ANAS – ESA Grand Challenge

Open Call Terms & Conditions

Key topics

- Context
- Anas aspiration
- Challenge's objectives
- Phases and timeline
- Eligible participants
- How to apply
- Selection/Award criteria
- Prize
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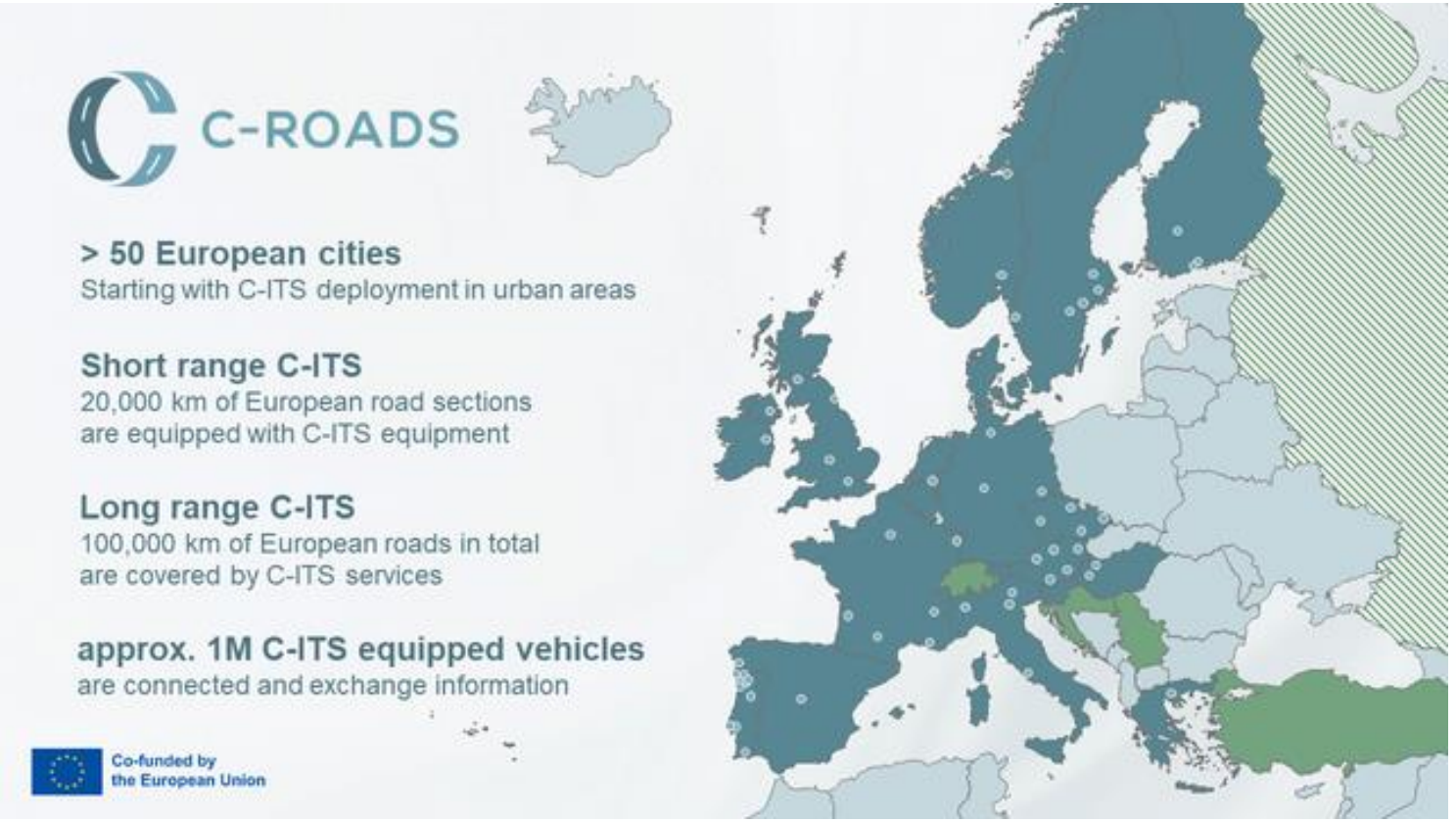
Context: C-ITS services



The **C-Roads Platform** is a joint initiative of **European Member States and road operators** for testing and implementing **C-ITS** (Cooperative Intelligent Transport Systems) **services** in light of cross-border **harmonisation** and **interoperability.**

C-ITS services refer to technologies and applications **enabling communication between vehicles, infrastructure, and other road users** - Vehicle-to-Vehicle **(V2V)** Vehicle-to-Infrastructure **(V2I)** Vehicle-to-Person **(V2P).**

