

Challenge 2: Innovative systems and services for transport and production

Objective: design and development of efficient and smart technological building blocks to satisfy high societal demands

Within ten years Challenge 2 aims at addressing the following scientific challenges:

- new technologies to securely collect, process and transfer massive amounts of data
- completely autonomous mobile robots (higher speed, obstacle avoidance, day-night transition, bad weather conditions...)
- Mobile, flexible and ergonomic "cobots"
- strategic, tactical and operational planning of production systems
- operational modelisation of new tech acceptability and acceptance.

Challenge 2 research work is structured around 5 themes :

- Smart vehicles and machines
- Systems and services for innovative mobility
- Energy production processes for mobility]

This theme, centered around LabEx IMobS3, focuses on 3 specific challenges:

- challenge 1 "Intelligent vehicles and machines" aims at developing new systems to increase the performance and safety in the use of devices tha are dedicated to mobility;
- challenge 2 "Systems and services for an innovative mobility" focuses on the conception of decision-making tools and models likely to enable an efficient integration of new-generation vehicles/robots in existing mobility systems;

- challenge 3 "Energy production processes for mobility" focuses on innovative and efficient bioprocesses for high-yield production of biofuel, as well as on techniques to increase production and storage capacity of these energetic vectors.

Associated LabEx

[The IMobS3 LabEx](http://www.imobs3.uca.fr/index.php/fr/)(<http://www.imobs3.uca.fr/index.php/fr/>) is associated to the Challenge research work.

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