

**MOOVA
ROAD
SOLUTIONS**

**THE_FREEDOM
_TO MOVE**

_INDEX

.Chapter 1

Moova products and solutions p 4

.Chapter 2

Towards a new mobility p 6

.Chapter 3

Integrated and boundless solutions p 8

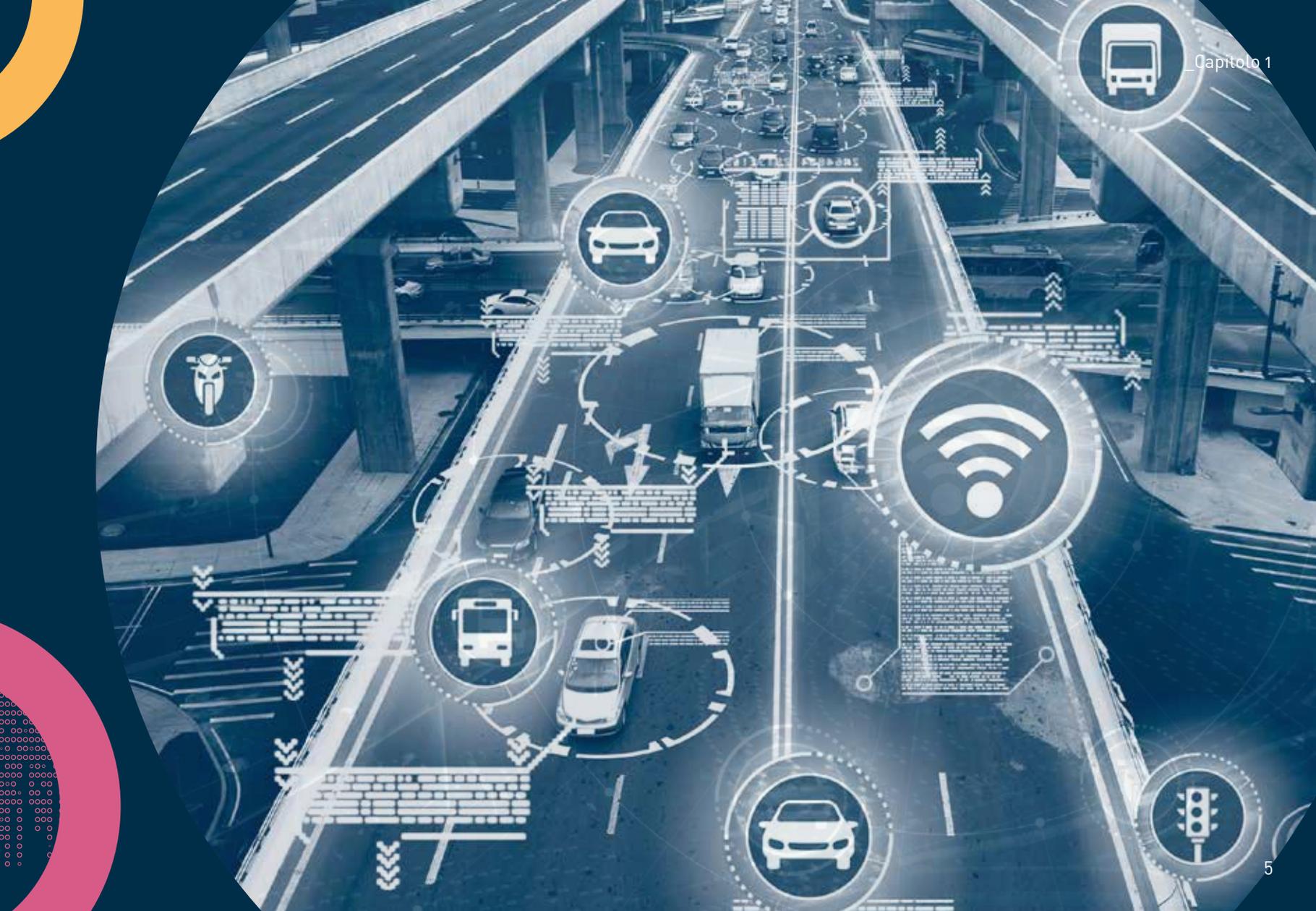
.Chapter 4

MOOVA Solutions for the digital road p 10

1. PRODUCTS_AND_MOOVA_SOLUTIONS

ITS systems are playing an increasingly fundamental role within the green transition and will help support the digitalization of the entire transport system. MOOVA Road Solutions represent the 'state of the art' of ITS systems and enable inclusive mobility, within the reach of all, both spatially and in terms of accessibility.





2. TOWARDS_A_NEW MOBILITY

MARKET

MOOVA Road Solutions respond in a comprehensive and innovative way to the needs of Mobility Infrastructure Managers and Authorities that govern Mobility ecosystems. They are end-to-end answers based on deep industry expertise, high-quality IT services, assets, products and strategic partnerships.

AUDIENCE



Operators
Traffic Road



Authorities
and Bodies
of Government
of Mobility



Dealers
Motorways



Operators
Roads

BENEFITS

MOOVA Road Solutions represent a complete suite of end-to-end solutions to support core processes.

They are able to adapt to the size and organisational complexity of different operational scenarios, from single manager to interconnected and multi-company realities.

They enable Authorities to provide 360° supervision of mobility services provided by multiple operators.

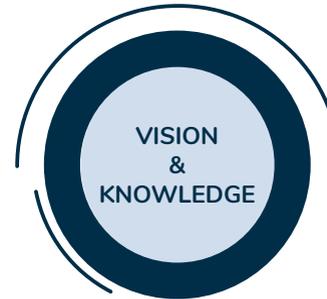
They offer tools to govern and integrate an entire multimodal mobility ecosystem and support new mobility paradigms (MaaS).

They enable digital transformation strategies of delivered services and internal operational processes thanks to knowledge of the main sector issues and the effective use of disruptive technologies.



3. COMPLETE_ SOLUTIONS

