

# Introduction to 5G-IANA & Open Call rounds

5G-IANA Open Calls' results and feedback: Lessons learnt from start-ups' and SMEs' integration Webinar



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# About 5G-IANA

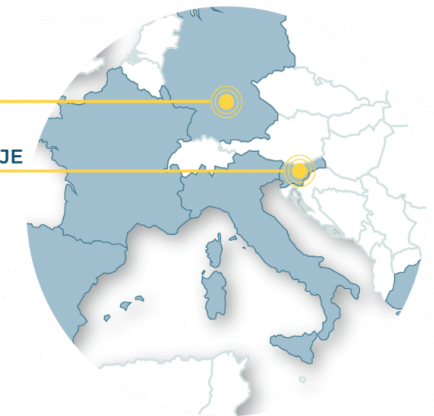


- H2020-ICT-41-2020
- June 2021 to November 2024
- 16 partners from 8 EU countries
  - Out of which **10 are SMEs**
- **3rd party SMEs**
  - **External experimenters through 2 Open Calls**
  - **5 funding-winners**



NOKIA  
Ulm, Germany

TELEKOM SLOVENIJE  
Ljubljana, Slovenia



### 5G-IANA objectives

➢ 5G-IANA has developed and offers:

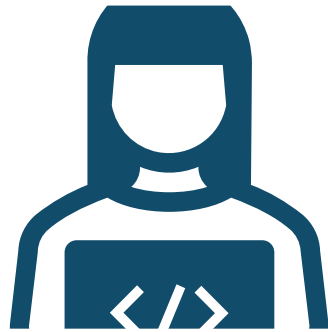
- An Automotive Open Experimental Platform (AOEP) at the disposal of "third parties"
- An open repository environment for network applications and virtual network functions to ease the design & chaining of new automotive-related services of SMEs
- Implemented & trialed Connected and Automated Driving relevant Use Cases to validate and assess the AOEP suitability
- New business opportunities and boosts market for start-ups and SMEs with Automotive network applications

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# External Experimenters in 5G-IANA



<https://diamantisgroup.gr/>

**Open Call #2 funded SME**

- ❑ Video captured locally & **Object detection** performed at **5G-IANA platform**



**Open Call #1 award winner**

- ❑ **High-precision positioning** in a 5G network for centimeter-level accuracy in autonomous vehicles



**Open Call #2 funded SME**

- ❑ **5G-enabled communication** for data to an edge/cloud-based backend system.



**Open Call #2 funded SME**

- ❑ **nApp at the Edge** Enhancing traffic perception and situational awareness with *AI-driven pattern recognition*

