IMAGINE-B5G

Advanced 5G Open Platform for Large Scale Trials and Pilots across Europe

6G-IA & 5G-ACIA Joint Webinar

19th May 2025

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Co-funded by the European Union



Grant Agreement No.: 101096452 Call: HORIZON-JU-SNS-2022 Sensitivity: Internal **5G** SNS **SG** ACIA **UPDATE ON RECENT 5G/6G ACHIEVEMENTS WORKSHOP** SG and 6G Industry/Manufacturing Trials and Pilots (T&Ps) - Highlights, Lessons Learnt, "5G/6G Empowerment" and "Pain Points"

IMAGINE-B5G fact sheet



- Call: HORIZON-JU-SNS-2022-STREAM-D-01-01
- **Project type:** Innovation Action (IA)
- **Project number:** 101096452
- Max grant amount: 11M€
 - Cascade funding: ~4.4M€ 3 Open-Calls
- **Consortium: 17 partners** (9 countries)
 - Project coordination: UPV (Spain)
 - Technical manager: Telenor (Norway)
 - Innovation manager: **Airbus** (France)
 - Open-calls Technical Manager: **UiO** (Norway)

£3

PPDR

1 2 2 2

Education

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Sensitivity: Internal

Open-calls Admin Manager: SETU (Ireland)

Project duration: 36 months

(Jan. 2023 – Dec. 2025)

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Verticals



IMAGINE-B5G Facilities







IMAGINE-B5G PLATFORM







Sensitivity: Internal

Vertical	Use Case	OC 1 Project	OC 2 Project	OC3 Project
PPDR	Firefighting and Forest surveillance		FIRESCAN + FOR-5G	AIRWAY + 5G-FIRE
	Critical surveillance and inspection at a maritime port	ADAPT-G		PORTSAFE-B5G
	Situational Awareness Framework Enabling Robust Emergency Response for Urban Flood Warnings	SAFER-FLOW		
	Autonomous Boat for Multioperation and Safety Border Control			ABySS
	Multi-functional Remotely Operated Boat		RESCUE5G	
	Integrated Care		CRITICAL	
	Critical services for NDMA	5G-Neptune		
	XR Multi-User Gaming Competition	Democrats		
Media &	Enhanced Touristic Experiences		NTOURXP	
Entertainment	Holographic Communication	Bitnethol		
	Robust and flexible remote production	5G-Neptune		5GPace
	Enhanced care facilities		COGNET + CHHA	
errealth	Drone Care Angel: Mobile health monitoring as a service	DCA		
	Remote Health Care Services	LEOSED		5G4Reha
	Content Distribution	PROSE-Serv		
Education	Immersive Remote Education		SIMONE	
			VM4ACADEMIA	HoloMed
Transport & Logistics	Improved localization mechanisms for transportation and logistics			ADS5G + 5G-EVER
	Smart Transport with Virtual On-Board Units			SMATRA-5G
	Telepresence-aided Maintenance		5G-VIRTUFIX	
Industry 4.0	Industrial Infrastructure Automation	ALMA		SCANNER
	Suistanable and Green Data Centre Migration		5G-SEDAR	NEURONET
	Ultra Low Latency M2M Communications for Fabrication Systems	ULTRA-FAB5G		PULSE-5G + WINGS
Agriculture &	Smart Agriculture in rural areas	QAMPO	FI-VEG	OPS5G
Forestry	Forestry connectivity and monitoring	AI4FS		

AI GLOVES HUMAN ACTIVITY



Stakeholders:

• Mimetik, Mimetik Customers





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TRIAL RESULTS

1 pair of Gloves @Norway Facility

~35 ms Latency SA Network

~100 ms Latency using commercial network





250 Kbps of throughput





TRIAL1 pair of Gloves + multiple simulated Gloves@Malaga (6G-SANDBOX)

TRIAL DETAILS









Sensitivity: Internal

BEYOND 5G

- IoT Gloves integration with 5G network
- 5G Edge Computing

SOCIETY

- Costumers don't need to invest in the infrastructure with the gloves compared with other solutions
- Applicable to all type of customers, small, medium and large companies

TECHNOLOGY

• Cooperation of AI and Gloves for the analysis hand motion on the assembly steps of the motor.









Use-Case KPI Validation

Industry 4.0 - ALMA

Validation work is concluded, with most KPIs reaching the target values

КРІ	Target Value	Measu red values	
		7.2 ms with 2 gloves	
Latency	100 ms	20 ms with 20 gloves	
		60 ms with 150 gloves	
littor	00 mm	10 ms up to 100 gloves	
JILLEI	20 ms	30 ms with 150 gloves	
Throughput (Upstream)	250 kbps per glove	up to 150 gloves	
Mobility	4 Km/h	Achieved	
Scalability	up to 100 gloves	up to 150 gloves	
Reliability	> 99%	100%	
Availability	99,999%	Achieved	





Use-Case KVI Validation

Industry - OC1 Project ALMA

Validation work is concluded, with all KVIs reaching the target values

Societal Value	KVI	Target Value	Measured values
Inclusiveness	Coverage	Increase by 80%	Around 80% increase
Economic Growth	Density of users per location	150	150





5G-SEDAR

5G SENSOR PLATFORM-ENABLED DYNAMIC AR ASSISTANCE FOR ENHANCED MANUFACTURING – NORWEGIAN FACILITY

DURATION: 12 M

VALUE

 The project aims to realize a low-power, batteryoperated industrial robotic sensor platform that enables the transmission of sensor data from a robotic arm to a cell controller via 5G.

USE CASES

- Provide camera feed for AR assistant
- Ball valve HRC assembly

RISKS

- Sensor exceeds the computational resources
- Sensor Heat, PCB Manufacturing, Power Capacity
- System Integration for AR assistance

KEY TECHNLOGIES

- 5G connectivity
- AR technologies
- Machine learning
- Human Robotic collaboratior



TRIALS/EXPERIMENTS

- Location: initial phase at HUN-REN SZTAKI laboratory
- Second round will be executed in the UiO Lat
- 20-25 Participants

GOALS

- Enhance the collaborative robotic scenario by facilitating 5G network
- Integrate a 5G compatible sensor platform in UR10e robot arm
- Use Artificial intelligence-infused virtual assistant through AR
- HRC ball valve assembly with 30 participants



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Objectives: To demonstrate and validate a 5G-powered industrial control system that integrates PLCas-a-Service (PLCaaS) with adaptive AI models for real-time monitoring, predictive maintenance, and anomaly detection across the edge-cloud continuum.



PULSE-5G



Simtera ICT | IMAGINE-B5G – OC#3 | Facility: Norway | Domain: Industry 4.0

Sensitivity: Internal

Thanks for your attention!

If interested, follow us:



www.imagineb5g.eu https://www.linkedin.com/showcase/imagine-b5g/





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