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## Mobypost project: 10 fuel cell electrical vehicles and two refueling stations for postal delivery

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The European project MobyPost takes into consideration the whole energy from production to consumption through the innovative solution "from the sun to wheel". This is achieved on the one hand, through the development of two hydrogen production stations thanks to the electrolysis of water from solar photovoltaic energy. The Hydrogen thus produced is stored in two buffer tanks installed on two experiment sites in the French Bourgogne-Franche-Comté region namely, Audincourt and Perrigny. The project allowed the design and the construction of 10 fuel cell electric vehicles for the delivery of mail to cover a geographical area within a 25 to 35 km radius around the postal centers. The Mobypost vehicles are feed each day with hydrogen on the buffer tanks. In contrast to high-pressure storage (between 350 and 700 bar) currently used by the known fuel cell electric vehicles, hydrogen storage in MobyPost vehicles is of the solid type and is at low pressure (between 2 and 10 bar), which offers more safety on board the vehicles. Experimentation achieved during the project highlights the real and actual specifications used nowadays by La Poste to deliver the postal mail in the more effective way. Hence this allows demonstrating the relevance and feasibility of such an innovative approach with nearly zero carbon emission in real working conditions. A further important goal of the project is also to diffuse the results to similar niche markets around Europe like e.g. postal mail operators of others countries, proximity delivery services providers or municipal technical services.

### Biography

Abdesslem Djerdir was born in 1969 and has received the B.S. degree in electrical engineering from the National Institute of Electrical Engineering Bejaia, Algeria, in 1993 and the Ph.D. degree in electrical engineering from University of Franche Comté Belfort, France, in 1999. Currently, he is an Associate Professor at the University of Technology Belfort-Montbéliard (UTBM), France. He is habilitated to supervise scientific research since December 2007. His research interests include modeling and design of electric and fuel cell vehicle systems (electrical machines, energy storage devices, and power converters). He develops his main researches on availability and high efficiency of electric drive trains for transport applications by combining the experimental and theoretical approaches. In this framework, he was the vehicle referent of the Mobypost project (<http://mobypost-project.eu>) where 10 fuel cell electric vehicles were built and tested.

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