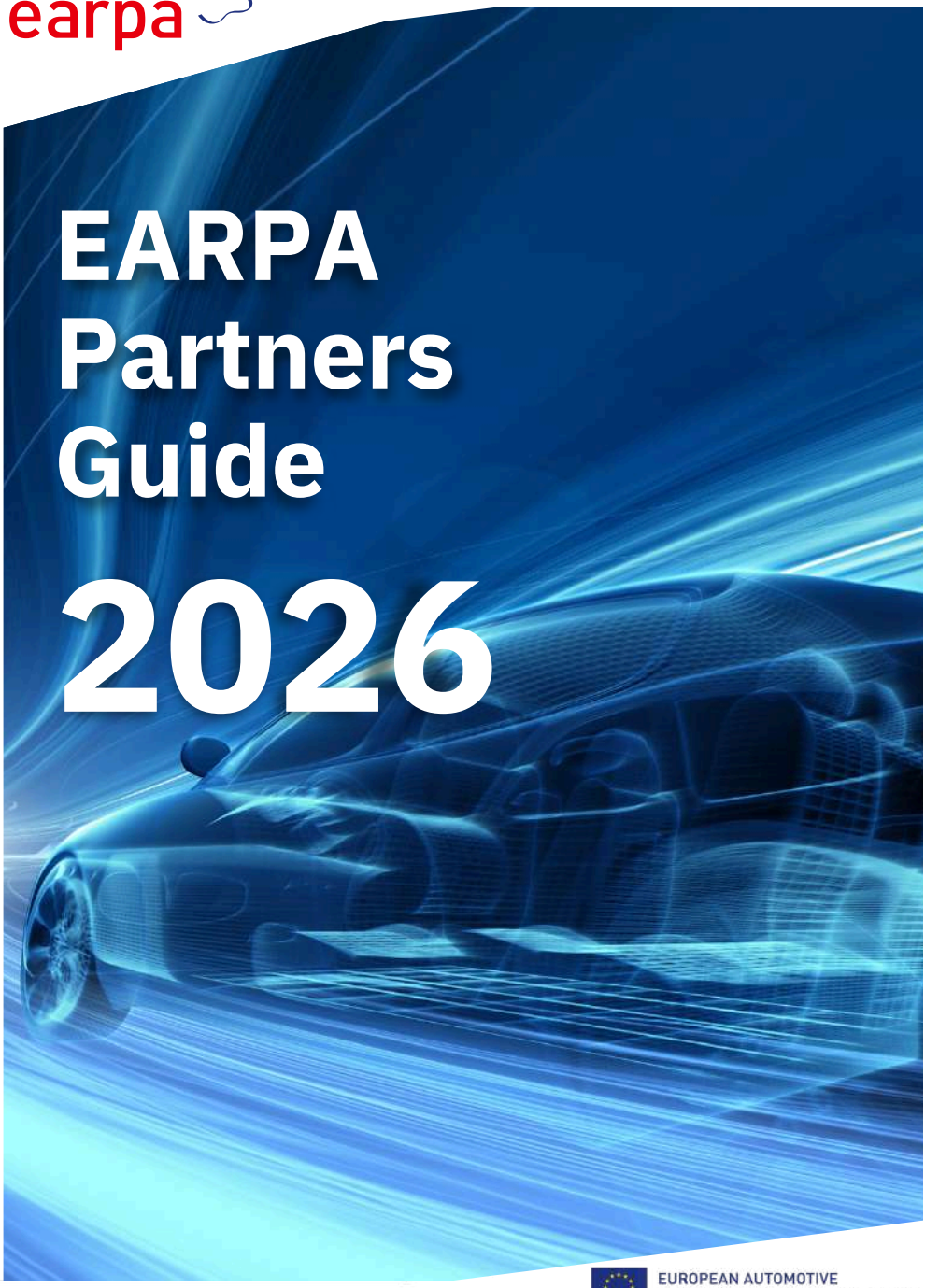
earpa

EARPA Partners Guide 2026



EUROPEAN AUTOMOTIVE RESEARCH PARTNERS ASSOCIATION

Contents

Introduction to the EARPA Partners Guide

Michele De Gennaro, EARPA President

Dear reader,

EARPA, the European Automotive Research Partners Association, is proud to represent a vibrant and innovative research community at the forefront of the European automotive sector. Our members are united by a shared commitment to advancing research and innovation (R&I) that drives Europe's transition to a carbon-neutral economy while maintaining global competitiveness.

The European automotive ecosystem stands as a cornerstone of technological progress, continuously adapting to meet emerging challenges and opportunities. EARPA members play a crucial role in this journey, focusing on the development of clean, efficient technologies that reduce the environmental footprint of road mobility while enhancing safety, accessibility, and user experience.

Our updated research strategy and priorities reflect these ambitions through six key values for future mobility: Sustainable, User-focused, Safe, Trustworthy, Accessible, and Inclusive—summarised under the mnemonic SUSTAIN. These values guide our work, as detailed in EARPA's most recent High-Level Position Paper, and underline our dedication to a future-oriented transport system that benefits society and the environment alike.

As a neutral platform positioned between industry and government, EARPA provides independent advice to the European Commission, supporting the identification of research priorities with the greatest societal impact. Through active participation in co-programmed partnerships such as 2Zero, CCAM, and Batt4EU, and collaborations with European Technology Platforms (ETPs) and associations like ERTRAC, EUCAR, CLEPA, and others, EARPA helps shape strategic research and innovation agendas for Europe's future.

Our 59 members collaborate in five dedicated Task Forces, known as Foresight Groups, to review and update EARPA's strategic positioning in European research. Through Collaborative Research Group meetings, members identify research opportunities, respond to programmes, initiate proposals, and evaluate outcomes to apply lessons learned. With a success rate above 40%, EARPA members consistently lead and contribute to impactful European projects.

This guide introduces each EARPA member, summarising their expertise and highlighting their involvement in European initiatives. Together, our members actively shape research programmes, execute valuable projects, and expand networks, all in pursuit of advancing society and protecting the environment.

I hope you find this information insightful and invite you to join us at our events to explore further opportunities for collaboration.

Warm regards,

Michele DE GENNARO
President, EARPA

What is EARPA?

Founded in 2002, EARPA is the association of automotive R&D organisations. It brings together the most prominent independent R&D providers on road mobility throughout Europe. Its membership is ranging from large and small commercial organisations to national institutes and universities.

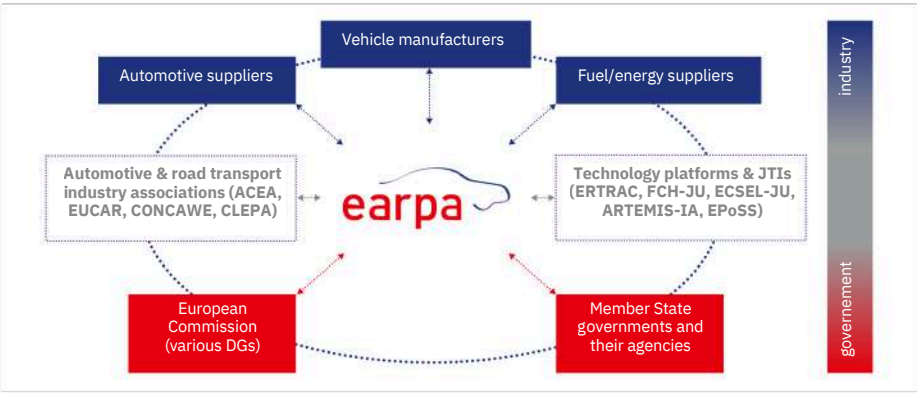
EARPA, as the platform of automotive researchers, aims at actively contributing to the European Research Area and the future EU research programmes. In this task, EARPA seeks a close cooperation with the automotive industry, the automotive suppliers, as well as the European Institutions and the EU Member States.

EARPA members are strongly committed to cooperate closely with industrial automotive partners, universities and other research organisations on future R&D. Such a cooperation may vary from an exchange of ideas and knowledge in joint meetings to setting up networks and carrying out joint projects. The EU research programmes are of particular interest to EARPA members by means to achieve such cooperation.

EARPA members are committed to contribute to a common vision on future transport and the creation and implementation of a strategic research agendas. In this, they support the actions of ERTRAC – the European Research Transport Advisory Council – as well as other European Technology Platforms.

EARPA and its members, being well integrated in both national and European research structures, are in a position and willing to support a closer link between and coordination of national and European research programmes. EARPA as an independent platform is prepared to participate at European level in strategic consulting related to public interest and social matters regarding mobility, environment, energy and safety in the automotive domain.

EARPA promotes the awareness and understanding of the specific role and contribution of its members in the automotive sector and reinforce the high-tech character of the automotive industry and its potential for future innovation and new opportunities.



Organisation

EARPA is functioning thanks to its very active members through their annual contributions. The organisation is composed of three main bodies:

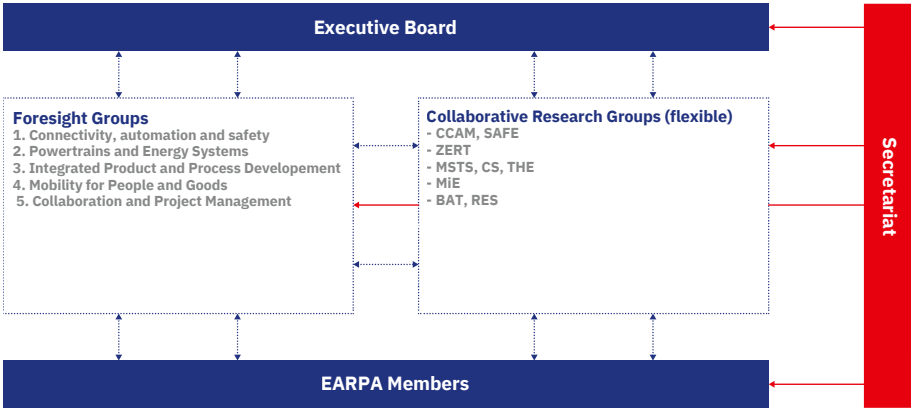
- The General Assembly governs the association in which all members are participating.
- The Executive Board, elected by the General Assembly, is responsible for the management of the association. The Executive Board tasks are to delegate plus initiate activities and carry-out the representative tasks.
- The EARPA Secretariat, managed by EARPA's President, supports the Executive Board, General Assembly, Foresight Groups and Collaborative Research Groups.

Core activities

The Foresight Groups and the Collaborative Research Groups are at the core of the activities within EARPA.

I. In the **Foresight Groups** (FGs), EARPA member experts actively discuss pertinent research topics and cover the main road transport and automotive R&D areas in which EARPA members are active.

II. The **Collaborative Research Groups** (CRGs) facilitate the discussions among EARPA members for drafting new proposals.



EARPA's Foresight Groups

The Foresight Groups (FGs) are focusing on answering specific needs identified by EARPA members (e.g. technical discussions, RTD needs, outlook, etc.) or the needs identified by the actual effort of EARPA in terms of influence & information (e.g. discussion on EU RTD Policy). Each FG has up to 6 technology experts.

Main objectives of the EARPA Foresight Groups:

1) Identifying and advocating priorities EARPA:

- Technology road mapping with special focus on EARPA needs and working areas
- Compilation and structuring of mid-/long- term RTD needs and outlook
- Creation of EARPA roadmaps and position papers
- Collection of input for EC research work programmes
- Exchange of information and views with EC and related associations as well as other stakeholders

2) Scouting of future opportunities for EARPA members:

- Sharing information on relevant developments within the group's thematic scope among members (EU events, activities of corresponding working groups in other associations etc.)
- Identification of particular funding programmes/opportunities on EC level (and joint MS-level) as input to the Collaborative Research Groups.

Participants in these Foresight Groups are relevant experts coming from EARPA's members. As an EARPA member you are very welcome to join the FGs. You can join them directly via the EARPA Members Area.

Five thematic focus areas of the Foresight Groups:

1. Connectivity Automation Safety (CAS)

With the ambition of contributing to a European road transport system without victims, FG CAS identifies and promotes R&I needs as well as future opportunities in the areas of automation, connectivity and safety for all road users.

Speaker: Margriet van Schijndel (TU/e)
Secretary: Bastiaan Krosse (TNO)

2. Powertrains and Energy System (PES)

Foresight Group PES is supporting the continuous development and integration of clean and efficient electrified powertrains as well as powertrains working on alternative fuels with a holistic view on the EU energy system.

Speaker: Bernhard Brandstätter (Virtual Vehicle)
Secretary: Marco Mammetti (IDIADA)

3. Integrated Product and Process Development (IPPD)

This Foresight Group focuses on Integrated and Connected Product Development – materials, manufacturing and design tools.

Speaker: Thilo Bein (Fraunhofer LBF/EMI/IWU)
Secretary: Bert Pluymers (KU Leuven)

4. Mobility for People and Goods (MPG)

This group deals with the overall aspects, such as implementation and business models, of the mobility of people and goods in our future society, based on the technological developments in other EARPA groups.

Speaker: Magnus Granstrom (Chalmers)
Secretary: Fanny Breuil (EURECAT)

5. Collaboration and Project Management (CPM)

This expert group is focused on European RTD project management, rules for participation, legal and financial issues.

Speaker: Verena Wagenhofer (AVL)
Secretary: Jean Marc Zaccardi (IFPEN)

EARPA's Collaborative Research Groups (CRG)

The Collaborative Research Groups are selected by the EARPA Executive Board prior to the Spring and Autumn Meetings according to the current Horizon Europe work programme and other applicable funding programmes.

The CRG Moderators are selected out of the technology experts assigned to the FGs.

The information about the open calls, as per discussed within each CRG, are distributed by the Moderator via the Secretariat.

Main objectives:

- Reflection on submitted proposals
- Provide information on on-going proposals
- Discussion on upcoming calls and drafting new proposals, appointing proposal champions, collecting partners' interests

For more information please contact the Secretariat.

EARPA's Collaborative Research Groups:

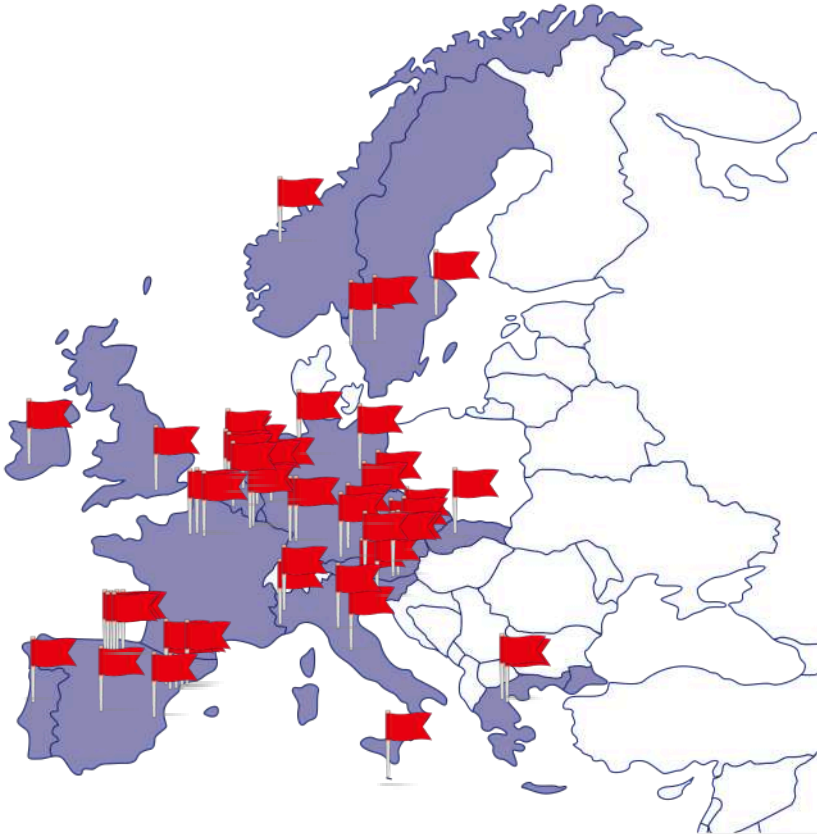
- Made In Europe (MiE)
- Zero Emission Road Transport (ZERT) + Renewable Energy (RES) + Impact of Transport on Environment and Human Health (THE)
- Batteries (BAT)
- Connected Cooperative Automated Mobility (CCAM) + Safety (SAFE) + Multimodal and Sustainable Transport Systems for Passengers and Goods (MSTS)

User Guide

This guide provides an overview of EARPA's members. It is based on the information provided by our members. Each member has provided a fact sheet containing the type of organisation, location and a short summary of expertise and activities, including participation in EU projects and participation in Technology Platforms and other major European networks. At the end of this publication, you will find all necessary contact details.

Membership

EARPA currently has 59 members: have a look at the next pages for more information. EARPA membership is open to R&D providers, commercial and non-profit. Independence of the automotive industry and experience with EU projects is among the criteria for membership. Interested organisations may apply for membership. Should you be interested to join EARPA, please do not hesitate to contact EARPA Secretariat.



Members & Locations

AIT Austrian Institute of Technology

Organisation type: R&D institute
Contact person: Michele De Gennaro
Phone number: +43 50550 6249
Email: michele.degennaro@ait.ac.at
Location head office: Vienna, Austria
Number of employees: 1600
Turnover before tax: €199 Million
Website: www.ait.ac.at

Short summary of expertise and activities

The AIT Austrian Institute of Technology is Austria's largest non-university research institute. With its seven Centers, AIT regards itself as a highly specialised research and development partner for industry. Its researchers focus on the key infrastructure issues of the future: Energy, Health & Bioresources, Digital Safety & Security, Vision, Automation & Control, Transport Technologies, Technology Experience and Innovation Systems & Policy. Throughout the whole of Austria – in particular at the main locations Vienna Giefinggasse, Seibersdorf, Wiener Neustadt, Ranshofen and Leoben – around 1,600 employees carry out research on the development of those tools, technologies and solutions that will keep Austria's economy fit for the future in line with our motto "Tomorrow Today".

Center for Transport Technologies

Mobility is a core pillar of human society and therefore a central factor in our economic system. At the AIT Center for Transport Technologies, around 200 experts are working on solutions for sustainable, safe, intelligent and thus future-proof mobility. The focus of the research and development work is on material-based lightweight design, on the electrification of the propulsion train and the storage of electrical energy, as well as on a resilient and safe transport infrastructure. This also includes environmentally compatible and intelligent production technologies for mobility components. Comprehensive system know-how, scientific excellence, state-of-the- art laboratory infrastructure and many years of international experience enable AIT experts to drive innovations in the field of climate- friendly mobility and thus to serve industry and society already today with the solutions of tomorrow.

Participation in EU projects

3beLiEVe – Delivering the 3b-generation of LNMO cells for the xEV market of 2025 and beyond, **AMIGOS** – Active mobility innovations for green and safe city solutions, **Assets4Rail** – Measuring and monitoring devices for railway assets, **Augmented CCAM** – Augmenting and evaluating the physical and digital infrastructure for Connected, Cooperative and Automated Mobility (CCAM) deployment, **BatWoMan** – Climate-friendly batteries for the mobility of tomorrow, **DISCO2030** – Combining dissimilar materials into functional large-scale and light-weight components and structures, **EMPOWER** – Multi-powertrain for heavy-duty vehicles, **HELENA** – Halide solid state batteries for electric vehicles and aircrafts, **HighSpin** – High-Voltage Spinel LNMO Silicon-Graphite cells and modules for road and airborne transport applications, **IMOTHEP** – European aviation research and industry initiative on Hybrid Electric Propulsion, **InSPIRe** – Innovative systems to prevent ice on regional aircraft, **IMPACT** – Aircraft advanced rear end and empennage optimisation enhanced by anti-ice coatings and devices, **IntelLiGent** – Innovative and sustainable high voltage Li-ion cells for next generation (EV) batteries, **MAST3RBoost** – Novel hydrogen tanks as a contribution to decarbonising the transport sector, **MATISSE** – Multifunctional structures with quasi-solid-state Li-ion battery cells and sensors for the next generation climate neutral aircraft, **MULTI-FUN** – Enabling MULTI-FUNctional performance through multi-material additive manufacturing, **NoVOC** – Eliminating VOC from battery manufacturing through dry or wet processing, **ORCHESTRA** – Optimised Electric Network Architectures and Systems for More-Electric Aircraft, **PIARC Global Road Safety Knowledge Exchange** – AIT supports PIARC in the dissemination of road safety for Low and Middle Income Countries, **PULSELiON** – Pulsed laser deposition technology for solid state battery manufacturing supported by digitalization, **SELFIE** – Self-sustained and smart battery thermal management solution for battery electric vehicles, **SOLIFLY** – Multifunctional aircraft components with integrated semi-solid state battery, **SUSTAINair** – Lightweight, multifunctional and intelligent airframe parts, **SUBLIME** – Solid state sulfide based Li-metal batteries for EV applications, **TRIcEPS** – Development of integrated engine air intake and protection systems for Tilt Rotor.

Applus+ IDIADA

Organisation type:	R&D company
Contact person:	Adrià Ferrer
Phone number:	+34 911 166 000
Email:	adria.ferrer@idiada.com
Location head office:	L'Albornar, Spain
Number of employees:	3,400 employees as of November 2024
Turnover before tax:	€331M (as of 31st Dec 2023)
Website:	www.applusidiada.com

Headquarters & Main Technical Centre

Short summary of expertise and activities

Applus+ IDIADA, as a global partner to the automotive industry worldwide, supports its clients in their product development activities by providing design, engineering, testing and homologation services. With over 30 years of experience, Applus+ IDIADA provides an extensive range of engineering and testing services in the fields of passive and active safety, CAV & ADAS, electronics, powertrain, comfort and reliability. The company's expertise and wide capabilities in both physical and virtual testing result in maximum cost and time efficiency. Its engineering solutions are driven by the ongoing pursuit of excellence and research in the best technology. A large team of more than 3.400 professionals as well as an international network of subsidiaries and branch offices in 24 countries ensure clients are given agile customized services. To keep meeting the challenges of sustainable mobility, the company is continually investing in new capabilities, mainly for the development of connected and automated vehicles and new powertrain technologies.

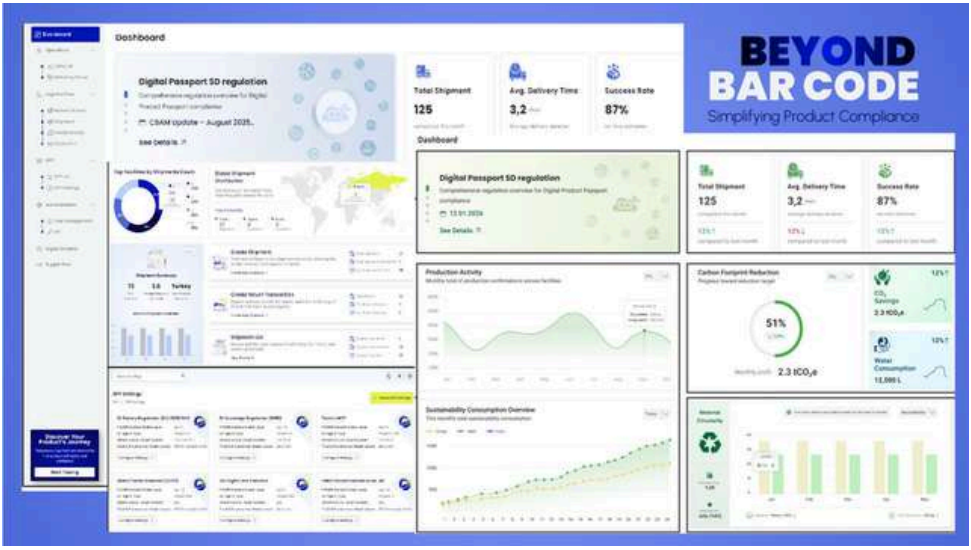
Participation in EU projects

- **SYNERGIES** – Real and synthetic scenarios generated for the development, training, virtual testing and validation of CCAM systems
- **MINDED** – Thermal and energy Management for INcreased Driving range of an Electric minibus including improved user-centric Design and thermal comfort
- **LeMesurier** – Measuring the value of the Key Performance Indicators (KPI) of the 2Zero Partnership
- **INNOBMS** – Situationally aware innovative battery management system for next generation vehicles
- **IMPROVA** – Injury mitigation to promote vision-zero achievement
- **SUNRISE** – Safety assurance framework for connected, automated mobIlity systems
- **iEXODDUS** – Infrastructure for the EXtension of ODDs - applied in connected and aUtomated driving and Standardization procedures
- **EvoRoads** – Evolutionary Solutions for Realising a Holistic Safe System Approach for All Road Users
- **Diversify-CCAM** – Diversify CCAM by integrating the European cultural and regional variations in the design and implementation of citizen-friendly systems to foster mobility equity
- **PoDIUM** – PDI connectivity and cooperation enablers building trust and sustainability for CCAM
- **SALIENT** – Novel concepts for safer, lighter, circular and smarter vehicle structure design for enhanced crashworthiness and higher compatibility
- **XL-Connect** – Large scale system approach for advanced charging solutions
- **LENS** – L-vehicles emissions and noise mitigation solutions
- **GAP_Noise** – Global acoustic interaction and psychoacoustic impact of the autonomous vehicles in interior and exterior noise
- **FAME** – Framework for coordination of automated mobility in Europe
- **EBRT2030** – European bus rapid transit of 2030: electrified, automated, connected
- **TANGO** – Digital technologies acting as a gatekeeper to information and data flows **AIthena** – AI-based CCAM: trustworthy, explainable, and accountable
- **SELFY** – Self assessment, protection & healing tools for a trustworthy and resilient CCAM **TRANS-SAFE** – Transforming road safety in Africa
- **TARGET-X** – Trial platform for 5G evolution – Cross-industry on large scale
- **VERA** – Vehicle emission retrofit activities **V4SAFETY** – Vehicles and VRU virtual evaluation of road safety
- **ZEFES** – Zero emission flexible vehicle platforms with modular powertrains serving the long-haul freight eco system

Artech

Organisation type:	SME
Contact person:	Suna Akbayir
Phone number:	+32470553576
Email:	suna@artechconsulting.net
Location head office:	Brussels, Belgium
Number of employees:	+10
Turnover before tax:	+€3M
Website:	www.artechconsulting.net

Beyond Bar Code Digital Product Passport (DPP) Platform



Short summary of expertise and activities

Artech International, headquartered in Brussels a Belgian with an R&D office in Leuven, is a Belgian SME developing advanced Digital Product Passport (DPP) technologies to enhance sustainability, traceability, regulatory compliance, and transparency across industrial value chains. Operating across automotive, batteries, energy, electronics, textiles, and construction, ARTECH focuses on scalable, EU-aligned solutions.

