



# 1<sup>ST</sup> CORAI SUMMIT ON THE FUTURE OF AUTONOMOUS MOBILITY



European Committee  
of the Regions

BRUSSELS, 9/10/2019

# León, 1<sup>st</sup> NERTRA City

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# KEY FEATURES OF THE PROJECT

## OBJECTIVES:

1. First NERTRA City of Spain. León will become a pilot city to test autonomous driving technologies.
2. Automate Mobility. Others electrify and automate vehicles, DROTUM automates traffic.
3. Level 6. A new level shall be included in the SAE definition.
4. NERTRA Laboratory. The creation of a Reference Center to certify autonomous mobility technologies.

## The potential of the project in the region:

- León will become an international reference in Autonomous Driving.
- 2.000 highly qualified jobs in the next 5 years in León, and 5.000 in Castilla y León.
- Economic impact of 200M €/year in León.

## TIME FRAME:

- The project was born in 2014 in the University of León.
- **2019:** Development of the framework and engineering projects.
- **2020:** 10 R&D projects. 5 vehicles.
- **2021:** 20 R&D projects. 100 vehicles (6 million km).
- **2022:** 30 R&D projects. 300 vehicles (18 million km). Level 6 reached. First commercial services.

## Possible transnational cooperation for innovation:

There are 30 R&D projects in the next 3 years. Cooperation in the following areas:

- 3D Mapping systems
- V2X technologies
- V2V technologies
- Energy systems
- Artificial Intelligence applied to traffic management
- Etc.

## STAKEHOLDERS:



## Investment opportunities:

In 2020 there is an investment opportunity in DROTUM.

- ❑ The company is starting the third capital increase for an amount of 225M €.
- ❑ The return for the investor will be greater than 222 in 4 years.

# MAIN ACHIEVEMENTS

## INNOVATION IN MOBILITY:

The development of an autonomous, electric, connected and cooperative mobility system, composed of:

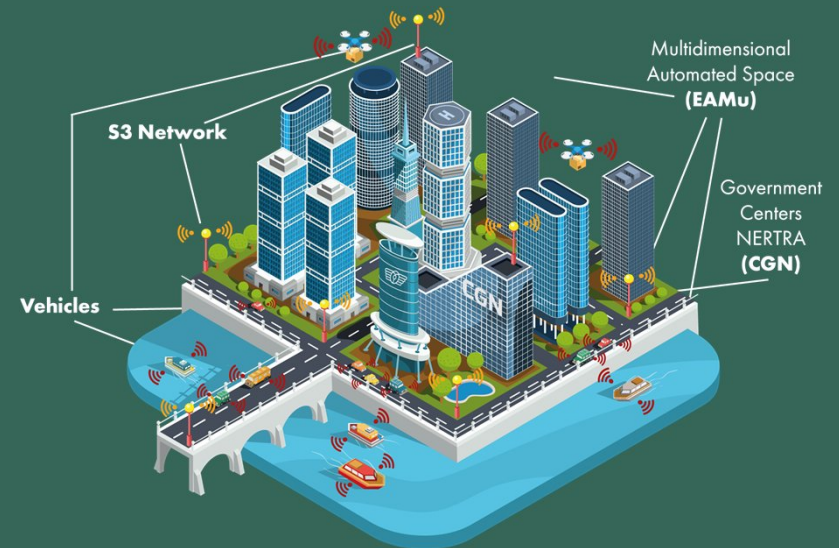
- **Traffic Control Center:** An infrastructure that manages traffic autonomously in real time through advanced artificial intelligence techniques.
- **S3 Network:** It is a communications network devoted exclusively to transportation. V2V, V2X, I2I communications. TDOA positioning system.
- **Vehicles.** Several vehicles will be equipped with out intelligent level 5 autonomous system (SAIDO), for its development and testing. It will become level 6. A new autonomous bus with 12 seats will be developed for public transportation on-demand services.

## ENGAGEMENT OF THE CITIZENS:

Many communication campaigns have been carried out in local and national media in order to inform society of the benefits of the new mobility model. The result: most of the population of the city is in favor of the project. It is a great opportunity for their city.

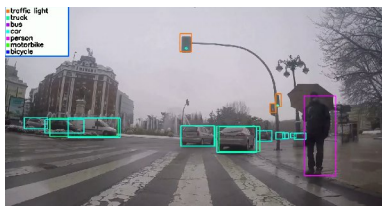
## POSSIBLE RISKS AND SIDE EFFECTS:

- The effects of the economic war on certain leading technologies.
- The delay in the financial support of the different administrations.



## LEGISLATION:

- **2017:** On October 10 the Spanish Congress of Deputies debated about the New Era of Transportation, highlighting our project as a national reference. The "Non-Law Proposition for the promotion and development of the autonomous vehicles" was approved unanimously.
- **2018:** On December 12, the Castilla y León Government approved the Law for Passenger's Transportation by Roads, which includes and promotes autonomous driving and the new mobility model.
- **2019:** On March 18, an agreement was signed with the City Council of León to authorize the test of autonomous vehicles in public roads and streets with the NERTRA system.



# AMBITIONS FOR THE FUTURE REQUEST TO:

## REGIONAL GOVERNMENT:

The creation of a Consortium to finance 100 M € in the next 4 years for the Project of León NERTRA City.

- New industrial policies to support this emerging sector and new companies.
- To support NERTRA Laboratory

## NATIONAL GOVERNMENT:

- Development of a national legislation for Autonomous Vehicles.
- Development of a national legislation for the adaptation of the infrastructure of cities to autonomous mobility.
- To create 2 agencies for Artificial Intelligence and Energy Systems.
- To support NERTRA Laboratory.

## EUROPEAN COMMISSION:

- The financing of the most advanced projects and cities in autonomous mobility (beyond small R&D projects).
- At least 8 Pilot Cities in Europe should already have their own projects in order to be competitive.
- Development of an international community legislation for Autonomous Vehicles.
- To support NERTRA Laboratory.
- To create 1 European agency focus on promotion, support and development of the new urban infrastructure necessary for the adaptation of NERTRA cities.

- Who dominates the technologies of Autonomous Mobility will dominate the 21<sup>o</sup> century. **Will it be Europe?**

# CONTACT

"Our mission is to make mobility a universal service".

Anyone

Anywhere

Anytime

**León will become the first European city with a Traffic Control Center which manages autonomously any vehicle with advanced Artificial Intelligence, a communications network devoted exclusively to transportation and cooperative autonomous vehicles.**

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