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Partner search

Date (09-07-2020)

- **Relevant topic in work programme**

LC-GD-5-1-2020: Green airports and ports as multimodal hubs for sustainable and smart mobility

- **Quick description of the project**

AKKA would like to address the following subtopics:

- Airports: Demonstrate low-emission energy use (electrification or sustainable alternative fuels) for aircraft, airports, other / connected and automated vehicles accessing or operating at airports (e.g. road vehicles, rolling stock, drones), as well as for public transport and carpooling, with re-charging/re-fuelling stations and use of incentives;
- Ports: Demonstrate sustainability and innovation beyond energy supply and demand at ports, particularly the integration with green and smart logistics and operations at/to/from ports, energy-efficient buildings, innovative construction, dredging and infrastructure activities, effective and green land use;

More specifically AKKA wants to contribute to the widespread development of carbon-neutral and zero-fatality transport solutions. This can be explored by different type of solutions such as:

- Optimising logistic operations autonomous solutions (container-movers, shuttles, trailers, etc.) This means addressing both the technological developments and their industrialization under the Machinery Directive. The topics cover the autonomous driving system itself, the fleet management, the communication system and the required infrastructure support. System engineering, safety, robotics algorithms development, Front & back end development and validations would be used to produce an innovative and running solution.
- New solutions to optimize powertrains to make them more reliable and cost efficient. This includes current clean energy systems (such as batteries – in line with the European Battery Alliance initiative, and also involving hydrogen technologies), and also smart battery management and charging systems (including new architectures and AI-based prediction tools for optimised energy and equipment management)
- Smart vehicle to grid (V2G) solutions that would optimize the impact of charging electric vehicles on the grid while increasing the share of renewable energy with the inclusion of decentralised production systems. This involves in priority digital technologies (AI, distributed cloud computing, big data) to optimise the power distribution management to balance the loads between vehicle needs and grid constraints.

AKKA would like to collaborate with ports and/or airports that would provide living labs or tests beds.
AKKA would also like to cooperate with (public) transport organisations and OEMs that will implement the technological solutions.

- **Do you intend to apply as ? :**

Participant : Yes
Coordinator : No (but negotiable if needed and depending on the consortium size)

Description of the <u>expertise proposed</u> (up to 1000 characters) - *specify which points of the "expected impact" of the call you are targeting*

With the actions proposed above, AKKA will target the following impact:

- Green airports and ports as multimodal hubs, optimising passenger and freight flows for low emission mobility, in a context of much stricter public health criteria;
- Energy-efficient and green airport and port operations and buildings, green and smart logistics, integration with other low-emission transport modes (in particular rail) and promoting effective modal shifts;

AKKA's expertise can be summarized as follows (key words):

- Smart energy management
- Autonomous systems (robots, cars, drones, etc.)
- Vehicle design and integration
- Data Science (Big Data, AI, Cloud/MEC/Fog Computing)
- Data Privacy and Cybersecurity

AKKA is also a frequent participant in H2020 projects and will leverage results from ongoing/past projects: CLARUS (data privacy), EU-SysFlex (Smart Grids), ELVITEN (e-mobility services), AUTOPILOT (autonomous driving), 5G-MOBIX (connected and automated driving)

Organisation information

Organisation and country:
AKKA Technologies / AKKA Research Business Unit (based in France, Germany and Belgium)

Type of organisation:

■ **Enterprise** ☐ **SME** ☐ **Academic** ☐**Research institute** ☐ **Public Body** ☐ **Other: Association**

Former participation in FP European projects?

■ **Yes** ☐ **No**

Web address:
www.akka-technologies.com

Description of the organisation:
AKKA is a European leader in digital, engineering consulting and R&D services in the mobility segment. Based in Brussels, the group has around 21,000 experts located globally and is a leader in mobility in France and in Germany. AKKA successfully supports a portfolio of prestigious customers in the automotive, aerospace, rail and life sciences sectors thanks to its unique combined expertise throughout the life cycle of their products and cutting-edge digital CASE (Connected, Autonomous, Shared, Electric) related technologies. AKKA has been qualified with conformity certificate ISO 9001 version 2015, EN 9100 version 2016 for its space and aeronautic activities and NF ISO / CEI 27001:2013.

To implement and sustain AKKA's R&D for answering industrial needs of customers as well as societal and environmental challenges, teams are integrated in a multi-site collaborative platform (AKKA Research) that facilitates exchanges and knowledge sharing from all experts coming from the various AKKA sectors of activities across the AKKA Technologies Group. This also ensures coherence, efficiency and share of best practices in the participation in regional, national and international R&D programs.

AKKA has built its reputation in R&D with flagship projects such as the **Link & Go** autonomous car concept that has been presented during the 2015 ITS World Congress in Bordeaux and led to successful business applications (e.g. Rouen autonomous lab with Transdev; Dubai world challenge for autonomous driving with Gaussin...). AKKA is also engaged in the design of radical transport solutions such as the Link & Fly project (https://www.akka-technologies.com/case-study/linkfly-air-transport-of-the-future/), which studies the possibility to combine rail and air transport for smoother and more sustainable transport over long distances.

Contact details

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