**Workflow Optimisation**

HIFI-ELEMENTS seeks to implement and investigate a streamlined workflow that makes the use of diverse modeling and simulation tools more efficient. A workflow that is conducive to model reuse, promotes consistency between different models of the same physical component and requires the developers working in the early concept stages to consider the evolution of their models as their design matures.

**Accelerating Development**

Coupled with this workflow will be a proposed standardisation of functional model interfaces. Existing standards like FMI focus on the formulation of a formal interface format description under the assumption that the physical signals, data rates and data types have been defined. The proposed functional model interface standard—defining model boundaries, signals and data particulars—will add a crucial element towards consistency and seamless use of models in the development process.

**Faster Introduction of New Technologies**

We will explore the integration of methods for automatic parameter identification and for the generation of test cases into this workflow as both, model parametrisation/calibration and test management, require high efforts when faced with a fragmented population of models.

Within HIFI-ELEMENTS, we are proposing solutions that can overcome some remaining limitations: we do not seek to invent or pioneer new tools but instead to showcase how fragmentation can be reduced and existing tools can be used more efficiently. We will build on existing standards and initiatives to improve scalability, modularity and real-time use of simulations for system characterisation, optimisation and validation and thus, enable faster introduction of novel e-drive technologies to the market.

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**Facts**

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- Duration: Oct 2017 – Sep 2020
- Budget: 7.5 Mio EUR
- Partners: 19 Partners (10 European Countries)
Consortium

Germany
- FEV Europe GmbH
- RWTH Aachen University
- Denso Automotive Deutschland GmbH
- dSPACE GmbH
- Ford of Europe GmbH

United Kingdom
- Ricardo plc
- Yasa Limited

France
- FEV S.A.

Spain
- Tecnalia Corporación Tecnológica
- Fundación CiDETEC
- Applus+ IDIADA
- Mondragon Unibertsitatea

Italy
- Iveco S.p.A.
- Altra S.p.A.

Turkey
- Tofaş Türk Otomobil Fabrikası A.Ş.

Netherlands
- TNO - Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek

Belgium
- Vrije Universiteit Brussel

Austria
- Magna International Inc.

Czech Republic
- Ricardo Prague S.R.O

Coordination & Contact:
Dr. Thorsten Schnorbus
FEV Europe GmbH
Neuenhofstraße 181
52078 Aachen

Websites:
www.hifi-elements.eu