Key technologies and skills include:

- Software-Defined Vehicles (SDV): lifecycle management of vehicle software, OTA updates, software configuration traceability, cybersecurity status, and functional safety, linked to Digital Product Passports
- AI-powered analytics: compliance monitoring, ESG KPIs, and performance optimisation
- Digital twins: for vehicles, batteries, and manufacturing systems
- IoT-enabled data acquisition: across products, batteries, and operational environments
- European Data Spaces & interoperability frameworks: secure, standardised, and sovereign data sharing
- Trust and cybersecurity architectures: including identity management and data integrity mechanisms
- Sustainability, circularity, ESG integration: embedded into product and system lifecycles

Beyond Bar Code (Digital Product Passport – DPP):
The Beyond Bar Code platform delivers dynamic, interoperable DPPs covering vehicle components, battery chemistry, critical raw materials, carbon footprint, state of health, usage history, and recycling readiness. Real-time access is provided for OEMs, suppliers, fleet operators, recyclers, and authorities, enabling circular, service-based, and compliance-by-design business models.

Participation in EU projects

- **GreenFAB X:** Sustainable semiconductor manufacturing integrating digital traceability, circular supply chains, and advanced process monitoring (HORIZON JU CHIPS 2025 IA). Coordinated by ARTECH International, the project enhances environmental and economic sustainability in the European semiconductor ecosystem.
- **BASE:** Digital Battery Passport for supply chain traceability and circular business models
- **MainVerse:** AI-driven unmanned systems and digital twins for industrial maintenance
- **Disrupting MaaS:** Mobility as a Service (MaaS) expertise and real-world applications
- **SLOADZ:** Digital platforms for urban logistics optimization

AVL List GmbH

Organisation type:	R&D company
Contact person:	Mr. Horst Pflügl
Phone number:	+43 316 787 1587
Email:	horst.pfluegl@avl.com
Location head office:	Graz, Austria
Number of employees:	12200
Turnover before tax:	€2.05 Billion
Website:	www.avl.com

Short summary of expertise and activities

AVL is one of the world's leading mobility technology companies for development, simulation, and testing in the automotive industry and in other sectors such as rail, marine, and energy.

Based onextensive in-house research activities, AVL delivers concepts, technology solutions, methodologies, and development tools for a greener, safer, and better world of mobility and beyond. The company supports international partners and customers in their sustainable and digital transformation. The focus lies on the areas of electrification, software, AI and automation. In addition, AVL supports companies in energy-intensive sectors on their way to a greener and more efficient energy generation and supply.

To support European automotive research collaborations, AVL is a member and/or cooperates with various European research associations and Partnerships, such as ERTRAC, 2Zero, BATT4EU, CCAM, Clean Hydrogen, Chips JU, INSIDE, EPOSS, EFFRA, CONCAWE and EUCAR. At national level AVL participates in ACStyria, A3PS, ESBS Austria, SafeTRANS, FVV, FVA, FAT, FKG and Mov'eo

Participation in EU projects

Since 1992 AVL has been active in more than 200 EC-funded RTD projects. In Horizon Europe AVL has coordinated for example **HighScape** (High efficiency, high power density, cost effective, scalable and modular power electronics and control solutions for electric vehicles), **FuelSOME** (Multifuel SOFC system with Maritime Energy vectors), **EM-TECH** (Innovative e-motor technologies covering e-axles and e-corners vehicle architectures for high-efficient and sustainable), **STREnGth_M** (Stimulating road Transport Research in Europe and around the Globe for sustainable Mobility), **A-IQ Ready** (Artificial Intelligence using Quantum measured Information for realtime distributed systems at the edge), AccCellBat (Accelerated Cell- and Battery Testing), **ARCHIMEDES** (Trusted lifetime in operation for a circular economy), **Cynergy4MIE** (Leverage synergy by cyber-physical systems for the convergence of the eco systems mobility, infrastructure and energy in the circular economy for the Society 5.0) and **FEDERATE** (SoFtwarE DefinEd vehicle suppoRt And coordinaTion project) and has participated as partner in numerous others, such as NextETruck (Efficient and affordable Zero Emission logistics through NEXT generation Electric TRUCKs), **greenSPEED** (Green and Sustainable Processes for Electrode Production), **FREE4LIB** (Feasible recovery of critical raw materials through a new circular ecosystem for a li-ion battery cross-value chain in Europe), **SUNRISE** (Safety assUraNce fRamework for connected, automated mobIlity SystEms), **EBRT2030** (European Bus Rapid Transit of 2030: electrified, automated, connected), **ZEFES** (Zero Emission flexible vehicle platforms with modular powertrains serving the long-haul Freight Eco System), **DigiBatt** (Digital solutions for accelerated battery testing), **NEXTBMS** (NEXT-generation physics and data-based Battery Management Systems for optimised battery utilization), SmartCorners (User-centred Optimal Design of Electric Vehicle with Smart E-Corners), **InnoBMS** (Situationally aware innovative battery management system for next generation vehicles), **LeMesurier** (Measuring the value of the Key Performance Indicators of the 2Zero Partnership), **iEXODUS** (Infrastructure for the EXtension of ODDs - applied in connected and aUtomated driving and Standardization procedures), **PEPPER** (Performant and Efficient Planar Proton-conducting Electrolysis Reactor), **Guess-WHY** (GUidelinEs for Safe and Sustainable-by-design systems based on reneWable Hydrogen) and many more.

BRING - Brussels Research and Innovation Center for Green Technologies

Organisation type:	R&D center
Contact person:	Imane Worighi
Phone number:	+32 470 03 33 79
Email:	Imane.worighi@bringvzw.be
Location head office:	Belgium
Website:	www.bringvzw.be

Short summary of expertise and activities

Brussels Research and Innovation Center for Green Technologies (BRING) is a nonprofit organization for the development of green and sustainable technologies and solutions. BRING is involved in research and development of various rechargeable energy storage systems and energy technologies for Lightweight and Heavy-duty vehicles, electric vessels and utility scales. BRING offers the following services:

- R&D center activities: Reliable and fast- growing R&D center with an ecosystem of more than 65 partners.
- Next generation battery for e-mobility and stationary applications: Development of next-generation battery systems supported by multi-scale mathematical modelling and artificial intelligence solutions.
- Next generation battery for maritime/ waterborne sector: Cutting edge center for e-mobility on maritime / waterborne sector.

Participation in EU projects

At Bring, we are continuously working on multi- companies projects that improve battery technologies and sustainability. BRING offer services to companies and industries and collaborate with universities in the field of green technologies. BRING is also involved in EU projects such as:

Escalate project:
Heavy-duty vehicles account for about 25% of EU road transport CO2 emissions and about 6% of total EU emissions. In line with the Paris Agreement and Green Deal targets, Regulation (EU) 2019/1242 setting CO2 emission standards for HDVs (from August 14, 2019) forces the transition to a seamless integration of zero- emission vehicles into fleets. In line with the European 2050 goals, ESCALATE aims to demonstrate high-efficiency zHDV powertrains (up to 10% increase) for long-haul applications that will provide a range of 800km without refueling/recharging and cover at least 500 km average daily operation (6+ months) in real conditions.

BRING is leading the powertrain and battery system development WP and is responsible in ECSALATE project for the design, prototyping, testing and simulation tools for two OEMs (heavy-duty vehicles) with the objectives of extending the range and improving battery performance, considering sustainability and safety constraints.

LIBERTY project:
LIBERTY's overall target is upgrading EV battery performance, safety and lifetime from a lifecycle and sustainability point of view. The key objectives of LIBERTY are to achieve a range of at least 500 km on a fully charged battery pack, halved charging times, an ultimate safe battery system, a long battery lifetime of over 300,000 km for first life, the ability to reuse the battery pack for second life applications and sustainability over the battery pack's entire life cycle.

BRING is WP leader in LIBERTY project, leading the battery system design. In this regard, BRING has designed a conceptual design of the battery system, performed the test activities, and has developed predictive maintenance coupled with a cloud platform for BMS troubleshooting.

CEA

Organisation type:	RTO
Contact person:	Daniela Joubert Stoica
Phone number:	+33 4 38 78 92 54
Email:	daniela.joubertstoica@cea.fr
Location head office:	Centre de Saclay, 91191 Gif sur Yvette - France
Number of employees:	20181
Turnover before tax:	€5 Billion
Website:	www.cea.fr

© colonel_design - Fotolia.com

Short summary of expertise and activities

CEA, the French Atomic Energy and Alternative Energy Commission, is a key player in research, development and innovation in four main areas:

- Defense and security renewables energies)
- Low carbon energies (nuclear and renewables energies)
- Technological research for industry
- Fundamental research in the physical sciences and life sciences

CEA Tech is the technology research unit of CEA. It develops through its three institutes – Leti, Liten, List – a broad portfolio of technologies for ICTs, energy and healthcare.

The institutes of CEA Tech are conducting R&D to overcome the Transportation and mobility challenges with four major focuses: vehicle design, infrastructure, services and energy supplies.

CEA tech R&D activities, in the field of land transportation, include batteries and battery management systems for electric vehicles as well as software, sensors and other communicating objects that will equip future vehicles, and in particular driverless cars and transportation infrastructure.

Participation in EU projects

CEA Tech is involved in several initiatives at European level:
- Key Digital Technologies JU
- BEPA
- ETP EPoSS specific automotive group,
- ERTICO,
- Hydrogen Europe and JTI-FCH

CEA Tech is also taking part in **CleanSky2**, **Shift2Rail** and the Innovation Communities of the **EIT** (EIT Digital, EIT Health, EIT Raw Materials, EIT Climate, EIT Inno-Energy, EIT Added Value Manufacturing which all include dimensions related to mobility).

In Horizon 2020 and with regards to challenges of industry and society for transportation and mobility, CEA Tech has been involved in more than 50 projects. Since the beginning of Horizon Europe, CEA Tech is involved in 6 projects.

Projects in the area of infrastructure, Intelligent Traffic System (ITS) and safety: 5G CARMEN (connectivity), **HADRIAN (**safe mobility), **SAFE-UP** (safe mobility)

Projects in the area of sustainable mobility: SAFELiMOVE (battery), **3beLiEVe** (battery), **INSTABAT** (battery), **SPARTACUS** (battery), **i-HeCoBatt** (battery), **echarge4Drivers** (e-mobility), **DOLPHIN** (PEMFC), **FurtherFC** (PEMFC)

Ceit BRTA

Organisation type:	RTO
Contact person:	Ibon Ocaña
Phone number:	+34 943 212800
Email:	iocana@ceit.es
Location head office:	Donostia-San Sebastián, Spain
Number of employees:	250
Turnover before tax:	€22 Million
Website:	www.ceit.es

MEMBER OF
BASQUE RESEARCH
& TECHNOLOGY ALLIANCE

Short summary of expertise and activities

Ceit is a private multidisciplinary non-profit RTO, part of the Basque Research and Technology Alliance (BRTA), the School of Engineering of the University of Navarra (Spain), with a staff of more than 250 employees and 40 PhD students, and an annual budget over 22 M€.

Our missions are to provide industry with services through the development of technical research projects and to promote the dissemination of knowledge through the training of young researchers, PhD students and scientific publications.

Regarding our first mission, more than 100 research projects between TRL4 and TRL7 are carried out at Ceit per year. Ceit has been involved in 15 FP6 projects (coordinator in 2), 34 FP7 projects (coordinator in 10), 45 H2020 projects acting as coordinator in 12 of them and it's currently involved in 12 Horizon Europe projects (coordinator in 4 of them). Moreover, Ceit participates in 3 LIFE projects, one ECHORD++ instrument and is the coordinator of 1 INTERREG SUDOE CircRural 4.0. Finally, Ceit has also coordinated 1 CIP ECOINNOVATION project and has also participated in 18 Research Fund for Coal and Steel (RFCS) projects, having the role of coordinator in 2 of them. Ceit takes part in EIT manufacturing through Manufacturing Alliance AIE.

In terms of our second mission, in the last 5 years, Ceit has produced more than 150 PhD theses, published 100 papers in scientific journals, and participated in 80 international conferences.

Since 1996 Ceit has created 17 technology-based spin-offs, which currently employ more than 300 people. Five of these have been purchased by companies which are listed on NASDAQ, NYSE, the Madrid Stock Exchange and the Paris Stock Exchange.

The organisational structure of Ceit organizes its expertise and capacities in a way that allows the major challenges in the industry to be addressed from a more advantageous position:

- Materials and Manufacturing Division at Ceit offers solutions to transform industry challenges into value. The assets of the Division rely on an integrated structure based on the Industry 4.0 holistic approach.
- Transport and Energy Division is focused on four main areas; railway transportation, aircraft transportation and road transportation.
- Water&Health Division at CEIT is funded in three main pillars (urban and industrial water control and monitoring systems, design, fabrication and testing of biomedical devices and biosensors).
- ICT division focuses its research in the design of monitoring devices and communications systems.

Participation in EU projects

NEOHIRE, LASER4SURF, AIOSAT, SIMFAL, SIA, HUC, DIGESTAIR, ADDIMOT, WATEREYE-, ASSASSIN, MODEL2BIO and HIVOMOT. CHEAPREMAG, REEPRODUCE, SUSAAN, DARROW, SUREWAVE, BILASURF, HyInHeat, SPACE4GREENER, MOMA-FLEX, NDT INSPECTION, SI-SHIFT and WILLOW.

Center for Research and Technology Hellas - CERTH

Organisation type:	R&D Institute
Contact person:	Mrs Eleni Papaioannou
Phone number:	+30 2310 498193
Email:	Eleni.Papaioannou@certh.gr
Location head office:	Thermi-Thessaloniki, Greece
Number of employees:	1700
Turnover before tax:	€70 Million
Website:	www.certh.gr

CERTH
CENTRE FOR RESEARCH & TECHNOLOGY HELLAS

Short summary of expertise and activities

The Centre for Research and Technology Hellas (CERTH) is one of Greece's leading research centres and is among the top EU organisations for involvement in competitive research projects.
CERTH engages in EARPA through three institutes: the Chemical Process and Energy Resources Institute (CPERI), the Hellenic Institute of Transport (HIT), and the Information Technologies Institute (ITI).

CPERI uses nanomaterials and nanotechnology to develop clean, efficient transport systems. Its main R&D includes: (1) automotive emission control tech; (2) sensor and measurement tech, such as nanoparticle generation, separation, measurement, optical and laser diagnostics, size-resolved particle characterisation, and sensors for onboard monitoring; (3) developing and testing cathode and anode materials for advanced batteries; (4) producing renewable fuels and power-to-fuel tech; (5) running numerical simulations of thermochemical processes.

HIT focuses on transport infrastructure, standardisation, economic analysis, management, vehicle tech, and impact assessment of services. Its expertise includes: (1) road safety related to automation, IoT, and C-ITS, with training and testing; (2) urban mobility, covering sustainable planning, e-mobility, ICT solutions, shared mobility, and open data; (3) logistics, emphasising supply chain, intermodal management, logistics hubs, freight corridors, visibility platforms, decision support, and governance; and (4) transportation electronic and communication systems, including embedded hardware/software for ITS, ADAS, autonomous vehicles, and environmental monitoring.

ITI specializes in telematics and telecommunications, introducing various innovations across multiple areas. These include 1) Road Safety: developing new sensor prototype devices for advanced C-ITS applications, 2) Materials, Design & Production: employing design, modelling, and simulation techniques and tools, 3) Virtual Development and Validation: using virtual and augmented reality for ergonomic vehicle design, virtual user modelling, big data and visual analytics, cloud computing, AI, and machine learning, 4) Electronic & Communication Systems: creating prototype electronics and cybersecurity solutions, 5) Urban Mobility: developing technologies to enhance urban safety and resilience, along with decision-making tools featuring crowdsourcing, traffic prediction, and visualization, and 6) Logistics: supporting R&D services for a reliable supply and value chain, including blockchain-driven solutions.

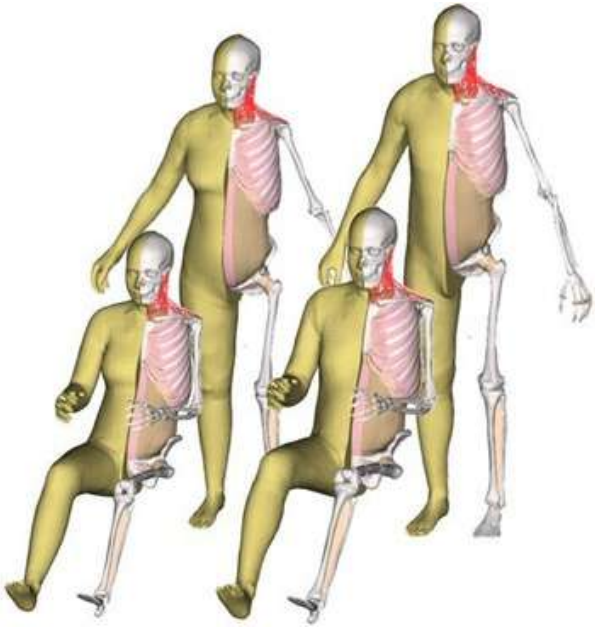
Participation in EU projects

- **SUREAL-23:** Understanding and measuring sub-23 nm particle emissions from direct injection engines including real driving conditions
- **RecAL:** Recycling technologies for circular aluminium
- **nPETS:** Nanoparticle Emissions from the transport sector: Health and policy Impacts
- **NextETRUCK:** Efficient and affordable Zero Emission logistics through NEXT generation Electric TRUCKs
- **iDriving:** Intelligent & Digital Roadway Infrastructure for Vehicles Integrated with Next-Gen Technologies
- **ULTIMO:** Advancing Sustainable User-centric Mobility with Automated Vehicles

Chalmers University of Technology

Organisation type:	University
Contact person:	Magnus Granström
Phone number:	+46 772 0000
Email:	Magnus.granstrom@chalmers.se
Location head office:	Göteborg, Sweden
Number of employees:	3100
Turnover before tax:	€375 Million
Website:	www.chalmers.se

Family of Viva+ digital human body models with both female and male models



Short summary of expertise and activities

Chalmers University of Technology has eight Areas of Advance, which brings together education, research and innovation. They are organised as strong, challenge-driven thematic platforms for strategy and long-term collaboration that hunt down specific challenges, often directly relevant for industry and society. The Areas of Advance also offer common access to cutting-edge research infrastructures as well as to several targeted centres. At the same time, our departments represent a continuous source of expertise.

Among Chalmers eight AoA the most relevant for EARPA are: Transport, Materials Science, Energy, and Information and Communication Technology.

In the transport area, the difficult task we face is to create the potential for sustainable, safe transport systems and, at the same time, increase effectiveness and efficiency.

Future development cannot be conducted by a single industrial, public or academic actor. Mitigating climate impact and reducing risks in the transport sector are serious challenges that require collaboration between various stakeholders, including industry actors and the society as a whole. Addressing these challenges is an important part of reaching the the Sustainable Development Goals set by the United Nations.

To address the problems, we need to simultaneously address several levels in and perspectives on the transport system, taking into consideration the interaction of vehicles and vessels, networks of infrastructures and the demand and supply of transport and logistics services. We do this in the research areas identified within our profiles Sustainable vehicle technologies, Transport and Logistics and Road traffic safety.

Sustainable transport systems require the development of energy-efficient vehicle concepts and propulsion systems using renewable energy sources. We focus on research and innovation in three areas: propulsion systems, vehicle design and sustainability assessment. This is to avoid harmful impacts on climate, health and the environment in all modes of transport.

Efficient, sustainable transport and logistics systems contribute to a sustainable society. Our research is based on societal challenges and the interaction between actors and different subsystems, including individual mobility, business logistics systems and supply chains. The relationship between transport efficiency and the environmental impact of different solutions also guides the research.

Road traffic safety includes preventive measures and measures to mitigate the consequences of accidents, in pursuit of a sustainable society. Our research is based on a better understanding of real traffic environments and behaviour through data collection and analysis. This forms the basis for research into methods and technologies for accident avoidance, injury prevention systems and safety for a multimodal, connected transport system.

Participation in EU projects

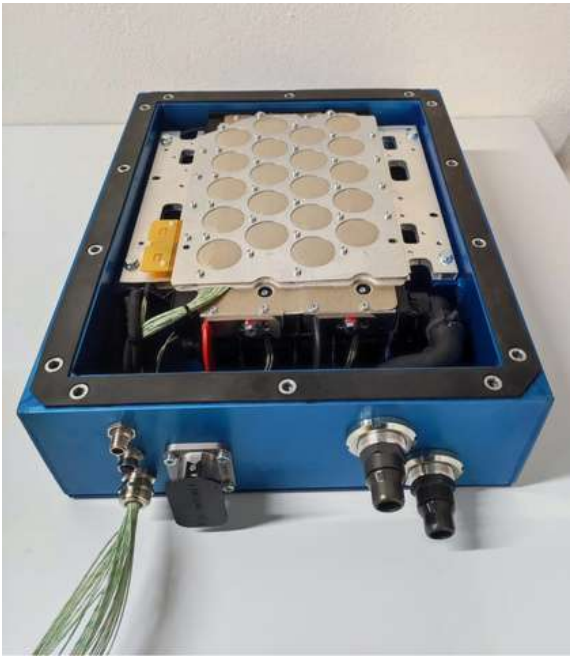
HiDRIVE, **SUNRISE**, **FAME**, **V4SAFETY**, **FENIX**, **MINIMAL**

CIDETEC

Organisation type:	RTO
Contact person:	Iosu Cendoya
Phone number:	+34 943 309 022
Email:	iosucendoya@cidetec.es
Location head office:	San Sebastián, Spain
Number of employees:	300
Turnover before tax:	€29 Million
Website:	www.cidetec.es

cidetec
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

Liquid cooled downscaled pack designed and characterized in BATSS HEU project



Short summary of expertise and activities

CIDETEC is a private organization for applied research founded in 1997 that seeks to contribute value to companies by harnessing, generating, and transferring technological knowledge.

CIDETEC Energy Storage:
Specialised in creating new battery technology and facilitating its transfer to industry. Our research activity covers from exploratory (low TRL) new battery technologies and concepts up to high TRL product development for direct transference to the industry. Our Technological Offer comprises: Battery Materials and Technologies, Pilot Plant Battery Manufacturing, Module and Pack Engineering, Energy Storage Solutions, Battery Testing and characterization, Modelling & Simulation, Recycling and Second Life of Batteries.

CIDETEC Surface Engineering:
Focused on the development of surfaces and materials and their application methods on different type of substrates (metals, polymers, and composites), mainly for automotive, energy, and aerospace sectors. This is possible through the application of different solutions, such as innovative high-performance and multifunctional coating systems (e.g. omniphobic and REACH compliant coatings) and break-through materials (e.g. reprocessable, recyclable and repairable resins and composites based on proprietary tech).

Participation in EU projects

- **BATSS –** Safe efficient BATtery SyStem based on advanced cell technology.
- **BATTERY2LIFE –** BATTERY management system and system design for stationary energy storage with 2nd LIFE batteries
- **InnoBMS –** Situationally aware innovative wireless battery management system for next generation vehicles
- **NextETRUCK –** Efficient and affordable Zero Emission logistics through NEXT generation Electric TRUCKs
- **EMPOWER –** Eco-operated, Modular, highly efficient, and flexible multi-POWERtrain for long-haul heavy-duty vehicles
- **Nickeffect –** Ni-based ferromagnetic coatings with enhanced efficiency to replace pt in energy & digital storage applications **MAT3RBoost –** Maturing the production standards of ultraporous structures for high density hydrogen storage bank
- **SPINMATE –** Scalable and sustainable pilot line based on innovative manufacturing technologies towards the industrialisation of solid-state batteries for the automotive sector
- **INN-PRESSME –** open INNovation ecosystem for sustainable Plant-based nano-enabled biomateRials deploymEnt for packaging, tranSport and conSuMEr goods
- **SIGNE –** Composite Silicon/Graphite Anodes with Ni-Rich Cathodes and Safe Ether based Electrolytes for High-Capacity Li-ion Batteries
- RESPECT – Flexible, safe & efficient Recycling of Li-on batterieS for a comPetitive, circular, and sustainable European ManufaCTuring industry
- **NoVOC –** Eliminating VOC from Battery manufacturing through dry or wet processing
- **BatWoMan –** Carbon Neutral European Battery Cell Production with Sustainable, Innovative Processes and 3D Electrode Design to Manufacture
- **GIGABAT –** Sustainable and digitalized GIGAfactory for BATtery production with made-in-Europe machinery
- **SOLVE –** Advancing SOLid-state battery development and production to driVE the future of electromobility
- **RESiLiTE –** Robust, Economical, Silicon-rich, Lightweight and Thermally Efficient battery packs

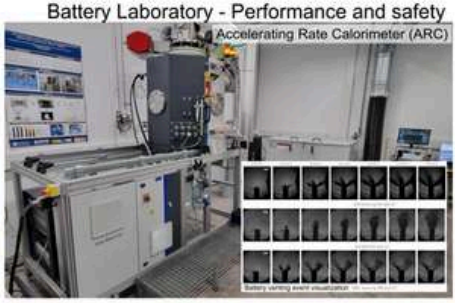
CMT – Clean Mobility & Thermofluids

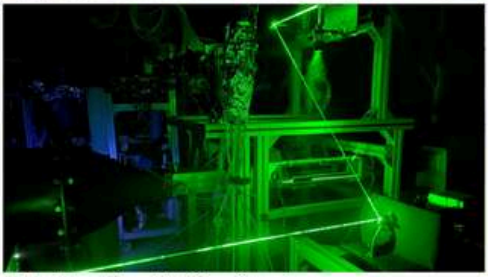
Organisation type:	University Research Institute
Contact person:	Prof. José R. Serrano
Phone number:	+34 96 387 7650
Email:	jrserran@mot.upv.es
Location head office:	Valencia, Spain
Number of employees:	150
Turnover before tax:	€6 Million
Website:	www.cmt.upv.es

Clean Mobility & Thermofluids

High Pressure and High Temperature Vessels

Battery Laboratory - Performance and safety





High Mass Flow Hot Gas Stand

Dynamic Fuel Cell Vehicle Test Bench

Short summary of expertise and activities

CMT Clean Mobility & Thermofluids is a dynamic and internationally recognized research institute of the Universitat Politècnica de València, collaborating closely with the international automotive and aeronautical industries. Its research is centred on the theoretical-experimental study of thermo-fluid dynamic processes applied to clean propulsion powerplants. Main concerns are dictated by environmental and sustainability challenges, such as the reduction of specific fuel consumption and pollutants, the need to improve powerplants efficiency and reliability. Key research areas include:

- Injection-combustion processes and pollutant formation with new fuels, ammonia and hydrogen
- Noise analysis and control for EVs and UAV's acoustic issues
- Hydrogen combustion and fuel cells
- Thermal management with specific applications to xEVs
- Powerplant hybridization; control strategies and optimization
- Air management, turbocharging and aftertreatment
- Tribology, predictive and integral maintenance systems for transport fleets.

