

iCOMPOSE Consortium – 9 partners from 6 countries



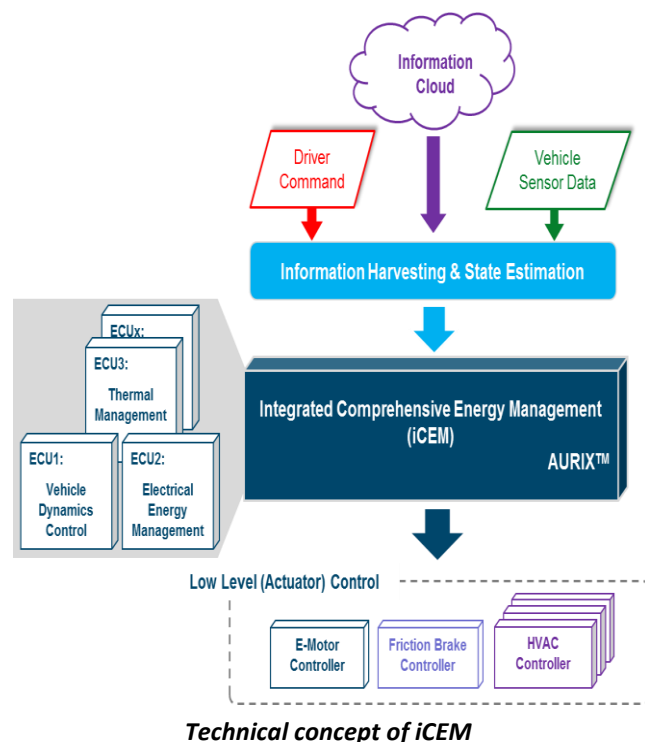
iCOMPOSE Hard Facts

- **PROJECT COORDINATION:** VIRTUAL VEHICLE Research Center (Austria)
- **START:** 1 October 2013
- **WEBSITE:** www.i-compose.eu
- **DURATION:** 36 months
- **NUMBER OF PARTICIPATING ORGANIZATIONS:** 9
- **NUMBER OF PARTICIPATING COUNTRIES:** 6

The iCOMPOSE project – A short introduction

The Integrated Control of Multiple-Motor and Multiple-Storage Fully Electric Vehicles (iCOMPOSE) project is funded by the **European Union** within the **Seventh Framework Programme (FP7)** and has started its **three year activity on 1st October 2013**.

One of the main factors for energy efficiency enhancement in fully electric vehicles is systems integration. To achieve this, iCOMPOSE proposes a step change in the control software architecture with particular focus on comprehensive energy management. This will lead to energy savings and extended driving range of the fully electric vehicle, with benefits of improved vehicle safety and comfort.



Key objectives of iCOMPOSE are:

- Integration of the energy management, thermal management, driveability control and vehicle dynamics control into a single supervisory controller, using control allocation and model predictive control techniques between the multiple motors. Also the failsafe control functions will be unified in the supervisory controller.
- Demonstration of the compatibility of the integrated control software with the actual computational power of novel multi-core automotive control units. This will include specific analyses concerning the increased performance and safety as well as reduced costs of the developed electronic components.
- Integration of the unified controller with cloud-sourced information for the enhanced estimation and prediction of the vehicle states within a cooperative vehicle-road infrastructure, including semi-autonomous driving. This will allow energy management based on predictive control techniques.

The energy efficiency, safety and comfort benefits of these control techniques and cooperative vehicle-infrastructure interfaces will be assessed on existing, highly versatile FEV demonstrators that range from one to four electric drivetrains, and are equipped with dual mode energy storage systems comprising supercapacitors and battery packs.



The 3 FEV demonstrators

iCOMPOSE assembles a consortium of **nine leading European researcher partners from six different countries** (Austria, UK, Czech Republic, Belgium, France and Germany) that are able and eager to tackle the problems associated with optimising the energy system of the FEV. With two carmakers (**LOTUS and SKODA**), three major industrial companies (**HUT, AVL and INF**), one SME (**FDRIVE**) and three research institutes (**IVI, VIF and SURREY**), the iCOMPOSE consortium is correctly balanced and has the critical mass to successfully combine broad industrial knowledge with a solid scientific foundation.