In a market characterised by many different needs of business and by a strong and continuous drive for innovation, the MOOVA Road Solutions represent an immediate, effective and flexible response and flexible response to the needs of those operating in the mobility mobility. They combine professional skills and expertise specialised skills, understanding of innovation trends and the use of the necessary digital technologies.





END-TO-END SERVICES

design, development and delivery services end-to-end services.



INTEGRATION

integrate with owner products and third party to maintain previous business investments.



OPERATION & MAINTENANCE

support Clients in operational process while ensuring business continuity and enabling full delivery model outsourcing.



CORE PROCESSES

technical expertise and knowledge of transport processes and transport market.



DIGITAL TRANSFORMATION

monitor strategic trends to acquire a long-term vision of the market.



ADVISORY

monitor market to quickly identify the best available technologies.



MOOVA

product can be either split or integrated with third party owing to its modular logic platform.



BEST PRACTICE

configurable assets reduce time-to-market and increase service quality.



PARTNERSHIP

alliances with the main Transportation and technology market players.

4. SOLUTIONS MOOVA_ FOR THE DIGITAL ROAD

Limiting congestion traffic on the roads, reduction of emissions related to road transport and reducing accidents. The transition to a new mobility passes through the construction of a more ecological sustainable, resilient, efficient and safe system of transport.

MOOVA Road Solutions meet exactly to these needs by enabling a modular and scalable 360° mobility management both in urban and extra-urban areas, thanks to the the adoption of the latest-generation technologies that enable communication between vehicles and road infrastructure and between the vehicles themselves.

