



## Expression of interest

### Contact details

Country	TURKEY
Name of the organisation	Lojika Field Labs
Name of the contact	Mehmet Gölhan
Phone	+90 543 377 4905
Email	mehmet.golhan@lojika.net

### Short description of the organisation

*Provide a short description of the equipment available, the relations with the industry, the profile of the main researchers*

Lojika Field Labs is a private SME developing decentralized AI applications to support citizen-private-public sector engagement in mobility and logistics. The company specializes in the large-scale living lab and pilot design and execution. It is currently acting as a coordinator for two Horizon projects and participating in two others. In these projects Lojika provides:

**Large-scale citizen engagement tests/pilots:** Lojika has developed a novel mechanism to combine the data of mobile phone networks and transport companies in living labs, pilots, and test fields. It has successfully executed three pilots with 20,000-30,000 participants. In its new projects, it has designed a 100,000 + citizen engagement model to execute, arguably, the most extensive pilot ever in the transport research domain. Large-scale tests are critical in developing and validating the behaviour engagement, machine learning, social graph, user interfaces, governance, and economic models.

**Economic Modelling:** The high private sector and citizen participation Lojika provides is due to the revenue generation potential it has designed for to the service providers. Lojika is the coordinator of two calls that involve mobile phone networks (Vodafone, A1, Turkcell, Altice, Swisscom) and mobility-related services (Free Now, Avis, Budget, Zip Car, Getir, Mpact, City Mesh, Ericsson and public transport cos.)

**Dynamic Incentive Models:** Lojika has designed a new framework for dynamic incentive model and their governance to support the EU's Urban Vehicle Access Regulations (UVARs). In consultation with POLIS, Corte, Zaragoza Logistics Center, nad IMEC, it has designed several living labs and pilots for dynamic incentives and data-backed policies and regulations to support each other.

**EU Open Data Spaces:** Our approach to engagement provides new data types and network effects to the EU Open Data Spaces. Lojika is partners with IMEC, RISE, AIT, ETH Zurich, and Ericsson who are among the leaders of this domain.

**Living Labs and Pilot Cities:** We designed new concepts for our city partners: Lisbon, Zurich, Vienna, Ghent, Zagreb, Debrecen, Brussels, Istanbul, and Izmir.



## Specific skills related to the project

Based on the expected outcomes in the call document:

- *Outcome: Validated solutions for effective and secure data exchange across all modes of transport, for dynamic and responsive multimodal network and traffic management.*  
Lojika has designed a new framework for the EU Open Data Spaces, working with Ericsson and IMEC to support a radical approach that includes citizen-based vehicles, private sector services, and public services to work towards the same policy objectives.
- *Validated systems for accurate detection and resolution of network bottlenecks, improving safety, security, resilience and overall performance of the transport network, enabling pro-active mobility management.*  
The living lab and pilots described above are designed for large-scale engagement to provide the iterative cycles needed to develop, test, and validate systems that combine behavioural change, dynamic incentives, governance, regulations and revenue models in line with AI and user interfaces.
- *New tools and services for optimising mobility of passengers and freight, in cities and other areas, cutting traffic jams and improving multimodal traffic flows. The proposed solutions should demonstrate (e.g. through simulations, pilots) the potential to reduce by at least 30% the average travel delay, as well as the overall transport energy consumption and emissions of greenhouse gases and other pollutants in the network.*  
The approaches described above is expected to support this outcome.
- *Workable governance arrangements for multimodal transport network and traffic management, in view of further supporting regulatory and policy actions*  
The legitimacy of systems across all stakeholder perspectives can only be done via transparent and clear governance rules. Traditional governance systems will be combined with digitally automated systems, such as the Dutch DAO (Decentralised Autonomous Organisation Models) need to be examined, implemented and tested. Lojika has developed a new framework working with Blockchain and 5G technologies.

## Proposed activities for the project

In our humble opinion the project needs to go beyond the traditional approaches and combine economic modeling, governance, engagement, and technology.



