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CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

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POLITÉCNICA

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CENTRO DE AUTOMÁTICA Y ROBÓTICA

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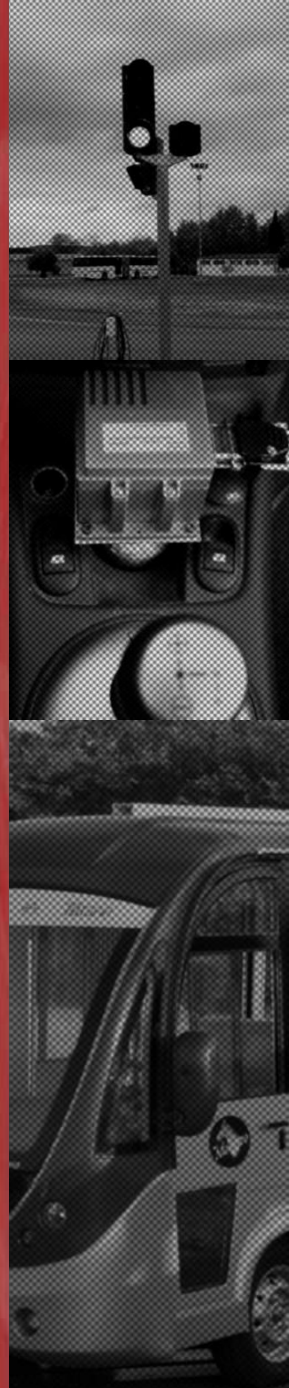
AUTOPIA Program

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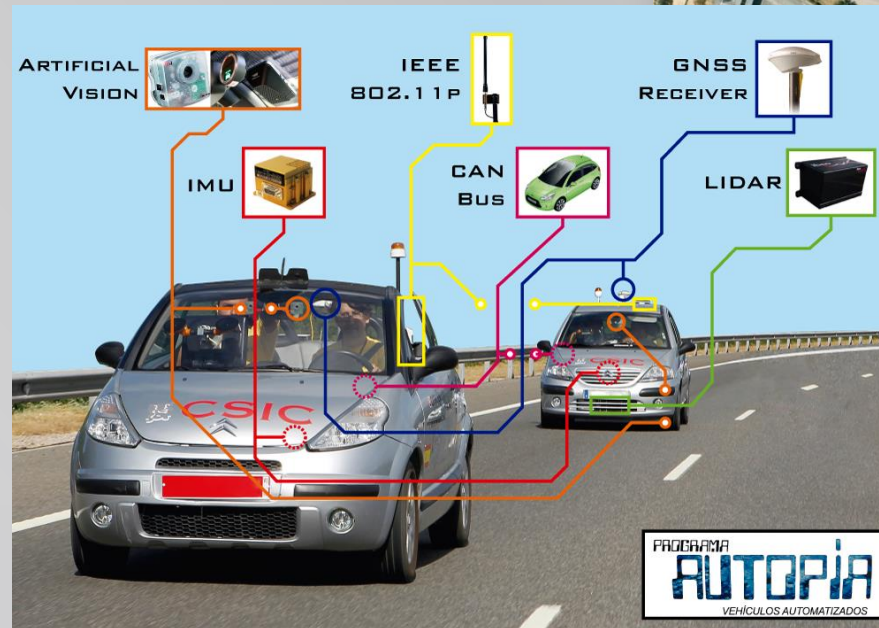
Center for Automation and Robotics (CSIC-UPM)



AUTOPIA Program

- Started in 1996. Strategic R+D area of **CAR**, UPM-CSIC, formerly Inst. Ind. Automation - IAI
- Inspiration: Control techniques developed for mobile robots
- **Own infrastructure and facilities for testing and deployment**
- **Some Projects:**
 - EMC2
 - ACCUS
 - GUIADE
 - CYBERCARS-2
 - CITYELEC

Urban layout with traffic signals & comm.



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Present research lines & projects

- **EMC2** **Artemis** **2014-2017**
 - Develop and validate a **decision system** able to identify the vehicle context, **evaluating collision risk in real time** and planning the optimal route for **obstacle avoidance**.
- **NAVEGASE** **Plan Nacional I+D+i** **2015-2017**
 - Subsystems integration to allow **improving security in road vehicles circulation**.
 - **Natural Language** approach for communications between vehicle and user
- **TCAP** **Retos Colaboración** **2015-2018**
 - Develop a **set of tools** for implementing, combining, integrating and validating different **functionalities for ADAS**.
- **IoSense** **ECSEL 2015** **2015-2017**
 - **High-end design methods** for “More than Moore” technologies.
 - Sensor **modelling and simulation**. On-board **integrated sensors** for vehicles.

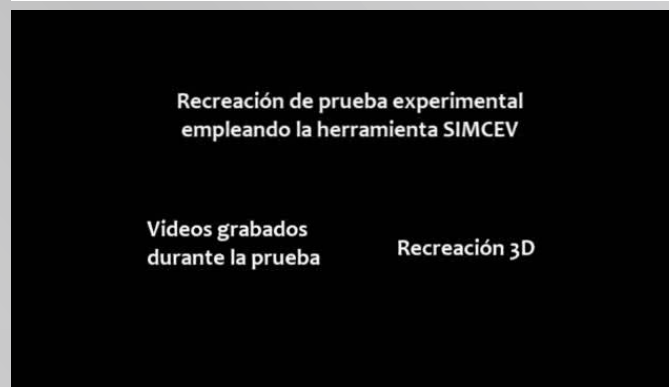
What AUTOPIA can bring to this call?

- **Small scale ITS-ecosystem:** Fully automated vehicles with open architecture for development, deployment and testing.
- Background in **engineering C4** *control, computing, comm., and cognition-based.*
- **Expertise:**
 - **Perception:** sensors & actuators, signal processing, intelligent data fusion.
 - **Communication:** V2X information exchange.
 - **Decision-making:** control and on-line learning methods, computational architectures, artificial cognitive systems.

MOST CITED INSTITUTIONS (TOP TEN)

Rank	Title	Ctry/Reg	Cites	ACS
1	U of Minnesota	USA	213	150.50
2	George Washington U	USA	121	121.00
3	UC, San Diego	USA	118	105.00
10	Inst. de Automatica Industrial	Spain	55	52.50

Source: IEEE transactions on ITS 2013





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