Anas Smart Road

Map of Italy with Smart Road labels:

- SS38 dello Stelvio
- SS301 del Foscagno
- SS36 del lago di Como e dello Spluga
- SS336 dell'aeroporto di Malpensa
- SS336 dir
- SS703 Tangenziale di Novara
- RA10 Torino-Caselle
- SS51 di Alemagna
- RA14 Diramazione per Fernetti
- SS202 Triestina
- SS434 Transpolesana
- Tangenziale di Parma
- E45 E55 Orte-Mestre
- SS73bis di Bocca Trabaria
- SS73 Senese-Aretina
- SS223 di Paganico
- SS4 Via Salaria
- SS1 Via Aurelia
- RA12 Chieti-Pescara
- E45 Orte-Civitavecchia
- SS1 Via Aurelia
- A90 Grande Raccordo Anulare di Roma
- SS372 Telesina
- A91 Autostrada Roma-Fiumicino
- Tangenziale di Bari
- SS729 Sassari-Olbia
- SS268 del Vesuvio
- SS613 Brindisi-Lecce
- RA5 Raccordo Sicignano-Potenza
- SS694 Tangenziale Ovest di Lecce
- SS131 Carlo Felice
- A2 Autostrada del Mediterraneo
- SS195Racc Nodo di Cagliari
- SS554 Cagliaritana
- SS280 dei Due Mari
- A29bis Palermo-Punta Raisi
- SS106 Jonica
- RA4 Raccordo di Reggio Calabria
- A19 Palermo-Catania
- RA15 Tangenziale di Catania
- NSA339 Catania-Siracusa

PHASE I — Smart Roads under way

PHASE II — Planned Smart Roads

Anas Smart Road

The future is now

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GRUPPO FS ITALIANE

www.stradeanas.it

Well in advance of Europe, the **digital transformation** of the Italian road network is beginning to take shape.
Anas' Smart Road program, with an investment of around **1 billion Euro** over **3,000 kilometres**, will contribute to provide the country with a **digitally advanced** and **sustainable road network**, guaranteeing **greater safety** and **comfort** for users, increased **efficiency in traffic flows** and **more secure infrastructure.**

Future user benefits

More Safe
Through the implementation of new technologies and services for driver assistance and self-driving, such as alerts of serious events on the road, reproduction of road signs on board of the vehicle and notification of speed limits.

More Connected
Thanks to connectivity systems such as G5 and c-LTE DSRC , Anas' Wi-Fi and all the possible connections and correlations generated by the data that is created and exchanged while travelling along roads. All generated data is certified by the networks' managing operator.

More Informed
Due to the mobility information that smart roads provide, users will be informed in real time on traffic conditions, accidents, roadworks and notified of alternative routes and weather conditions.

More Green
Sustainable fuelling of road systems, the generation of energy from renewable sources and the installation of electric vehicle charging stations to develop electric mobility.

Mission

◆ Increased safety for road users and **optimisation of the control** and **maintenance** of infrastructures and civil works through the use of **IoT, Big Data** and **Machine Learning Solutions.**

◆ Implementation of new connectivity services and communication standards to enable **user-infrastructure** and **vehicle-infrastructure dialogue.**

◆ Creation of **new real-time services for users**, such as **alerts, traffic control** and dedicated apps.
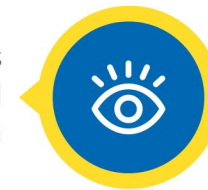
Key Success Factors

Ongoing Innovation
Ongoing innovation through **technology scouting** and the participation in **national** and **international work groups** devoted to this issue. Cooperation with **research companies also** is a **strategic factor** in optimising infrastructures in order to ensure **new, reliable** and **technologically advanced services for road users.**

Integrated Vision
To achieve an effective convergence of **all of our stakeholders'** needs and wishes, since we have gained the knowledge that a **single, integrated vision** for future **Smart Mobility is needed**, also for its integration with Smart Cities systems.
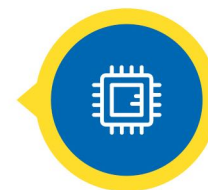
User-Centric Focus
Focusing on users, to be understood as **travellers, commuters, workers, emergency operators** and **road users in general.**
Focusing on users' needs and requirements during the entire length of their journey.

Testing
A key success factor is to support innovation with **experimental tests, pilot projects** proposed by Research and Development **labs** and **innovative start-ups**, in order to implement the **best solutions on the market.**

Key technologies

Road Weather Information System (RWIS) for real-time measurements of weather conditions and of road surfaces' quality.

Good Vibrations, the use of Smartphone Sensing techniques through an app that collects accelerometer data from devices in a moving vehicle and the utilization of advanced analysis algorithms and real-time pre-alerts of vibrational anomalies in infrastructures for predictive maintenance.

Automatic Roadworks Extension Alert System (AREA) for real-time monitoring of roadworks.

Internet of Things (IoT)
BIG DATA
Artificial Intelligence (AI)
V2X Systems ready for 5G
ENERGY FROM RENEWABLE SOURCES

Main technologies and tests under way

TEST of C-ITS Services
V2V (Vehicle-to-Vehicle) and **V2I (Vehicle-to-Infrastructure)** connectivity and Wi-Fi connectivity integrated in a single **RSU (Road Side Unit).**

Cutting-edge video analysis platforms
Smart cameras that enable video analysis to **check on traffic, road network's conditions** and, on an experimental basis, **weather** and **road surface's conditions.**

Innovative Design
Multi-function poles: concept design by the "Carlo Ratti Associati" firm according to the canons of modern artistic works that **respect the natural surrounding landscape.**

Smart Platforms
Remote control and **management** of the technologies and systems in the roadway, including **complex infrastructures** such as **tunnels.**