8. CTI Conference, Thermal Management in Overall Vehicle Concept

The 8. CTI conference was dedicated to thermal management in the overall vehicle concept. In the past "heating and cooling systems" were in the foreground, now our experts are faced with the challenge of incorporating thermal management in a holistic approach.

Dr. Daniel Watzenig (VIRTUAL VEHICLE) gave a presentation on "Intelligent energy management through the integration of a data cloud". The main focuses were "Adaptive Vehicle Management" and "Requirements for ICT architecture".

innoBATT Conference

On the **9th and 10th of April 2014**, the FP7 projects SuperLIB and ESTRELIA jointly organized the innoBATT conference. The conference took place in **Unterpremstätten, Austria** and brought together 30-40 HV battery experts, including a representative from European Commission and Renault as car manufacturer. The EU funded projects ESTRELIA and SuperLIB have the objective to provide cost, safety and reliability improved concepts for smart energy storage in electrical vehicles.

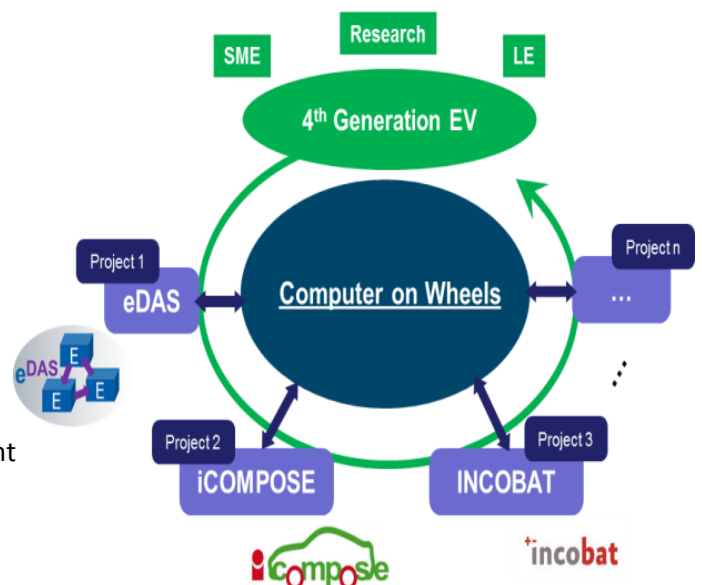
During this conference, the VIF had the chance to hold a presentation about the iCOMPOSE Project.

4th Generation Cluster

A central element in the dissemination and exploitation strategy is the **clustering of the projects INCOBAT, eDAS and iCOMPOSE under the name "4th Generation EV"**. Further projects are invited to join.

The **aim of this cluster** is to:

- (1) Avoid isolated, parallel development
- (2) Strive for consistency in actions
- (3) Early consolidation of results
- (4) Ensure sustainability of project results
- (5) Foster take-up of results by new initiatives (avoid „re-invention of the wheel“)
- (6) Consideration of 4th Generation research in 2nd and 3rd Generation development
- (7) Align technologies to achieve higher impact on potential customer



In August 2014 the iCOMPOSE consortium agreed that BATTERIES2020 joins the cluster.

The 4th generation electric vehicle cluster (iCOMPOSE, INCOBAT, eDAS) had several meetings during the first year. Three times a webex meeting has been scheduled while two meetings were held in Graz (November 2013 and April 2014). The participants are Daniel Watzenig, Stephanie Messner (both from VIF), Eric Armengaud, Nadine Knopper (both from AVL), Reiner John, Daniela Maier (both from Infineon).

First Year Review Meeting



iCOMPOSE's first year review meeting is taking place in **Brussels on 5th and 6th November 2014**.

We are looking forward to a successful first reporting and reviewing!

Upcoming Dissemination Events

- **IEEE 3rd International Conference on Connected Vehicles and Expo (ICCVE)** to be held in Vienna from November 3rd to 7th, 2014.
- **8th Graz Symposium on Interdisciplinary Vehicle Development (GSVF)**, May, 19-20, 2015.

iCOMPOSE is a project under the Seventh Framework Programme of the European Commission

