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DOMUS

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

DOMUS – Deliverable Report

D3.1 – Benchmark analysis results of the main contributors to the heating up of the cabin and/or thermal losses providing a detailed list of requirements and performance specifications

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Written By	Hélder-Filipe DE CAMPOS GARCIA (HUT) Cédric HUILLET (HUT) Kresimir TRDAK (HUT) François LEVEQUE (AGC)	2020-06-20 2019-12-17 2019-12-17 2019-12-17
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Final 3.0	Request for revision of deliverable submission for the project "DOMUS (769902)". <i>Request for revision comment:</i> <i>Section 1.2.1, remove this section, copy/paste the text of GA</i> <i>Section 1.2.2, comment on the impact of the delay on the overall project implementation</i>	Hélder Filipe DE CAMPOS GARCIA (HUT)	2020-06-20

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Publishable summary

The purpose of the presented document is to evaluate, by a benchmarking analysis, the main contributors to the heating up, the cool down of the cabin and/or the thermal losses and how much a specific combination of different energy saving measures can reduce the energy use.

More specifically, the state-of-the-art and specific thermal tests into the passenger compartment are analyzed by providing a detailed list of requirements and performance specifications.

The presented documents on the energy used for vehicle interior climate is carried out in 4 major steps:

- First, comprehensive state of the art was carried out on typical EVs.
- Then, laboratory measurements (thermal tests) were carried out on the Fiat 500e. These measurements were used to identify the main contributors to the heating up, the cool down of the cabin and/or the thermal losses and to verify a 1D simulation model (its outcomes and results will be published in a specific and detailed deliverable D3.3).
- The third step is intended at providing an overview of the reverse engineering performed at the component level (from the Fiat 500e) through laboratory measurements for component characterization (to identify thermal, mechanical, acoustic, etc. properties).
- Finally, based on the vehicle level requirement and specifications, on the laboratory measurements and on the state-of-the-art analysis, a detailed list of requirements and performance specifications are described.