond the project lifetime. The components correspond to the DEMETER O3 as it introduced the benefits of data ownership and data traceability to farmers: ***Empower the farmer, as a prosumer***, to gain control in the data-food-chain by identifying and demonstrating a series of new IoT-based, data-driven, business models for profit, collaboration and co-production for farmers and across the value chain, leading to disruptive new value creation models.

3 - TOPIC REQUIREMENTS

Identify, if necessary, the requirements that need to be met by the solution or SME in order to ensure the interoperability of the SME solution into Demeter's platform.
(E.g. Technology readiness level needed, use of open source, open standards, use of specific programming language, ethics requirements, security requirements, geographical requirements, data management requirements, intellectual property rights requirements, etc...)

Requirement type	Requirement description	Motivation
Technology readiness level	>6	The technology should showcase already mature technology
Source code availability (Open source, etc..))	Open Source blockchain platform	
Standards (Open standards, etc..)	Standards for document creation and management, electronic signature etc: PaDES/XaDES/eIDAS etc.	Ability to work with documents not only data
Programming language	Open API required, along with Software Development Kits / Libraries for at least 3 of the most popular programming languages: JavaScript, Python, C#, Java, React, Angular, Swift	

Ethics		
Security	Provably Banking-grade	
Geographical	Based in Europe	
Data management	Built-in data storage and querying features, without requirement for translation/middleware layer	
Intellectual property rights	Open source	
Other(s)	REST API interfaces Possibility to deploy private blockchain if needed, with no scalability issues	To be able to integrate it easily in any deployment

4 - DELIVERABLES

The supported SMEs will be engaged with DEMETER for a 6-month period of time, divided by three sprints of two months. At the end of each sprint, there will be an evaluation process based on deliverables. What type of deliverable should be submitted by the SME at the end of each sprint?
(E.g. Presentation; feasibility test, operational test, integration test, deployment test, training session, ...)
Max 300 words

1st Sprint (M2)
Requirements definition

2nd Sprint (M4)
Integration test

3rd Sprint (M6)

Deployment and evaluation in pilots

5 - EVALUATION

Who, within DEMETER, should evaluate the submitted deliverables?

Cluster leads

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6 - RESOURCES PROVIDED BY DEMETER Describe the support activities or components that can be provided to the selected SME(s). E.g. Training, technical support, data sets, infrastructure access, in-site visit, ...	
Support Activity or Component	Within DEMETER, who provides the support or component?
Technical support	WP2 for semantic
Infrastructure access	WP5

7 - EXPECTED OUTCOME Identify the expected result of the SME contribution E.g. Increased precision of ???, reduction in time of ???, Improved efficiency of ???, decreased consumption of ???, minimization of ???
At least 1 functional prototype of a blockchain-based solution for agricultural applications developed (traceability, commodity trading, machinery/vehicles/equipment management, …)

8 - CONTACT	
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