CMT has designed and set-up many experimental facilities to respond to industry demands: 20 fully equipped engine test cells for single cylinder and real engines, 3 climatic chambers, including one with capabilities to simulate below zero temperatures (-30 °C) and altitude conditions (up to 3000 m, 700 mbar) with enough space for a car, 3 turbo-group test benches for the full characterisation of turbochargers, including in pulsating flow conditions, a versatile hot flow-high mass flow rig (up to 1000° C, 1 Kg/s and 5 bar), and an anechoic chamber (size 7.5 x 6.5 x 6 m, cut-off frequency 100 Hz).

In addition, , CMT has invested in state-of-the-art experimental and computational installations to address current and future challenges: a high pressure - high temperature test rig (up to 150 bar and 1100 K) for injection-combustion studies of renewable fuels; a fuel cell test bench (200 kW, with capabilities for hardware-in-the-loop developments); specific facilities for batteries characterization: 2 thermal chambers (1.1 m3 with temperature range -70 oC to 180 oC, and 12 m3, a multi-zone temperature chamber, equipment for thermal runaway studies; an electric motors test bench (200 Nm, 10 krpm); a 2WD vehicle test bench (200kW maximum power, 250km/h) for advanced powertrain technology research; CMT's patented MEDAS compact altitude simulator enabling measurements at high altitudes (up to 8000 m) with simulated temperatures from -20 oC to 50oC and humidity from 1 to 70 hH20/kgDryAir; a wind tunnel with a 2.8 × 2.8 × 22 m test section,
for characterization of motorbikes, UAVs, aircraft wings; a cluster with 1536 Xeon Gold 3GHz cores, 7.5TB RAM and Infiniband network.
CMT contributes to decarbonization by innovative research and knowledge transfer, based on its extensive research infrastructure, technological expertise, and industrial partnerships.

Participation in EU projects

- **GIGAGREEN:** Next wave of electrode and cell component processing techniques for 3b Li-ion cells.
- **PULSELION:** Novel manufacturing process development for Gen 4b solid-state batteries.
- **NEXTCELL:** New 3b LIB cell generation for both high capacity and high voltage applications.
- ALL-IN Zero: Multi-fuel system to generate electrical and mechanical power with zero emissions.
- **REBELION:** Development of cutting-edge technologies to promote a circular model for LIBs for electric mobility.
- **EXTENDED:** Development of next generation multi-functional, modular and scalable solid state batteries system
- **MEASURED:** Enhancement of performance and lifespan of high-temperature membrane electrode assemblies for heavy duty vehicles
- **MODABAT:** Modular, scalable and technology-open design for future Aviation batteries

Czech Technical University in Prague

Organisation type:	University
Contact person:	Mr. Oldrich Vítek
Phone number:	+420 224 352 507
Email:	oldrich.vitek@fs.cvut.cz
Location head office:	Prague, Czech Republic
Number of employees:	3320
Turnover before tax:	€117 Million
Website:	www.cvut.cz

Short summary of expertise and activities

The Centre of Vehicles for Sustainable Mobility has been established as a part of the Czech Technical University in Prague (CVUT). It links relevant research workers and postgraduate students of Faculties of Mechanical and Electrical Engineering of CVUT; moreover it has employed researchers from other universities and companies.

The Centre provides research and development of spark ignition and diesel engines in the field of thermodynamics, aerodynamics, turbocharging, emissions, motor management, engine dynamics and structural strength applied to the design optimisation. The Centre was successful in some simulation and experimental tasks concerning engine combustion of alternative fuels at limited pollution (especially using natural gas).

Another large domain is optimization of turbocharging for large-bore engines, heavy – duty engines and engines for downsized-cars. It includes the recent technologies of variable turbine geometry with predictive algorithms of control and the use of pressure-wave superchargers.

The use of combined simulation by computational fluid dynamics (CFD), 3-D (Star CD, Fluent, Fire) and specific 1-D methods of engine modelling (GT Power, GT Suite) and finite element method (FEM – like ABAQUS, EngDyn) together with multibody dynamics (Simpack, Adams, Madymo, PAM Crash) for these tasks is supported by commercial and in-house developed codes and by experiments using laser optical diagnostics. Results were applied, e.g., in Skoda Auto, a.s., and at some West-European and American manufacturers of cars and tractors. The Centre is an official partner of Gamma Technologies, Inc., the leader in specialized engine simulation software.

The Centre applies the results into turbocharger development in co-operation with the Czech manufacturers of turbochargers (PBS Turbo, Ltd., CZ Strakonice, a.s.) and turbo-compounded concepts of future engines (several projects of Czech Ministry of Trade and Industry).

Further it supplies the R&D results for vehicle transmission design and powertrain optimisation (mechanical, hydraulic, electrical ones), vehicle suspension design (including active Mechatronic Elements and their Control), body aerodynamics and passive safety issues. The Centre is active in engine/vehicle integrated control, especially for engine management (the project of Czech Ministry of Trade and Industry) and active/semiactive car or truck suspension (a German project) combined with ABS and other vehicle controls. The specialists of micro-electronics are involved in rapid prototyping of control, hardware development, sensor development and CAN bus management/monitoring (Skoda Auto). The important part of research is an electric powertrain concept, useful for hybrid and fuel-cell powered vehicles.

Participation in EU projects

New projects: **IMPERIUM, FUTURE RADAR, GasOn, REWARD**

Finished projects: **NICE, GREEN Heavy Duty Engine, InGAS, Roads2HyCOM, VECOM, POWERFUL, LESSCCV**

German Aerospace Center (DLR)

Organisation type:	Research
Contact person:	Anna Schieben
Phone number:	+49 531 295 3426
Email:	anna.schieben@dlr.de
Location head office:	Cologne
Number of employees:	11,000
Website:	https://www.dlr.de/en

DLR Deutsches Zentrum für Luft- und Raumfahrt
German Aerospace Center




Short summary of expertise and activities

DLR is the German aerospace research and technology centre. In its core areas, DLR develops technologies for aeronautics and space, energy and transport, as well as security and defence research. A broad spectrum of results and innovations bring benefits for industry and business, authorities and administration as well as for public stakeholders. DLR fulfils its responsibility to society through an intensive exchange of knowledge with public stakeholders and targeted technology transfer with industry.

Climate, mobility and technology are changing globally. DLR uses the expertise of its 11,000 employees in 54 research institutes and facilities to develop solutions to these challenges. DLR develops technologies for a sustainable future. By transferring technology, DLR contributes to strengthening Germany's position as a prime location for research and industry.

With its Transport programme, DLR is the second largest institutionally funded transport research facility in Europe. Tomorrow's mobility challenges are identified here and provided with jointly developed solutions. These solutions contribute to a future-oriented traffic system from which both the general public and industry in Germany and Europe profit in equal measure.

Participation in EU projects

DLR has been actively involved in projects in a wide range of subject areas and at various levels, including its own research programmes, national initiatives, collaborations with industrial partners and European efforts under the EU Framework Programmes for Research and Innovation. To highlight just a few:

- **AWARE2ALL** – Safety systems and human machine interfaces oriented to diverse population towards future scenarios with increasing share of highly automated vehicles
- **Diversify** – CCAM: Diversify CCAM by integrating the European cultural and regional variations in the design and implementation of citizen-friendly systems to foster mobility equity
- **ESCALATE** – Powering EU Net Zero Future by Escalating Zero Emission HDVs and Logistic Intelligence
- **FCH2Rail** – Fuel Cell Hybrid PowerPack for Rail Applications
- **FutuRE** – Delivering Innovative rail services to revitalise capillary lines and Regional rail services
- **Hi-Drive** – Addressing challenges toward the deployment of higher automation
- **PATH2ZERO** – Accelerating net-zero transformation by advancing Europe's transport pathways and cross-sectoral synergies
- **r-LightBioCom** – New bio-based and sustainable raw materials enabling circular value chains of high performance lightweight biocomposites
- **SHOW** – SHared automation Operating models for Worldwide adoption
- **SYNERGIES** – Real and synthetic scenarios generated for the development, training, virtual testing and validation of CCAM systems
- **TRANS4M-R** – Transforming Europe's Rail Freight
- **UP2DATE4SDV** – Enabling safe & secure modular UPdates, UPgrades and DynAmic Task reallocation and Execution for Software Defined Vehicles
- **VOJEXT** – Value Of Joint EXperimentation in digital Technologies for manufacturing and construction

Eindhoven University of Technology (TU/e)

Organisation type:	University
Contact person:	Mrs. Margriet van Schijndel
Phone number:	+31 6 538 463 79
Email:	m.v.schijndel@tue.nl
Location head office:	Eindhoven, the Netherlands
Number of employees:	7739
Turnover before tax:	n/a
Website:	www.tue.nl/smartmobility

TU/e's full-stack vehicles to accelerate research and development in end-to-end AI for automated driving in Europe

Short summary of expertise and activities

Eindhoven University of Technology (TU/e) is one of Europe's leading technical universities, educating more than 14,000 students and generating over 5,000 scientific publications and 40 patents annually. TU/e uniquely combines world-class academic research with close industrial collaboration, particularly in high-tech systems and engineering.

TU/e's Responsible Mobility research program brings together over 300 researchers working on innovations both within vehicles and across the broader mobility ecosystem. Digitalization is a key driver of this transformation, with advances in electronics, software, and data intelligence enabling smarter vehicles, connected infrastructure, and optimized traffic systems and road safety. In parallel, improved urban design that prioritises walking and cycling is recognised as essential for creating more livable and efficient cities. Mobility systems optimization, including connection to the energy grid, just transition and mobility transitions are some of the major aspects we contribute to. Human Technology Interaction as well as user behaviour, business modelling and inclusivity are cross cutting topics.

Key research and development areas include:

- Automated driving
- Batteries and energy storage, grid connection, grid capacity
- Electrical and electronic components
- Energy management systems
- Advanced automotive materials
- Software Defined Vehicle
- Vehicle architectures, HW & SW development
- Impact assessment and validation
- Circular economy approaches in automotive

Through this integrated approach, TU/e is shaping the future of smart, sustainable mobility at both the regional and global level.

Participation in EU projects

- **AIGGREGATE:** develop a framework for resilient, hybrid, and trustworthy AI systems in CCAM
- **AITHENA AI-based CCAM:** Trustworthy, Explainable, and Accountable
- **AUTODRIVE:** Fail-safe electronics for automated driving
- **CERTAIN:** Resilient and continuous safety assurance methodology for CCAM and its HMI components
- **CORESpaces:** helping cities respond to challenges like rapid urbanisation, climate action targets, rising mobility and energy demand, in a human-centric way.
- **EdgeAI:** Edge AI Technologies for Optimised Performance Embedded Processing
- **LONGRUN:** Heavy duty vehicles, environmental friendly fuels and powertrains
- **MODI:** A leap towards SAE L4 automated driving features
- **periASTY:** Flexibly adjustable mobility, energy, industry, and governance innovations to improve decarbonisation of periurban areas
- **SELF:** SELF assessment, protection & healing tools for a trustworthY and resilient CCAM
- **SYNERGIES:** Optimising data collection and analysis, development of training material and piloting report, for CCAM development, training and validation

Member of the Partnerships 2Zero, CCAM and ADRA.

Leading the national multidisciplinary project NEON (https://neonresearch.nl), on interrelated societal challenges: climate action, renewable energy, and mobility.

TU/e is a founding member of the national Battery Competence Cluster (https://batterycompetencecluster.nl/en/)

Fundació EURECAT

Organisation type:	RTO
Contact person:	Fanny Breuil
Phone number:	+34 937 419 100
Email:	fanny.breuil@eurecat.or
Location head office:	Barcelona, Spain
Number of employees:	900
Turnover before tax:	€69 Million
Website:	www.eurecat.org/en

MARBEL Eco-designed modular electric vehicle battery set for second–life use

Audit box and Artificial Immune System validation with SELFY partners

Short summary of expertise and activities

Eurecat is a leading leading applied research and technology transfer organisation in Southern Europe, with >900 professionals and an annual income of €69 million. Serving over 3,200 companies, Eurecat participates in >200 national and international R&D projects with high strategic value and holds over 250 patents and 10 spin-off technology companies. Eurecat operates eleven centres in Catalonia, with additional presence in Málaga, Madrid and Chile. Eurecat's multisectoral expertise enables cross-sector knowledge transfer that brings tangible added value to automotive and transport mobility ecosystems.

A key priority area focuses on advanced technologies and integrated solutions for the future of mobility and transport:

- Advanced materials and multi-material solutions for lightweighting, durability, sustainability and circularity
- Advanced, smart and flexible manufacturing, supported by pilot plants for plastronics, composites and additive manufacturing
- Circular mobility technologies, including automated dismantling, materials recovery, recycling, eco-design and substitution of critical raw materials
- Optimised product and system design, using advanced simulation, modelling and digital engineering tools
- Performance assessment and prediction through virtual testing and advanced characterisation
- Electromobility and energy systems, covering batteries, electrification, power electronics, grid integration and smart charging infrastructure
- Robotics, automation and AI-enabled systems for industrial production, logistics and autonomous operations
- Cybersecurity, resilience and safety of software-defined and connected mobility systems, including SDVs and CCAM
- Mobility data management and AI-driven analytics, smart traffic planning, strategic governance frameworks, inclusive win-win business models, and human-centric, ethical and intersectional mobility approaches.

Participation in EU projects

- **SHIFT2ZERO –** Zero-emission logistics with right-sized, mission-focused electric light commercial vehicles
- **AUTOMOTIF –** Automation towards multimodal transportation and integration of freight
- **GREENLOG –** Cooperative and interconnected zero-emission last-mile logistics solutions
- **ESEP4FREIGHT –** European shift enabler portal for railway freight
- **ZEVRA –** Zero-emission electric vehicles enabled by harmonised circularity
- **CARMONY –** Next-generation responsive mixed orchestration and network yield for connected mobility
- **DIVERSIFY-CCAM –** Integrating cultural and regional diversity to foster equitable, citizen-friendly CCAM systems
- **TWINLOOP –** Open framework for TwinOps and vehicle-specific digital twins for software-defined electric vehicles
- **SELFY –** Self-assessment, protection and healing tools for resilient CCAM ecosystems
- **XL-CONNECT –** On-demand multidirectional charging solutions for electric vehicles
- **FRONTIER –** Next-generation traffic management for connected and automated vehicles
- **EVOROADS –** Holistic safe-system approach for all road users
- **FATIGUE4LIGHT –** Fatigue modelling and fast testing methodologies for lightweight automotive components
- **SALEMA –** Substitution of critical raw materials in aluminium alloys for electric vehicles
- **MARBEL –** Manufacturing and assembly of modular and reusable EV batteries
- **FLEXCRASH –** Flexible and hybrid manufacturing of crash-tolerant automotive structures
- **BATTEREVERSE –** Automated and standardised processes for sustainable lithium-ion battery reverse logistics.

FACTUAL

Organisation type:	SME
Contact person:	Mr. Marc Figuls
Phone number:	+34 6200 05845
Email:	marc@factual-consulting.com
Location head office:	Barcelona, Spain
Number of employees:	18
Turnover before tax:	€2 Million
Website:	www.factual-consulting.com

FACTUAL's Lane Patrol road safety assessment for cycling infrastructure

Short summary of expertise and activities

FACTUAL is a foresight innovation and strategy firm committed to transforming mobility. The Barcelona-based SME equips their customers, both from the public and private sector, with timely and expert insight to interpret the key challenges and drivers facing (future) mobility. One of FACTUAL's main areas of expertise are research projects at European level, where their seasoned and multidisciplinary team is very active, cooperating hand in hand with cities and organisations paving the way of mobility innovation in international, cross-industry consortia.

FACTUAL keeps a keen eye and interprets global trends (re)shaping future mobility, from the smart combination of autonomous, connected, electric and shared features transforming the automotive industry for the better, to disruptive, new mobility paradigms redefining how mobility is consumed from a brave new user-centric perspective.

A differential asset of FACTUAL is an in-house factory for developing, accelerating and validating new innovative mobility services and products, such as the on-demand transport platform NEMI, currently operating in different countries as a new start-up; RIDEAL, the micro-incentive calculation engine which can be plugged on to any MaaS and/or transport service provider platform; and LANE PATROL, a road safety tool for assessing the cycling network through the CycleRAP methodology aiming at identifying potential risks, proposing improvements to foster a safer and more comfortable environment for the cyclists.

Participation in EU projects

MOLIERE – Mobility services enhanced by Galileo and blockchain, **DIGNITY** – Digital transport in and for society to tackle mobility poverty, **ARIADNA** – Awareness raising and capacity building increasing adoption of EGNSS in urban mobility applications and services, **NUMIDAS** – New tools and methods for mobility data collection, management and exploitation, **CommINSAFE** – Commuting with shared mobility COVID-free, **MultiDEPART** – Harmonisation of design and monitoring tools for public funded Demand Responsive Transport (DRT) services, **Cleanergy 4 Micromobility** – Cable-less and solar renewable docks for e-scooters, **S+LOADZ** – Multi-sustainable digital loading and delivery zones for city logistics, **RideSafe Urban Mobility** – Advanced active safety solutions for micromobility vehicles, **eBRT2030** – New Generation of advanced full electric, urban and peri-urban European Bus Rapid Transit (BRT), **UPPER** – Unleashing the potential of public transport in Europe, **TACTIC** – Tools for Local commerce logistics. Knowledge transfer between Barcelona and Paris, **Digital Bus** – The inclusive digital revolution for public transport services, **REALLOCATE** – Rethinking the design of streets and public spaces to leverage the modal shift to climate-friendly active transport everywhere, **RAIL4CITIES** – Railway stations for green and socially inclusive cities, **METACCAZE** – Flexibly adapted MetaInnovations, use cases, collaborative business and governance models to accelerate deployment of smart and shared Zero Emission mobility for passengers and freight, **TIPS4PED** – Turning cIties Planning actionS for Positive Energy Districts into success, **JULIA** – Joint developments for urban resilience connecting users to public transport through space technology, **SCREEN** – Smart Cycling Infrastructure Assessment.

FEV Europe GmbH

Organisation type:	R&D company
Contact person:	Mr. Christof Schernus
Phone number:	+49 241 5689 6753 (d) +49 160 746 3619 (m)
Email:	schernus@fev.com
Location head office:	Aachen, Germany
Number of employees:	Ca. 6900 (FEV Group)
Turnover before tax:	Ca. € 750 m (FEV Group)
Website:	www.fev.com

We drive innovation to help the world evolve

Short summary of expertise and activities

FEV is a globally leading engineering service provider in the automotive sector and a driver of innovation for various industries. Professor Franz Pischinger laid the foundation for this in 1978 by combining his academic and technical background with his vision for continuous progress. The company has been developing technological and strategic solutions for the world's largest automotive manufacturers and customers across the transportation and mobility ecosystem for over 45 years. FEV's engineering expertise spans the entire mobility ecosystem, including all on-road applications as well as rail, marine, aerospace, agriculture, construction, mining, and industrial applications.

In addition to its original focus on the development of low-emission and low-consumption engines, the company, which is still family owned today, has acquired outstanding knowledge and the highest level of expertise in the field of sustainable and safe mobility. The entire spectrum of battery electric drives is complemented by decades of experience with hydrogen applications such as fuel cells and hydrogen-powered engines. FEV also applies its technological and strategic know-how in other areas and transfers its future-oriented approach to the energy sector. The company also plays a pioneering role with its software and system expertise and makes intelligent solutions accessible to everyone.

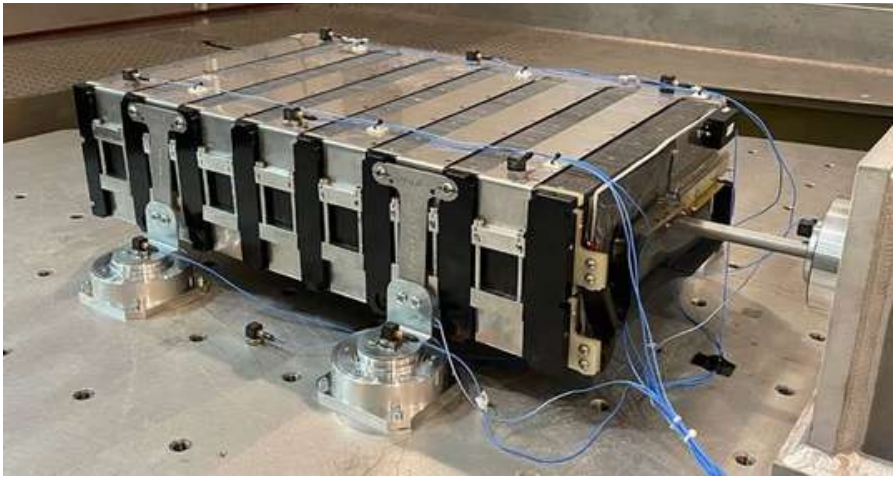
Participation in EU projects

- **SCOTT, DIAS, SELFY**–Cyber-security and trustworthiness of information in IOT and automotive applications such as on-board monitoring and CCAM ecosystems, resp.
- **SHOW, SYNERGIES** (assoc.), **L3PILOT*, Hi-Drive*, Pre-LSDemo*** – Automated driving demonstrated in real-life conditions and in large fleet operational test projects (*)
- **EAGLE, PaREGEn, PHOENICE, VERA** – engine and emission technology for low tailpipe emissions and high efficiency
- **StaSSH, CoacHyfied, H2UpScale** – fuel cells technology for (heavy duty) transport
- **ECOHYDRO** – recyclable composites for hydrogen storage
- **REDIFUEL, Take-Off** – renewable fuels from biomass and non-abatable CO2 emissions, reps.
- **HIFI-ELEMENTS, FASTEST** – acceleration of EV development process
- **SELFIE, ALBATROSS** – advanced battery systems fit for fast charging
- **SUBLIME, HELENA, ADVAGEN, NEXTCELL, VERSAPRINT, HyList, SIERRA** – battery cell technology and chemistry
- **CEVOLVER, ZEVUP, HiVEP** – EV concepts related to user-centricity, affordability and, in the latter case, next-gen voltage levels
- **LONGRUN, ESCALATE** – low and zero-emission heavy-duty vehicles for logistics
- **XL-CONNECT** – smart and bi-directional charging
- **LeMesurier** – supporting the evaluation of 2Zero objectives
- **FEDERATE (assoc.), Shift2SDV** – Open-source software platform for the European SDVoF

Fraunhofer LBF / EMI / IWU

Organisation type:	R&D institute
Contact person:	Mr. Thilo Bein / Mr. Philipp Dahl / Mrs. Katja Haferburg
Phone number:	+49 6151 705-463 +49 761 2714-569 +49 371 5397-1566
Email:	thilo.bein@lbf.fraunhofer.de philipp.dahl@emi.fraunhofer.de katja.haferburg@iwu.fraunhofer.de
Location head office:	Munich, Germany
Number of employees:	390 / 372 / 657
Turnover before tax:	€29 Mio. / €30 Mio. / €50 Mio.
Website:	www.lbf.fraunhofer.de www.emi.fraunhofer.de www.iwu.fraunhofer.de

Multi-physical testing of fuel cells



Short summary of expertise and activities

Fraunhofer LBF, EMI and IWU constitute competent and reliable research partners for complex questions of lightweight design, manufacturing, safety and reliability in the automotive sector.

The Fraunhofer Institute for Structural Durability and System Reliability LBF looks back on 75 years of experience in the field of structural durability and nowadays has expanded its expertise towards adaptronics, plastics and system reliability. With its overall competences customised solutions for safety relevant products are being developed, evaluated and realised by the LBF considering the full added value chain. The LBF provides versatile test facilities for structural durability, structural dynamics and acoustics including a newly open battery test center. Besides, the LBF performs research and provides engineering services on synthesis, processing, analysis and testing of functional and engineering plastics.

The Fraunhofer Ernst-Mach-Institute EMI analyses the physics of high-speed, transient processes in order to develop new approaches and cutting-edge solutions for applications in the automotive sector. Fraunhofer EMI has recognized expertise in mechanical characterization as well as numerical modelling and simulation of a wide spectrum of materials, components and structures under dynamic loadings. Its laboratories are equipped with full-vehicle and component crash test facilities, tomography lab and a battery test stand for destructive dynamic tests of electrical energy storage units. In addition, EMI conducts safety and reliability analyses, system design and verification for active vehicle safety and battery systems.

The Fraunhofer Institute for Machine Tools and Forming Technology IWU carries out research in the areas of energy and resource-efficient production processes and production systems, digital manufacturing, car bodies, assembly, lightweight design and smart materials. Among others, foams from various metal materials can be produced and used in sandwich lightweight applications. One focus of all research is also on ultra-short process chains incorporating the whole value chain which are optimized in test facilities including an acoustic lab, facilities for sheet and bulk metal forming, mechanical and thermal joining, micro and precision engineering, adaptronics and smart materials and more. The Fraunhofer LBF is member of the EPoSS, EuMAT as well of ERTRAC SIG, EGVIA and ECTRI. The Fraunhofer IWU is a member of EFFRA/ Manufuture.

Participation in EU projects

- **ALLIANCE** – Affordable lightweight design
- **SELFIE** – Self-sustained and Smart Battery Thermal Management Solution for Battery Electric Vehicles
- **AccCellBat** – Accelerated Cell and Battery Testing
- **TranSensus LCA** – Towards a European-wide harmonised transport-specific LCA Approach
- **SALIENT** – Novel Concepts for Safer, Lighter, Circular and Smarter Vehicle Design
- **ShareWork** – New technology for a Safe and Effective Human-Robot Collaboration in Industry

Future Mobility Campus Ireland (FMCI)

Organisation type:	SME (Non-for-profit)
Contact person:	Diarmuid Ó Conchubhair (O Connor)
Phone number:	00353 86 153 6873
Email:	diarmuid@futuremobilityireland.ie
Location head office:	Shannon, Co. Clare, V14 WV82. Ireland
Number of employees:	10
Website:	https://fmci.ie/

FMCI offers a wide range of CAV testing and testbed services including proving grounds and mule vehicles

Short summary of expertise and activities

Future Mobility Campus Ireland (FMCI) is a pioneering hub dedicated to advancing innovation in connected, autonomous, and electrified mobility. Located in the Shannon Free Zone, FMCI provides a real-world environment to test, develop and deploy next-generation transport technologies. As Ireland's first open-access testbed for future mobility, FMCI brings together industry, SMEs and academia to accelerate innovation across automotive, smart city and advanced mobility systems.

Connected and Autonomous Vehicle Testing
FMCI operates an open-road testbed embedded in a live industrial and logistics environment. The network is equipped with V2X-enabled roadside units, 5G connectivity, sensing infrastructure and integrated traffic systems, enabling real-world validation of connected and autonomous vehicle technologies under operational conditions.

