XERIC
INNOVATIVE CLIMATE-CONTROL SYSTEM TO EXTEND RANGE OF ELECTRIC VEHICLES AND IMPROVE COMFORT

European Research & Innovation Project
Innovative climate-control system to extend range of electric vehicles and improve comfort

Interview with Dr. Andrés CALDEVILLA

Technical Manager at DENSO AUTOMOTIVE Deutschland GmbH, Germany
& partner of OPTEMUS

Dr. Andrés CALDEVILLA is leading the EU Technology Trend Research & Evaluation activity by DENSO International Europe. In the frame of the OPTEMUS project, he is task manager for the preconditioning strategy and Human-Machine Interface (HMI).

"OPTEMUS and XERIC followed a different strategy for the efficiency improvement of the vehicle climate-control system. Therefore they can learn from each other results, which is the best way to achieve comfort with less energy consumption."

Can you please tell us a little bit about yourself?

I come from Spain and hold degrees in electrical engineering from the Technical University of Madrid and in mechanical engineering from the Technical University of Vienna (2000). In 2008 I received my Ph.D. degree on energy storage devices for hybrid electric vehicles. Since then, I am working in the field of electro-mobility.

I completed in 2011 an MBA program in the University of Applied Sciences of Munich, specializing in project and contract management. Since 2011, I am working for DENSO AUTOMOTIVE Deutschland. I lead the EU Technology Trend Research & Evaluation activity by DENSO International Europe and am involved in several internal and EU-funded research projects (H2020), as well as EU technology platforms (ERTRAC, EGVIA, ECPE, VDA FAT).

What about OPTEMUS? Can you remind us the main objectives of the project?

According to our project proposal, we are working on "leveraging low energy consumption and energy harvesting through a holistic vehicle-occupant-centred approach, considering space, cost and complexity requirements".

After 3 years of parallel work, what do you remember the most from this cluster approach between XERIC, OPTEMUS and JOSPEL?

I remember from the cluster meeting in Bologna and the XERIC workshop in Genoa the

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interesting discussions regarding similar problems but seen from another perspective.

XERIC's final meeting is now going to take place in Brussels in a few weeks. What are, for you, XERIC's main achievements?

The separation of cooling and dehumidification in the vehicle climate-control system is quite interesting and the results will clarify the feasibility of such a system for a small electric vehicle.

From your perspective, what is the outlook for the climate control technology developed in the frame of XERIC?

The developed technology should be now ready for its implementation in a small electric vehicle and for the feasibility check from OEM and HVAC-supplier side.

" The Common Dissemination Booster should enable the potential breakthrough of some of our developed technologies"

How do you link it with the technologies developed in the frame of OPTEMUS?

Both projects followed a different strategy for the efficiency improvement of the vehicle climate-control system. Therefore they can learn from each other results, which is the best way to achieve best comfort with less energy consumption.

OPTEMUS, JOSPEL and XERIC successfully applied to the European Commission's Common Dissemination Booster Service, which will start at the beginning of June. What are you expecting from that joint action in particular?

The dissemination activities from such EU-funded projects run not ideally in the past, therefore I expect an improvement of the communication of the achieved results to the major customers, enabling the potential breakthrough of some of the developed technologies. Some of our results could take profit of the synergies between our three projects and be transferred to products on the market!

Thanks for your time,
and long live our collaboration!

DENSO AUTOMOTIVE Deutschland GmbH

partner of OPTEMUS

is a leading supplier of advanced automotive components, engineering services, design, testing and R&D for the world's major car makers.

In the frame of OPTEMUS, DENSO AUTOMOTIVE Deutschland GmbH is doing the Compact Refrigeration Unit (CRU), which is a compact and efficient water-2-water heat pump system for electric vehicles, as well as the preconditioning strategy and HMI.

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XERIC in brief

XERIC is a European Research & Innovation Project
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