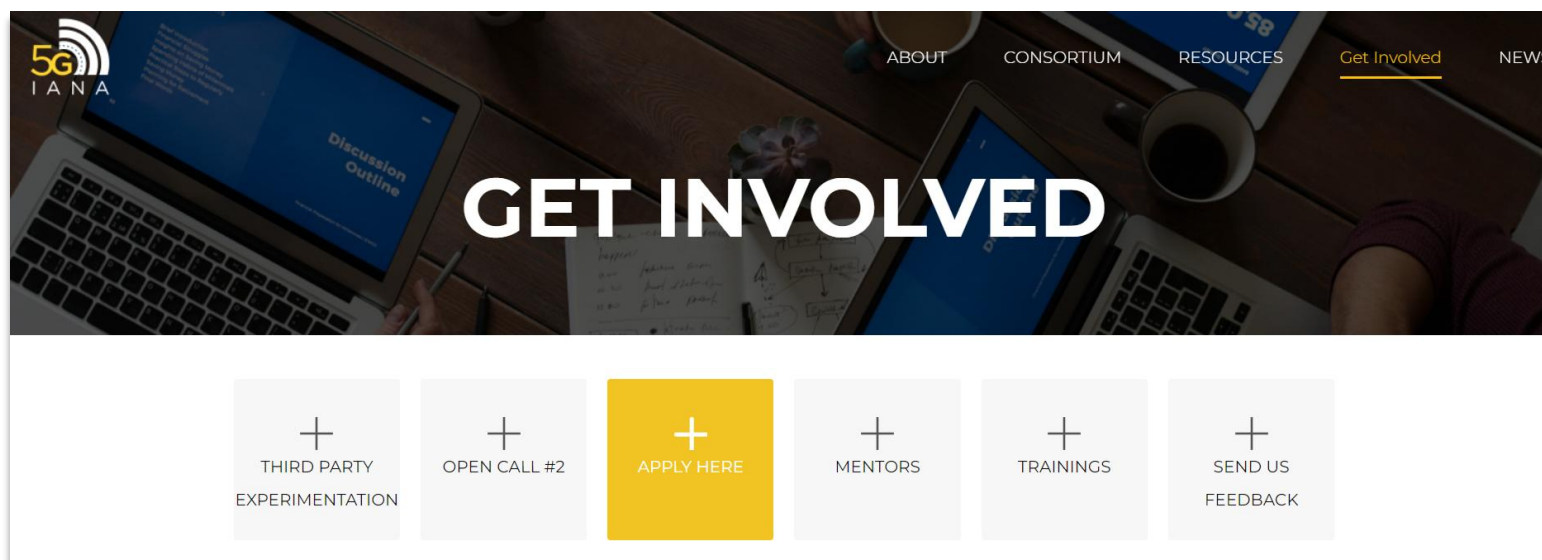


**Open Call #2 funded SME**

- ❑ Autonomous vehicles using **5G-enabled sensors** and a Hyper-sensing kit.



# All the information in **one** place



<https://www.5g-iana.eu/get-involved/>

[www.5g-iana.eu](http://www.5g-iana.eu)

***Thank you for your attention!***

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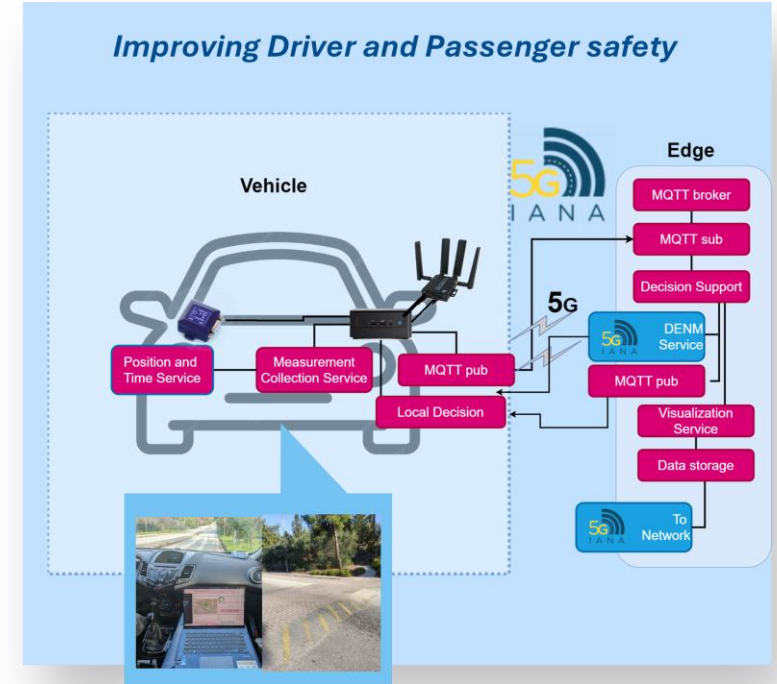
*5G-IANA Open Calls' results and feedback Webinar*

# Road Hazard Detector System

## 5G-IANA Open Call #2



- *Real-time detection and reporting*
  - In-vehicle sensors (gyroscope, accelerometer) detect road hazards
- Proactive alerts to nearby drivers
- **5G-enabled communication** for data to an edge/cloud-based backend system.
  - Data analytics
  - Cost-effective, scalable
  - Easy-to-deploy leveraging 5G
  - Integrating proactive network resource management for CCAM



*AOEP: Integration of the solution as nApp & trial opportunity with real world conditions.*



*Future plans: Interaction/extension with other 5G-IANA nApps, and collaboration with leading research institutes and companies in the field.*



# Gains for platform experimenters



Gain access to a **“canvas” to develop new functions and services** in 5G automotive landscape.