Digital Twin and Virtual Testing
FMCI has developed a high-fidelity digital twin of its physical testbed, allowing vehicles, infrastructure, communications and scenarios to be simulated virtually. This capability enables partners to de-risk deployment, test complex scenarios and optimise systems in a controlled environment before progressing to physical trials.

Simulation and Human-in-the-Loop Capabilities
FMCI hosts immersive simulation facilities, including a driving simulator replicating the Shannon Free Zone road network and an eVTOL aircraft simulator. These platforms support training, human-in-the-loop testing and validation, bridging simulation, digital twin environments and real-world deployment.

Smart City Integration and Operations
FMCI's multifunctional control room acts as a central integration hub, supporting live trials, digital twin simulations and data-driven mobility management. It has been used for smart city control centre operations and U-space air traffic management demonstrations.

Join the Journey
FMCI invites collaboration to shape the future of sustainable, connected and intelligent mobility, offering integrated physical and virtual testing, deep technical expertise and strong European partnerships.

Participation in EU projects

SMARTAUTO
SMARTAUTO focuses on the digitalisation and automation of road transport systems, enabling the development, integration and validation of connected and automated vehicle technologies. FMCI supports testing activities and system-level validation across diverse operational environments.

CAMINO-2
CAMINO-2 advances cooperative, connected and automated mobility through cross-border collaboration. The project focuses on interoperability, harmonised deployment and real-world testing of CCAM services, supporting consistent implementation across European transport networks.

PEGASUS
PEGASUS focuses on acoustic monitoring in the context of drone operations. FMCI contributes its drone port and operational environment to support the deployment, testing and validation of acoustic monitoring technologies, enabling improved understanding of noise impacts associated with unmanned aerial systems.

Ghent University

Organisation type:	University
Contact person:	Jeroen De Maeyer
Phone number:	+32 9 264 53 74
Email:	Jeroen.DeMaeyer@ugent.be
Location head office:	Gent, Belgium
Number of employees:	15,000
Website:	www.ugent.be

Axial flux electric machine with integrated power electronics

Short summary of expertise and activities

Ghent University is a top 100 university, one of the fastest growing European universities. Our research activities in automotive are spread over several clusters. In each of the four clusters activities range from fundamental to applied research, strongly connected to regional and international stakeholders.

Machineries & Factories (150FTE) works on drive trains for vehicle applications as well as on factories of the future. Our activities include (i) innovative electrical machines and their power electronics; (ii) advanced cooling incl. 2-phase; (iii) AI supported control strategies; (iv) hybrid modelling approaches; (v)elasto-hydraulic-lubrication modelling; (vi) operator support systems and factory organisation; (vii) scheduling and planning. www.ugent.be/m-f/en

Metals (120FTE) develops solutions aimed at developing durable materials and realizing rational material use and at the development, characterization (metallurgic, mechanic, tribologic, electromagnetic) and design, construction and exploitation of industrial constructions and machines offering optimal functionality and durability. https://www.ugent.be/metals/en

EnerGhentIC (200FTE) is an interdisciplinary community innovating our energy future. Some relevant technological areas include sustainable transport via electrification and clean fuel technologies, decarbonization of industry and grid integration; strongly supported by multidisciplinary competences in social sciences, economics and circularity. https://www.energhentic.be/

Composites is the industrial gateway to all composite and AM related research. We focus on 4 research lines (1) Simulation and testing of the mechanical behavior through a combined approach of instrumented experimental testing and numerical modelling; (2) Additive Manufacturing; (3) Monitoring and NDT of composite materials; (4) Processing and recycling of thermoplastics. We work very closely with a.o. Siemens, Honda, Toyota, Mitsubishi Rayon, OPMobility. http://www.compositesconsortium.ugent.be/en/

Participation in EU projects

We have been working in several large(r) projects. As a coordinator:

- **HEu CLIMAFLUX:** next-generation axial flux machines for electric vehicles with increased circularity - https://climaflux.eu/
- **HEu GEN1200:** integrated 1200V powertrains for electric vehicles
- **HEu ICONIC:** classical control merged with AI for mechatronic systems https://iconicwind.org/

As a partner

- **HEu MSCA-IDN-EMByAM -** AM for high-performance electric machines
- **HEu HIGHSCAPE -** integrated PE solutions for automotive applications
- **HEu HARMONY -** use of recycled PM materials in electric motors
- **HEu METAFACTURING -** using AI to link production parameters with quality
- **HEu TranSensus -** single life cycle assessment (LCA) approach for zero-emission road transport system
- **H2020 FASTWATER -** Integration of methanol technologies in waterborne transport
- **H2020 LeanShips -** Low energy and near-to-zero emission ships
- **H2020-EIT RACE-TP -** Lightweight recyclable Lightweight Recyclable Automotive thermoplastic CompositE structural parts for large series production
- **H2020 Grade2XL -** multi-material wire-arc additive manufacturing (WAAM) for large scale structures

IAV GmbH

Organisation type:	R&D company
Contact person:	Marc Sens
Phone number:	+49 162 244 61 84
Email:	marc.sens@iav.de
Location head office:	Berlin, Germany
Number of employees:	6,600
Turnover before tax:	910,6 Mio.€ (2024)
Website:	www.iav.com

Short summary of expertise and activities

As one of the automotive industry's leading global engineering and technology partners, IAV develops the digital mobility of the future. The company has been developing innovative concepts, methods and solutions for 40 years.

IAV brings together the best from a wide variety of worlds: Automotive, Energy and IT world, hardware and software world as well as product and service world. In addition to vehicle and powertrain development, the company focused on topics such as e-mobility and autonomous driving at an early stage and is now one of the leading technology providers in these fields. Whether classic vehicle development or applications in defense, energy and off-highway vehicles – IAV delivers results that go into series production.

Alongside its development centers in Berlin, Gifhorn and Stollberg, IAV has further locations in Germany including Munich, Sindelfingen, Heimsheim and Ingolstadt, as well as in Europe, Africa, Asia and in North and South America.

Participation in EU projects

NExt-generation MOdels for advanced battery electronics

- Development of advanced Battery Management Systems (BMS) using physics-based and data-driven models combined with state estimation techniques.
- Utilization of high-frequency sensor data and Electrochemical Impedance Spectroscopy (EIS) for precise monitoring of individual cells to improve safety and lifetime.
- Validation of innovative solutions for stationary and automotive applications, aiming to extend battery life and achieve significant market adoption.

Optimizing Passenger Experience in Public Transport

- Goal: Enhance comfort, safety, and accessibility in public transport through user-centric and ethical service design.
- Development of measurement, analytics, and interaction technologies to capture and adapt to real-time passenger behavior and needs.
- Validation in three living labs with inclusive design, automated mobility solutions, and sustainability improvements to encourage modal shift.

TwinOps and vehicle-specific Digital Twin for Software Defined EVs

- Creation of an open framework for TwinOps and digital twins to optimize energy consumption, hardware costs, driver experience, and resiliency.
- Leveraging High-Performance Computing and cloud capabilities for continuous improvement across the entire EV lifecycle.
- Integration and testing in realistic scenarios, aligned with European strategies (e.g., 2ZERO, Chips JU) to ensure innovation transfer and market acceptance.

Ultra-Efficient Highly-Integrated 1200V Powertrains for Electric Vehicles

- Development of modular, scalable 1700V SiC-based power electronics for 1200V drivetrains enabling ultra-fast charging and backward compatibility.
- Integration of power electronics, electric machine, and mechanical components into highly compact electric axle solutions.
- Use of digital twins and advanced testing methodologies to optimize efficiency, durability, electromagnetic compatibility, and sustainability.

Institute of Communication and Computer Systems (ICCS)

Organisation type:	Research Institute
Contact person:	Dr Angelos Amditis
Phone number:	+30 210 300 5896
Email:	a.amditis@iccs.gr
Location head office:	Athens, Greece
Number of employees:	1000
Turnover before tax:	43 € Million
Website:	www.i-sense.iccs.gr

Short summary of expertise and activities

The Institute of Communication and Computer Systems (ICCS) is a non-profit academic research organisation established in 1989 and closely associated with the School of Electrical and Computer Engineering of the National Technical University of Athens (NTUA). ICCS has a strong and long-standing presence in European research, having coordinated and participated in numerous projects co-funded by successive EU Framework Programmes.

ICCS is actively involved in major European Working Groups, forums and platforms, including ERTICO, ALICE, the CCAM Association, EIT Digital, 6G-IA, the C-ITS Platform, UITP, CIVITAS, 2ZERO/EGVIA and ECAVA. It participates in national, European and industrial research initiatives and plays a significant role in the organisation of international scientific conferences.

Within ICCS, the I-SENSE Research Group is particularly active in Information and Communication Technologies for transport and mobility, covering vehicle automation, C-ITS, IoT applications, smart mobility, middleware and Platform-as-a-Service solutions, embedded systems, sensor networks and next-generation communications. Four I-SENSE teams (CCAM, Logistics, INS and SMAS) bring extensive R&D experience in people and freight transport, including ADAS, cooperative and automated driving, electromobility and smart mobility services.

ICCS consistently ranks among the top five European organisations in CCAM-related R&I network metrics, confirming its role as a core broker of knowledge and collaboration in Europe's transport research landscape

Participation in EU projects

The ICCS/I-SENSE Group comprises of 200 members and has coordinated/participated in numerous activities in the framework of European and national. Project coordination:

HIDDEN: Hybrid intelligence for advanced collective perception and decision making in complex urban environments

CHORUS: Coordination of Heterogeneous Actors in Mixed Traffic within CCAM

Battery2Life: BATTERY Management system and System design for stationary energy storage with 2nd LIFE batteries

ELABORATOR: The European living lab on designing sustainable urban mobility towards climate neutral cities

DELPHI: Federated Network Of Platforms For Passenger And Freight Combined Transport

AUTOMOTIF: Automation Towards Multimodal Transportation And Integration Of Freight

Key projects participation:

CERTAIN: resilient and continuous safety assurance methodology for ccam and its hmi components

CCAMambassador: Connected, Cooperative and Automated MoBility Assessment & Stakeholder Dedicated and Operational awareness Raising

CAMBER: Connected and Adaptive Maintenance for Safer Urban and Secondary Roads

TWIN-LOOP: TwinOps and vehicle specific Digital Twin for Software Defined EVs

ROADS4ALL: Co-creating safer Living Roads for all through a holistic, multi-level, participatory approach to cultural transformation

I-SENSE RG has coordinated or participated in the following worth mentioning projects: **Hi-Drive, L3Pilot, SHOW, IN2CCAM, 5GMOBIX, EVENTS, PoDIUM, CitySCAPE, ICT4CART, eCharge4Drivers, CONCORDA, HEADSTART, ARCADE, FAME.**

IESTA (Institute for Advanced Energy Systems & Transport Applications)

Organisation type:	SME
Contact person:	Dipl.-Ing. Dr.techn. Michael Nöst, MBA
Phone number:	+43 664 6437320
Email:	michael.noest@iesta.at
Location head office:	Graz, Austria
Website:	www.iesta.at

IESTA

Holistic Approach in Proposal Writing and Project Management of Cooperative EU Projects

Short summary of expertise and activities

IESTA is a non-university SME-sized research institute with a network of dedicated experts in the fields of Smart Mobility, Automated Driving, Road Safety & Cybersecurity

- Alternative Propulsion Technologies
- Embedded Systems and IoT
- Energy Conversion and Energy Efficiency Analyses
- System Architecture and Requirements Management
- Cost Assessment Analyses

As such IESTA has participated in numerous cooperative R&D Projects on national and European level, as initiator, supporter and partner. IESTA is not only active in the field of road transport, but is also in the rail and aviation sectors. This allows the introduction of a strong inter-domain view and expertise and the related fruitful transfer of knowhow. IESTA experts have a proven record in basic and applied research, technology and innovation in industry, academia and public bodies, thus providing a comprehensive understanding of different stakeholders.

Participation in EU projects

IESTA has participated in numerous cooperative R&D Projects on national and European level.

EU proposal coordination / support of:
EU FP7 ITN 2011 "**GRESIMO**"
EU FP7 ITN 2013 "**BATWOMAN**" EU ARTEMIS Call 2012 "**CRYSTAL**" EU ARTEMIS Call 2013 "**DEWI**" EU ECSEL R&I Action 2014 "**TEAADS**"
H2020 GV03 R&I Action 2016"**ADVICE**"
H2020 LC-GV-01-2018 "**SYS2WHEEL**"
H2020-DT-ART-2019 "**HADRIAN**"
H2020-DT-ART-2019 "**SHOW**" Horizon-CL5-2021-D5-01 "**HiPE**" Horizon-CL5-2023-D5-01-03 "**GIANTS**"

Proposal & project* coordination on national level:

- **VECEPT*** – All Purpose Cost Efficient Plug-In Electric Vehicle
- **eMPROVE*** – Innovative solutions for the industrialization of EVs
- **eco2jet*** – Evaluation and demonstration of an energy-efficient, cost-efficient and ecofriendly HVAC system using R744 based on the ÖBB railjet
- **KeyTech4EV** – Key Technologies for Low-cost EV Platforms
- **GreenHVAC4Rail*** – Heating ventilation and Air Conditioning
- **EV-CEA*** – Electric Vehicle with Combustion Engine Assist
- **eWingDeIcer*** – Energy optimized deIcer of an airplane wing
- **TWID*** – Thermal Wing Ice Detector
- **PF-EC(H)EV** – Poly Fuel Energy Conversion for Hybrid EVs
- **EN4MAX** – Energy for maximum range
- **IRE*** – Integrated Range Extender
- **EV-CEA** – Electric Vehicle with Combustion Engine Assist
- **MAGNISCOPE** – Magnificant Diagnosis Digital Scope
- **NG Mobility** – Next Generation Mobility
- **FC-IMPACT** – Increasing market penetration of FC cars by efficient system solutions **EUREKA TestEPS** – Testing and verification methods of automated driving functions and EPS

IFP Energies nouvelles (IFPEN)

Organisation type:	Public-sector R&I body (RTO)
Contact person:	Wissam Dib
Phone number:	+33 6 16 53 83 37
Email:	wissam.dib@ifpen.fr
Location head office:	Rueil-Malmaison, France
Number of employees:	1531
Turnover before tax	240M€
Website:	www.ifpenergiesnouvelles.fr

Short summary of expertise and activities

IFP Energies nouvelles (IFPEN) is a major research and training player in the fields of energy, transport and the environment. From scientific concepts within the framework of fundamental research, through to technological solutions in the context of applied research, innovation is central to its activities, hinged around four strategic directions: climate, environment and circular economy – renewable energies – sustainable mobility – responsible oil and gas. As part of the public-interest mission with which it has been tasked by the public authorities, IFPEN focuses its efforts on bringing solutions to the challenges facing society and industry in terms of energy and the climate, to support the ecological transition. An integral part of IFPEN, IFP School, its graduate engineering school, prepares future generations to take up these challenges.

Sustainable mobility

To meet the triple challenge of energy-ecological-digital transition towards a decarbonized and sustainable mobility, IFPEN works with industrial partners, major groups and SMEs, academic partners, users and public institutions for developing innovative technological and digital solutions to increase energy efficiency and reduce environmental impacts of transport systems.

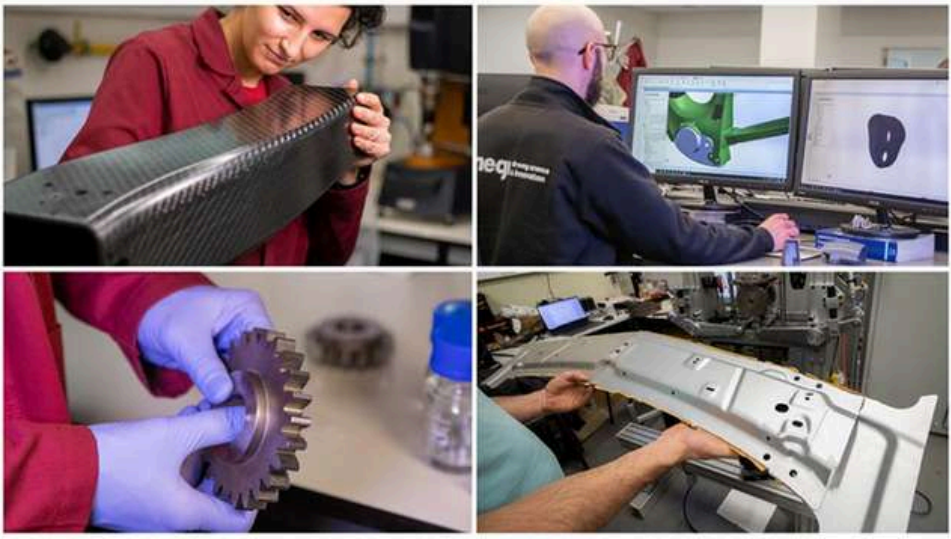
IFPEN activities on sustainable mobility are parts of the Carnot Institutes network since 2006, under the name of IFPEN Transports Energy Carnot Institute. These activities are based on a wide range of IFPEN's expertise on electric powertrain, electrochemical systems, control and energy management, hydrogen propulsion, low-carbon propulsion, software and tools, environmental analysis of mobility and life cycle assessment.

Participation in EU projects

- **MODALIS²** – MODelling of Advanced LI Storage Systems
- **LONGRUN** – Development of efficient and environmental friendly LONG distance **PHOENICE** – PHev towards zerO EmissioNs & ultimate ICE efficiency
- **MAGPIE** – sMArt Green Ports as Integrated Efficient multimodal hubs
- **OLGA** – OLympics & Green Airports
- **LENS** – L-vehicles Emissions and Noise mitigation Solutions
- **HELENA** – Halide solid state batteries for ELectric vEhicles aNd Aircrafts
- **TRANSENSUS LCA** – Towards a European-wide harmonized transport-specific LCA Approach
- **UPPER** – Unleashing the potential of public transport in Europe
- **XL CONNEXT** – Large scale system approach for advanced charging solutions
- **EMPOWER** – Eco-operated, Modular, highly efficient, and flexible multi-POWERtrain for long-haul heavy-duty vehicles
- **ARCHIMEDES** – Trusted lifetime in operation for a circular economy
- **ELABORATOR** – The European Living Lab on Designing Sustainable Urban Mobility Toward Climate Neutral Cities
- **BATSS** – Safe efficient battery system based on advanced cell technology
- **BATCAT** – BATtery Cell Assembly Twin **AEROSOLS** – Air Quality and Health Impact of Primary Semi-Volatile and Secondary Particles and their abatement
- **MAGELLAN** – MAGnets in rEsiLient supply chAINs
- **LeMesurier** – Measuring the value of the Key Performance Indicators (KPI) of the 2Zero Partnership
- **ENLIGHTEN** – Next generation 1200V electric high voltage powertrain

INEGI - Institute of Science and Innovation in Mechanical and Industrial Engineering

Organisation type:	R&D Organization
Contact person:	José Countiho Sampaio
Phone number:	+35 1229578710
Email:	jcs@inegi.up.pt
Location head office:	Porto, Portugal
Number of employees:	352
Turnover before tax:	€21 Million
Website:	www.inegi.pt



Short summary of expertise and activities

The INEGI - Institute of Science and Innovation in Mechanical and Industrial Engineering is focused on applied Research and Technology-based innovation, technology transfer, advanced engineering services and consulting.
INEGI's current activity in the surface transports area, and particularly within the automotive sector, explores innovative approaches to enable greener, safer and more competitive solutions tackling knowledge from multidisciplinary R&D fields, namely:

- Materials Development: Composite polymer-electrolytes; Solid-state electrolytes; Nanostructured cathodes; Structural batteries; Lightweight composite Body-in-White (BIW) and safety-critical components; Multifunctional materials development to replace critical and strategic raw-materials.
- Materials Processing: Advanced composites processing; Metal forming and cutting; Metal-composites hybridization; Additive manufacturing; Joining technologies (adhesive bonding, FSW, laser welding, joining by forming and hybrid joining); Material properties customization; Reincorporation of secondary raw-materials into new products.
- Intelligent Systems Engineering: Design and integration of hardware, electronics, control, and AI and combining sensing, sensor fusion, robotics, automation and control, and data-driven intelligence into advanced systems.
- Advanced Monitoring and Structural Integrity: Advanced instrumentation of systems; Customized monitoring and inspection solutions; Structural Health Monitoring (SHM); Structural Digital Twins; Computer vision; Design of quality control systems; Numerical simulation of dynamic systems' behaviour; Failure analysis; Dynamic and thermomechanical testing; ND inspection; Vehicle dynamics; Road safety.
- Mechanical Transmissions: High efficiency rolling bearings and lubricants for reduced dissipated heat in motors, gearboxes and others; High speed and high efficiency mechanical transmissions for EV drivelines, aerospace and others; Lubricants (synthetic-and water-based) to improve motor efficiency and reliability,
- Life Cycle Assessment (LCA): In-house digital platforms with AI-assisted inventory modelling to quantify environmental, economic, and social performance of products and complex systems (e.g., vehicles and energy storage systems); Applied LCA, LCC/TEA, and S-LCA with high-resolution data for SSbD assessment; Design-for-recycling; Defined circularity and ecodesign guidelines; Developed Digital Product Passport KPIs and methodological guidance.
- Human-centred mobility: Monitoring of fatigue, reaction time and heart rate variability; Anthropometry, movement assessment, and modelling; Ergonomics; Injury Biomechanics, Crashworthiness and Passive Safety; Usability, Comfort and Well-being.
- Computational tools: High-fidelity and AI-enhanced modelling and simulation, integrating multiscale, data-driven computational design of new materials with performance-oriented multiphysics simulations of advanced manufacturing processes.

Participation in EU projects

- **HAVEN:** High-PerformAnce Hybrid Energy Storage System for multi-serVicE provisioning (CL5-D2)
- **BIG LEAP:** NextGeneration of Battery Management Systems (CL5-D2)
- **HyperMorpH*:** Synergistic Integration of Hyperconducting Electric Propulsion and Composite Structures with Intelligent Morphing for Hydrogen-Powered Aviation (CL5-D5)
- **pAIramid:** AI-based Testing Pyramid Towards Virtual Certification of Next-Gen Composite (CL5-D5)
- PROSPECTS 5.0: Progress Towards Industry 5-0 (CL4-HUMAN)
- **CarMine:** Recovery of Critical and Strategic Raw Materials from EoL EV (CL4-MATERIALS)
- **E2PACKMAN:** Accelerating Innovations in Electronic Packaging Manufacturing (JU-Chips)
- **INELASTIC*:** Linking the scales towards non-conventional composite structures (Adv. ERC)
- **MaJoR:** Maintenance, Joining, and Repair innovation in multidomain defence (EDF) *Coordinator

i2m Unternehmensentwicklung GmbH

Organisation type: SME
Contact person: Aldo Ofenheimer
Phone number: +43 676 4501780
Email: aldo.ofenheimer@i2m.at
Location head office: Graz, Austria
Number of employees: 10
Website: www.i2m.at

Short summary of expertise and activities

i2m is a technology development and innovation consulting company. The company focuses on helping its clients grow through strategy, innovation & technology, be it through i2m's own developed technologies and products or through strategy and innovation consulting provided in cooperation with the world-renowned Cambridge University (UK).

i2m, located in Graz / Austria, is active in two business areas: on the one hand as an engineering company in product and technology development (also own products/ solutions, e.g., "High Performance Latent Heat Storage" for automotive applications, system simulation tool for components sizing in early development stage, energy management solutions for mobile and stationary applications), on the other hand as a management consultancy focusing on strategy, technology, and innovation management.

With a team of engineers and experts in strategy development, as well as technology and innovation management, i2m offers a holistic approach to its clients, who are active in technology-intensive industries in Europe (mobility, industrial goods, energy, pharmaceuticals & chemicals).

Portfolio of services and offerings i2m portfolio of engineering services:
·Manufacturing of virtual sensors
·Latent heat storage technology
·Ultra-fast system simulation

- Technology scouting and benchmarking
- Development of mathematical models and numerical simulations
- Concept development and rapid prototyping of innovative products & services
- Support for market introduction
- Research and development

In addition to these engineering services, selected complementary strategy & innovation management services.

Participation in EU projects

- **SELFIE** – Self-sustained and Smart Battery Thermal Management SolutIon for Battery Electric Vehicles
- **CEVOLVER** – Connected Electric Vehicle Optimized for Life, Value, Efficiency and Range
-
- **GIANTS** – Green Intelligent Affordable New Transport Solutions
- **SoliDAIR** – Methods & tools that ensure the safety and dependability of AI and robotics systems in manufacturing

Johannes Kepler University

Organisation type:	Public Educational Institution
Contact person:	Univ. Prof. Dr. Cristina Olaverri-Monreal
Phone number:	+43 732 2468 5490
Email:	cristina.olaverri-monreal@jku.at
Location head office:	Linz, Austria
Website:	www.jku.at/its/

JKU Intelligent Transport Systems

JKU ITS Research Overview

Short summary of expertise and activities

Johannes Kepler University researchers lead in cutting-edge developments, actively engaging with the community. Their expertise is shared in dialogue with the public, local business, and cultural institutions. In education, research, and its third mission, JKU addresses global challenges.

JKU-ITS focuses in intelligent vehicular technologies, ICT, data analysis, smart mobility, and mobile sensors for automated, cooperative, and connected transport. The team collaborates in transportation networks, aiming to develop eco-friendly solutions through sensor and communication technologies. Key research areas include Human Factors and Interaction, Automated Connected Transportation, Machine Learning for Automated Driving, Simulation Platforms, Travel Behavior, and Digital Sustainable Transportation.

The head of the department, Prof. Olaverri-Monreal, has dedicated over 8 years to serving as a member of the board of governors at the IEEE Intelligent Transportation Society, assuming the presidency in both 2022 and 2023. Furthermore, she is a European Commission Expert for “Automated Road Transport” and has undertaken the review of numerous research centers, in Ireland, Germany, France, Sweden, etc..

In addition, she has developed projects as the Principal Investigator in collaboration with significant industry stakeholders in logistics, as well as infrastructure providers (e.g., Swarco, IAV GmbH, Post A.G).

