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Electric vehicle user-centric design for optimised energy efficiency

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Design OptiMisation for efficient electric vehicles based on a USer-centric approach

DOMUS – Deliverable Report

D2.1 - Innovative Methodology for the Virtual Assessment of Novel EV Cabin Designs and Technological Interventions

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1 Publishable summary

This deliverable describes a novel methodology developed in the DOMUS project for the virtual assessment of electric vehicles. Complementary to traditional approaches the methodology integrates the estimations of user comfort perception on a holistic level with energetic evaluations and safety considerations by simulation methods. In this way relevant information is available much earlier in the design development process compared to traditional approaches. Therefore, needed design changes can be placed and carried earlier and conflicts during product development can be avoided. This should lead to a reduction in both time and costs of the development process.

This deliverable describes the novel DOMUS approach refining this state of the art and contrasts it with the state of the art. The deliverable also describes how the DOMUS assessment framework that is developed in DOMUS work package 1 and documented in DOMUS Deliverable 1.2 is utilized in the virtual assessment and how vehicle designs, and technological interventions are rated by the Fitness Function implemented in the Assessment Framework. Further an overview on all the necessary simulation sub-models representing the full vehicle for virtual assessment is presented and qualitatively described along with initial interface definition.