## References

Project acronym / starting date	Main objectives	Main activities	Role in the project
TAG <b>H2020-SMEInst-Phase 2</b> € 2,057,000 Aug 2017 - 2019 Completed	Optimisation and capacity utilisation in heterogeneous mobility	Edge computing based algorithms, coding & developments to support field tests, citizen engagement, economic modeling	<b>Coordinator</b> and single recipient. Algorithmic modelling, AI, coding & developments, field tests, citizen engagement, economic modeling
DynaHUBS <b>H2020-EIC-FTI-2</b> 1,600,000 Aug 2018 -2019 Completed	Improving first and last mile logistics via active citizen participation. Improving resilience, and plasticity of supply chain	Resilience of supply chain with mesh networks to supporting AI based citizen engagement, economic modelling. Coordination of field tests in Stockholm, Amsterdam, Madrid, Brussels, Istanbul.	<b>Coordinator</b> for 5 member consortium. All development and coding. Creation of a new social graph in line with EU's Mobility Open Data Spaces. Conducting tests for resilience in supply chain.
SmartHUBS <b>EN-UAC</b> €2,142,633.00 2021 - Continues	Creation of citizen and community engagement model for next generation multi-model transport hubs. SmartHUBS examines mobility hubs, dedicated on-street locations where citizens can choose from different shared and sustainable mobility options. Urban planning aspect of shared mobility designed by stakeholder consultation that accommodates inclusivity, accessibility and commercial viability.	Development and application of new engagement methodology in Istanbul, The Hague, Brussels, Munich, and Vienna in an approach that combines architectural and data disciplines.	<b>Participant</b> Living lab coordinator. Business modelling, literature research, engagement of vulnerable communities. Application of methodologies in Istanbul for the planning and construction of transport hubs in Istanbul combining digital and architectural elements.



<p>SeatX <b>Horizon-Tubitak joint</b> €400,000 Grant awarded project to <b>start</b> in January 2023</p>	<p>EIC-SMEInst Mesh network architecture and 5G to support data driven regulatory framework, incentive model, citizen and stakeholder engagement working with next generation of Urban Vehicle Restrictions (Uvars)</p>	<p>Reaching 50,000 plus citizens in living lab set up Citizen engagement, data backed policies,</p>	<p><b>Coordinator</b> – and single recipient. Algorithmic modelling, AI, coding &amp; developments, field tests, citizen engagement, economic modelling for %G and corporates.</p>
<p>Sharelivery <b>Austrian National Research Fund</b> €250,000 October 2019 Completed</p>	<p>Supporting the transport network of the City of Vienna with multi model sharing. In Sharelivery shared mobility and logistics offerings are bundled into a single product. This allows an efficient use of passenger and freight transport capacities, a better use of resources and a reduction of emissions. Service offerings (e.g. ride sharing, car sharing, crowd delivery) that were previously only usable separately are now being combined at the software and hardware levels. Multimodality application of social graph and trust relationships in peer to peer transport.</p>		<p><b>Participant</b>, stakeholder coordination. Concept design. Economic modeling, Revenue forecasting,</p>
<p>Seal of Excellence <b>Horizon 2020</b> 2020 and earlier</p>	<p>Lojika received 4 Seals of Excellence from the EIC Accelerator – SME Phase 2 program</p>	<p>Mobility, Resilience, AI, 5G Networks, Economic Incentive Modelling</p>	<p>Coordinator</p>



<p>SwissArmyKnife  <b>Horizon Europe</b>          €7,000,000          Waiting for result</p>	<p>Resillience in transport and telecom systems</p>	<p>New application of decentralised AI, Economic Incentive Modelling, standards. Reaching 100,000 plus citizen engagement.</p>	<p>Coordinator          Participants          ETH -Zurich          IMEC          AIT          AI mobile networks          Turcell 5G          Free Now          Cities: Vienna, Zurich, Ghent, Istanbul</p>
--	---	--	---