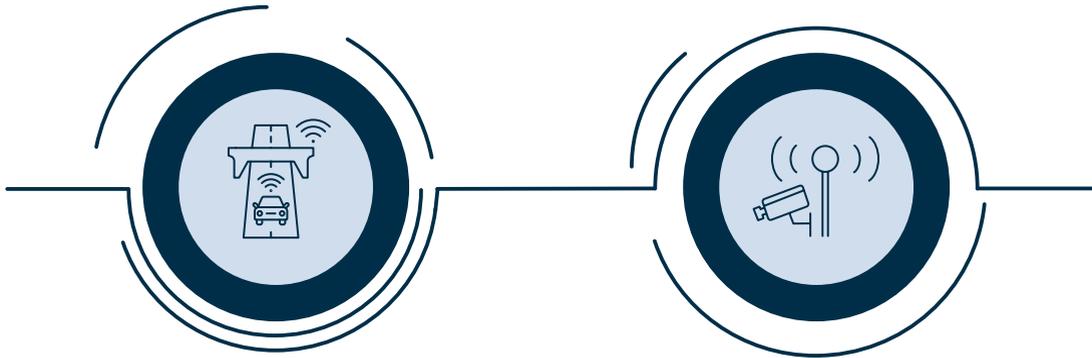
MOOVA Road Solutions make it possible to seize the opportunities presented by connected mobility, cooperative and automated mobility (CCAM), capable of mobility for all, saving valuable time and improving road safety.



**TRAFFIC MANAGEMENT &
CONTROL ROOMS**

**MOBILITY DATA SHARING &
INTEGRATION**

**ASSET MANAGEMENT
& SHM**



**SMART ROAD
& C-ITS**

ROADSIDE ITS



TRAFFIC MANAGEMENT_& CONTROL_ROOMS

Operation rooms for traffic operators and road mobility managers, dedicated both to the urban and motorway networks and suburban networks. They allow planning monitoring and control of traffic through the use of integrated solutions and all the tools necessary to analyze and decide on the interventions necessary in the operational context of reference. Almoviva solutions cover the needs from large road operators or managers of metropolitan areas through to those of small centers, the management of large events or operations and use the most modern technologies for the collection of information, its processing, process management and control and implementation strategies in the field.

MOOVA PRODUCTS

- CONTROL ROOM
 - > Dashboards for Data Analytics
 - > Decision Support Systems (DSS)
- SMART MOBILITY
- INFORMATION HUB
 - > Traffic Forecast Models
 - > Data Analytics

KEY SKILLS

- Ability to integrate customer-selected ITS systems (sensors, VMS, CCTV, traffic light systems, access control), using Modern IT standards and paradigms (IoT, architectures microservices architectures, upgrades and evolutions 'in operations') and specific ITS best practices
- Dashboards and data analytics
- Graphical and cartographic representations of demand (traffic flows, speed, density), traffic situations and the transport network
- Adaptive and AI-based traffic management algorithms
- Data ingestion from pre-existing legacy systems
- Creation of scenarios and rules for DSS
- Multi-channel management of information towards service providers of infomobility services

DISTINCTIVE FEATURES



Road solutions for Traffic Management & Control Rooms are functionally complete, scalable and integrable, they therefore allow both overall realizations rapid and progressive over time.



They are natively equipped with models, algorithms and functionality “best-in-class” but are also open to further developments in collaboration with national universities and leading professionals in the sector.



MOBILITY DATA SHARING & INTEGRATION

Road operators and mobility governing bodies (provinces, regions, central agencies) have a growing need to connect their information systems to facilitate the development of integrated services for planning, monitoring and traffic management and for sustainable mobility to users.

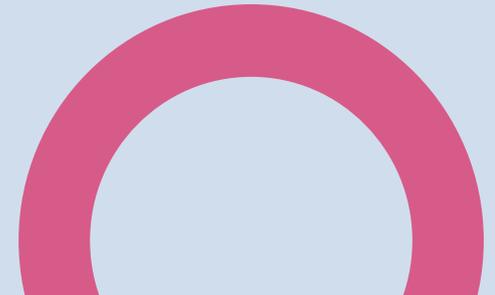
Our solutions, based on components of the MOOVA, aim to enable these connections, following the main standards for data sharing on mobility and national and international guidelines industry for data model and sharing modes. From local Mobility Management Centers to more complex regional or national concentrators, whatever the characteristics of the volume of data to be shared and the updating methods to be implemented, enable. The open development of mobility services to end users.