**Test and validate** existing or new services or products or scenarios in **real-time using 5G**.



Gain access to real-life 5G resources (*vehicles, On-Board Units, Road-Side Units, EDGE/MEC Server(s), 5G radio resources*).



*Travel to our 5G testbed sites to conduct your experiments live with our continuous support.*



Get continuous mentorship and support from network and mobility experts.



Explore/Build new business models within the 5G ecosystem.



Gain visibility towards the EU, the 5G community and the automotive community.

# Vins RTK Experiment in Nokia Tech. Center Ulm

## 5G-IANA Open Call #1



- **High-precision positioning:** Integrates Visual Inertial Navigation System (VINS) with RTK in a 5G network for centimeter-level accuracy in autonomous vehicles
- **5G infrastructure:** Utilizes low-latency, reliable connectivity
- **Future potential:** Demonstrated precise performance, providing insights for broader market applications



*AOEP: Enabled demonstration in a real 5G environment, increasing visibility in Europe. Showcased VINS RTK at CES 2024 and Win Eurasia 2024.*



*Future plans: Extending into digital twin projects funded by 6G-SNS, targeting Mobility, Smart Cities, and Precision Farming.*

# 5G for Surveillance with solar-powered battery-equipped cameras (5G-STREAM)

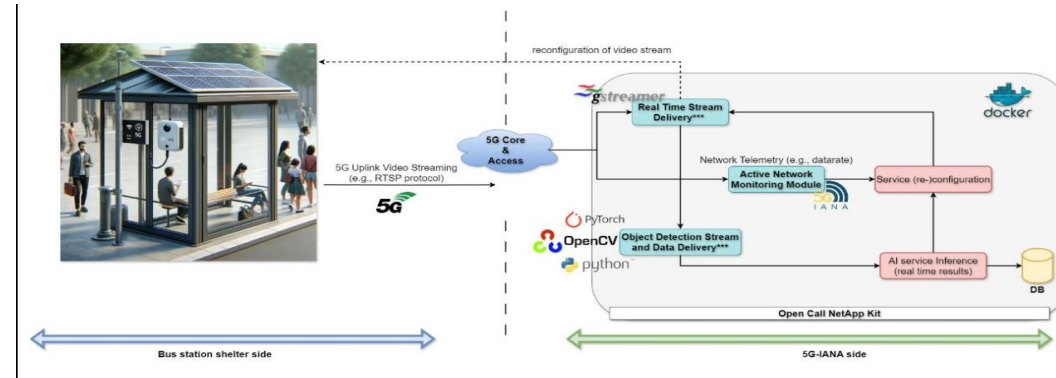
## 5G-IANA Open Call #2



- Remote facility (e.g., bus station shelter) surveillance solution
  - Video captured locally & **Object detection** performed at **5G-IANA platform**
- Evaluating **energy-efficiency** of the proposed approach over local processing
  - **Adjusting stream resolution** affects consumption at the end point



<https://diamantisgroup.gr/>



*AOEP: Enabled demonstration in a real 5G environment of solar-powered module with a camera and 5G connectivity.*



