AIBC CHALLENGES

Related to the Open Calls for

- Digitalisation Services & Product Development
- Project Proposals

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15K EUR

SERVICES & PRODUCT DEVELOPMENT

Opens in May 2023
Deadlines:
(1) Sept 2023
(2) Jan 2024

Activities targeted by the call:

- Technology transfer
- Use of infrastructures
- Proof of Concept (PoC)
- Business model development
- Innovation development services
- Resilience continuity plans

300.000,00 EUR → 150.000,00 EUR cut-off → up to 15.000,00 EUR

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Topics addressed by the call (I)

Macro-challenge	Challenge/topic description	
1 Sustainability and Green manufacturing using AI and Blockchain (linked to environmental impact)	1.1 How AI/BC can enable / support the demonstration of CO2 consumption/emissions for environment friendly products (i.e. in view of a certification, to be more competitive for clients)	Manufacturing Energy
	1.2 Data analysis predictive e prescriptive maintenance manufacturing.	Manufacturing
	1.3 Reduce production generated waste and limit the environmental impact of production-processes. i.e. by enhancing of personnel-awareness; improving traceability processes of products; make a constant control of the end-of-life, and a resilient green transition.	Manufacturing Energy Logistics
	1.4 Process efficiency to reduce energy consumption, possibly with the introduction of innovative robotisation systems. Among the greatest issues to face are: energy costs, lack of qualified staff, robotisation process of companies, develop tools for processing polymeric materials with new parameters.	Manufacturing Energy
2 Blockchain applications to support transactions	2.1 Enabling and disintermediating complex payments and/or the exchange of values and services, through the use of blockchain technologies.	All: Manufacturing, Energy, Logistics, Mobility
	2.2 Notarisation of documents and transactions, certifying the time-stamp, in order to favour the service-conversion and the certification. Avoid counterfeiting and ensure the recognition of credits and rewards.	All: Manufacturing, Energy, Logistics, Mobility
	2.3 Documentation management: concerning the goods, the driver and the vehicle transporting them, as well as the recipient.	Logistics
	2.4 Intellectual property management: register and protect intellectual property such as patents, trademarks and copyrights.	Manufacturing

TOPICS ADDRESSED BY THE CALL(II)

Macro-challenge	Challenge/topic description	
3 Identify the sources of inefficiency and take corrective actions through Blockchain / AI	3.1 Blockchain as a tool to record and monitor production activities and products quality in order to support companies to identify problems as quickly as possible and take corrective actions promptly.	Manufacturing Energy
	3.2 In order to create an immutable and transparent record of logistics and transportation, blockchain can be introduced within company procedures to avoid delays or errors in delivery, and take corrective actions promptly when needed.	Manufacturing Logistics Mobility
	3.3 Need to improve traceability methods for manufacturers, retailers and customers, for instance adopting PDA, and favouring the integration, communication and coordination between all the actors.	Manufacturing Logistics
	3.4 AI for automatic suggestion of the set-up parameters referred to the production lines. i.e. algorithms based on the characteristics of the work-order compared to the history of the processes.	Manufacturing
4 Renewable energy sources and smart grid management thanks to AI (machine learning) and blockchain applications	4.1 Integration of electric vehicles in power management platforms for smart grids to progressively include as more subjects and objects as possible in the electric-smart grids.	Energy Mobility
	4.2 Revision of the paradigm of adaptation of the energy production to the energy consumption, part of the consumption must be now adapted to the production taking into consideration the characteristics of intermittent renewable energy sources. I.e. differing some non-priority uses.	Energy

TOPICS ADDRESSED BY THE CALL(III)

Macro-challenge	Challenge/topic description	
5 AI for Optimisation of Logistics paths	5.1 Improving the transport operations, by planning new routes in long-haul international routes, according to ordinary and unplannable delays. Analysis and study of a method able to re-plan a route (when delayed) and minimise the impact of the delay.	Logistics Mobility
6 AI for Smart Mobility and pollution reduction within cities	6.1 Road network maintenance (roads, pavements and signs): how to extract precise information and large amounts of data from different sources and obtain reliable pavement degradation models to allow accurate estimations of the maintenance actions.	Mobility
	6.2 AI to support pollution forecasting, monitoring and modelling for cities, companies, etc.	Mobility

65K EUR

PROJECTS

Opens in May 2023
Deadline: Sept 2023

Activities targeted by the call

- Development of AI / BC prototype solutions for end-users to arrive to the MVP (Minimum Viable Product) stage at least.
- Testing through pilot/demonstrator of new / improved environmentally friendly products, solutions and/or services, using AI and/or Blockchain in the industry of reference.

