

HERMES

Simulating the new challenges of a decarbonised mobility



INSPIRATION

From its production to its use phase, a motor vehicle can have various environmental impacts. In view of the significant CO₂ emissions from fossil fuel vehicles, paths towards more sustainable mobility modes are emerging. Electric and hydrogen mobility modes are only in their infancy but are already foreseen as promising and lasting alternatives for future transportation system within Europe. However, questions about their long-term effects and deployment within our society remain to ensure a transition towards decarbonisation.

INNOVATION

Based on a close collaboration between ENGIE and LIST, HERMES has the ambition of providing an appropriate decision-making tool for territories to assess the medium-term consequences of mobility policies. With a strong expertise and past projects in the domain, LIST will combine Life Cycle Assessment (LCA) methods and Agent-Based Model (ABM) in order to develop scenarios helping to identify the most efficient policy levers to trigger a sustainable mobility based on real-world data (SPHYNX). Within this innovative project focusing on the Ile-de-France area, LIST researchers have worked on two major agents for tomorrow's mobility: captive fleets (e.g. taxis, company cars, urban freight distribution) and private vehicles, for which environmental impacts, public acceptance and decision criteria will be simulated over a period of twelve years.

IMPACT

The LCA-ABM combination of the HERMES project will enable the provision of unprecedented information to Ile-de-France policy makers to simulate the environmental consequences of their legislation regarding an interdiction of diesel and petrol-powered vehicles in the following decade. This project, co-financed by FNR and ADEME, will therefore raise awareness about the new challenges of carbon-free mobility. Finally, HERMES may well open the path to further investigations considering behavioural modelling as well as different key mobility territories such as Luxembourg.

Partners

ENGIE

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