This cooperation enhances **the quality and efficiency of transport systems** by providing **real-time information** and **warnings to drivers**, improving **road safety** and **traffic management.**

C-ITS services are **categorized** into **different phases** based on their deployment readiness and impact (i.e. Day 1 and day 1.5)

Further details on https://www.c-roads.eu/platform.html

Context: C-ITS services Day 1 and Day 1.5

Day 1 Services	Day 1.5 Services
Emergency electronic brake light	Off street parking information
Emergency vehicle approaching	On street parking information and management
Slow or stationary vehicle(s)	Park & Ride information
Traffic jam ahead warning	Information on AFV fueling & charging stations
Hazardous location notification	Traffic information and smart routing
Road works warning	Zone access control for urban areas
Weather conditions	Loading zone management
In-vehicle signage	Vulnerable road users protection
In-vehicle speed limits	Cooperative collision risk warning
Probe vehicle data	Motorcycle approaching indication
Alert wrong way driving	

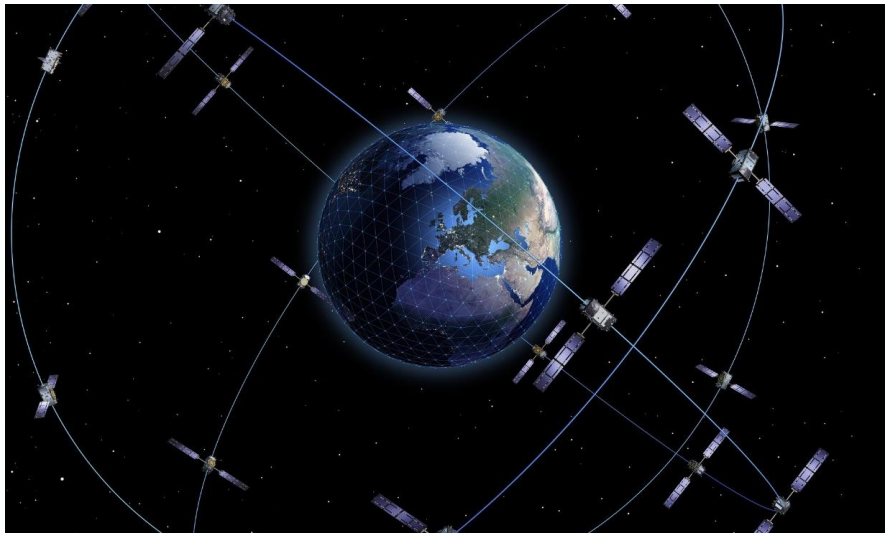
Source: European ITS platform

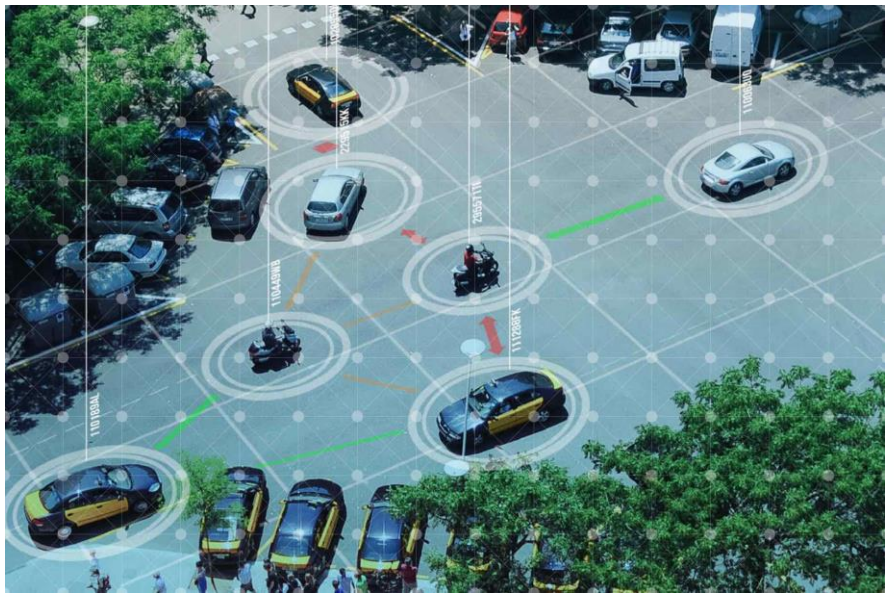
Context: GNSS augmentation

To further enhance Satellite Navigation performance, **GNSS can be combined with other technologies** including **inertial sensors, road side units, RTK software, 5G** and increasingly**, artificial intelligence**.

Innovation in GNSS signal accuracy will greatly contribute **to improve the effectiveness and safety of C-ITS services**, enabling more **intelligent and reliable driving**.

