



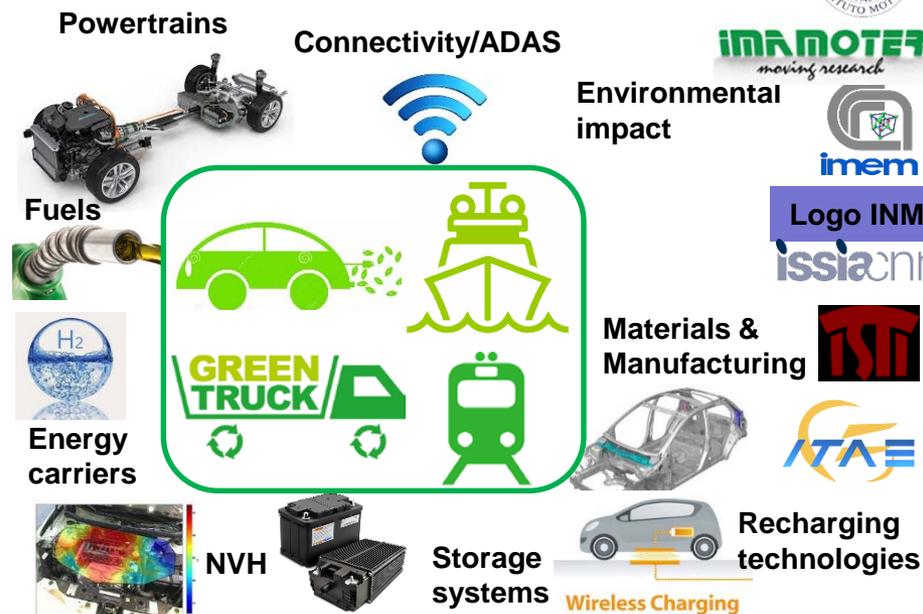
# Project Area 18: Green Vehicles

**Objective:** The objective is the development of environmental friendly vehicles, with focus on: (1) zero or quasi-zero emission powertrains in terms of toxic pollutants, GHG, NVH and acoustic pollution, in all transport sectors (road, off-road, waterborne, railways and airspace); (2) increase the safety of the vehicles contributing to the zero-accident target; (3) support to the development of an integrated transport system and the ADAS technologies. Research activities are carried out in co-operation with other complementary PAs, such as: “Low carbon technologies”, “Smart cities”, Marine technologies”, “ICT” and “Applied mathematics”.

**Approach:** The research activities include both fundamental studies of the basic processes and methodologies to support the technology development or creation of new breakthrough technologies, as the applied research for the improvement of the most emerging technologies. A primary role is played by the scouting work of research topics at proof-of-the-concept level (TRL1/2) susceptible to become disruptive technologies at TRL5/6.

The research efforts oriented towards technological development are carried out in close co-operation with leading international companies in the transport sector, most of them located in Italy.

**Figure:**



**Scientific Impact/Results:** The impact of the research activities can be summarized in: (1) new technologies for a future environmental sustainable transport in terms of innovative and alternative powertrains, green energy carriers, lighter and more robust chassis, advanced and automatic control of vehicles; (2) technology transfer from CNR Institutes to the co-operating companies; (3) Increasing knowledge, know-how and methodologies to speed up the design, development and validation of the enabling technologies for environmental friendly vehicles.