MOOVA PRODUCTS AND SERVICES

- MOOVA MOBILITY CONNECT
- INFORMATION HUB
 - > Regional and National Access Points (RAP, NAP)
 - > MaaS Integration Services
- ASSET DIGITALIZATION
 - > Nodi DATEX

KEY SKILLS

- Transformation from proprietary data models to standard domain with constant adaptation to the subsequent updates (DATEX, TRANSMODEL, NETEX, SIRI, etc.)
- Alignment with institutional profiles and guidelines European and national
- Ability to compose solutions according to architectures Service-oriented and “variable geometry” According to competencies identified at the various territorial levels



DISTINCTIVE FEATURES



Mobility data sharing & Integration are solutions needed by local and national architectures for the development of advanced services of sustainable mobility, both locally and nationally, and follow the main standards for the data model and sharing arrangements defined at the national and international level and the practices typical for exchange services and data sharing in the “API economy.”





ASSET MANAGEMENT & SHM

For operators of road infrastructure and critical works (bridges, viaducts, tunnels, dams, etc.) that need to manage the continuous process of analysis, preventive maintenance and monitoring for the purpose of safety and efficiency of the network, Almagora offers solutions to:

- Continuously monitor the health status of the asset and identify defects or problems
- Provide information to assess the level of degradation of the asset and its remaining life
- Automate inspection activities
- Integrate all information, data and events processed at the local level allowing to give a systemic view and contribute to the complete picture of all national infrastructure

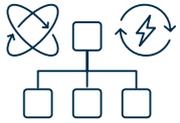
MOOVA PRODUCTS AND SERVICES

- ASSET DIGITALIZATION
 - > Field devices (sensors, gateway, ...)
 - > Learning algorithms, AI for alarm recognition
 - > SEM SHM
- CONTROL ROOM
- INFORMATION HUB
- INFRASTRUCTURE MAINTENANCE

KEY SKILLS

- Structural skills to define the project of infrastructure monitoring
- Knowledge of technological tools to carry out the monitoring
- Skills in modal analysis (OMA algorithms) and risk of infrastructure
- Design and installation of components of field
- Use of the main paradigms of Modern IT for IoT and service-oriented architectures. Management and maintenance of field and center

DISTINCTIVE FEATURES



- Field equipment
- Use of Big Data platforms for data collection
- Model-based monitoring (AI/ ML)
- Integration and processing of images/ information collected from drones
- Distributed architecture for BMS





SMART_ROAD_ & C-ITS

Smart road and cooperative services or C-ITS are the new frontier of management systems of road transportation that will enable the transition to the cooperative and connected vehicle.

Almaviva's Smart Road is a solution one-stop-shop of services and technologies, from design to software implementation and hardware, from remote monitoring to the delivery of services through communication networks to the management of field devices; is dedicated to traffic operators and road management agencies with vision innovation and willingness to create this new experience for road users (both urban and suburban).

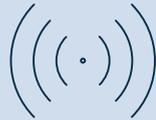
MOOVA PRODUCTS AND SERVICES

- CONTROL ROOM
 - > Decision Support Systems (DSS)
- ASSET DIGITALIZATION
 - > C-ITS server for ITS-G5 systems, C-V2X for 4G/5G networks
 - > Interface for Delivery of standard messages for use cases
 - > DAY 1 and DAY 1.5 use cases Software for RSU management

KEY SKILLS

- Use of domain standards and their constant updating (ETSI ITS G5, C-V2X)
- Testing and verification of C-ITS services with supply chain actors. (Managing Authorities, Car Makers, TELCO Operators)
- Adaptation of the solution to specific needs of the Operations Center or mobility management

DISTINCTIVE TFEATURES



The Smart Road solution and C-ITS services are developed according to scalable architectures and distributed functional layers with

- (i) a Remote Center that ensures the generation and collection of all messages standards from the vehicles
- (ii) edge components at the local level that balance the loads of communication to the network and RSUs on the road and ensure the timing expected from standard use cases.