Participation in EU projects

The JKU University has successfully secured funding for more than 62 EU projects. Some of these projects are:

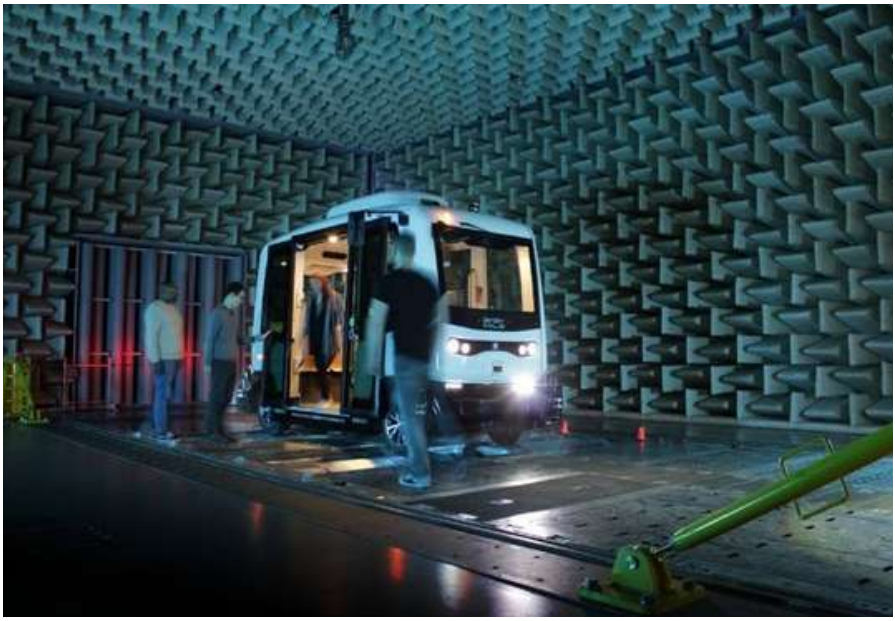
- **MITHOS** - Innovative Decision-Making Tool for the Federated Monitoring, Re-Design and Conservation of Multimodal Transport Infrastructures
- **CASTSM** - Connected and Automated Sustainable Transport Systems and Mobility, EU-funded Erasmus Mundus Design Measures Project
- **ERGODIC** - Combined Passenger and Goods Transportation in Suburb Traffic, within the European partnership "Driving Urban Transitions" (DUT).
- **OptiPEx** - Optimizing Passenger Experience in Public Transport
- **AISA** - AI Situational Awareness Foundation for Advancing Automation
- **SILENSE** - (Ultra)Sound Interfaces and Low Energy iNtegrated Sensors
- **SCOTT** - Secure COnnected Trustable Things **ENABLE-S3** - European Initiative to Enable Validation for Highly Automated Safe and Secure Systems
- **RItrainPlus** - Research into optimised and future railway infrastructure
- **AIDOaRt** - AI-augmented automation for efficient DevOps, a model-based framework for continuous development At RunTime in cyber-physical systems.

Furthermore, JKU-ITS has actively engaged in various international proposals, securing a total funding of over 2.5 million EUR since its establishment in 2018 through successful participation in 9 national and international projects.

Karlsruhe Institute of Technology (KIT)

Organisation type:	University
Contact person:	Dr. Eckhard Szimba
Phone number:	+49 (0)721 608 47689
Email:	szimba@kit.edu
Location head office:	Karlsruhe, Germany
Number of employees:	10,107
Turnover before tax:	€1225 Million
Website:	www.kit.edu

Autonomous shuttle in KIT's acoustic four-wheel roller dynamometer



Short summary of expertise and activities

Karlsruhe Institute of Technology (KIT), a University of Excellence, creates and imparts knowledge for the society and the environment. KIT excels in a broad range of disciplines, i.e. in natural sciences, engineering sciences, economics, as well as the humanities and social sciences. It makes significant contributions to the global challenges of mankind in the fields of energy, mobility, and information. In high interdisciplinary interaction, KIT's research covers the complete range from fundamental research to close-to-industry applied research and from small research partnerships to long-term large-scale research projects.

Research at KIT is organized along nine "KIT Centers", which focus on challenges of fundamental importance to our society or on key topics resulting from the striving for knowledge.

The KIT Center Mobility Systems embraces a wide range of multidisciplinary competencies to develop solutions for tomorrow's mobility. The KIT Center brings together about 800 engineers, natural scientists, economists and social scientists from more than 35 institutes, and covers the following research fields: vehicle concepts, vehicle technologies, methods and processes in design and production, infrastructure and traffic, digitization in mobility, as well as mobility and society.

The KIT Center Mobility Systems provides both deep expertise in each specific research field, and – through its multidisciplinary concept – a sound basis to address current and future mobility challenges in a cross-cutting and holistic systems perspective such as smart and sustainable urban mobility concepts, software-defined vehicles, autonomous driving, seamless mobility, alternative drive systems and energy-efficient transport.

Participation in EU projects

At KIT, several institutes have been involved in EU projects. The following list gives a selection of the more important projects:

ARGO, **ARRIVAL**, **ARTIC** – Antenna Research and Technology for the Intelligent Car, **AUTOSUPERCAP** – Development of high energy/high power supercapacitors for automotive applications, **BENEFIT** – Business Models for Enhancing Funding for Infrastructure in Transport, **CERTAIN** - Resilient and Continuous Safety Assurance Methodology for CCAM and its HMI components, **CulturalRoad** - Cultural, regional and societal factors to overcome barriers to connected, cooperative and automated mobility deployment, **DBCAR** – Decisions and Behaviors for Cognitive Automobiles Research, **eCOMPASS**, **ERANETMED-STORENERGY** – Sodium-ion batteries – an advanced solution for mobile and stationary energy storage applications, **EIT KIC InnoEnergy** – Accelerating sustainable energy innovations, **ETISplus**, **FORTISSIMO** – Advanced Simulation, Modelling & Data Analytics for Industry, **HAL4SDV** - Hardware Abstraction Layer for a European Software Defined Vehicle approach **FUTRE**, **HERCULES-C** – Higher Efficiency, Reduced Emissions, Increased Reliability and Lifetime, Engines for Ships, **HIGH-TOOL** – High-level strategic transport model, **HighMag** - High-energy, low-cost and scalable generation 5 magnesium-based batteries for mobility applications and beyond, **HighSpin** - A sustainable, high-voltage battery alternative for cars and aircraft**LiCORNE** – Lithium recovery and battery-grade materials production from European resoucres, **JobVehElec**, **KITe hyLITE PLUS** – Innovative lightweight design for the vehicle industry, **LEAFSLIM** – Lightweight steel Leaf Springs with improved durability and reliability, **MATISSE** - Multifunctional structures with quasi-solid-state Li-ion battery cells and sensors for the next generation climate neutral aircraft, **POSEIDON** - Propulsion of ships with e-methanol in favour of the decarbonisation of naval transport, **Photofuel**, **PRE-DRIVE C2X** – PREparation for DRIVing Implementation and Evaluation of C2X communication technology, **RHINOCEROS** – Batteries reuse and direct production of high-performance cathodic and anodic, **Smart Urbanity** – Advancing 15-Minute Cities through Collaborative and Smart Urban Solutions, **SuMo Rhine**, **SUSANA**, **TRIP**, **VI-DAS** – Vision Inspired Driver Assistance Systems, **TwinVECTOR** - Cooperation in developing next generation batteries

KTH Royal Institute of Technology

Organisation type:	University
Contact person:	Ciarán O'Reilly
Phone number:	+46 8 790 80 85
Email:	ciaran@kth.se
Location head office:	Brinellvägen 8, Stockholm
Number of employees:	4,100
Turnover before tax:	6884 MSEK
Website:	www.kth.se

The Research Concept Vehicle (RCV) platform has a versatile modular design and is used for demonstration and validation in research and education.

Short summary of expertise and activities

KTH Royal Institute of Technology is Sweden's largest university for technical research & education. KTH brings together students, researchers, and educators from around the world and activities are grounded in a strong tradition of advancing science & innovation, focusing on contributing to sustainable societal development.

KTH is highly active in the automotive area, focussing on sustainable, electric, and autonomous vehicle technologies. These can be applied to operational and functional aspects of the design and manufacturing of cars, trucks, buses, bicycles, trains, watercraft, aircraft and spacecraft. These activities are undertaken in research, education, and student-led initiatives.

KTH has core expertise in a broad spectrum of automotive-related topics including vehicle systems, technologies and components; aerodynamics; dynamics and motion control; acoustics and vibration; materials and circularity; conceptual design; electric traction and hybrid drives; and energy storage system.

Research activities at KTH are often undertaken in multidisciplinary collaborative initiatives that incorporate wider transport considerations. These initiatives include the Centre for ECO2 Vehicle Design, Integrated Transport Research Lab (ITRL), Road2Science (R2S), Centre for Transport Studies (CTS), the Centre for Traffic Research (CTR), Transport Research Environment with Novel Perspectives (TRENoP) and Battery 3PC. Research is done in close collaboration with automotive manufacturers such as Scania, Volvo Trucks and Volvo Cars. Additionally, KTH has formal strategic partnerships with companies including Scania, Alstom, SAAB, Ericsson, & others.

KTH education activities include a doctoral programme in Vehicle, Maritime& Aerospace Engineering and a master's programme in Vehicle Engineering, along with the option to build an electric mobility profile. KTH also works with EIT Urban Mobility Master School. KTH has active student-led initiatives such as KTH Formula Student and KTH Hyperloop.

Participation in EU projects

KTH has a long and extensive history of participation to EU-funded research with recent automotive-related example including:

- **ASCENT:** Autonomous Vehicular Edge Computing and Networking for Intelligent Transportation.
- **AutoDrive:** Fail-aware/fail-safe electronics and architectures enabling fully automated driving.
- **Car2TERA:** Sub-THz sensors and networks for next-gen smart automotive electronics/ADAS.
- **ODYSSEV:** High-voltage EV powertrains for sustainable, ultra-fast charging electric vehicles.
- **Pneu-Haptics:** Haptic driver cues in seats to support communication/control in (semi-) autonomous cars.
- **VISION-xEV:** Virtual integration framework to speed up development of electrified vehicle powertrains.
- **ENSEMBLE:** Enabling safe multi-brand platooning for Europe.
- **ECCENTRIC:** Innovative solutions for sustainable mobility of people in suburban city districts and emission free freight logistics in urban centres.
- **COMPANION:** Cooperative mobility solutions for supervised platooning;
- **TECABS:** Technologies for carbon fibre reinforced modular automotive structures.

KU Leuven

Organisation type:	University
Contact person:	Bert Pluymers Wim Desmet
Phone number:	+32 16 32 25 29 +32 16 32 24 80
Email:	bert.pluymers@kuleuven.be wim.desmet@kuleuven.be
Location head office:	Leuven, Belgium
Number of employees:	22,682
Website:	www.kuleuven.be

KU Leuven embraces digitalization in automotive engineering over the full lifecycle of vehicles and components, ranging from early conceptual design, over virtual prototyping, manufacturing and metrology, to the system in operation and even after its end-of-life. In its day to day activities, KU Leuven blends scientific excellence, via a.o. EU MSCA programmes, with industrial relevance and societal impact.

Short summary of expertise and activities

KU Leuven boasts a rich tradition of education and research that dates back six centuries. KU Leuven is a charter member of LERU and in the Times Higher Education ranking KU Leuven is ranked as the 14h European university, while in the Reuters Top 100 of the World's most innovative institutions, KU Leuven is listed as the first European university. Its mission is threefold: research, education and service to society. KU Leuven Research & Development (LRD) is the technology transfer office (TTO) of KU Leuven. Since 1972 a multidisciplinary team of experts guides researchers in their interaction with industry and society, and the valorisation of their research results.

The LMSD division (Mechanic/Mechatronic System Dynamics) counts 140 researchers and aims to create added value during every phase (design / manufacturing / operations) in the lifetime of mecha(tro)nic systems by understanding, monitoring and controlling their dynamic (motion / vibration / acoustics) behaviour. Targeted systems include machines, vehicles, and manufacturing and assembly processes. The Digital Twin concept, Machine Learning and Model Based Systems Engineering approaches are adopted, thereby involving dynamic behaviour models, validated and enriched with dynamic measurement data.

Addressing both virtual and experimental activities, research is clustered around 5 major research lines: (i) large bandwidth dynamics of lightweight (meta)materials and systems, and their manufacturing, (ii) (flexible) multibody dynamics, (iii) NVH and flow-acoustics, (iv) smart system dynamics and (v) monitoring and prognostics of mecha(tro)nic components and systems. The organisation of the yearly ISMA, ISAAC and ISAMS courses and the biennial ISMA conference on Noise & Vibration Engineering, and the division's presence on dedicated digital media, are key dissemination elements, next to top journal publications and presentations at reference conferences and workshops.

Participation in EU projects

Throughout the years, LMSD has been actively involved in many national and international research projects, relevant to automotive engineering (full list available at www.mech.kuleuven.be/en/mod/Projects/Projects).

These include on-going HEU research projects such as:

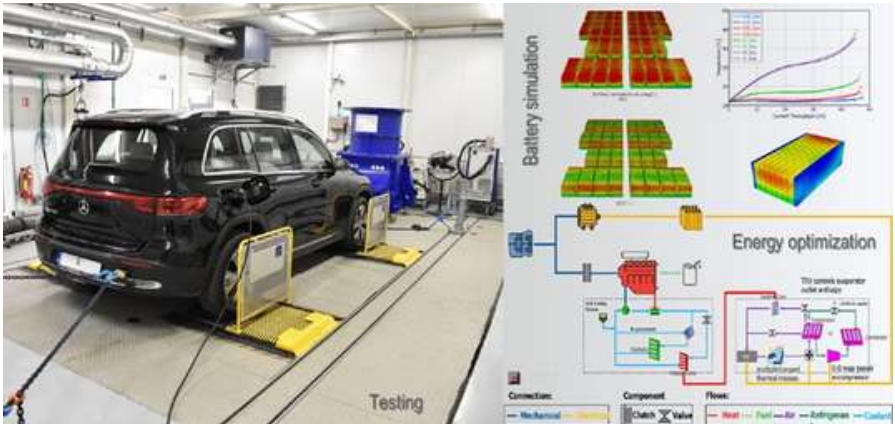
- **AID4SME** (coordinator)
- **EU.FFICIENT** (coordinator)
- **Shift5.0**
- **GIANTS**
- **PLIADES**
- **ECOHYDRO**
- **RecAl**
- **PROSPECTS5.0**
- **ICONIC**
- **MetaFacturing** (coordinator)
- **LENS**
- **VOLTCAR**
- **NEWBORN and REBOOT-SKILLS** and Marie Sklodowska Curie research and training projects such as **VAMOR** (coordinator),
- **PATRON** (coordinator),
- **METRAMAT**
- **APRIORI** (coordinator)
- **METAVISION** (coordinator)
- **GAP-NOISE**
- **ASSESS**
- **ActaReBuild**
- **IN-NOVA**
- **Gecko**

Laboratory of Applied Thermodynamics (LAT) - Aristotle University Thessaloniki

Organisation type:	University
Contact person:	Prof. Leonidas Ntziachristos
Phone number:	+30 23 1099 6003
Email:	leon@auth.gr
Location head office:	Thessaloniki, Greece
Number of employees:	60
Website:	lat.eng.auth.gr

LABORATORY OF APPLIED THERMODYNAMICS

Example of electric powertrains testing and simulations at LAT



Short summary of expertise and activities

LAT is a university laboratory established in 1975 aiming to serve research, development and education in the following areas:

Powertrain and emissions

- Vehicle engine and dyno testing (LD, HD, L-vehicles)
- Exhaust aftertreatment and alternative fuels
- OBD, OBM and Anti-tampering
- Non-exhaust emissions

Battery and energy systems

- Battery Cell, Module and Pack Testing
- Electrothermal and Electrochemical Battery Models
- Power and Propulsion Systems Energy Optimization
- Application of Commercial Multi-Physics Simulation Software in Power Systems

Environmental Impact and Sustainability Research

- Air quality, emissions toxicity and health impact
- Advanced Optoacoustic Sensor focusing on Black Carbon
- Renewable Energy and Sustainable Biofuels

LAT has been a long-lasting consultant of the European Commission in practically all emission and noise standards developed over the last twenty years and has been leading the CLOVE consortium in developing the Euro 7 standard. Finally, LAT is a strategic partner of the automotive and fuel industry around the world in multi-physics modelling of aftertreatment, battery and catalytic systems, fuel and lubricants evaluation for combustion engines, and impact assessments of technologies and policies.

Participation in EU projects

LAT has a long track record of coordination and participation in research projects, including:

- **ICT-Emissions** – Development of a methodology and tool to evaluate the impact of ICT measures on road transport emissions (coordination),
- **DownToTen** – Measuring automotive exhaust particles down to 10 nanometres (coordination)
- **SCIPPER** – Shipping contributions to inland pollution push for the enforcement of regulations (coordination)
- **LENS** – L-vehicles Emissions, and noise mitigation solutions (coordination, VERA: Vehicle emission retrofit activities (coordination)
- **EMERGE** – Evaluation, control and mitigation of the environmental impacts of shipping emissions
- **RSENSE** – Revolutionizing disease and environmental detection with portable optoacoustic sensing
- **ENGIMMONIA** – Sustainable technologies for future long distance shipping towards complete decarbonisation
- **UPTOME** – Unmanned- power-to-methanol production
- **VERA** – Vehicle emission retrofit activities
- **AENEAS** – Innovative energy storage systems onboard vessels
- **POSEIDON** – Propulsion of ships with e-Methanol in favour of the decarbonisation of naval transport
- **ESCALATE** – Powering EU net zero future by escalating zero emission HDVs and logistic intelligence.
- **STREnGth_M** – Stimulating road Transport Research in Europe and around the Globe for sustainable Mobility
- **nPETS** – nanoParticles Emissions from the Transport Sector

LEITAT

Organisation type:	RTO
Contact person:	Dr. Vincent Jamier
Phone number:	+34 937882300
Email:	vjamier@leitat.org
Location head office:	Terrassa, Barcelona
Number of employees:	+400
Turnover before tax:	€40 Million
Website:	www.leitat.org/en/

Leitat provides more than 15,500 m² of advanced laboratory and research infrastructure supporting its technological and scientific activities.

Short summary of expertise and activities

Leitat is the oldest technological center in Europe, with over 100 years of history and a reference point at both the national and European levels. It has a team of more than 400 professionals, experts in applied research, technical services, and the management of technological and innovation initiatives.

Leitat's primary mission is to act as a catalyst in enhancing the competitiveness of the country's companies through innovation and technology transfer. The centre provides social, industrial, economic, and sustainable value, offering comprehensive solutions to multiple sectors and fields, including health and biomedicine, the development of new materials, eco-sustainable production, occupational health prevention systems, waste revaluation and the use of natural resources, industrial interconnectivity and digitalisation, green energy, and energy efficiency.

Leitat develops R&D&I projects for companies and institutions and leads competitive research projects funded by the European Union and the Spanish Ministry of Science, Innovation, and Universities.

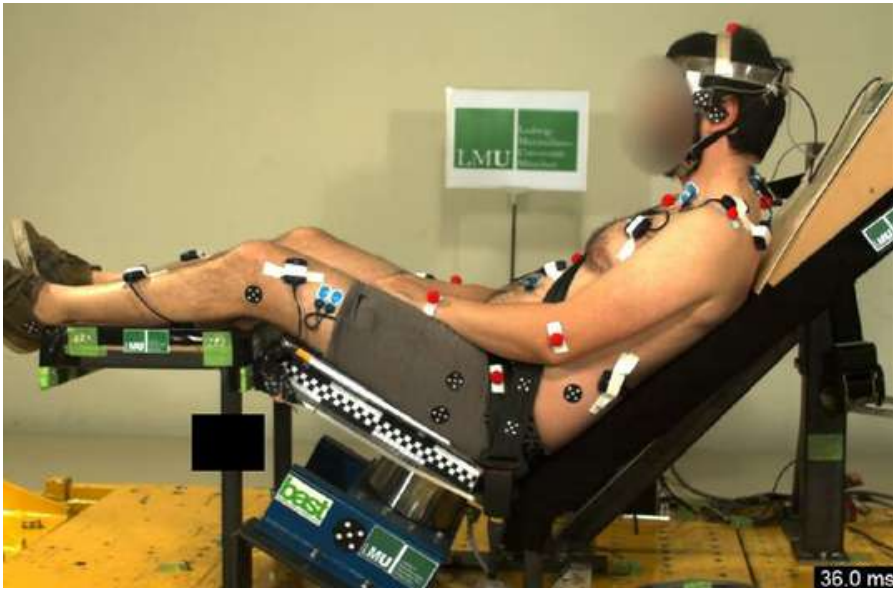
Leitat is also accredited by the Fédération Internationale de l'Automobile (FIA) as the only centre in Spain and one of only three worldwide authorised to test and homologate protective clothing for drivers and mechanics, from professional karting to Formula 1 and World Rally Championship competitions. This recognition builds on more than 100 years of experience in textile testing, certification, and homologation, an activity that marks the origin of the centre in 1906.

Participation in EU projects

- **NEFERTITI –** Innovative photocatalysts integrated in flow photoreactor systems for direct CO2 and H2O conversion into solar fuels,
- **GH2 –** GreenH2 production from water and bioalcohols by full solar spectrum in a flow reactor
- **AM4BAT –** Gen. 4b Solid State Li-ion battery by additive manufacturing, Rhinoceros – Batteries reuse and direct production of high performances cathodic and anodic materials and other raw materials from batteries recycling using low cost and environmentally friendly technologies
- **BATRAW –** Recycling of end-of-life battery packs for domestic raw material supply chains and enhanced circular economy
- **RAWMINA –** Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes
- **RESTORE –** Automated soRting and safE pre-procesSing of EoL BaTteries with nOvel smart and fast dismantling, and sepaRation technolgies for direct reuse of high purity materials in Energy storage application
- **PROMISERS –** Pfas free polymer materials for proton exchange membrane (pem)-based fuel cells and electrolysers
- **Fuels-C** – An integrated platform of novel cost and energy-efficient conversion technologies producing liquid and gaseous bioFuels from sustainable biogenic residues validated for direct use in fuel Cells

Ludwig-Maximilians-Universität München

Organisation type:	University
Contact person:	Prof. Dr. Steffen Peldschus
Phone number:	+49 (0)89 2180 73361
Email:	steffen.peldschus@med.uni-muenchen.de
Location head office:	München, Germany
Website:	www.uni-muenchen.de



Short summary of expertise and activities

Founded, as Bavaria's first university with a papal concession in 1472, the LMU has been known for decades for its excellent science. LMU Munich is the leading teaching and research university in Germany, ranking 1st in Germany in the latest Times Higher Education World University Ranking. LMU Munich is a large beneficiary of the German excellence initiative and has hosted more than 85 ERC grants. In FP7 LMU Munich participated in 21 Marie Curie Initial Training Networks and coordinated 4 of them. In Horizon 2020 LMU has already been awarded 21 European Training Networks, of which 3 are coordinated by LMU researchers/scientists. Finally, LMU Munich currently offers more than 35 structured doctoral programs in a broad range of disciplines.

The Institute of Legal Medicine is part of the medical faculty, its Biomechanics and Accident Analysis Group deals with the detailed investigation of traffic accidents, their analysis as well as biomechanical backgrounds and the simulation of injury mechanisms. The primary field of application is the safety of road users, but this is extending to all neighbouring scenarios such as falls and violence. Eleven scientists from Mechanical Engineering, Medicine, Physics, Computer Science, Ergonomics and Biology contribute to in-depth crash studies and injury analysis, data analysis using epidemiology methods and studies examining the impact of anthropometry variations on road user injury risks.

The department has a pronounced expertise in investigation of possible impact scenarios and related injury mechanisms using numerical human body models and is able to analyse and evaluate potential hazards for all kinds of road users.

Participation in EU projects

Running: **OSCCAR** (Future occupant safety for crashes in cars) – Development of future advanced occupant protection systems using integrated approach **PIONEERS** (Protective innovations of new equipment for enhanced rider safety) – To improve the performance of safety systems (Personal Protective Equipment and on-board systems), to develop better test and assessment methods for PTW users

Finished:

- **SENIORS** (Safety enhancing innovations for older road users) – To improve the safe mobility of the elderly using an integrated approach
- **MOTORIST** (Motorcycle Rider Integrated safety; Marie-Curie-Actions) – Safety systems
- **PISa –** Development and Implementation of reliable and fail-safe integrated safety systems
- **MyMOSA** – Safety systems
- **APROSYS** – Scientific and technology development of critical technologies improving passive safety for road users in all relevant accident types and accident severities

MCAST Institute of Engineering and Transport – Automotive Department

Organisation type: University

Contact person: Ing. Longino Dingli

Phone number: +356 23 987 479

Email: longino.dingli@mcast.edu.mt

Location head office: Paola, Malta

Website: www.mcast.edu.mt

Short summary of expertise and activities

Malta College of Arts, Science and Technology (MCAST) is the country's leading institution for vocational and professional education and training, offering qualifications from EQF/MQF Level 1 to Level 7. With a student population exceeding 11,000 from over 100 countries, MCAST provides an inclusive, work-based learning environment built on strong industry partnerships and international collaboration.

The College offers hands-on training across multiple sectors and participates in key EU initiatives such as Erasmus+ and EU4DUAL. Through the MCAST Act 2023, the institution has gained greater operational autonomy, further strengthening its capacity for innovation, applied research, and responsiveness to economic and societal needs. MCAST's strategic focus on sustainability, quality, and employability ensures its continued contribution to Malta's skills development and workforce readiness.

The Institute of Engineering and Transport (IET) is one of MCAST's largest and most dynamic institutes, delivering programmes in mechanical, electrical, electronics, automotive, marine, avionics, and civil engineering. It maintains close collaboration with industry to ensure that curricula are aligned with real-world demands and that students are equipped with both technical knowledge and practical experience.

Apprenticeships, state-of-the-art workshops, and applied research projects are central to IET's educational approach, preparing students for successful careers in Malta's key technical sectors. The Institute also actively engages in international mobility and sustainability initiatives, contributing to national and European goals in engineering innovation and green transition.

The Automotive Engineering Department within MCAST's IET offers a comprehensive suite of programs ranging from foundational to advanced levels, equipping students with the theoretical knowledge and practical skills required in today's evolving automotive industry. The department emphasizes hands-on training in modern workshops, covering diagnostics, vehicle systems, electric and hybrid technologies, and automotive body and paint.

Through strong collaboration with industry partners, students gain real-world experience that enhances their employability and prepares them to meet current and future challenges in the automotive sector.

