



This project is co-financed by the European Union  
and the Republic of Türkiye



**ICTürkiye2025**  
10 April, İstanbul

Robotics and Autonomous Systems

TÜBİTAK BİLGEM

Workshop: Smart Mobility

## TÜBİTAK BİLGEM

(Informatics and Information  
Security Research Center)



REPUBLIC OF TÜRKİYE  
MINISTRY OF INDUSTRY  
AND TECHNOLOGY



**TÜBİTAK BİLGEM** is an institution of the Scientific and Technological Research Council of Türkiye [TÜBİTAK] and TÜBİTAK is affiliated council of the T.R. Ministry of Industry and Technology.

TÜBİTAK BİLGEM is the **largest research center** in Türkiye and focusing fundamentally on ICT and digital transformation.

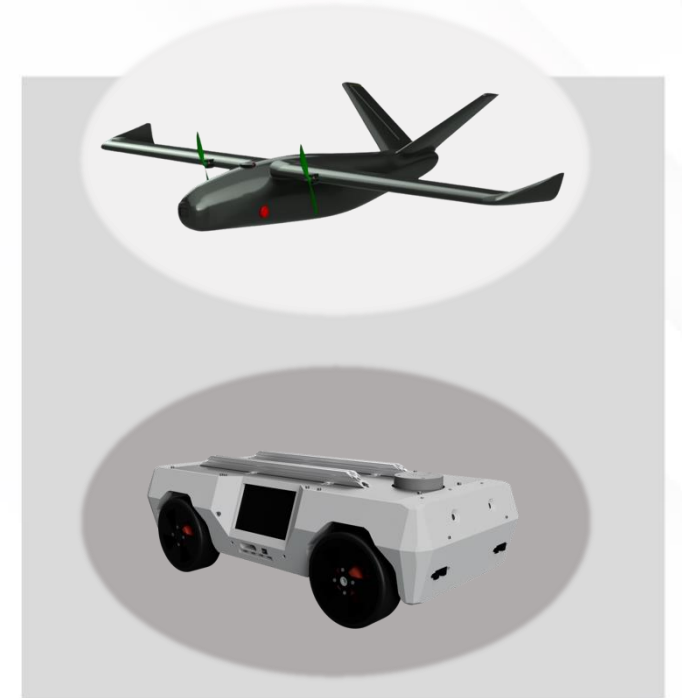
TÜBİTAK BİLGEM contributes to Türkiye's technological independence and enhances both the Türkiye's and European technology ecosystems by conducting research in advanced technologies such as cybersecurity, artificial intelligence, digital transformation, blockchain, cloud computing technologies, chip technologies, and cryptology.

With 6 institutes, 8 testing laboratories, over 200 products, 230+ ongoing projects, and a portfolio exceeding 1 billion dollars, BİLGEM operates in 15 critical research areas. With over 2,000 employees, 14% of whom hold PhDs and 25% hold Master's degrees, BİLGEM continues to strengthen its capabilities.

TÜBİTAK BİLGEM actively participates in EU calls with over 19 completed and 14 ongoing projects.

## Robotics and Autonomous Systems

- Path planning for autonomous vehicles
- Task and traffic management for mobile robots
- Teleoperation
- Robotic manipulator/arm applications
- Autonomous drone applications



## Smart Construction Site and Connected Vehicles



**ADACORSA**



Partner Sayısı  
48



Ülke Sayısı  
12

Araçlar

1x



1x



1x



**BEYOND5**



Partner Sayısı  
40



Ülke Sayısı  
10

Araçlar

1x



1x



**StorAige**



Partner Sayısı  
43



Ülke Sayısı  
8

Araçlar

3x



1x



1x





## Smart Construction Site and Connected Vehicles



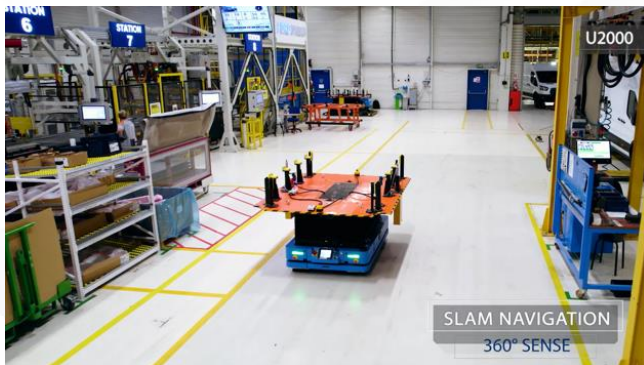
## On-going Projects



Real-time surveillance of indoor automated mobile robots (AMR)

AI-based task and traffic management software

Sensor data visualization



Door-to-door mobility

Drive-by-wire  
passanger/cargo vehicle

5G enabled teleoperation

Collusion avoidance



AI-based task and traffic management software

Audiovisual human-machine interaction

eXplainable AI in robotics

Sensor fusion for AMRs



## Project Idea – Advancing Remote Transport Operations for Smart Mobility

**Call Topic:** HORIZON-CL5-2025-01-D6-01 Advancing remote operations to enable the sustainable and smart mobility of people and goods based on operational and societal needs (CCAM Partnership) – Societal Readiness Pilot

**Deadline:** September 4, 2025

- ❑ **Objectives:** Advance remote operations for people and goods transport, focusing on safety, business models, infrastructure, and human factors in urban and rural settings
- ❑ **Expected Results:** Develop comprehensive guidelines for safe, standardized, and socially accepted remote operations, enhancing CCAM solutions with clear policies, business viability, and human-centric approaches.

## Consortium - profile of known partners

No	Partner Name	Type	Country	Role in the Project
01	TÜBİTAK BİLGEM	RTO	Türkiye	Fleet management of remotely operated shared vehicles
02	SA Catapult	RO	UK	Ensuring reliable connectivity with satellite applications
03	LOTTEM (Sea Vessel Operator)	PO	Türkiye	
04				
05				



**Consortium – required partners**

No	Expertise	Type	Country	Role in the project
01	Autonomous Driving Company / Car Sharing Company			
02	Transportation Research Lab			
03	Logistics Company			
04				

## Project Idea – Robotic and Autonomous Applications on Construction

**Call Topic:** HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-11 Enhanced logistics and operations of construction sites (IA)

**Deadline:** September 23, 2025

- ☐ **Objectives:** Improve efficiency and reduce waste, pollution, and accidents in construction works – onsite operations through technology-driven innovations such as Digital Twins, BIM, and circular economy approaches
- ☐ **Expected Results:** Cover various aspects, such as transport, storage, packaging, temporary accommodation, utility connections, and coordination of both human workers and machinery

## Consortium - profile of known partners (if any)

No	Partner Name	Type	Country	Role in the Project
01	TÜBİTAK BİLGEM	RTO	Türkiye	Implementing autonomous monitoring and robotic applications to construction sites
02	SA Catapult	PO	UK	Implementing satellite connectivity applications
03	Loughborough University	University	UK	Implementing Building Information Modelling (BIM) applications
04	Venetian Green Building Cluster		Italy	
05				

**Consortium – required partners**

No	Expertise	Type	Country	Role in the project
01	Social Sciences and Humanities			
02	Construction Company			
03	Construction Logistics Expertise			
04				



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TÜRKİYE