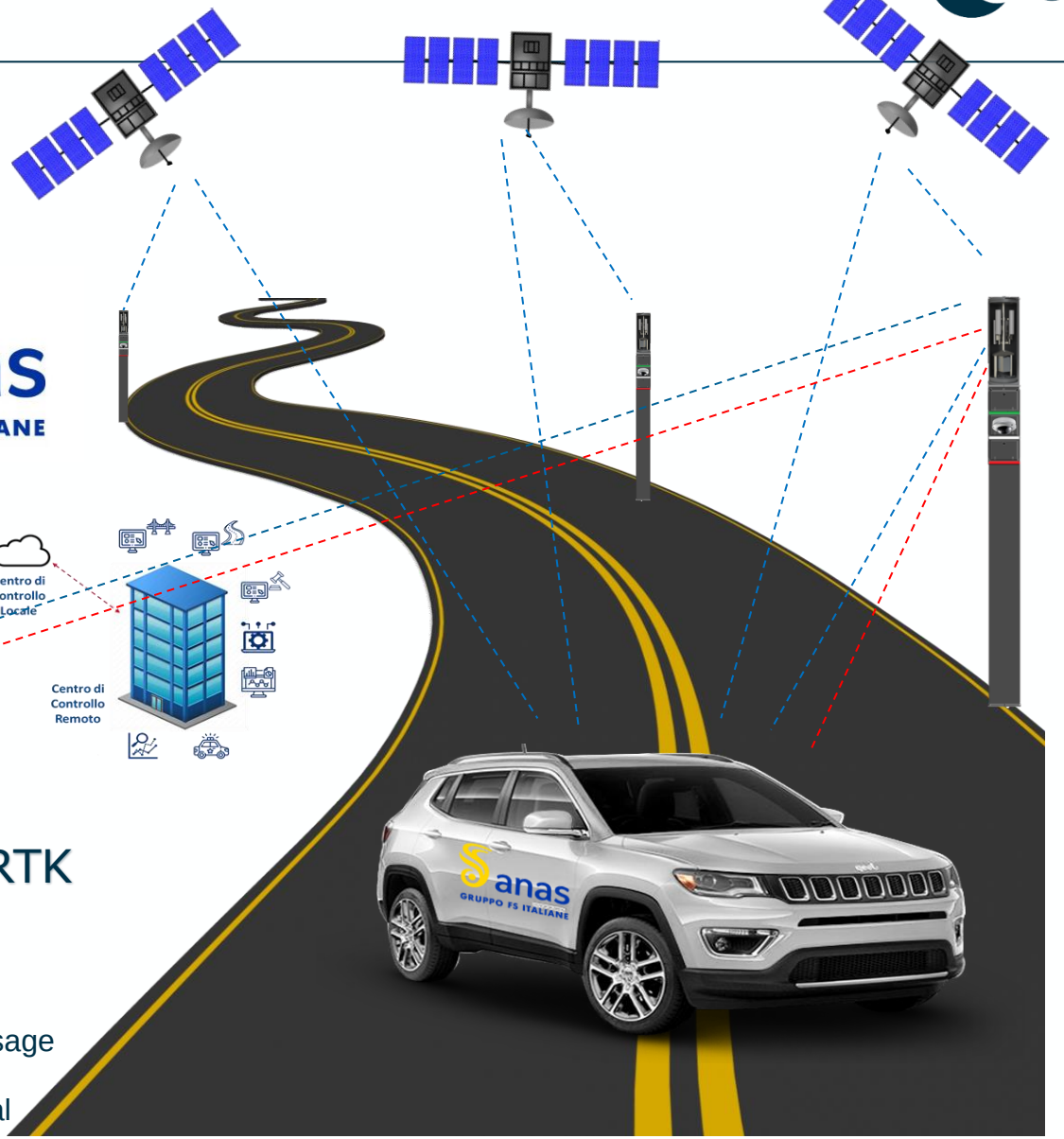
GNSS augmentation and **C-ITS (Cooperative Intelligent Transport Systems**) services are transforming the road transport sector. These two aspects work together **to enhance safety and efficiency in road transport**.