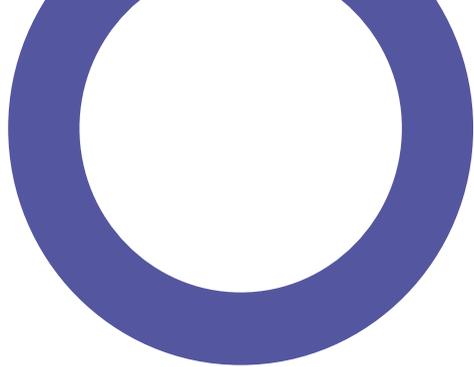


Almaviva's solutions are based on standards international interoperability and security standards and continuously updated to trends and needs of the market, thanks to participation in projects international projects and continuous collaboration with all industry stakeholders.



ROADSIDE_ITS

Roadside units (RSUs) are complex ITS systems placed along roadside infrastructure that interact with vehicles and sensors by offering multiple services through communications standards; they are connected to each other through a central platform that governs them and constitute therefore the “field” components of the Smart Road and traffic and mobility. In these projects dedicated to operators of roads and highways, Almoviva integrates into its state-of-the-art Roadside Unit solutions, ensuring innovation and expertise in the technological performance and in the security of the IT networks used.



MOOVA PRODUCTS AND SERVICES

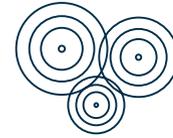
- ASSET DIGITALIZATION
 - > MSW for C-ITS services (ITSg5 and C-V2X)
 - > Traffic sensors
 - > ANPR systems
 - > Weight in motion
- INFORMATION HUB
- INFRASTRUCTURE MAINTENANCE

KEY SKILLS

Almoviva guarantees all skills and services necessary for the integration and operation of the Roadside Units in road projects.

- Traffic detection with sensors of various types
- Automated incident/congestion detection
- Video surveillance and video analytics
- Standards for C-ITS and MSW management
- Design and installation of roadside components
- Maintenance planning and management
- Integration of ITS components into Smart Road systems and Traffic Management

DISTINCTIVE FEATURES

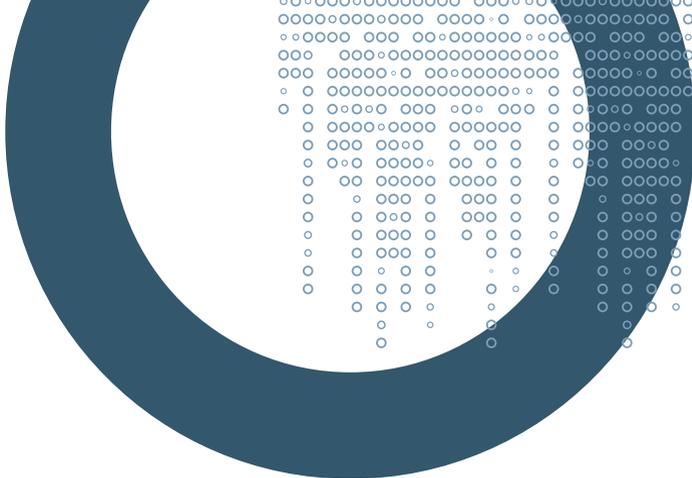


Specifically on the projects. Smart Road and C-ITS, Almoviva's Roadside Units convey messages on ETSI standards to and from vehicles on two technologies transmissions (ITS G5 and LTE-V) enabling multiple functional solutions and ensuring scalability and continuity of adaptation to the requirements of the entire ecosystem.





ROAD



Scan the QR code and watch our video!



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