



# C-ROADS GREECE C-ITS SERVICES

**Hazardous Location Notification (HLN)**  
**Road Works Warning (RWW)**  
**In Vehicle Signage (IVS)**  
**Probe Vehicle Data (PVD)**  
**Traffic Management**

### ATTIKI ODOS USE CASES:

- Stationary Vehicle (HLN-SV)
- Weather Condition Warning (HLN-WCW)
- Lane Closure (RWW-LC)
- Free Text (IVS-FT)
- Shock Wave Damping (IVS-SWD)
- Traffic Info & Smart Routing

### EGNATIA ODOS USE CASES:

- Weather Condition Warning (HLN-WCW)
- Obstacle on the Road (HLN-OR)
- Lane Closure (RWW-LC)
- Free Text (IVS-FT)
- Cooperative Awareness Message (PVD-CAM)
- Traffic Info & Smart Routing

# C-ROADS GREECE ACTIVITIES

- **Shockwave Damping service** (developed by the University of Patras and Attiki Odos). Users are warned about stationary or low speed vehicle queue.
- **Smart Routing service** (developed by Telenavis and ICCS). Provides intelligent routing based on traffic data.
- **Driver Simulator** (developed by CERTH/HIT). Simulates the road traffic network of the pilot area (presented at the 8th ITS Hellas Conference and the 15th ITS European Congress).
- **Cross Border Tests**. C-Roads Greece visited & hosted other Member States, physically & virtually.
- **Cross National Tests**. The two pilots conducted successful interoperable tests using their equipment.

C-ROADS  
GREECE



## C-ROADS PLATFORM

For more information visit [www.c-roads.eu](http://www.c-roads.eu)

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## The Platform of harmonised C-ITS deployment in Europe



## Co-operative Intelligent Transport Systems for efficient, sustainable and safe transportation



## C-ROADS GREECE

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### Coordinated by



### Partners



### Implementing Bodies



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# C-ROADS GREECE PROJECT

Greece joined the C-Roads Platform in 2019 and C-Roads Greece project is the Greek pilot of the pan-European C-Roads Platform. The aim of the project is the study, development and pilot deployment of C-ITS in parts of the main road axis of the country and the harmonization with the corresponding pilot tests in the other Member States.

## COORDINATOR

Hellenic Ministry of Infrastructure and Transport

## PARTNERS

- COSMOTE Mobile Telecommunications S.A.
- G4S TELEMATIX S.A. – G4S PRIVATE COMPANY OF SECURITY SERVICES, TRADING AND PROVISION OF ADVANCED TELEMATIC AND INFORMATION TECHNOLOGY SERVICES AND PRODUCTS
- TELENAVIS S.A.
- HELLENIC ASSOCIATION OF TOLL ROAD NETWORK – HELLASTRON
- Attikes Diadromes S.A. Operation and Maintenance Company for the Elefsina Stavros Spata Airport Free Motorway and Imitos Western Peripheral Motorway
- Intracom Telecom S.A.

## IMPLEMENTING BODIES (under the Hellenic Ministry of Infrastructure and Transport)

- Institute of Communication and Computer Systems (ICCS)
- Centre for Research and Technology–Hellas (CERTH) / Hellenic Institute of Transport (HIT)
- EGNATIA ODOS SA
- University of Patras

# OUR GOAL



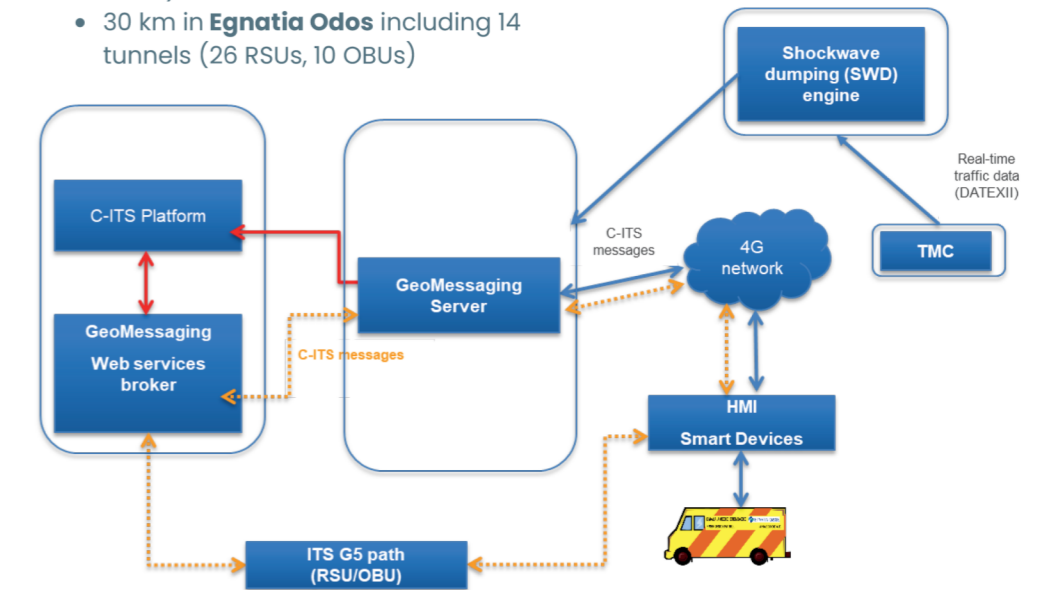
The deployment of C-ITS faces many important issues still unresolved, such as legal, organisational, administrative, governing aspects, technical and standardisation issues as well as implementation and procurement issues. With the ultimate goal to achieve the **deployment of interoperable cross-border C-ITS services for road users** in Greece and Europe, the consortium of C-Roads Greece:

- participated in C-Roads Platform activities and task forces
- designed the Greek pilot architecture based on the harmonized C-Roads Platform
- installed C-ITS equipment in Egnatia Odos and Attiki Odos
- deployed C-ITS system for pilot operation
- demonstrated the operation of C-ITS in two pilot areas
- proceeded to cross border and intra-country tests
- developed a roadmap for large scale deployment of C-ITS services in Greece

# C-ROADS GREECE FUNCTIONAL ARCHITECTURE

## C-ITS pilot equipment installed in:

- 20 km in **Attiki Odos** (12 RSUs, 11 OBU)
- 30 km in **Egnatia Odos** including 14 tunnels (26 RSUs, 10 OBU)



# C-ROADS GREECE BUILDING BLOCKS

## C-ITS platform:

- **management system** (parameterization, monitoring, update of RSUs/OBUs)
- **application system** (creation, exchange, visualization of C-ITS messages)

## Communication:

- ETSI ITS G5 short-range
- Cellular LTE/4G long range (4G network coverage in both pilots provided by COSMOTE)

**Geomessaging server** (developed by CERTH/HIT)

**Human Machine Interface** (HMI developed by ICCS)

**Public Key Infrastructure** (in-house PKI version developed by G4S)