Anas aspiration

To accelerate the experimentation and implementation of the provision of C-ITS Smart Road services, through adoption of solutions based on exploitation of high technology for precision **GNSS positioning** and **AI** applied on **RTK** and/or post-processing kinematic techniques and the presence of **C-ITS stations (*Anas Smart Road Side Units*)** as reference stations, achieving **accurate** and **reliable GNSS positioning results** moving from meter-level to submeter-level accuracy



ANAS - ESA Grand Challenge - General objectives

a. **Augment the accuracy of the position computed using GNSS signal (including Galileo)** of the satellite chipsets included in the modern smartphones through the combined use of **multiple constellations**, integration with **inertial sensors**, use of **real-time kinematic correction**, **ground base C-ITS stations** (road side units), including the use of **artificial intelligence algorithms** to **make dynamic corrections and combine GNSS signal data with other sources**

b. **Refine and extend the number of use cases that can be implemented within the App services portfolio in line with the C-ITS day 1 and 1.5 services**, reducing the risk of false positives or negatives in the driver assistance system, improving overall safety

Challenge’s working phases and timeline

Application period

Competition period

Winner award

Apr-May ‘25

Nov- Dec ‘25

Dec ‘24 – Mar ‘25

May-Nov ‘25

Dec ‘25

Selection evaluation

Award evaluation

Eligible participants

SMEs* registered in one of the ESA Member States, Associate Member States or Cooperating States of ESA, provided that they:

- do not involve, in any way whatsoever, directors, officers and employees (and their immediate families and household members) of ESA, of ANAS and its affiliates, or of their respective advertising and promotion agencies;
- irrevocably accept the Terms & Conditions and fulfil the necessary formalities.

(*) “SME” fulfilling the criteria defined in the European Commission Recommendation of 6 May 2003 (2003/361/EC) as updated

How to apply

Each Participant must apply through the Challenge Website, read carefully the **Terms and Conditions of the Challenge** and follow the instructions for applying, as described at:
https://commercialisation.esa.int/esa-grand-challenge

Application material

- An online form including the Statement of eligibility
- Company background/profile and logo
- Team composition, curriculum vitae and picture of the Team members
- Proof of the Participant formal certificate of registration as a legal entity in one of the ESA Member, Cooperating, or Associate States
- Executive summary describing the main aspects of the proposal
- Description of the innovative solution associated with the specific objectives of the Challenge and with the proposed Deliverables, including its potential for further applications in relevant Smart Road environment, its reliability and its scalability
- An activity proposal with a description with sufficient detail to allow a full understanding of the functionality and processing, in line with the requirements and objectives applicable to ANAS ESA Grand Challenge

Deliverable

Full technical report about the developed solution, with in-depth detail to allow a full understanding of the functionality and processing, in line with the requirements and objectives of the ANAS – ESA Grand Challenge

Tested Application solution may be provided in a prototype version, that can be easily integrated into the Smart Road App after the Challenge; it is intended for a group of internal selected users in order to evaluate its usability and its compliance with the objectives of the Challenge

Test Summary Report resuming all the test details which includes information about the test environment, who performed the tests, and the results obtained, and the corrective actions

Selection and Award Criteria

Selection criteria

Background and experience
Experience of the Applicant and vision; technical and business skills; team composition; support partners, available facilities

Innovation
Innovative contents of the proposed solution; originality and uniqueness; how novel the proposal is and if it breaks new ground or build upon existing concepts

Technical feasibility
Evaluation of the practicality of a proposed solution, ensuring that any major technical obstacles are identified early on, and risks could be managed efficiently

Activity proposal
Clarity and pertinence of the proposal's objectives; quality of the description, milestones plan, work break-down, management roles definition, risk analysis

Award criteria

Compliance with the requirements and integration within Smart Road architecture
Level of analysis and comparison of the activity's outcomes with the technical architecture requirements of Anas Smart Road

Test results validation and reporting
Integrity of the testing procedure, consistency of the test results; validation process and the findings

Applicability in relevant and real-world environment
The progression to highest TRLs providing a more concrete demonstration of its potential for successful real-world application

Scalability
Solutions' ability to handle increasing loads or demands without compromising performance

Affordability
The degree to which the lifecycle cost of the solutions is in line not just about with the initial costs of deployment but it involves considering the total cost over time

Prize

Challenge Winner will be awarded the **Grand Prize** by **ANAS**, corresponding to an amount of maximum **100.000,00 EUR*** following the evaluation process

- The **final value** of the Prize will depend on the **quality of the deliverables** submitted by the Participants
- In case of termination of the Challenge or if the requirements are not met or no Participant reaches the threshold score on all the award criteria, **the prize may not be awarded upon decision of the Evaluation Panel**

*Intended as **gross value to which legal tax withholdings may be applied** in accordance with the legal provisions of the country in which the Challenge Winner is established.

Contacts

For any questions related to the ANAS ESA Grand Challenge:

Commercialisation Dpt
grand.challenge@esa.int

Innovation Unit
innovation@stradeanas.it

esa grand challenge

https://commercialisation.esa.int/esa-grand-challenge/

grand.challenge@esa.int

https://twitter.com/ESA_CommGateway

https://www.linkedin.com/company/esa-commercialisation-gateway/