Participation in EU projects

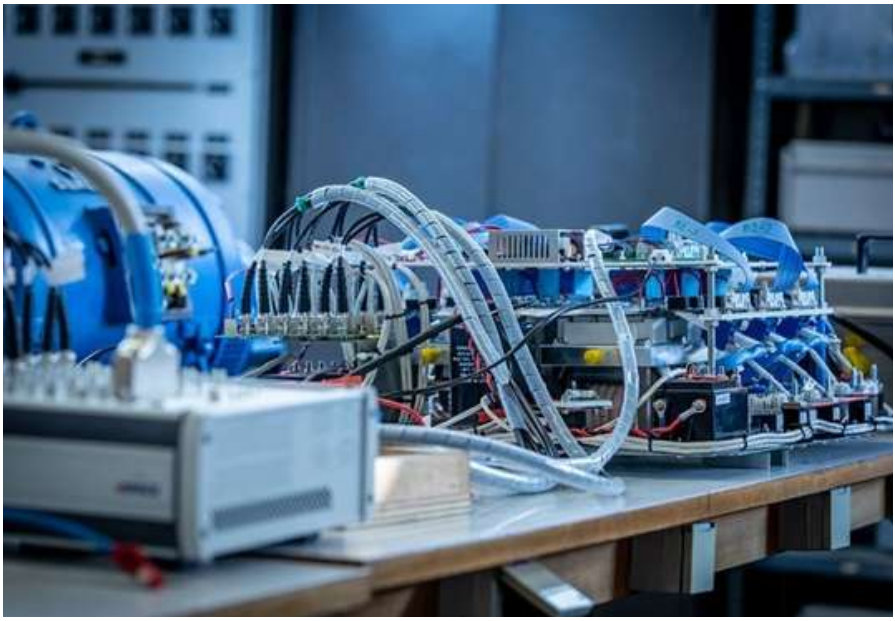
The Institute of Engineering and Transport (IET) at MCAST has been a highly active participant in European and international research initiatives, securing over €2.5 million in funding over the past five years. IET's research spans a diverse range of strategic fields including renewable energy systems, water conservation, urban mobility, underwater digital monitoring, aerospace, oceanography, additive manufacturing, and semiconductors.

The Institute has been involved in major projects funded through **Horizon 2020 (MCC, JUMP2Excel, NEEMO)**, **Sino-Malta (AMBULANT), ERANET MED (3DMGrid, EdGeWISE)**, and **MarTERA ERA-NET Cofund (SMARTPOL)**, among others.

Current initiatives include the Malta Competence Centre (Horizon Europe DIGITAL-JU-SIMPLE), where IET contributes to the development of the European semiconductor ecosystem, and **SMARTPOL**, which has developed a compact system for detecting and analysing marine pollution. Additionally, the **OurOBS** project, in collaboration with the National Research Council of Italy, is advancing marine ecosystem knowledge in the Malta–Sicily shelf.

MOBI Electromobility Research Centre

Organisation type:	Research Centre
Contact person:	Joeri Van Mierlo
Phone number:	+32 497 60 24 61
Email:	joeri.van.mierlo@vub.be
Location head office:	Pleinlaan 2, 1050 Brussels, Belgium
Number of employees:	120
Website:	www.mobi.research.vub.be



Short summary of expertise and activities

MOBI is the innovative research hub for electromobility in Europe, and aims to make a strong contribution to a more sustainable society. With more than 120 specialists, we form a multidisciplinary team that supports the transition to a more environmentally friendly and electrified mobility and transport system. A unique mix of technical, environmental and socio-economic skills is the strength of our research group. MOBI is the technological expertise centre in many areas ranging from electric and autonomous driving, to innovative batteries, intelligent drive systems and energy management, power electronics and charging infrastructure. In addition, we provide knowledge regarding business planning and consumer behaviour, and look at the integration of electric vehicles in energy communities and smart grids. This broad approach enables MOBI to develop sustainable and innovative solutions and electrification strategies that are broadly supported by all parties participating in the electric (autonomous) fleet of the future.

MOBI is also a Core Lab within the Flanders Make organization - Driving Innovation and has a long track record in a multitude of research projects.

Participation in EU projects

SELFIE – SELF-sustained and Smart Battery Thermal Management SolutIon for Battery Electric Vehicles, **WIMBY** – Wind In My Backyard: Using holistic modelling tools to advance social awareness and engagement on large wind power installations in the EU, **CoFBAT** – Advanced material solutions for safer and long-lasting high capacity Cobalt, **EAFO 3.0** – Portal migration, management and further development of the European Alternative Fuels Observatory and related expert consultancy services

Free Batteries for stationary storage applications, **LONGRUN** – Development of efficient and environmental friendly LONG distance powertrain for heavy dUty trucks aNd coaches, **BD4OPEM** – Big Data for OPen innovation Energy Marketplace, **INDIMO** – Inclusive digital mobility solutions, **SHOW** – SHared automation Operating models for Worldwide adoption, **eCharge4Drivers, Spartacus** – Spatially resolved acoustic, mechanical and ultrasonic sensing for smart batteries, **BATTERY 2030+ large-scale research initiative** – At the heart of a connected green society, **BAT4EVER** – Building a Low-Carbon, Climate Resilient Future: Next-Generation Batteries, **iSTORMY** – Interoperable, modular and Smart hybrid energy STORage systeM for stationarY applications, **URBANIZED** – modUlaR and flexible solutions for urBAN-sIzed Zero-Emissions last-mile Delivery and services vehicles, **HiiEFFICIENT** – Highly EFFICIENT and reliable electric drivetrains based on modular, intelligent and highly integrated wide band gap power electronics modules **NextETRUCK** – Efficient and affordable Zero Emission logistics through NEXT generation Electric TRUCKs, **SSH CENTRE** – Social Sciences and Humanities for Climate, Energy aNd Transport Research Excellence, **AM4BAT** – Gen. 4b Solid State Li-ion battery by additive manufacturing, **AUGMENTED CCAM** – Augmenting and Evaluating the Physical and Digital Infrastructure, **TANDEM** – Transdisciplinary ANd Deliberative equity appraisal of transition policies in Energy and Mobility, **Horizon 2020** – InterConnect, **SiC4GRID** – Next generation modular SiC-based advanced power electronics converters for enhanced renewables integration into the grid, **OPEVA** – OPtimization of Electric Vehicle Autonomy. **CoFBAT** – Advanced material solutions for safer and long-lasting high capacity Cobalt Free Batteries for stationary storage applications

Mondragon Unibertsitatea

Organisation type:	University
Contact person:	Zigor Azpilgain
Phone number:	+34 656 766 881
Email:	zazpilgain@mondragon.edu
Location head office:	Mondragon, Spain
Number of employees:	240
Turnover before tax:	€30 Million
Website:	www.mondragon.edu/en/home

Short summary of expertise and activities

The Faculty of Engineering of Mondragon Unibertsitatea is a non-profit integral education cooperative, declared of public utility, whose main activities include education, research and technology transfer to companies and other public or private entities. One of its main characteristics is the close and permanent relationship with industry, enabling to outline the educational offer by adapting it to the needs of companies and organizations.

The participation of the professors at MGEP in research projects is one of the important focal points in its educational innovation process. The Research and Transfer activity of the faculty covers from fundamental applied research (in which are framed up the 130 doctoral theses running nowadays) to experimental development and innovation activities, also covering other industrial research activities. There are 16 research groups, grouped into 5 units: Mechanical behaviour and product design, Science, technology and transformation processes of materials, Design and industrial management processes, Embedded systems and information systems and Electric power.

Participation in EU projects

- **VENUS** – Switched/Synchronous Reluctance Magnet-free Motors for Electric Vehicles
- **OPTIBODY** – Optimized Structural components and add-ons to improve passive safety in new Electric Light Trucks and Vans (ELTVs)
- **DEWI** – Dependable Embedded Wireless Infrastructure
- **EU-LIVE** – Efficient Urban LIght VEhicles
- **OPTEMUS** – Optimised Energy Management and Use
- **Hi-Fi Elements** – High Fidelity Electric Modelling and Testing
- **WEEVIL** – Ultralight and ultrasafe adaptable 3-wheeler.

Mosaic Factor SL

Organisation type:	SME
Contact person:	Stefano Persi
Phone number:	+34 677 600 963
Email:	stefano.persi@mosaicfactor.com
Location head office:	Barcelona, Spain
Number of employees:	13
Turnover before tax:	900,000
Website:	www.mosaicfactor.com

Short summary of expertise and activities

MOSAIC FACTOR is an independent SME specialising in trustworthy data technologies and AI for the automotive, mobility, and logistics sectors. Founded in 2016, the company has participated in more than 20 collaborative R&D projects, primarily within H2020 and Horizon Europe, with additional initiatives at national and regional levels. Its Horizon Europe activity focuses particularly on Cluster 5, addressing topics such as electric vehicles (2ZERO), autonomous vehicles (CCAM), logistics, and mobility, always with a strong emphasis on data-driven solutions.

The leadership team has been active in EU-funded programmes since FP7, frequently coordinating proposals. CEO Stefano Persi brings extensive experience from the automotive industry, having previously worked at Delphi Diesel Systems in France, where he was responsible for the ECU implementing diesel injection control for various European and Asian OEMs.

Other members of the Mosaic Factor team also come from the automotive sector, with expertise spanning EV and non-EV powertrain technologies, emissions (including non-exhaust), and SIL testing. The company's strategic development areas for the coming years include in-vehicle and off-vehicle Digital Twins, Edge-AI for CCAM, TinyML, SDV building blocks and Explainable and Trustworthy AI.

MOSAIC FACTOR's technical competencies cover network and traffic management, electric mobility, emissions, and intermodal and sustainable supply networks. The company is actively engaged in local and European associations and working groups such as IN-MOVE by Railgrup (intermodal transport), CCAM, ECAVA, ERTRAC and EARPA.

Participation in EU projects

- **TWIN-LOOP -** Open Framework for TwinOps and vehicle specific Digital Twin for Software Defined Evs.
- **HIDDEN -** Hybrid intelligence for advanced collective perception and decision making in complex urban environments in CCAM.
- **SYNERGIES -** Scenarios for development of automated vehicles.
- **AutoMoTIF -** Multimodal transport automation, focusing on digital twins and simulation.
- **eChargeForDrivers -** Improvement of the Electric Vehicle charging experience in urban areas and on interurban corridors, making it more convenient for users to go green.
- **NeMo -** Hyper-Network providing seamless interoperability of electromobility services, creating an open, distributed and widely accepted ecosystem for electromobility.
- **PIONEERS -** Green Deal Lighthouse project on Port of the future technology.
- **INCLUSION -** Understanding, assessment and evaluation of the accessibility and inclusiveness of transport solutions in European prioritized areas.
- **IMOVE -** Paving the way for a "roaming" service for MaaS users at European level

Politecnico di Milano

Organisation type:	Technical University
Contact person:	Dr-ing Prof. Gianpiero Mastinu
Phone number:	+39 333 326 7907
Email:	gianpiero.mastinu@polimi.it
Location head office:	Milano, Italy
Number of employees:	>3000
Turnover before tax:	>500 M€
Website:	www.polimi.it/en

POLITECNICO
MILANO 1863

DriSMi – Driving Simulator Politecnico di Milano

Short summary of expertise and activities

The Politecnico di Milano, founded in 1863, is the largest technical university in Italy, with about 48,000 students. The university offers undergraduate, graduate and higher education courses in engineering, architecture and design.

According to the QS World University Rankings for the subject area 'Engineering & Technology', Politecnico ranked in 2025 as the 21th best in the world among nearly 4000 similar organizations. It ranked 12th for Mechanical Engineering. Politecnico di Milano participates in prestigious international networks alongside the main European technical universities: IDEA League, Alliance for Tech, Enhance. At the Politecnico 12 departments are active. The Politecnico hosts 246 research labs, 34 interdepartmental labs and 4 large infrastructures. One of the large infrastructures is the Driving Simulator Lab, which is linked, through the Lombardy Mobility Cluster, to the Four Motors for Europe, an Association of the Governments of four EU Regions. Other large infrastructures are: the Laboratory for the Safety of Transport, the Wind Tunnel, the laboratories of Material Testing, Photonics, Multi- disciplinary Makerspace. The “mOve” Lab deals with automated vehicles.

The Department of Mechanical Engineering and the Department of Energy are currently the Politecnico’s branches for the interaction with EARPA. The mission of the Departments is to foster research on transports and sustainable mobility, (motorsport included), power technologies, advanced motor and engine technology, sustainable fuels, biomechanics and service robotics, biomaterials, smart materials and hybrid materials, manufacturing and production systems, space and security.

The Politecnico di Milano manages the National Center of Sustainable Mobility (MOST), a Foundation participated by 49 stakeholders, with, among them, 25 Italian top Universities. The MOST has 14 spokes dealing with both vertical topics and horizontal topics. Vertical topics: Air Mobility, Sustainable Road Vehicle, Waterways, Rail Transportation, Light Vehicle and Active Mobility. Horizontal topics: Connected and Automated Vehicle (CAV), CCAM Connected Networks and Smart Infrastructures, MaaS and Innovative Services, Urban Mobility, Freight & Logistics, Innovative Materials and Lightweighting, Innovative Propulsion, Electric Traction Systems and Batteries, Hydrogen & New Fuels.

Participation in EU projects

Politecnico is part -or has been part- of 5 KICs: **EIT Climate, EIT Digital, EIT Urban Mobility, EIT Raw Materials, EIT Manufacturing.**

Main figures - grants that have been obtained:
Horizon Europe: 362 financed projects, 175 mln € (at 5-Feb- 2026), 39 ERC

Self financing (2023): 219 mln €
TRA 2028: Politecnico di Milano leads the Consortium to organize in Milan the Transport Research Arena 2028

Politecnico di Torino

Organisation type:	University
Contact person:	Prof. Federico Millo
Phone number:	+39 3316 796 013
Email:	federico.millo@polito.it
Location head office:	Turin, Italy
Number of employees:	1,217 (Teaching staff) + 1010 (Admin&Techn staff)
Turnover before tax:	€388 Million
Website:	www.polito.it

Short summary of expertise and activities

Politecnico di Torino was founded 160 years ago and represents a leading public university, in Italy and in Europe, in technical-scientific teaching and research (#55 for Engineering and Technology, according to 2025 QS World University Ranking).

More than 38,800 students (22% of which from foreign countries) are currently enrolled in 25 BSc and 37 MSc programs, with about 1450 PhD students (22% of which from foreign countries) attending 18 different PhD programs.

32 educational paths taught completely in English and more than 400 International Agreements testify to Politecnico di Torino's international vocation. Since 2014 Politecnico has been participating to more than 528 European and International Projects, and to 274 Horizon 2020 Projects, (for 76 of which as Coordinator) and 236 Horizon Europe Projects (for 61 of which as Coordinator).

Politecnico di Torino offers a multidisciplinary research vision in automotive, implemented through the Center for Automotive Research and Sustainable Mobility (CARS, www.cars.polito.it) and the Power Electronics Innovation Center (PEIC, www.peic.polito.it). This approach allows covering the entire value chain with a comprehensive system-level vision (CARS) together with a focus on electrical and electronic enabling technologies and components (PEIC):

- Green vehicles, with a focus on propulsion systems powered by alternative fuels, electric and hybrid systems, and zero-emission vehicles.
- Electrification of powertrains, with the next generation of electric motors, wide bandgap (SiC/GaN) inverters, batteries and chargers, and their design, control, testing, and the generation of accurate digital twins for vehicle simulation.
- Feasibility and competitiveness, with a focus on production systems and on the implementation of new production technologies.
- Safe and integrated mobility, with a focus on connected vehicles and technological advancements in autonomous vehicles.
- Logistics and urban mobility, with the aim of managing the flows of people and goods in an integrated manner to improve the usability of services and the quality of life in metropolitan areas.
- Shared mobility, with a focus on monitoring and the analysis of current and potential trends, integration into traffic monitoring systems, and the introduction of EVs into urban systems.

Participation in EU projects

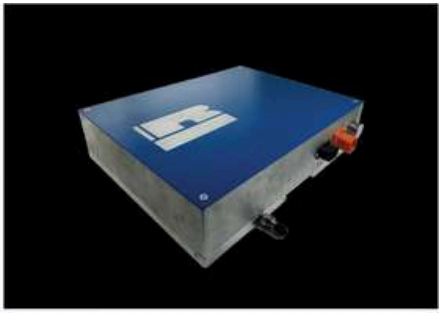
- **EMPOWER** - Eco-operated, Modular, highly efficient, and flexible multi-POWERtrain for long-haul heavy-duty vehicles, (2023-2026)

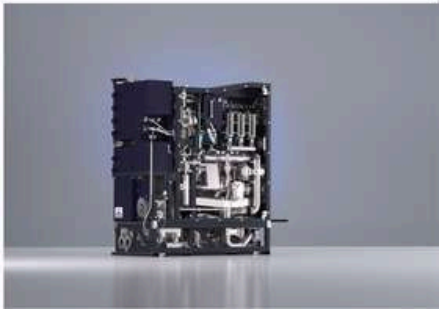
- **SmartCorners** - User-centred Optimal Design of Electric Vehicle with Smart E-Corners, (2024-2026)

- **GEN1200** - Ultra-Efficient Highly-Integrated 1200V Powertrains for Electric Vehicles Enabling Next-Gen Charging Speeds and Compatibility Across Charger Generations, (2024-2027). Hipower 5.0 Leading Edge Semiconductor, Integration, And Control System Technologies For Highly Compact And Smart Edrive Components Towards More Sustainable Power Electronics 5.0, (2025 - 2028)

RICARDO

Organisation type:	RTO
Contact person:	Mr. Joshua Dalby
Phone number:	+49 1273 794742
Email:	joshua.dalby@ricardo.com
Location head office:	Shoreham-by-Sea, United Kingdom
Number of employees:	2700
Turnover before tax:	> €400 Million
Website:	www.ricardo.com/en





Short summary of expertise and activities

Ricardo is a global, strategic, engineering and environmental consultancy for the energy transition, with a value chain that includes the niche manufacture and assembly of high-performance products.

Our 100+ years of commitment to research and development empowers the Ricardo team of consultants, environmental specialists, economists, professional engineers and scientists to deliver class-leading innovative and sustainable solutions, helping to solve the most complex, dynamic challenges for our public and private sector clients who include: the world's major transport original equipment manufacturers and operators, supply chain company, energy companies, financial institutions and government agencies.

Headquartered in the UK, Ricardo has engineering technical centres in the Netherlands, the Czech Republic, Italy and the UK, and offices across Europe including in Denmark, Germany, Greece and Spain.

Participation in EU projects

Ricardo is and has been involved in many EU projects, those active projects are for example (including some of those from E3-Modelling AE):

- ***Le*Mesurier** – Measuring the value of the KPI of the 2Zeio partnership
- **ZEFES** – Zero Emission flexible vehicle platforms with modular powertrains serving the long-haul Freight Eco System
- **TranSensusLCA** – Towards a European-wide harmonised, transport specific LCA Approach
- **XL-CONNECT –** Large scale system approach for advanced charging solutions
- **STREnGth_M –** Stimulating road Transport Research in Europe and around the Globe for sustainable Mobility
- **sHYpS –** Sustainable HYdrogen powered Shipping
- **VERA –** Vehicle Emission Retrofit Activities
- **NEMO –** Noise and Emissions Monitoring and radical mitigation
- **NEWTRENDS –** New trends in energy demand modelling
- **TWINRD –** Macroeconomic modelling of R&D for the twin transition
- **ECEMF –** European Climate and Energy Modelling Forum
- **iDesignRES –** Integrated Design fo the Components of the Energy System to Plan the Uptake of Renwable Energy Sources: An Open Source Toolbox
- **CircoMod –** Circular Economy Modelling for Climate Change Mitigation
- **ELEVATE –** Enabling and LEVerating climate Action Towards net-zero Emissions
- **PRISMA –** Net zero Pathway Research through Integrated aSsessment Model Advancements

Rise Research Institutes of Sweden AB

Organisation type:	R&D organisation
Contact person:	Dr. Fredrik Harrysson
Phone number:	+46 70 3136963
Email:	fredrik.harrysson@ri.se
Location head office:	Göteborg, Sweden
Number of employees:	33,00
Turnover before tax:	€400 Million
Website:	www.ri.se

Short summary of expertise and activities

RISE is Sweden's research institute and innovation partner. Through international collaboration programmes with industry, academia, and public sector, we ensure the competitiveness of the Swedish business community on an international level and contribute to a sustainable society. Our 3300 employees engage in and support all types of innovation processes. RISE is an independent, state-owned research institute, which offers unique expertise and about 130 test and demonstration environments for future-proof technologies, products and services.

RISE develop and increase the use of our leading, dynamic environment for testing, demonstration, and pilot production.

RISE support and encourage organizations – particularly small and medium-sized enterprises – to participate in EU research programmes and benefit from international collaborative research.

RISE offer within transport and mobility area:

- Challenge driven solutions
- Research and testing of everything from material technology, production technology and software to complete vehicles and simulation of logistic flows
- Analysis and long-term strategies for building expertise together with and in support of industry
- And much more

Participation in EU projects

RISE participates continuously in about 25-30 EU projects, in cooperation with partners from our extensive international network. As examples of recent European and national mobility and transport related projects we have:

Projects: **SECREDAS:** Product security for cross domain reliable dependable automated systems, **eCAIMAN:** Electrolyte, cathode and anode Improvements for market-near next-generation lithium-ion batteries, **PROPART:** Precise and robust positioning for automated road transports, **MICEV:** Metrology for inductive charging, **EMPOWER:** Empowering a reduction in use of conventionally fuelled vehicles using positive policy measures, **RUGGEDISED:** Create urban spaces powered by secure, affordable and clean energy, smart electro-mobility, smart tools and services, **METROHYVE:** Metrology for hydrogen vehicles, **IMOVE:** Unlocking large-scale access to combined mobility through a European MaaS network, **MEGAMARt2:** Model based technologies modernise European manufacturing, **HEADSTART:** Harmonised European solutions for testing automated road transport, **ARCC:** Rail freight automation research activities, **GOLNG:** Development of LNG infrastructure and promote its usage in the transport industry, **ROADVIEW:** Robust automated driving in extreme weather, **POWERIZED:** Develop breakthrough technology for digitized and intelligent power electronics, **SUNRISE:** Safety assurance framework for CCAM technologies, **SAFEXPLAIN:** Safe and explainable critical embedded systems based on AI, **MODI:** A leap towards SAE L4 automated driving features, **VALU3S:** Verification and validation of automated systems safety and security, **TWINLOOP:** Open framwork for TwinOps and vehicle specific digital twin for software defined EVs, **CARMONY:** shaping smarter, safer, and greener traffic systems across Europe through next-generation orchestration.

RWTH Aachen University

Organisation type: University
Contact person: Prof. Dr. Peter Urban
Phone number: +49 241 80 25600
Email: peter.urban@ika.rwth-aachen.de
Location head office: Aachen, Germany
Number of employees: 10,000
Website: www.rwth-aachen.de

Short summary of expertise and activities

RWTH Aachen University is recognised as one of the leading universities worldwide in vehicle technology. Its Profile Area “Mobility and Transport Engineering” coordinates and shapes the integration of future vehicle technologies in human-centred and sustainable mobility for people and goods, while the Profile Area “Energy, Chemical & Process Engineering” pursues the complementary vision of fully sustainable energy and material cycles.

Based on the interdisciplinary competences in these Profile Areas and excellent infrastructure, RWTH Aachen University tackles complex challenges in these research areas and develops solutions, which are rooted in research-oriented teaching and transformed to innovations in partnerships with industry, politics and society. Projects range from the development of new methods of transport planning and organization, intelligent transport infrastructures as well as mobility systems of different automation levels to the development of innovative vehicle concepts, their subsystems and components, the related energy conversion processes as well as energy storage and distribution options. A special focus is on the needs and requirements of individuals and society as well as environmental compatibility.

The extensive research infrastructure ranges from powerful simulation tools to a multitude of test benches and driving simulators, various test sites and test tracks including a freely configurable digital communication environment.

In order to shape future road transport, engineers and scientists with interdisciplinary competences are needed. For this reason, RWTH Aachen University has created the interfaculty degree program in Transportation Engineering and Mobility complementing its programs on Automotive and Energy Engineering. The entities coordinating the latter programs as well as the above-mentioned Profile Areas are also representing RWTH Aachen University in EARPA: the Institute for Automotive Engineering (ika) and the Chair of Thermodynamics of Mobile Energy Conversion Systems (tme).

Participation in EU projects

- **AIthena** – AI-based CCAM: trustworthy, explainable, and accountable
- **Coachyfied** – Coaches with hydrogen fuel cell powertrains for regional and long-distance passenger transport with energy optimized powertrains and cost optimized design **Escalate** – Powering EU net zero future by escalating zero emission HDVs and logistic intelligence
- **FEDERATE** – Software defined vehicle support and coordination project
- **Hi-Drive** – Addressing challenges toward the deployment of higher automation
- **LONGRUN** – Development of efficient and environmental friendly long distance powertrain for heavy duty trucks and coaches **STREnGth_M** – Stimulating road transport research in Europe and around the globe for sustainable mobility
- **SUNRISE** – Safety assurance framework for connected, automated mobility systems **V4SAFETY** – Vehicles and VRU virtual evaluation of road safety
- **Versaprint** – Versatile printed solutions for a safe and high-performance battery system

Siemens Digital Industry Software STS

Organisation type:	Software company, Simulation and Test solutions, R&D
Contact person:	Harald Devriendt
Email:	Harald.devriendt@siemens.com
Location head office:	Leuven, Belgium
Number of employees:	1500+
Website:	www.plm.automation.siemens.com / global/en/products/simcenter/

Short summary of expertise and activities

Siemens Digital Industries Software is driving the transformation to enable a digital enterprise where engineering, manufacturing and electronics design meet tomorrow.

Simcenter™, part of the Siemens Xcelerator™ portfolio, uniquely combines powerful multiphysics engineering methodologies across system simulation, computer-aided engineering (CAE) simulation and physical testing. It leverages AI capabilities for faster decisions and improved user experience and enables productivity through cross-domain workflow automation as well as process and data management. Its solutions provide engineers with detailed insight into the real-world performance of their product or process, allowing them to increase productivity, shorten time to market, and accelerate innovation over the entire product lifecycle.

Siemens Industry Software (SISW) NV in Leuven represents the headquarters of the Simulation and Test Solutions (STS) business segment. Its solutions serve a worldwide range of customers from various industries such as automotive, aerospace and machinery. In particular, SISW has extensive experience in developing software and hardware solutions as well as providing services with and for top customers in the mobility sector. Within this, there is a focus towards noise, vibration, durability, thermal, energy, safety, sensing, control and autonomous.

To support its state-of-the-art products and services, the SISW research department participates in a large number of Flemish and European-funded projects and is member of several European research associations such as EARPA, BEPA and 2Zero. Since the founding of EARPA, Siemens has been active both as participant as well as coordinator in more than 150 EC-funded projects.

