

Korea-EU Horizon Europe Researchers Networking Forum on Energy & Advanced Mobility

Davide Andrea Guastella

**Associate
Professor**

**Aix-Marseille
University**

**Artificial Intelligence,
Traffic modeling/simulation**



Introduction



First french university with 80.000 students, 8.000 staff members

It ranks among the top five French universities in the Shanghai ranking



The LIS (Laboratoire d'Informatique et Systèmes) is a multidisciplinary research laboratory focused on computer science

It brings together experts developing innovative solutions in artificial intelligence, robotics, signal processing, data science



2. Expertise

Data-Centric AI Team (IA-CD, LIS)

Strong interdisciplinary expertise at the intersection of AI, data science, and simulation

Core competences include

- Spatio-temporal **data mining** and trajectory analysis
- Time series **prediction and forecasting**
- Data-driven method for **traffic simulation model calibration**



3. Your Project Idea

Targeted call

- improved mobility for people and goods
- resilient, sustainable mobility solutions



International collaboration AMU-ULB



- **HORIZON-CL5-2026-10-D6-10**: Enhanced resilience in multimodal passenger transport through digital technologies and generative and discriminative AI [**Work Programme 2026-2027**]

Main objectives

- AI-based methods to support the design of **traffic digital twins**
- **Simulation-based methods** to support dynamic response to disruptions, risk analysis, and impact forecasting to enhance the resilience of transport systems

Idea briefly explained

Problem: Transport systems are increasingly vulnerable to disruptions, lacking effective tools for real-time risk analysis, impact forecasting, and coordinated emergency response

Solution: Develop simulation-based methodologies to predict, manage, and mitigate disruptions — enhancing system resilience, improving decision-making, and reducing passenger delays.



4. Profile You are Seeking and Why

Partner	Profile	Role
LIS-AMU / IACD Team (France)	Machine learning, traffic simulation modeling and calibration, uncertainty modeling, data fusion	- AI and data analytics expertise for modeling, prediction, and decision-support - Lead or support development of ML-based and simulation-based tools for resilience and disruption management
Universities, Research Centers	Expertise in transport engineering, mobility systems, infrastructure resilience, social and behavioral sciences	- Contribute to model development, transport system analysis, and human factors research - Support validation, impact assessment, and policy-oriented research
Transport Operators	Organizations responsible for managing transport networks and ensuring operational continuity	- Provide domain expertise, operational data, and real-world validation for AI-based tools - Test and assess developed methods in real transport scenarios
Technology Providers	Companies specialized in software development, IoT, simulation, and digital platforms for mobility and data management	- Contribute to technical deployment and system interoperability
Public Authorities	Local or regional authorities responsible for transport policy and crisis management	- Define policy frameworks, support pilot deployments, and ensure alignment with public objectives



5. Contact Details

Davide A. Guastella

Laboratoire d'Informatique et des Systèmes
Campus de Saint Jérôme
52 Av. Escadrille Normandie Niemen
Marseille

davide.guastella@lis-lab.fr