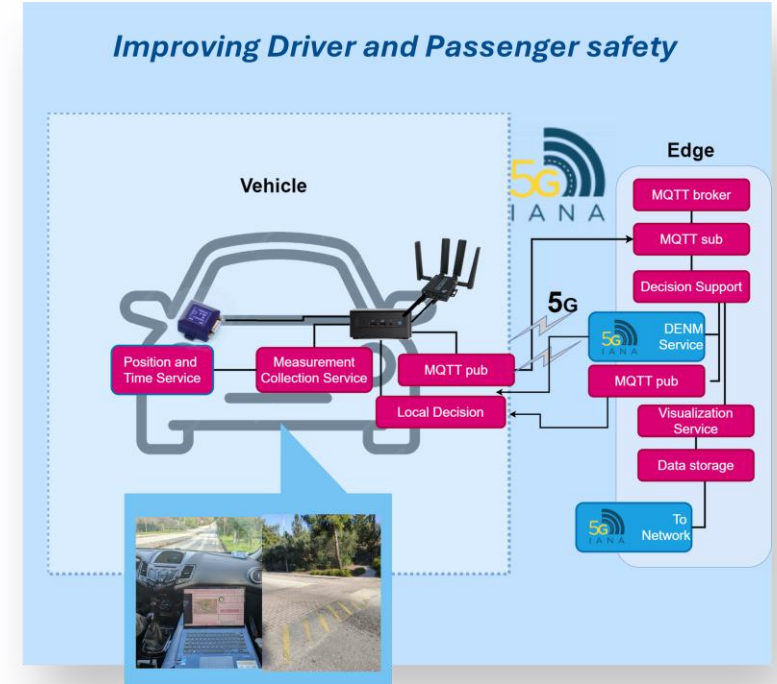
*Future plans: Transform product portfolio from manufacturer of urban equipment into smart connected objects*

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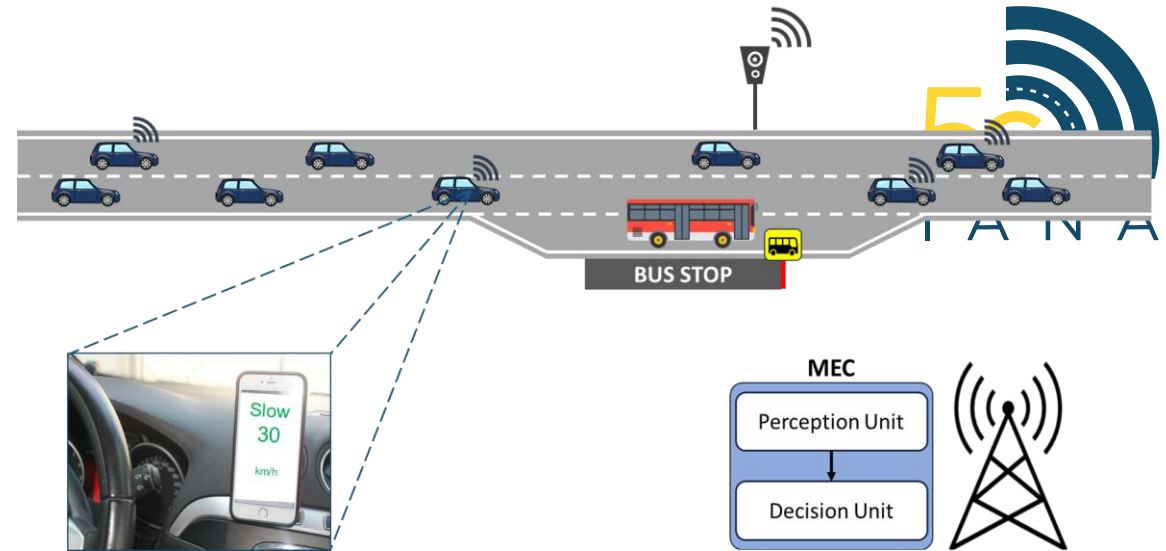
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# LiTO traffic management (Bus Stop use case)

5G-IANA Open Call #2



- **LiTO – Local Intelligent Traffic Orchestrator:**
  - real-time, dynamic driving guidance to improve traffic flow, safety, and driving experience.
- **Smart Guidance:** LiTO uses roadside sensors to generate tactical guidance for vehicles in complex scenarios,
  - ✓ Leverages the 5G-IANA platform for maneuver coordination in automated driving (**UC2**).

- *nApp at the Edge Enhancing traffic perception (perception unit) and situational awareness*
  - → **AI-driven** pattern recognition
- *The decision-making unit: orchestrate vehicle behavior as part of the infrastructure rather than vehicle-based*
  - ✓ analyzes real-time traffic data
  - ✓ makes optimal driving decisions.
  - ✓ selectively communicates tactical driving instructions to vehicles (e.g. speed adjustments or distance from other cars).

