

PROJECT

## XILforEV

# Connected and Shared X-in-the-loop Environment for Electric Vehicles Development

**Funding:** European (Horizon 2020)

**Duration:** Jan 2019 - Dec 2021

**Status:** Ongoing

**Total project cost:** €3,575,079

**EU contribution:** €3,575,079



[CORDIS RCN : 218298](#)

### Objectives:

Overall goal of the XILforEV project strives for developing a complex experimental environment for designing electric vehicles and their systems, which connects test platforms and setups from different domains and situated in different geographical locations. The domains under discussion can cover (but not limited by) hardware-in-the-loop test rigs, dynamometers, material analysers, and other variants of experimental infrastructures. Real-time running of specific test scenarios simultaneously on (i) all connected platforms/devices with (ii) the same real-time models of objects and operating environments allows exploring interdependencies between various physical processes that can be hardly identified or investigated in the process of EV development.

However, the realization of connected and shared XIL experimental environment is characterized by a number of steps to be solved, e.g. communication concepts ensuring real-time capability of connected experiments, reliable methods for real-time handling of big experimental data et al. With this in mind, a strong consortium has been built, encompassing a wide spectrum of competences.

### Methodology:

In summary, the XILforEV project brings together seven complementary participants from industry and academia, to address the new design and testing tool for electric vehicles and their systems, based on a sound and objective analysis of the distributed XIL technologies, at a level of depth never attempted by any previous research on the subject. To this purpose the XILforEV activity will include novel techniques for connecting experimental labs and dedicated case studies for designing EV motion control and EV fail-safe control. In addition, considering the importance of virtual models in XIL procedures and the availability of different test benches interconnected, the proposal also addresses the development of high-confidence, real-time capable models with automatic validation using experimental data.

### Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

**Other programmes:** LC-GV-02-2018 Virtual product development and production of all types of electrified vehicles and components

### Lead Organisation:

**Technische Universitaet Ilmenau**

**Address:**

Ehrenbergstrasse  
98693 Ilmenau  
Germany

**Organisation Website:**

<http://www.tu-ilmenau.de>

**EU Contribution:** €695,000

**Partner Organisations:****Elaphe Pogonske Tehnologije Doo****Address:**

Teslova Ulica 30  
1000 Ljubljana  
Slovenia

**EU Contribution:** €362,150

**Siemens Industry Software Sas****Address:**

Avenue Morane Saulnier 13 Espace Velizy Immeuble Le Chavez  
92320 Chatillon  
France

**Organisation Website:**

<http://www.ugsplm.com>

**EU Contribution:** €286,875

**Siemens Industry Software Nv****Address:**

INTERLEUVENLAAN 68  
3001 LEUVEN  
Belgium

**Organisation Website:**

<http://www.plm.automation.siemens.com>

**EU Contribution:** €572,250

**Audi Aktiengesellschaft****Address:**

-  
85045 Ingolstadt  
Germany

**EU Contribution:** €541,954

**Instituto Tecnologico De Aragon****Address:**

Maria De Luna  
50018 Zaragoza  
Spain

**Organisation Website:**

<http://www.ita.es>

**EU Contribution:** €497,500

**Tenneco Automotive Europe Bvba**

**Address:**

INDUSTRIEZONE SCHURHOVENVELD 1037  
3800 SINT TRUIDEN  
Belgium

**Organisation Website:**

<http://www.tenneco.com>

**EU Contribution:** €619,350

**Technologies:**

EV support technologies  
Electromobility platform

**Development phase:** Research/Invention

Transport

**STRIA Roadmaps:** electrification

**Transport mode:** Road transport

**Transport policies:** Environmental/Emissions aspects, Decarbonisation

**Geo-spatial type:** Other