

Interactions UTC

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Energy management for smart cars

“Today, the most serious brake to a commercial introduction and deployment of electric vehicles is their lack of range” announces Alessandro Victorino, research scientist and lecturer at the UTC-Heudiasyc Laboratory. “Moreover, the current demand is for safer vehicles on the road”. It is to comply as best as possible to this demand that the UTC-Heudiasyc laboratory and the UT Ilmenau (Thuringe, Germany) decided to work together to design a new concept of “smart electric vehicle”.

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The VERVE project is an international research programme managed jointly by UTC and UT Ilmenau (Thuringe, Germany) which began in 2011, co-financed by the Picardie Region, France and the FEDER (the European Development Fund). Both UTs are associated because of the complementary skills and means. UT Ilmenau is specialized in power unit management, whereas the skills of UTC-Heudiasyc focus on artificial intelligence (AI) systems. UT Ilmenau will therefore conduct research to identify new methods and technologies to increase vehicle range by controlling power intelligently.

“If we can detect if a vehicle is climbing or descending”, reports Alessandro Victorino, we can forward this information to the motor propulsion group to optimize power supply. One of the objective of VERVE is to provide more reliable more accurate information”.

At the UTC-Heudiasyc Laboratory, the research is currently focused on aids to driving. *“To assist the driver, an electric vehicle must be able to “see” and interpret its environment, to as to avoid obstacles on the carriageway”, explains Alessandro Victorino. “The final objective of VERVE is that the vehicles be able to interact with the drivers, interpreting their movements and the degree of*

feasibility of the actions requested (in taking a bend, for example) and to assist rapidly in case of an emergency”.

At the end of 2015, the research teams will have operational “demo” vehicles, built partly with the help of industrialists: *“this will also enable us to study the possibility to commercialise this sort of system of aid to driving and ‘smart’ power management”* adds Alessandro Victorino.

The Picardie and Thuringe Regions will then equip their groups with safer and more ecological vehicles.