Participation in EU projects

ABHSSYS - Leveraging acoustic black holes physics for lightweight noise abatement material design. **AITHENA** - Thrustworthy AI for automous driving. **CERTAIN** - Create a comprehensive SAF addressing gaps in CCAM development and deployment, emphasizing safety, trust, acceptance, and comfort for all road users. **ECO-DRIVE** - Noise and Vibration improvement for eco-efficient vehicles. **ECOMOBILITY** - Adaptive data-driven development, deployment and operation framework for connected / electric vehicles. eWAVE - High voltage, low weight, efficient electric powertrains for sustainable waterborne transport. **HERA** - Architechture, technology and trade-offs for a -50% technology-based GHG emission for a Hybrid-Electric Regional Aircraft. **FULL-MAP** - Materials acceleration platform as a tool for battery design improvement. **HERWINGT** - Development of new wing for regional aircraft with hybrid electric propulsion. **INTELLIWIND** - Development of intelligent systems for autonomous wind power plant. **MIRELAI** - Microelectronics reliability driven by artificial intelligence. **NEMOSHIP** - Optimization of large electric battery power technology within hybrid and fully electrical ships. **NEWBORN** - Design and test of hydrogen electric-powered driveline for regional aircraft. **ROBUSTIFAI** - Thrustworthy GenAI in automotive & ADAS applications. **SYNERGIES** - Generation of scenarios for development, training, virtual testing and validation of CCAM systems. **VOLTCAR** - Design, manufacturing, and validation of ecocycle electric traction motor in EV.

SiEVA d.o.o.

Organisation type:	R&D company
Contact person:	Mr. Milos Šturm
Phone number:	+ 386 5 375 6617
Email:	milos.sturm@hidria.com
Location head office:	Šempeter pri Gorici, Slovenia
Number of employees:	43
Website:	www.sieva.si

Short summary of expertise and activities

SiEVA d.o.o. is a research company whose name is an abbreviation in Slovene that stands for “Synergetic ecologic safe vehicle”. The research centre has been founded by nine Slovenian companies with an aim of providing research and development service in strategic fields of vehicle electrification and vehicle safety.

Fields of research of the SiEVA d.o.o. include:

- Additive manufacturing (metal 3D printing)
- Energy and environment – Internal combustion engine
- Energy and environment – Vehicle electrification
- Safety and comfort
- Tools and technology

SiEVA d.o.o. research centre competences:

Competences in the field of products, including: rapid prototyping, tools with conformal cooling, modification and surface treating of non-ferrous metals, modification of sheet metal, surface steel product protection, sprinkling and stamping of thermosets and thermoplasts with inserts, remodeling of thermoplasts, metal and non-metal material bonding, different welding techniques (resistance welding, ultrasonic welding and laser welding), electro controller units, precise die casting technologies, etc.

Competences in the field of development technologies, including: design for additive manufacturing, topology optimisation, virtual development, virtual assessment systems, process simulation, product and tool construction and modelling, prototype testing in real condition simulation, materials characterization, metrology, structural analysis, process optimization, and process automation, possible error and consequence analysis – FMEA, etc.

Participation in EU projects

EARPA Task Forces that are the most in line with research priorities of the SiEVA d.o.o. research centre are The Hybrid and Electric Systems & Components Task Force and Advanced Combustion Engines & Fuels Task Force.

SiEVA participated in two Horizon 2020 projects:
FACTS4WORKERS (www.facts4workers.eu) – Worker-Centric Workplaces in Smart Factories

COMBILASER (www.combilaser.eu) – COMbination of non-contact, high speed monitoring and non-destructive techniques applicable to LASER Based Manufacturing through a self-learning system.

SiEVA’s founder companies have been recently involved in many R&D projects from the 7th FP funded from different EU funds. These projects, include among others active participation in **ROMEO** project, consortium **CAPIRE** and **EUCAR** and **EUREKA** project associations.

Fundación Tecnalia Research & Innovation

Organisation type:	R&D company
Contact person:	Estibalitz Delgado
Phone number:	+34 946 430 850
Email:	estibalitz.delgado@tecnalia.com
Location head office:	Derio, Spain
Number of employees:	1500
Turnover before tax:	€135 Million
Website:	www.tecnalia.com

Tecnalia's capacities to develop and operate air vehicles

Tecnalia's prototype ground vehicles

Remote operation solutions oriented to ground vehicles

Remote operation control center

Short summary of expertise and activities

TECNALIA is the largest centre of applied research and technological development in Spain, a benchmark in Europe and a member of the Basque Research and Technology Alliance (BRTA). We collaborate with companies and institutions to improve their competitiveness, people's quality of life and achieve sustainable growth. We do it thanks to a team made up of more than 1,500 people (44% women – 56% men).

In Europe, TECNALIA has consolidated its position as the first private organisation in Spain in project contracting, participation and leadership under the European Commission's HORIZON 2020 programme, in partnership with over 600 Spanish companies.

Tecnalia's value proposal for the Mobility Sector in focused on the sustainable mobility, where we design and develop technologies and new business models that contribute to the shift towards a future scenario in which mobility has a low environmental impact and is connected, efficient, safe and inclusive. We also contribute to the positive transformation and development of cities and regions by implementing a set of people-oriented technology innovation solutions to develop smart, low-carbon urban environments. This includes improving transport vehicles, communication systems and energy infrastructures, as well as their interaction and integration into urban and interurban ecosystems in terms of urban air mobility, automated driving, electrified vehicles, and smart infrastructure.

Participation in EU projects

- **HARPOONERS -** High voltAge, modulaR and low weight electric POwertrains fOr NExt generation waterborne tRanSport.
- HADRIAN - Holistic Approach for Driver Role Integration and Automation Allocation for European Mobility Needs.
- **AUTODRIVE –** Advancing fail-aware, fail-safe, and fail-operational electric components, systems, and architectures for fully automated driving to make future mobility safer, affordable, and end-user acceptance in CCAM.
- **HIADVICE –** Highway ADVanced CruIse AssistanCE.
- HIFIELEMENTS - High Fidelity Electric Modelling and Testing.
- **LONGRUN –** Development of efficient and environmental friendly LONG distance powertrain for heavy dUty tracks aNd coaches
- **NEXTeTRUCK –** Efficient and affordable Zero Emission logistics through NEXT generation Electric TRUCKs.
- **ACHILES –** Advanced Architectures CHassis/TRACTION concept for Future ELEctric vehicleS.
- **DOSS -** SECURE-BY-DESIGN IOT OPERATION WITH SUPPLY CHAIN CONTROL
- **SELFY –** SELF assessment, protection & healing tools for a trustworthy and resilient CCAM.
- **EVENTS –** ReliablE in-Vehicle pErception and decision-making in complex environmental conditions.
- **AUGMENTEDCCAM -** Augmenting and Evaluating the Physical and Digital Infrastructure for CCAM deployment.
- **AWARE2ALL –** Safety systems and human-machine interfaces oriented to diverse population towards future scenarios with increasing share of highly automated vehicles.
- **eBRT2030 -** European Bus Rapid Transit of 2030: electrified, automated, connected.
- **iEXODDUS** - Infrastructure for the EXtension of ODDs - applied in connected and aUtomated driving and Standardization procedures.

Technische Hochschule Ingolstadt (CARISSMA)

Organisation type: University
Contact person: Mr. Mar Folgueral Gomez
Phone number: +49 841 9348 3396
Email: Mar.FolgueralGomezcarissma.eu
Location head office: Ingolstadt, Germany
Number of employees: 120
Website: CARISSMA.EU

A CARISSMA employee modifies a test vehicle in the CARISSMA indoor test facility

Short summary of expertise and activities

CARISSMA- Automotive Safety Research and Test Center
CARISSMA, a research and test center at the Technische Hochschule Ingolstadt (THI), stands for "Center of Automotive Research on Integrated Safety Systems and Measurement Area" and has been designed as Germany's leading scientific center for vehicle safety.

The aim of this facility is to conduct applied research in order to enhance traffic safety in Germany and abroad. The system, which consists of driver, vehicle, and environment, is considered as a whole, because not only the vehicle occupants but all road users should be protected. To this end, CARISSMA works with car manufacturers, suppliers, scientists and research institutions all over the world. Working on an interdisciplinary basis, the scientists involved seek to tackle the social challenge of "Vision Zero" – achieving the ultimate goal of zero traffic deaths.

21 professors and over 100 scientific employees conduct interdisciplinary research on groundbreaking innovations.

Participation in EU projects

- **AI-SEE:** Enhancing vehicle vision in low visibility conditions 24 hours and 365 days of the year
- **AWARE2ALL:** Safety systems and human-machine interfaces oriented to diverse population towards future scenarios with increasing share of highly automated vehicles
- **CERTAIN:** Resilient and continuous safety assurance methodology for CCAM and its HMI components
- **COBRA:** CObalt-free Batteries for FutuRe Automotive Applications
- **ENLIGHTEN:** nExt geNeration 1200V eLectric hIGH volTage powErtraiN
- **EXTENDED:** NEXT GENERATION OF MULTIFUNCTIONAL, MODULAR AND SCALABLE SOLID STATE BATTERIES SYSTEM
- **HYPOBATT:** HYper POwered vessel BATTery charging system
- iBattMan: Smqrt, Connected and Secure Battery Management System Enchanced by Next-Generation Edge- and Cloud-Computing, Sensors and Interoperable Architecture
- **iEXODDUS:** Infrastructure for the Extension of ODDs - applied in connected to Automated Driving and Standardization procedures
- **MARBLE:** Manufacturing and assembly of modulat and reusable EV batteries
- **MITHOS:** INNOVATIVE DECISION-MAKING TOOL FOR THE FEDERATED MONITORING, RE-DESIGN AND CONSERVATION OF MULTIMODAL TRANSPORT INFRASTRUCTURES
- **NEXTCELL:** New Li-Ion cell generation for both high capacity and high voltage applications
- **PLIADES:** AI-Enabled Data Lifecycles Optimization and Data Spaces Integration for Increased Efficiency and Interoperability
- **REBORN:** REUSABLE BATTERY MODULE AND MANAGEMENT SYSTEM DEVELOPMENT FOR RELIABLE 2nd LIFE
- REINFORCE: STANDARDISED, AUTOMATED, SAFE AND COST-EFFICIENT PROCESSING OF END-OF-LIFE BATTERIES FOR SECOND AND THIRD LIFE USE AND RECYCLING
- **ROADVIEW:** Robust automated driving under extreme weather
- **SOCRATES:** SAFETY MANAGEMENT OF ROAD LIGHT DUTY BEV CRASH THROUGH NEW ASSESSMENT TOOLS BASED ON REAL EXPERIMENTS AND MULTI-PHYSICS DETETION SYSTEMS
- **SAFE-UP:** proactive SAFEty systems and tools for a constantly UPgrading road environment
- **SELFY:** SELF ASSESSMENT, PROTECTION & HEALING TOOLS FOR A TRUSTWORTHY AND RESILIENT CCAM
- **TRANS-SAFE:** Transforming Road Safety in Africa
- **V4SAFETY:** Vehicles and VRU Virtual eValuation of Road Safety

TNO (Netherlands Organisation for Applied Scientific Research)

Organisation type:	R&D Organization
Contact person:	Bastiaan Krosse/ Renske de Jong
Phone number:	088 866 3000
Email:	locationhelmond@tno.nl
Location head office:	The Hague, The Netherlands
Number of employees:	5,695 (January 2026)
Turnover before tax:	€764,3 Million
Website:	www.tno.nl

Mobility Applied Research Quarter (MARQ): innovation and research centre for smart mobility.

Test cell for sustainable marine engines at the Innovation Centre for Sustainable Powertrains (ICSP)

Short summary of expertise and activities

TNO is an independent public research organisation. With over 5,000 employees, we work together with entrepreneurs, scientists, policymakers, individuals, and society to create impactful innovations for the sustainable wellbeing and prosperity of society. Technological innovation can bring health and happiness to people and the planet. That is what drives us every day.

A major challenge lies in creating a liveable future for all. We apply and integrate our knowledge to enable a living environment that is safe, sustainable and efficient. From the buildings in which we live and work and the roads and bridges that connect us, to the mobility solutions that transport people and goods. We contribute insight, technology, innovation and networks and focus on solutions that leave no one behind.

All in service of our 'Three Zeros' vision: zero calamities, zero emissions and zero loss of resources by 2050.

TNO enables businesses in the mobility sector and the logistic supply chain to introduce safe connected automated vehicles (CAV) and offer technologies and methodologies to maximise safety, sustainability and efficiency of CAV-based (traffic/logistic) system applications.

Our contribution is to provide technological solutions (like algorithms for improving situational awareness, standardisation, quality and trust, and digital infrastructures for functions such as localisation), and tools and methodologies like digital twins, scenario-based safety assessment and methods for policy making to optimize the impact on system level. TNO enables OEMs to validate real world pollutant and greenhouse gas emission reductions by active in-service monitoring, and governments to develop fact based sustainable mobility policies. Our contribution is to provide new sustainable propulsion technologies for (heavy duty) vehicles, inland shipping and non-road mobile machinery, monitoring technology and methodology for tailpipe and non-tailpipe emissions as well as independent assessments on policy and technology impact.

Participation in EU projects

- **MODI**: A leap towards SAE L4 automated driving features
- **TULIPS**: Demonstrating lower polluting solutions for sustainable airports across Europe.
- **MAGPIE**: Smart green ports as integrated efficient multimodal hubs. Supply and use of green energy carriers in transport to, from and within ports.
- **AIGGREGATE**: AI enhanced collective intelligence for CCAM applications
- **CCAMbassador**: Stakeholder engagement and knowledge sharing of CCAM
- **FAME**: Development of tools for mobility and transport testing
- **MODI**: Large scale demos of CCAM for Logistic applications
- **Shift2SDV**: Development of Software-Defined-Vehicle architecture components
- **HiDrive**: Large scale demos of CCAM for personal mobility
- **EcoMobility**: Mobility Eco-system definition
- **Pre_LSDemo**: Definition of tools and methods for large scale demonstration of CCAM
- **SHOW**: Demonstration of mobility services with automated driving
- **DITM**: Development of supporting infrastructures for mobility
- **HEADSTART**: Develop a proof of concept scenario-based safety assessment framework for CCAM
- **SUNRISE**: Develop a harmonized safety assurance framework (SAF) and provide guidelines for application
- **SYNERGIES**: Develop a scenario dataspace to allow the pan-European use of scenarios
- **CERTAIN**: Extend the SUNRISE SAF to include HMI, AI, and In-Service Monitoring & Reporting
- **V4SAFETY**: Develop a virtual-simulation framework for performance assessment of safety measures dedicated to improve vehicle-to-VRU interactions

Universidad Carlos III de Madrid

Organisation type: Public Educational Institution
Contact person: Prof. Fernando Garcia
Phone number: +34 916 24 83 25
Email: fegarcia@ing.uc3m.es
Location head office: Madrid, Spain
Website: www.uc3m.es

Short summary of expertise and activities

UC3M is a Spanish public university that excels in research, teaching, and innovation. It is among the 35 best universities in the world in the QS Top 50 Under 50 ranking and is among the best universities in the world in 14 academic fields, according to the Shanghai 2021 ranking by subject. UC3M has numerous accreditations and quality distinctions, such as the EUR-ACE seal in the field of engineering and the AACSB accreditation in business and finance programmes, among others. It has exchange agreements with universities in 56 countries on 5 continents. In addition, the University participates in international networks of excellence such as YERUN (Young European Research Universities) or the European alliance YUFE (Young Universities for the Future of Europe).

At European level, the UC3M, throughout the Horizon 2020 Framework Programme, has attracted a total of 66.23 million euros through 147 projects, 24 of them coordinated. According to the IUNE 2021 Observatory report on Research Activity in Spanish Universities (2010-2019 data), UC3M is among the top Spanish universities in terms of the number of projects per professor in both the H2020 Framework Programme and the National Plan. In terms of industrial transfer, the report highlights that UC3M ranks second in Spain in the number of national patents per permanent lecturer in 2019, and is third in income from R&D contracts and consultancies per lecturer.

UC3M has an extensive portfolio of projects in the automotive sector, both at scientific and industrial levels, with experienced researchers in the field. Professor Fernando Garcia, main contact with EARPA, is leader in the development of perception technologies in - the automotive sector, developing projects and patents as project leader with Renault France, and BOSH Germany, as well as being one of the active members of the team developing the first certified level 5 automobile in Spain, developed by the UC3M. He is also one of the directors of the IEEE-Intelligent Transportation Systems Society since 2017.

Participation in EU projects

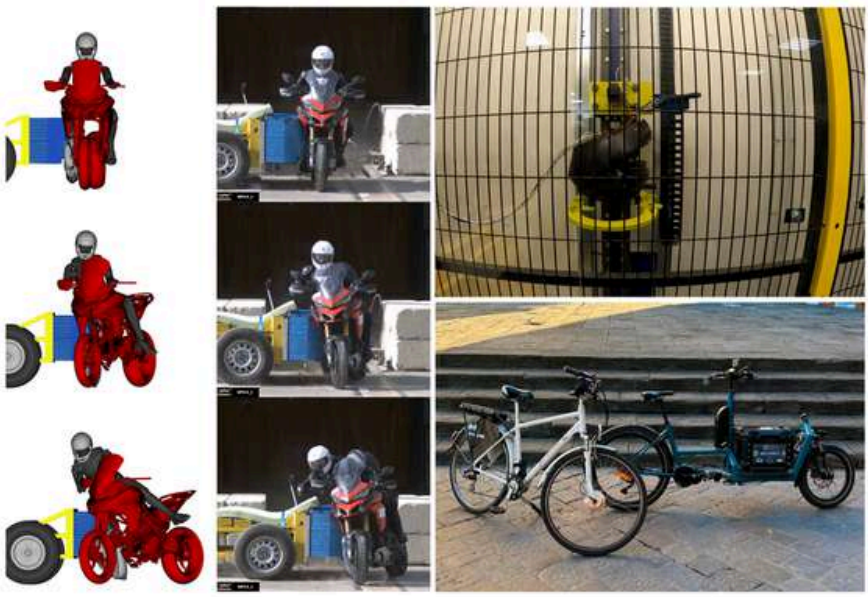
EcoMobility, **SHOW**, **LABYRINTH**, **R3CAV**, **DAEMON**, **NewControl**, **5Growth**, **Cities Timanfaya**, **Project Tornado**, **5G IN Fire**.

Other projects related to robotics and autonomous driving: **BADGER.** The main objective of the project is the design and development of the autonomous underground robotic system that can drill, maneuver, localize, map and navigate in the underground space. 1 January 2017 - 30 June 2020.

INDIRES. Funded by the European Research Fund for Coal and Steel (RFCS). The project addresses the crucial issue of rapidly acquiring and providing information, which is a key necessity in the effective response to a serious mining incident. 2018-2021. The Universidad Carlos III de Madrid (UC3M) is among the most successful Spanish organizations in **Horizon 2020** (H2020), the EU Framework Programme for Research and Innovation, which came to an end last year. These results were recently published in a report about the participation of Spanish organizations in H2020 by the Center for the Development of Industrial Technology (CDIT, in its Spanish acronym) at the Spanish Ministry of Science, Innovation and Universities. The UC3M ranks among the most prominent Spanish universities for economic return in H2020, regardless of the institutions' size.

University of Firenze

Organisation type:	University
Contact person:	Mr. Niccolò Baldanzini
Phone number:	+39 055 2758749
Email:	niccolo.baldanzini@unifi.it
Location head office:	Firenze, Italy
Number of employees:	3811
Turnover before tax:	€68 Million
Website:	www.unifi.it



Short summary of expertise and activities

The University of Florence (UNIFI) is joining EARPA through its MOVING research group (Mobility and Vehicle INnovation Group), which is part of the Department of Industrial Engineering. The group has a technical background covering the following areas of expertise:

Road Safety
UNIFI has a long-standing expertise in road safety research for road vehicles, with a strong focus on vulnerable users. Its activities particularly address two-wheeled vehicles, including motorcycles, bicycles and e-bikes, as well as emerging forms of light mobility such as e-scooters. The group combines accident analysis, human factors, biomechanics and vehicle safety to assess risk factors and injury mechanisms. A key research area concerns personal protective equipment, from helmets to advanced wearable protections, evaluated through experimental testing and numerical simulations. This integrated approach supports evidence-based strategies to improve safety, design and regulations for sustainable and safe mobility.

Life Cycle Sustainability Assessment (LCSA)
Building on its activities in road safety, UNIFI also develops strong expertise in Life Cycle Sustainability Assessment (LCSA) applied to transport and mobility systems. The group integrates Environmental Life Cycle Assessment (LCA), Life Cycle Costing (LCC) and Social Life Cycle Assessment (S-LCA) to evaluate environmental, economic and social impacts over the entire life cycle of vehicles and mobility services. Particular attention is given to innovative and critical raw materials, applied to light mobility solutions, in line with circular economy principles. Through quantitative modelling and scenario analysis, the research group supports decision-making in sustainable design, policy development and technological innovation for future mobility.

Electric Mobility
Building on consolidated competencies in vehicle design and dynamics, UNIFI carries out advanced research activities in the field of electric mobility. These activities include multi-physics modelling and simulation of key electric powertrain components—such as batteries, power electronics and electric motors—and their integration into comprehensive vehicle-level models. The group also develops and applies methods for naturalistic driving data acquisition, statistical analysis and data-driven synthesis to capture real-world vehicle usage and energy demand. This combined modelling–data approach supports the optimization of energy efficiency, performance, durability and sustainability of electric vehicles across different mobility applications.

Participation in EU projects

ACCCELLBAT, ALLIANCE, CLIMAFLUX, DIGI4CIRCULAR, HARMONY, MEBESAFE, NEOHIRE, OBELICS, PIONEERS, RESOLVE, SAFE-UP, TRANS-SAFE, TRANSENSUS LCA, XL-CONNECT.

University of Limerick

Organisation type:	Public research university institution
Contact person:	Imelda Doolan
Phone number:	+353 (0)61 234996
Email:	Imelda.Doolan@ul.ie
Location head office:	Limerick, V94 T9PX, Ireland
Number of employees:	2000
Turnover before tax:	€345.1m (2022)
Website:	www.ul.ie

Optimising camera, radar, and lidar inputs in a semi-autonomous test vehicle as part of Lero's Blended Autonomous Vehicle project'

Short summary of expertise and activities

University of Limerick (UL), is located in the City of Limerick on the west coast of Ireland. UL has over 18000 students, including more than 3,300 internationally mobile students. It is an independent research-led university offering undergraduate and postgraduate programmes across Arts, Humanities and Social Sciences; Education and Health Sciences, Science and Engineering and the Kemmy Business School. UL offers interdisciplinary research and education grounded in the fundamentals of engineering, science, and technology – electronics systems and VLSI, wireless communications, AI, computational modelling, data analysis, robotics, cybersecurity, renewable energy, energy storage, electrical engineering, bio-instrumentation, sensor systems, computer technology, and Internet of Things (IoT), with application in automotive and transportation systems.

The Limerick region is an emerging hub for automotive software and systems development and UL has strong links to the automotive technology cluster in the region and nationally. The university excels at translational research, which aims to accelerate the practical application of academic research to benefit society. UL has particular research and development strengths in the areas of Materials, Advanced Manufacturing, Software, Health, and Applied Mathematical Sciences. UL is host to a number of Research Institutes, national externally-funded Research Centres and units. Some of these include the UL Bernal Institute which is focused on materials science and hosts research in advanced battery technology for application in electric vehicles as well as research on production of composite auto-parts from sustainable bio resources; the UL hosted Science Foundation Ireland Lero Research Centre for software which leads a national blended autonomous vehicles (BAV) research programme focused on addressing challenges facing the use of driverless vehicles in blended or mixed environments with pedestrians, animals and human-operated vehicles (e.g. analysis and interpretation of data from cameras, radar and lidar systems).

Participation in EU projects

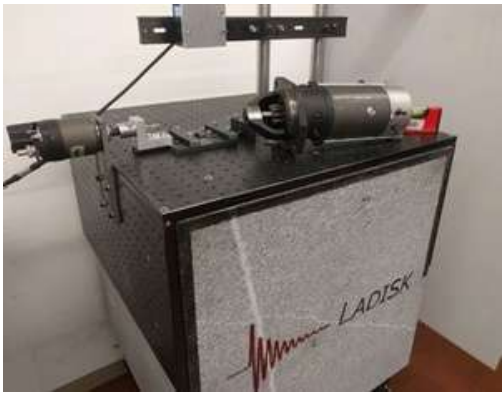
- **ICONIC** "Improving the crashworthiness of composite transportation structures" - H2020 ID: 721256
- **VI-DAS** "Vision Inspired Driver Assistance Systems"- H2020 ID: 690772
- **Si-DRIVE** Silicon Alloying Anodes for High Energy Density Batteries comprising Lithium Rich Cathodes and Safe Ionic Liquid based Electrolytes for Enhanced High VoltagE Performance. - H2020 ID: 814464
- **DualFlow** "Dual circuit flow battery for hydrogen and value added chemical production" - HEurope ID: 101070788
- **SiGNE** "Composite Silicon/Graphite Anodes with Ni-Rich Cathodes and Safe Ether based Electrolytes for High Capacity Li-ion Batteries" - HEurope ID: 101069738
- **CUBIC** "Improving the cirCUlarity of complex plastic multi-material composites using novel BIobased materials in B2B semi-finished produCts" – HEurope ID: 101111996
- **BIO-UPTAKE** - "BIOcomposites in smart plastic transformation processes to pave the way for the large-scale UPTAKE of sustainable bio-based products"- HEurope ID: 101057049
- **TRIDENT** - "Technology based impact assessment tool foR sustaInable, transparent Deep sEa miNing exploraTion and exploitation HEurope ID: 101091959
- **SyMeCo** - "Systems Methods Context" MSCA CoFUND HEuropeID: 101081459
- **Ensemble** - "ENhanced AI-baSEd cybercriMe-oriented collaBorative investigation technologies and capabiLitiEs"- HEurope ID: 101168360

University of Ljubljana

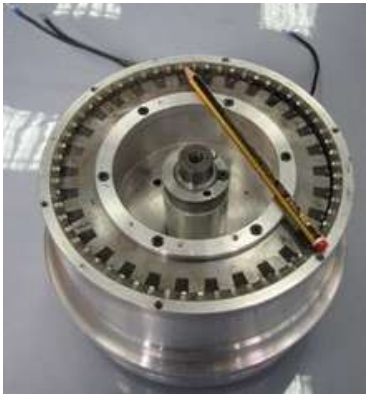
Organisation type:	University
Contact person:	Mr. Tomaž Katrašnik Mr. Damijan Miljavec Mr. Janko Slavič˘
Phone number:	+386 1 4771305 +386 1 4768281 +386 1 4771226
Email:	Tomaz.Katrasnik@fs.uni-lj.si Damijan.Miljavec@fe.uni-lj.si Janko.Slavic@fs.uni-lj.si
Location head office:	Ljubljana, Slovenia
Number of employees:	5700
Website:	www.uni-lj.si

University of Ljubljana

Experimental work on engine starter dynamics.



Transferse flux machine for In-wheel application.