520.000,00 EUR → up to 65.000,00 EUR x consortium

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TOPICS ADDRESSED BY THE CALL(I)

Macro-challenge	Challenge description	
1 Sustainability and Green manufacturing using AI and Blockchain (linked to environmental impact)	1A Blockchain implementation could improve the efficiency document accountability in all reverse logistics operations- Reverse logistics cover all activities related to the product once it has left its normal life cycle or is to be returned. Due to the further increase of e-commerce, reverse logistics has been more challenging than direct logistics and implies a major expense for companies. Besides, as in every supply chain process, blockchain will improve the manufacturing process and quality control enabling transparency.	Logistics
	1B Data analysis predictive/prescriptive maintenance manufacturing.	Manufacturing
	1C Reduce production generated waste and limit the environmental impact of production-processes. i.e. by enhancing of personnel-awareness; improving traceability processes of products; make a constant control of the end-of-life, and a resilient green transition.	Manufacturing Energy Logistics
	1D The manufacturing business is a dynamic environment, where there is always the possibility to be faster and more precise. With the constant development of technologies, and with their proper adaptation, the manufacturing processes can adapt and improve significantly. - companies need to provide employees a safer and more secure working environment. - Analysis of new parameters to improve the efficiency of manufacturing processes to improve energy consumption.	Manufacturing
2 Blockchain applications to support transactions	2A Enabling and disintermediating complex payments and/or the exchange of values and services, through the use of blockchain technologies.	All: Manufacturing, Energy, Logistics, Mobility
	2B Documentation management: concerning the goods, the driver and the vehicle transporting them, as well as the recipient.	Logistics

TOPICS ADDRESSED BY THE CALL(II)

Macro-challenge	Challenge description	
3 Identify the sources of inefficiency and take corrective actions through Blockchain / AI	3A Blockchain as a tool to record and monitor production activities and products quality in order to support companies to identify problems as quickly as possible and take corrective actions promptly.	Manufacturing Energy
	3B Blockchain can be introduced and improved among company-procedures to create an immutable and transparent record of logistics and transportation, and in order to support companies in better managing warranty claims and intellectual property. This provides support to companies in avoiding delays or errors in delivery, counterfeiting and ensuring the recognition of credits and rewards, and taking corrective actions promptly when needed.	Manufacturing Logistics Mobility
	3C Need to improve traceability methods for manufacturers, retailers and customers, for instance adopting PDA, and favouring the integration, communication and coordination between all the actors.	Manufacturing Logistics
	3D AI for automatic suggestion of the set-up parameters referred to the production lines. i.e. algorithms based on the characteristics of the work-order compared to the history of the processes.	Manufacturing
4 Renewable energy sources and smart grid management thanks to AI (machine learning) and blockchain applications	4A Integration of electric vehicles in power management platforms for smart grids to progressively include as more subjects and objects as possible in the electric-smart grids.	Energy Mobility
	4B Introduction and use of machine learning algorithms to forecast energy demands (i.e. starting from the energy-demands of micro and mini-grids at district scale) and thus to support companies in better managing their energy-flows and costs. Revision of the paradigm of adaptation of the energy production to the energy consumption, part of the consumption must be now adapted to the production taking into consideration the characteristics of intermittent renewable energy sources.	Energy
	4C Management systems integration to allow SMEs to increase the effectiveness of alternative energy installations by making data-driven decisions and optimising the usage of energy. SMEs that have invested in renewable energy installations currently need tools to efficiently manage green energy solutions and be able to make most of it. The support of green transformation of manufacturing SMEs and the effective management of energy sources could be achieved by implementation of smart industrial energy management software to monitor and control the utilities consumption online.	Energy

TOPICS ADDRESSED BY THE CALL(III)

Macro-challenge	Challenge description	
5 AI for Optimisation of Logistics paths	5A Improving the transport operations, by planning new routes in long-haul international routes, according to ordinary and unplannable delays. I.e. to develop a method able to re-plan a route (when delayed) and minimise the impact of the delay.	Logistics Mobility
6 AI for Smart Mobility and pollution reduction within cities	6A Road network maintenance (roads, pavements and signs): extraction of precise information and large amounts of data from different sources and obtain reliable pavement degradation models to allow accurate estimations of the maintenance actions.	Mobility
	6B Since most people in the world will live in cities by 2050, there is a growing need of improving the public transport and taxi drivers at urban level, especially during the "peak times" (as bad weather, football matches, concerts,...) where usually the demand rises while the offer remains the same. To develop an integrated method of machine learning algorithms that allows to map and know where the demand is located (customers that use most the public and private transport services), in order to provide a better service and avoid the use of private vehicles.	Mobility
	6C Pollution forecasting, monitoring and modelling: innovative sensing systems for measuring pollution levels and/or for making projections to support Cities response to the alarming and growing levels of urban air-pollution worldwide.	Mobility
7 Improving company's services and products under a Web3 perspective	7A Improving current company-services, through the development of products and services under a Web3 perspective. Goal: improving companies interested in developing products and services under a new Web3 Perspective.	All Manufacturing Energy Logistics Mobility

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