*AOEP: Trial opportunity with real world conditions, reaffirming market assumptions ("driving decisions as a product." ).*

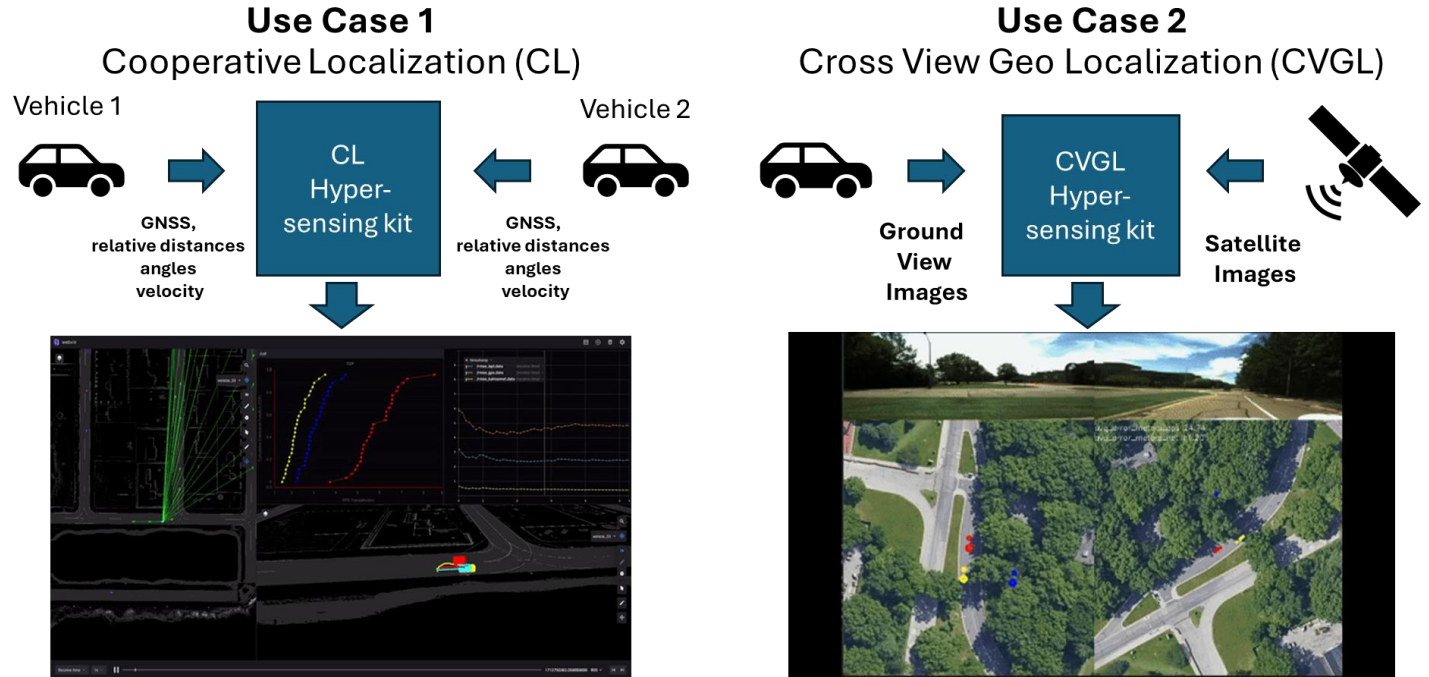
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*Future plans: Further development and business model to be built on new unit economics, and estimating the size of our target market.*

# Enhanced Vehicle Sensing

## 5G-IANA Open Call #2



*AOEP: Platform and testbed allowed to validate and refine key technological features (TRL4 - TRL5), such as cross view geo-localization, cooperative localization and situational awareness, and multimodal data fusion.*



*Future plans: development and commercialization efforts, ensuring not only real-world performance but also safety, reliability, and scalability.*