

MOVING TOWARDS NEW CONNECTED, AUTONOMOUS, INTEGRATED, GREEN MOBILITY

Polytechnic University of Milan Study: within 20 years, one shared ownership car will replace 10 privately owned cars, and 20% of cars in Italy could already be immediately replaced with electric cars

Launch of the *Centro Nazionale per la Mobilità Sostenibile* (National Centre for Sustainable Mobility), co-funded by the PNRR (national recovery and resilience plan) with Unipol Group as one of the founding members

Milan, 27 June 2022 - In the next twenty years, in medium-sized towns, **one shared ownership car will replace 10 privately owned cars**, to be mainly used in urban settings. We are actually at the start of a revolution, transitioning from mobility based on big cars powered by fossil fuels that are owned and driven by people to mobility characterised by light, electric, shared vehicles, driven by algorithms. There will also be a net separation of both the functional aspect - mainly served by self-driven robotaxis - and the emotional aspect - associated with a select niche of cars that will still be driven by humans and mostly privately owned.

This is what emerged from a study led by the Polytechnic University of Milan, based on an analysis of the movements of Italians' cars, recorded through telematic boxes (with a representative sample of 10% of vehicles being driven), and presented today in Milan at the Feltrinelli Foundation during the first forum of **The Urban Mobility Council**, the **Mobility Think Tank** promoted by **Gruppo Unipol** with the patronage of the **Ministry of Ecological Transition** and the **European Commission**. The project was established to bring together institutional stakeholders, universities and companies involved every day in the construction of **sustainable mobility for the future**: connected, autonomous, integrated and green.

The aim of the research by the Polytechnic University of Milan is to use current mobility data on vehicles driven on Italian roads to forecast, design and optimise future mobility models, in accordance with the main guidelines of electric, shared and autonomous mobility.

The research concentrated on **two areas**.

Moving towards Mobility-As-A-Service using self-driving cars

The study aims to design the transition towards "Mobility-As-A-Service" ("MAAS") (both with traditional and self-driving vehicles) and find the most efficient way to introduce this new mobility model. On the basis of this aspect, in future **20% of private cars** in our towns could be easily **replaced by ride-sharing semi-autonomous cars**, with a replacement ratio of about 1:10.

The transition towards MAAS is obligatory to make our mobility model more efficient, which today is essentially based on a huge number (about 40 million) of private cars, mainly used very little (about 7,000 km/year). The mobility model based on owned cars is also poorly adapted to the adoption of electric cars since it forces families to buy electric cars with very high autonomy (500 km), mainly never used, but still very "expensive" since they require very large batteries.

Moving towards electrification

The research also assessed the actual short-term electrification opportunities, identifying the fastest, cheapest lines of development. To that end, the data shows that already today, even without the massive use of charging stations, **20% of cars driven in our country are ready to be replaced by electric cars** since

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the transition to electric would not involve any limitations of use for the owners due to their limited autonomy and no extra costs.

Sergio Savaresi, Professor of automation in vehicles at the Polytechnic University of Milan said *“the big-bang of this revolution will be automated driving which will trigger service mobility that in turn will complete the full electrification process. We have to identify the fastest, cheapest development guidelines to facilitate this transition, both with traditional vehicles and self-driving vehicles”*.

The **Urban Mobility Council** was established to bridge this gap in awareness of the real possibilities to encourage the transition from current mobility towards more sustainable, integrated, connected, green mobility.

These objectives are shared with the **Centro Nazionale per la Mobilità Sostenibile** which includes **25 universities** and related research centres and **24 big companies** including **Unipolsai**, all leading players in the world of mobility and infrastructures, with a planned investment of **394 million** for the first 3 years (2023-2025), with **696** dedicated **researchers** and **574** new hires with the mission to encourage “the green, digital transition in a sustainable way, ensuring the industrial transition of the sector and helping local institutions to implement modern, sustainable and inclusive solutions in the towns and regions of the country”.

The following made contributions at the forum: **Carlo Cimbri**, Chairperson of Unipol Gruppo; **Federico Caleno**, Head of Enel X Way Italy; **Alessandro Felici**, CEO and Founder, RideMovi; **Giovanni Ferigo**, Chief Executive Officer and General Manager, INWIT; **Attilio Fontana**, President of Lombardy Region; **Simone Franzò**, Senior Assistant Professor, Polytechnic University of Milan – Energy&Strategy, Engineering Management Department; **Sampo Hietanen**, CEO, MaaS Global; **Aldo Isi**, Chief Executive Officer, ANAS; **Matteo Laterza**, Chief Executive Officer, UnipolSai; **Matteo Mammi**, CEO Helbiz; **Paolo Marchetti**, Commercial, Strategy, Innovation and Sustainability Manager ATM; **Giovanni Miragliotta**, Professor, Engineering Management Department, Polytechnic University of Milan; **Alessandro Morelli**, Deputy Minister, Ministry of Infrastructures and Sustainable Mobility; **Giorgio Moroni**, CEO, Free to X; **Matteo Muratori**, Chief Analyst, United States Department of Energy; **Massimo Nordio**, Vice President Group Government Relations and Public Affairs, Volkswagen Group Italia S.p.A.; **Gilberto Pichetto Fratin**, Deputy Minister, Ministry of Economic Development; **Ferruccio Resta**, Dean, Polytechnic University of Milan; **Pierluigi Sassi**, President, Earth Day Italia; **Sergio Savaresi**, Professor of automation in vehicles, Polytechnic University of Milan; **Pierpaolo Settembri**, Head of Unit for Coordination and Planning in the European Commission’s Directorate-General for Mobility and Transport (DG MOVE); **Andrea Soncin**, General Manager, Here Italy; **Chicco Testa**, Fise Assoambiente; **Giovanni Tortorici**, President, Associazione Italiana Acquirenti e Gestori Auto Aziendali.

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