Short summary of expertise and activities

The University of Ljubljana ranks among the biggest universities with more than 56.000 undergraduate and post-graduate students and approximately 6.000 employees. The Faculty of Electrical Engineering and the Faculty of Mechanical Engineering, being EARPA members, are research driven faculties. Research work at the Faculty of Electrical Engineering, which employs approximately 300 researchers, is divided in 9 major fields: electrical energy, mechatronics, electronics, microelectronics, bio-cybernetics and biomedicine, measuring systems, automation and cybernetics, robotics and telecommunications. Research work at the Faculty of Mechanical Engineering, which employs more than 300 researchers, is divided in 7 major fields: power and process engineering, design, engine mechanics and maintenance, production engineering, mechatronics, micromechanical systems, and automation.

Research activities associated with the EARPA's Task Forces cover:

- Hybrid Powertrains and Alternative Fuels: Combustion, Alternative Fuels, Air Management and Supercharging, Thermal Management, Prototyping and Testing including PEMS.
- EV Systems and Components: Basic Research on E-machines, Detailed performance and degradation modelling of batteries and fuel cells, Prototyping and Development of Integrated Solutions, Development of Control strategies, Thermal Management of E-components, Testing and Diagnostics, Basic research on vibration&noise&vibration fatigue optimisation.
- **Methods and Tools for Virtual Development and Validation:** Development of predictive system level and detailed simulation models for ICEs, EMs, batteries, fuel cells, VTMS and thus of the complete conventional, hybrid and electric powertrains, virtual vibration fatigue, electromagnetic and magnetostrictive vibration excitation modelling/experiment, multi-domain and multi-physics dynamics (e.g. battery- starter-engine)
- Noise, Vibration & Harshness: acoustic testing, vibration fatigue and lightweight structures, vibroacoustic of electric motors, vibration transmission through bearings

Participation in EU projects

The University of Ljubljana is very active in international research and education programs. It cooperated in 117 FP6 and 110 FP7 projects (in several of them as coordinator), it also cooperates in many H2020 projects and in many other research, development and educational projects financed by European Union (TEMPUS, ERASMUS, ETN Marie Curie, Leonardo da Vinci, DAPHNE, SafeInternet, eLearning, eTEN, Lifelong Learning Program and many more). In the field of transport, the University of Ljubljana is involved in the following projects: **Straightsol CIVITAS ELAN 2020 INTERFACE FluMaBack Asterics Obelics Drivemode**

University of Luxembourg

Organisation type:	Public university
Contact person:	Francesco Viti Raphael Frank Gamal Elghazaly
Phone number:	+352 46 66 44 5352 +352 46 66 44 5752 +352 46 66 44 6781
Email:	francesco.viti@uni.lu raphael.frank@uni.lu gamal.elghazaly@uni.lu
Location head office:	Belval, Esch-sur-Alzette, Luxembourg
Number of employees:	2400
Turnover before tax:	€60 Million
Website:	www.uni.lu

JUNIOR: autonomous vehicle of University of Luxembourg - SnT

Short summary of expertise and activities

The University of Luxembourg (Uni.lu) was founded in 2003. Among the youngest and fast-growing universities in Europe, the Uni.lu is ranked among the top 250 universities in the Times Higher Education (THE) World University Rankings, 12th worldwide in the THE Young University Rankings and 4th in the THE subcategory of "Millennials" (universities founded since the year 2000). Moreover, in the category Transport and Technology, Uni.lu is ranked within the 100-150 worldwide according to the Shanghai ranking.

Uni.lu is actively participating in European projects. Since the launch of Horizon 2020 and until the end of 2019, more than 90 grants had been obtained, with a total budget of over 500 million euros, including a University of Luxembourg share of approximately 50 million euros since the launch of H2020, and 7.5 million euros for the University of Luxembourg in 2019. The University also obtained 11 ERC grants.

Within the automotive, CCAM and ITS research, the main teams contributing to research include:

- Mobilab Transport Research Group is a research group of the Department of Engineering, and performs research ranging from Mobility Modelling and Simulation, Transportation Planning, Traffic and Public Transport Analysis and Control, and regional mobility and sustainability, Smart Mobility and Logistics, Intelligence Transport Systems, Artificial Intelligence for Automated Mobility, Transport Electrification. The mission of Mobilab is to develop computational data- driven models and simulation approaches for planning and managing complex multimodal transport systems.
- **UBIX Research Group** is a research group of the Interdisciplinary Research Centre for Security, Reliability and Trust (SnT) focusing on distributed AI across various fields, including autonomous vehicles, IoT, edge computing, digital twins, and smart cities. UBIX also operates the 360Lab conducting strategic and impact-related related research and innovations in connected and autonomous mobilities. The mission 360Lab is to improve the capabilities of automated vehicles to understand to safely interact with their highly interactive environment at large scale. UBIX expertise is in AI, computer vision, robotics, ITS and vehicular networking come together to reach this goal.
- **Automation & Robotics Group** is a research group of the Interdisciplinary Research Centre for Security and conducts research to enable mobile and industrial robots, autonomous vehicles, space and energy systems to better perceive the world around them and to interact with it in an optimal and intelligent way. Many complex technical systems need to execute their tasks efficiently and with an increasing degree of autonomy, requiring flexible and intelligent automation. ARG conducts research to enable mobile and industrial robots, autonomous vehicles, space and energy systems to better perceive the world around them and to interact with it in an optimal and intelligent way.

Participation in EU projects

- **FCD4ITS** – Floating Car Data Collection for Intelligent Transportation Systems
- **5G-MOBIX** – 5G technology with advanced Connected and Automated Mobility
- **5G-DRIVE** – 5G HarmoniseD Research and TrIals for serVice Evolution
- **TERMINAL** – AuToMated ElectRic Bus InterregioNAL
- **ACUMEN** – Ai-aided deCision tool for seamless mUltiModal nEtwork and traffic managemeNt

University of Modena and Reggio Emilia

Organisation type:	University
Contact person:	Prof. Francesco Leali
Phone number:	+39 059 205 6311
Email:	francesco.leali@.it
Location head office:	Modena, Italy
Number of employees:	> 1500
Turnover before tax:	€7 Million
Website:	www.unimore.it

Autonomous racing prototype (codename "Diletta") for the Formula SAE competition.

Short summary of expertise and activities

Founded in 1176, the University of Modena and Reggio Emilia – UNIMORE is the third oldest University in the World, and has been ranked among the first ten Italian universities for quality of teaching and research since 2007. UNIMORE is a networked campus located in the towns of Modena and Reggio Emilia. It counts about 20000 students, including 3500 postgraduates.

It has over 600 international exchange agreements and cooperation programs to encourage students and researcher to actively interact in a globalized world. Currently, UNIMORE project portfolio comprises 50 funded projects under Horizon, plus several projects financed by the National Institute of Health (USA), National institute of research under the PRIM program, ARTEMIS and ENIAC Joint Technology Initiatives, the Life+ Programme.

With respect to activities related to EARPA, the three departments involved are the Department of Engineering "Enzo Ferrari" (DIEF), the Departments of Sciences and Methods for Engineering (DISMI), and the Department of Physics, Informatics and Mathematics (FIM).

Research at DIEF concerns automotive engineering, mechanics, civil and environmental engineering, computer engineering and science, industrial automation, electronics, telecommunications and materials. The areas of expertise can be found include thermal-fluid dynamics of power units and systems, structural design of vehicles and components, noise and vibrations, artificial intelligence and computer vision, advanced driver assistance systems, design by simulation methods, industrial and collaborative robotics, additive manufacturing, electrification of transport and alternative fuels.

DISMI deals with methodological and applied research, technology transfer and university education in various fields of engineering and basic sciences. It mainly covers covers industrial engineering and management, mechanics engineering, energy engineering and basic sciences applied to engineering. Activities that cover the area of informatics mainly belong to FIM. They are related to autonomous and connected systems and vehicles (CAV), smart cities, and mobility-as- a-service, especially covering the transition of safety-critical and secure system to the next edge devices for the IoT era.

Participation in EU projects

A brief non-exaustive list of UNIMORE involvement in EU project related to the research in the automotive sector: **5GMETA**, **SINFONICA**, **5G-LOGINNOV**, **AI4CSM**, **AUTO-MEA**, **DORNA**, **DREAM**, **eCharge4Drivers**, **FENIX**, **FORTISSIMO**, **MobiDataLab**, **NewControl**, **OLGA**, **Prystine**, **SCAPE**, **SYMPLEXITY**, **HAL4SDV**, **ShapeFuture**, **EcoMobility**.

University of Stuttgart, Institute of Automotive Engineering Stuttgart (IFS)

Organisation type:	University
Contact person:	Prof. Dr.-Ing. André Casal Kulzer
Phone number:	+49 711 685 66646
Email:	andre.kulzer@fkfs.de
Location head office:	Stuttgart, Germany
Number of employees:	IFS: about 80
Website:	www.ifs.uni-stuttgart.de

University of Stuttgart
Institute of Automotive Engineering

Hybrid Engine Test Bench

Short summary of expertise and activities

The Institute of Automotive Engineering Stuttgart (IFS) is part of Faculty 7: Engineering Design, Production Engineering and Automotive Engineering at the University of Stuttgart and is involved in research and teaching in the field of automotive and engine technology.

The work at the Chair of Automotive Powertrain Systems is primarily concerned with increasing the efficiency and minimizing the emissions and noise of automotive powertrain systems. Particular focus is placed on the holistic experimental and simulative optimization of battery-electric, hybrid and fuel cell drives at system level, as well as the application of data science methods.

At least 1/3 of the approximately 60 engineers employed at the Institute of Automotive Engineering Stuttgart conduct research in all the fields of automotive powertrain systems, starting with battery-electric, fuel cell-based and hybridized powertrains, through to thermal converters or combustion engines with renewable fuels. The main target of the research efforts in the field of automotive powertrain systems is the development of climate- and emission-neutral mobility, including powertrain systems with minimal energy consumption. This also includes the further increase of power density, the interaction with alternative, synthetic fuels (H2, bioFuels, eFuels), the optimization of thermal management, noise minimization and the avoidance of pollutant emissions.

Other chairs at the IFS are Chair of Automotive Engineering and Chair of Automotive Mechatronics.

The Institute of Automotive Engineering Stuttgart is significantly involved in the Bachelor's and Master's degree courses in vehicle and engine technology. Here, the focus is on the motor vehicle in all its variants and technical sub-areas from the very beginning.

This makes the programme unique in Germany. Students receive a theory-based basic education in natural science and engineering subjects such as mathematics, technical mechanics, physics, thermodynamics, computer science, electrical engineering, materials science and design. In addition, they specialize in at least two of the three central subject areas: Automotive Engineering, Vehicle Drives and Automotive Mechatronics.

Finally yet importantly, the Institute of Automotive Engineering Stuttgart is home to the Rennteam Uni Stuttgart, the world's most successful formula SAE racing team in the combustion class. And also the Greenteam Uni Stuttgart, which successfully develops electrically powered and autonomous racing vehicles for the Formula Student competition and holds the 2022 world record for the fastest accelerating electric vehicle (from 0 to 100 km/h in 1.461 seconds).

University of Sussex

Organisation type:	University
Contact person:	Peter Fussey
Email:	p.m.fussey@sussex.ac.uk
Location head office:	Falmer, Brighton, UK
Number of employees:	-3400
Website:	www.sussex.ac.uk

Short summary of expertise and activities

The University of Sussex is a leading research-intensive university established in 1961 with a campus in the South Downs National Park next to Brighton, UK. Over 75% of research activity at Sussex is categorised as world leading or internationally excellent in terms of originality, significance and rigour, according to the Research Excellence Framework.

The automotive research at Sussex is centred in the School of Engineering and Informatics. This provides a multi-disciplinary environment for the research and development of a wide range of technologies for the automotive industry. The school has access to test cells and battery development facilities.

Within the school, there are a number of research groups working on automotive research, centred around the Energy and Materials Engineering Research Centre (EMERC). This centre has a long track record of Automotive Research over the last 20 years covering both light and heavy duty applications. The focus of the group is now on zero emission propulsion, developing technologies to advance the progression to more efficient transport solutions. Current research interests include: Smart grids and EV integration, EV charging behaviour, Battery charging algorithms, Battery management, Hydrogen refuelling, Hydrogen and Ammonia Combustion Control, Thermal Comfort optimisation, Waste heat recovery, Heat pumps, HVAC control, Evaporative cooling, Autonomous vehicles, V2X communications, Optical and laser diagnostics, Cryogenic sprays, Complex and multiphase flows.

The automotive research is strengthened by links with several other groups within the university, including:

- Sussex AI centre of excellence: Including Machine Learning, Computer Vision, Embodied AI, Human and Social AI and Natural Language processing.
- Sussex Energy Group (SEG): unites researchers across the University of Sussex and the Institute of Development Studies working on energy issues. The Sussex Energy Group is one of the largest independent social science energy policy research groups in the world.
- Science Policy Research Unit (SPRU): is one of the world's leading centres of research on science, technology and innovation policy and management.
- Chemistry: Specific areas of research include applications of nano-technology and catalysis expertise, relevant for new sensor technology and aftertreatment development.
- Foundations of Software Systems: Covering formal methods for verification of embedded software, relevant for embedded software development and addressing the threats from cyber security.
- Communications and network research group: Mobile communications and vehicle to X communications, relevant to connected vehicles and autonomous vehicle research.

Finally, the University of Sussex provides undergraduate and post graduate courses in Automotive Engineering and has an active electric Formula Student team, www.sussexracing.co.uk.

Participation in EU projects

Charge4Drivers – improving the Electric-Vehicle charging experience, **SCODECE** - Smart Control and Diagnosis for Economical and Clean Engines, **COMVEBONOV** - Computational Modelling and Analysis of Automotive Vehicle Body Noise and Vibration. **i-MOSYDE** - Intelligent Modern System Design – Hybrid vehicle research demonstrator. **H2-IGCC** - Low Emission Gas Turbine Technology for Hydrogen-rich Syngas, **SONNET** - SOCIAL INNOVATION IN ENERGY TRANSITIONS: Co-creating a rich understanding of the diversity, processes, contributions, success and future potentials of social innovation in the energy sector.

University of West Bohemia

Organisation type:	Public university
Contact person:	Dr. Pavel Žlábek
Phone number:	+420 377 63 8711
Email:	zlabek@rti.zcu.cz
Location head office:	Plzenˇ, Czech Republic
Number of employees:	2308
Turnover before tax:	€108,2 Million
Website:	www.zcu.cz/en

Short summary of expertise and activities

University of West Bohemia (UWB) is the only public institution of higher education based in the Pilsen Region. Currently, the University has nine faculties consisting of more than sixty departments and three institutes of higher education. More than 11,000 students studying at the university can choose from a wide of range of undergraduate, postgraduate and doctoral study programs.

University of West Bohemia is also an important centre of research and development, with massive investment to university development and construction activities on the university campus. The university campus is currently undergoing very dynamic changes. The newly constructed research centres definitely strengthened the links between the university and other institutions. This is also one of the reasons why scientists involved in various disciplines, as well as students win prestigious awards for their activities every year.

The research and development activities are focused on obtaining knowledge of basic phenomena and observable facts, applied research directed towards a specific and practical goals and experimental development, which employs existing knowledge obtained through research or based on experience.

Key expertise is in impact biomechanics and passive safety, vehicle design, development of mechanical parts of transport means, machining and forming machines, development and verification of machining and forming technologies, metal 3D printing, power electronics, drives and electrical, electronic and communication systems of vehicles.

The activities go in both experimental and numerical approaches. The research and development activities are based in the departments. There are, however, also interdepartmental and interfaculty teams which do work on projects closely related to the fields offered in the Ph.D. study programmes at the Faculties of Applied Sciences, Electrical Engineering and Mechanical Engineering. The University of West Bohemia has a significant position among universities in both the Czech Republic and Europe.

Participation in EU projects

- **HIGREEW** – Affordable High-Performance Green Redox Flow Batteries
- **BOWI** – Boosting Widening Digital Innovation Hubs
- **DUET** – Digital Urban European Twins for smarter decision making
- **COMP4DRONES** – Framework of key enabling technologies for safe and autonomous drones' applications
- **CHARM** – Challenging environments tolerant Smart systems for IoT and AI
- **IMOCO4.E** – Intelligent Motion Control under Industry 4.E
- **Switch2save** – Lightweight switchable smart solutions for energy saving large windows and glass façades
- **S4AllCities** – Smart Spaces Safety and Security for All Cities
- **TRANS-SAFE** – ransforming Road Safety in Africa

University of Žilina

Organisation type:	University
Contact person:	Prof. Tatiana Kovacikova
Phone number:	+421 905 917 774
Email:	tatiana.kovacikova@uniza.sk
Location head office:	Zilina, Slovakia
Number of employees:	1370
Turnover before tax:	4 982 994 €
Website:	www.erachair.uniza.sk

UNIVERSITY OF ŽILINA

Automotive laboratory

Short summary of expertise and activities

The University of Žilina is one of Slovakia's leading institutions of higher education, known for its long tradition, modern approach, and strong connection between education, research, and innovation. For more than 70 years, UNIZA has been a dynamic center for knowledge and progress in transport, technology, information and communication technologies, mechanical and civil engineering, management, security, and social sciences.

With six faculties and a number of specialized institutes and research centers, UNIZA provides a creative and inspiring environment for study and discovery. The university is home to nearly 7,800 students enrolled in over 200 accredited programs, and it proudly counts more than 95,000 graduates who are recognized professionals both in Slovakia and abroad.

UNIZA actively participates in national and international research, collaborating on hundreds of projects and fostering partnerships in more than 50 countries worldwide. As a member of the PIONEER European Universities alliance and other prestigious organizations such as EUA, EARPA, CCAM Association, UITP and ECTRI, we work together to shape a sustainable and innovative future for Europe and beyond.

Our modern campus, advanced laboratories, and University Science Park provide excellent conditions for education, research, and entrepreneurship. UNIZA consistently ranks among the top Slovak universities, and our graduates are highly sought after by employers.

We are committed to providing quality education, promoting research excellence, and supporting international cooperation. At UNIZA, we believe in creating a place of discovery, growth, and respect – a modern European university dedicated to creating value for society, science, and the future.

Participation in EU projects

- **SPINE -** Smart Public transport Initiatives for Climae-Neutral cities in Europe
- **JUSTSAFE -** Justice-Oriented Strategies for Social Adaptive Risk Management
- **WW4WL -** WinWin4Worklife
- **DUT partnership -** Driving Urban Transitions
- **CapaCITIES 2.0 -** Fast-Trackin the National for Climate-Neutral Urban Futures
- **RETIME -** Urban Adaptation and Alert Solutions for a TIMEly (re)Action
- **PIONEER -** The European University for Future Cities

Vicomtech

Organisation type:	R&D company
Contact person:	Dr. Oihana Otaegui
Phone number:	+34 943 309 230
Email:	ootaegui@vicomtech.org
Location head office:	San Sebastian, Spain
Number of employees:	160
Turnover before tax:	€12.3 Million
Website:	www.vicomtech.org

vicomtech
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

Short summary of expertise and activities

Vicomtech is an applied research centre for Interactive Computer Graphics and Multimedia located in San Sebastian (Spain). It is a non-profit association, founded in 2001 as a joint venture by the INI-GraphicsNet Foundation and the EiTB Broadcasting Group. VICOM is part of BRTA (Basque Research and Technology Alliance), which has the main function of responding to the technological and industrial challenges in the Basque Country and improving awareness of the centre at international level. The role of Vicomtech in the market is to supply society with technology by transfer of primary research to industry. This is done through collaborative R&D projects. Vicomtech's main research lines lay in the fields of computer vision, computer graphics and interaction; technologies which Vicomtech applies in multiple sectors.

ITS and Engineering department applies Cloud Computing, Big Data, AI and Computer to the industrial sector in general and the transport sector in particular, providing the sector's companies with technology solutions. The department's specialization technologies are large scale sensor data management, image processing, visualization and Knowledge Discovery & Data Mining. ITS and Engineering department activities in the field of land transport includes sensors and functions for enabling CCAM, testing and validation tools and methodologies for highly automated vehicles, communication technologies for enabling connected and cooperative functions including 5G as KET.

Participation in EU projects

Vicomtech actively participates in EU projects and since the beginning of Horizon 2020 Vicomtech has been involve in more than 20 projects. Projects in the area of CCAM

Coordinated projects:

- **inLane** – Low Cost GNSS and Computer Vision Fusion for Accurate Lane Level Navigation and Enhanced Automatic Map Generation (ADAS/AD)
- **CloudLSVA** – Cloud Large Scale Video Analysis (testing and validation)
- **VI-DAS** – Vision Inspired Driver Assistance Systems (ADAS/AD)
- **ACCURATE** – Towards the development and validation of Enhanced Multi-sensor and EGNSS Multifrequency tight fusion for leveraging high levels of automated driving L4/L5 (ADAS/AD)
- **5GMETA** – 5G Development and validation platform for global industry-specific network services and Apps (ADAS/AD/Testing and validation)

Participants:

- **TrasSec** – Autonomous emergency manoeuvring and movement monitoring for road transport security (ADAS/AD)
- **Autopilot** – AUTOmated driving Progressed by Internet Of Things (ADAS/AD/Communication) **HEADSTART** – Harmonised European Solutions for Testing Automated Road Transport (Testing and validation)
- **5GMOBIX** – 5G for cooperative & connected automated MOBIility on X-border corridors (ADAS/AD/Cooperative)
- **5GLoginnov** – 5G creating opportunities for LOGistics supply chain INNOVation (Mobility)

VIRTUAL VEHICLE Research GmbH

Organisation type:	Research Center
Contact person:	Bernhard Brandstätter
Phone number:	+43 316 873 9001
Email:	Bernhard.brandstätter@v2c2.at
Location head office:	Graz, Austria
Number of employees:	300+
Turnover before tax:	€30 Million
Website:	www.v2c2.at

Automated Driving Demonstrator "ZeroOne"

Short summary of expertise and activities

VIRTUAL VEHICLE is Europe's largest research center for virtual vehicle development in the rail- and automotive sectors and targets interdisciplinary innovative research for climate-neutral and software-based mobility and transport ecosystems. With its focus on industry-related and applied-research, VIRTUAL VEHICLE is an innovation catalyst for future vehicle technologies in the era of digitalization, securing sustainable competitive advantages for its partners.

Research priority is the linking of numerical simulations, SW-defined functions, and hardware testing, which leads to a powerful HW-SW whole system design and the reduction of development and operations efforts.

The research center cooperates with around 180 international industrial partners (OEMs, tier-1 and tier-2 suppliers and software providers), where partnerships with around 80 scientific institutions form a solid basis for driving innovations for future technologies. VIRTUAL VEHICLE is continuously active in about 50 European research and innovation projects, about 10 are coordinated and 100+ were already successfully completed by the center. It offers a broad portfolio of contract research for technology development and test systems.

Fields of expertise comprise green mobility and transport, software-defined systems, virtual validation and homologation, automated systems, smart energy management and human factors.

VIRTUAL VEHICLE enjoys an excellent reputation as a reliable high-performance research and development partner on a pan-European level. Innovative digital technologies support achieving the long-term goal of socially-accepted and climate-neutral “Green Digital Mobility”, for promoting the European Triple Transition.

Participation in EU projects

- **Applied CPS** – European Digital Innovation Hub on Applied Cyber Physical Systems for manufacturing, construction, and automotive sector.
- **iEXODDUS** – Infrastructure for the Extension of ODDs Applied in Connected and Automated Driving and Standardization
- **ProtAct-Us** – ProtAct-Us from Long-Term Consequences of Road Crashes
- **EFFEREST** – Efficient User-Centric Energy Management Systems for Optimized EVs
- **GIANTS** – Green Intelligent Affordable New Transport Solutions
- **XL-Connect** – Large Scale System Approach for Advanced Charging Solutions
- **greenSPEED** – Green and Sustainable Processes for Electrode Production of electric vehicles batteries
- **HiPE** – High Performance Power Electronics Integrations for e-vehicles

Other useful links

European Bodies

- European Commission – general address **http://ec.europa.eu/**
- European Commission – DG Research and Innovation (RTD) **http://ec.europa.eu/research/**
- European Commission – DG Mobility and Transport (MOVE) **http://ec.europa.eu/dgs/transport/**
- European Commission – DG Climate Action (CLIMA) **http://ec.europa.eu/clima/**
- European Commission – DG Energy (ENER) **http://ec.europa.eu/energy/**
- European Commission – Internal Market, Industry, Entrepreneurship and SMEs (GROW) http://ec.europa.eu/growth/
- European Commission – DG Environment (ENV) **http://ec.europa.eu/dgs/environment/**

Stakeholders

- ACEA - European Automobile Manufacturers' Association **www.acea.be**
- ALICE - Alliance for Logistics Innovation through Collaboration in Europe **www.etp-logistics.eu**
- ARTEMISIA - EU Industry Association for Embedded & Cyber-Physical Systems **www.artemis.eu**
- BEPA - Batteries European Partnership Association **www.bepassociation.eu**
- CCAM - European Partnership on Connected, Cooperative and Auomoted Mobility **www.ccam.eu**
- CLEPA - European Association of Automotive Suppliers **www.clepa.eu**
- CONCAWE - Oil companies' European organisation **www.concawe.eu**
- EARTO - European Association representing Research and Technology **www.earto.eu**
- ECTRI - European Conference of Transport Research Institutes **www.ectri.org**
- ERF - European Union Road Federation **www.erf.be**
- ERTICO European public/private partnership for the implementation of Intelligent Transport Systems and Services **www.ertico.com**
- ERTRAC - European Road Transport Research Advisory Council **www.ertrac.org**
- EUCAR - European Council for Automotive R&D **www.eucar.be**
- ETSC - European Transport Safety Council **www.etsc.eu**
- FEHRL - Forum of European National Highway Research Laboratories **www.fehrl.org**
- FIA - Foundation for the Automobile and Society **www.fia.com**
- FISITA - International Federation of Automotive Engineering Societies **www.fisita.com**
- POLIS - European Cities and Regions Networking for Innovative Transport Solutions **www.polisnetwork.eu**
- UITP Europe - International Association of Public Transport **www.uitp.org**
- 2ZERO Emission - **www.2zeroemission.eu**

The European Automotive Research Partners Association (EARPA)

The European Automotive Research Partners Association (EARPA) is an independent alliance that unites 59 leading Research and Development (R&D) providers in the field of road transport across Europe.

Together, our members are committed to making significant contributions to the European ResearchArea and to advancing future EUR&I activities, with a strong focus on the road transport sector and automotive industry.

CONTACT US

EARPA- European Automotive Research Partners Association

info@earpa.eu

Avenue Adolphe Lacomblé 59
1030 Schaerbeek, Brussels, Belgium

www.earpa.eu

earpa