



Company Presentation

INTEC Kick Off Meeting
14.06.2023

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AVL at a Glance



1948

Founded



26

Countries Represented



11,200

Employees Worldwide



11 %

Of Turnover Invested in Inhouse R&D

75

Years of Experience

45

Global Tech and Engineering Centers

68 %

Engineers and Scientists

2,200

Granted Patents in Force

AVL



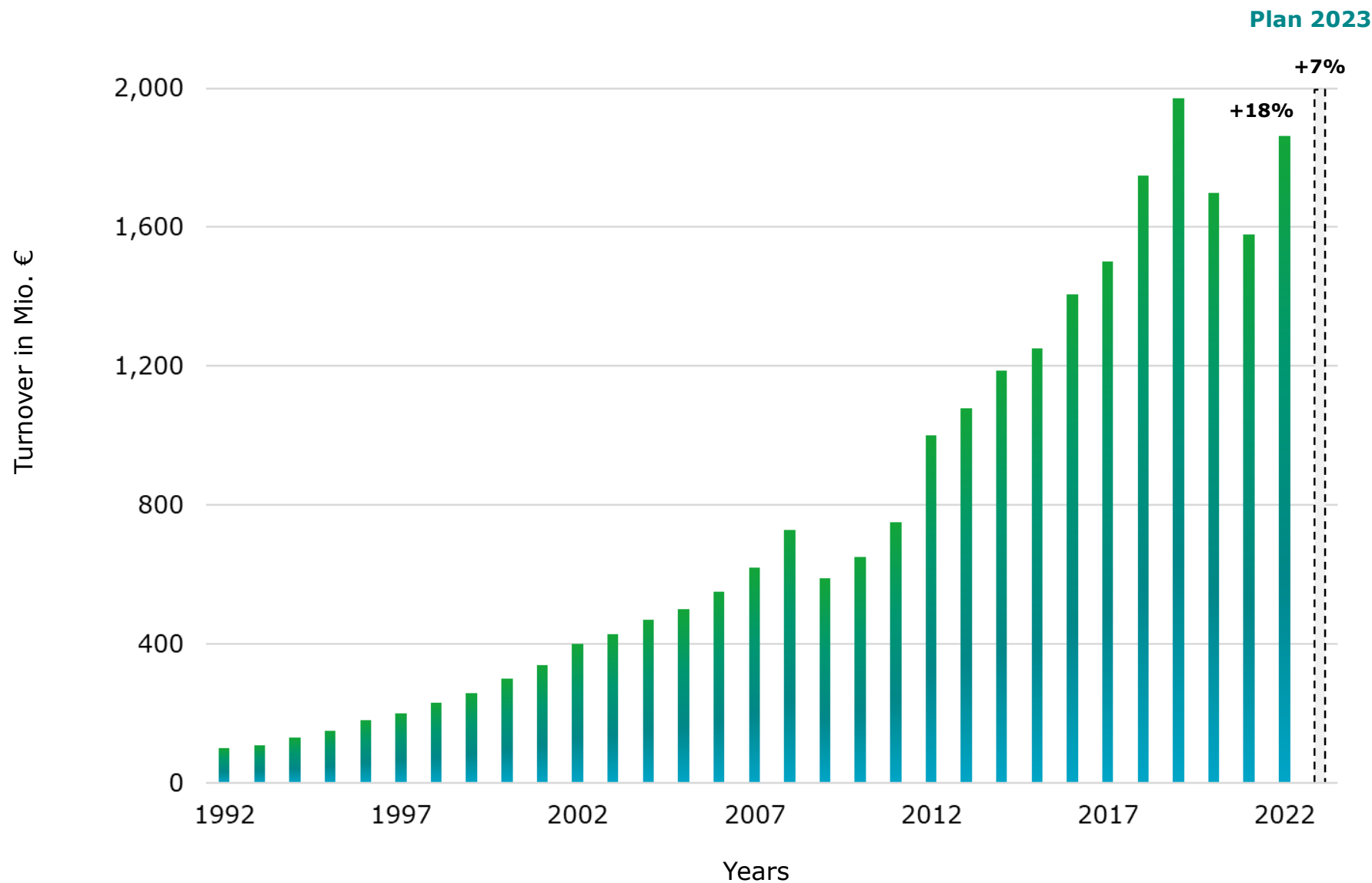
1.86 Bn €

Turnover in 2022

97 %

Export Quota

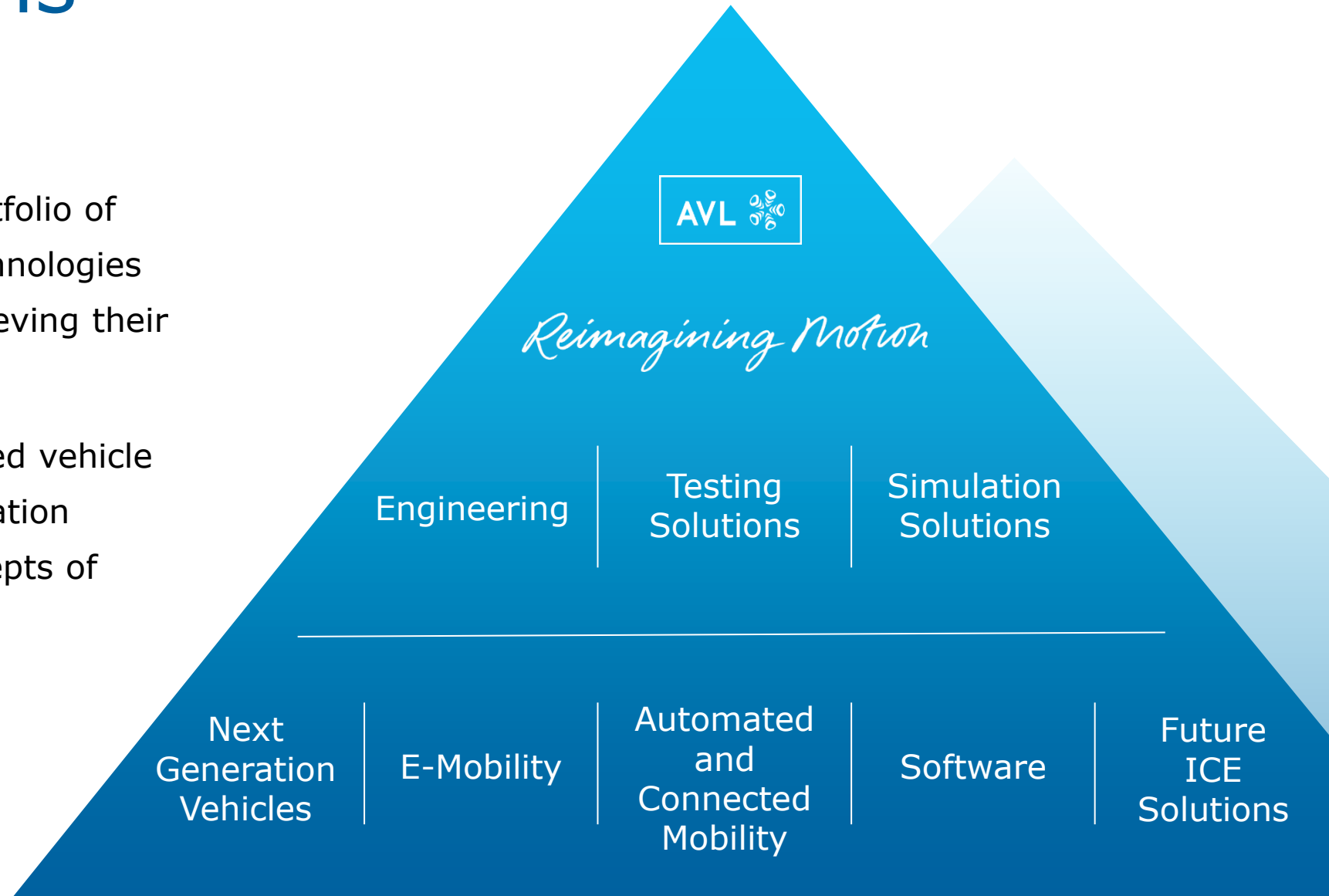
Our Turnover



Turning Visions Into Reality

We constantly transform our portfolio of high-end methodologies and technologies to support our customers in achieving their ambitions.

From future fuels to the connected vehicle ecosystem, we are driving innovation today, to build the mobility concepts of tomorrow.



Industry-Wide Value Creation

With future-proven tools, products and systems, augmented by our global network of experts and facilities, we support OEMs and Tier1s to shape current and future technologies for all industries.



Passenger Cars



Commercial Vehicles



Racing



Agriculture



2 and 3-Wheelers



Power Plants



Marine



Engineering



- Design and development services for electric vehicle propulsion systems
- Functional development and electrical and electronics for the whole vehicle
- System integration for stationary or marine applications
- Support of future technologies such as ADAS and Automated Driving

Testing Solutions

- Advanced tools and methodologies for energy-efficient, fast, and reliable development, testing and validation
- Great variety of application solutions connecting different development environments
- Seamless integration of AVL and third-party products, system and software solutions tailored to the user workflow



Simulation Solutions



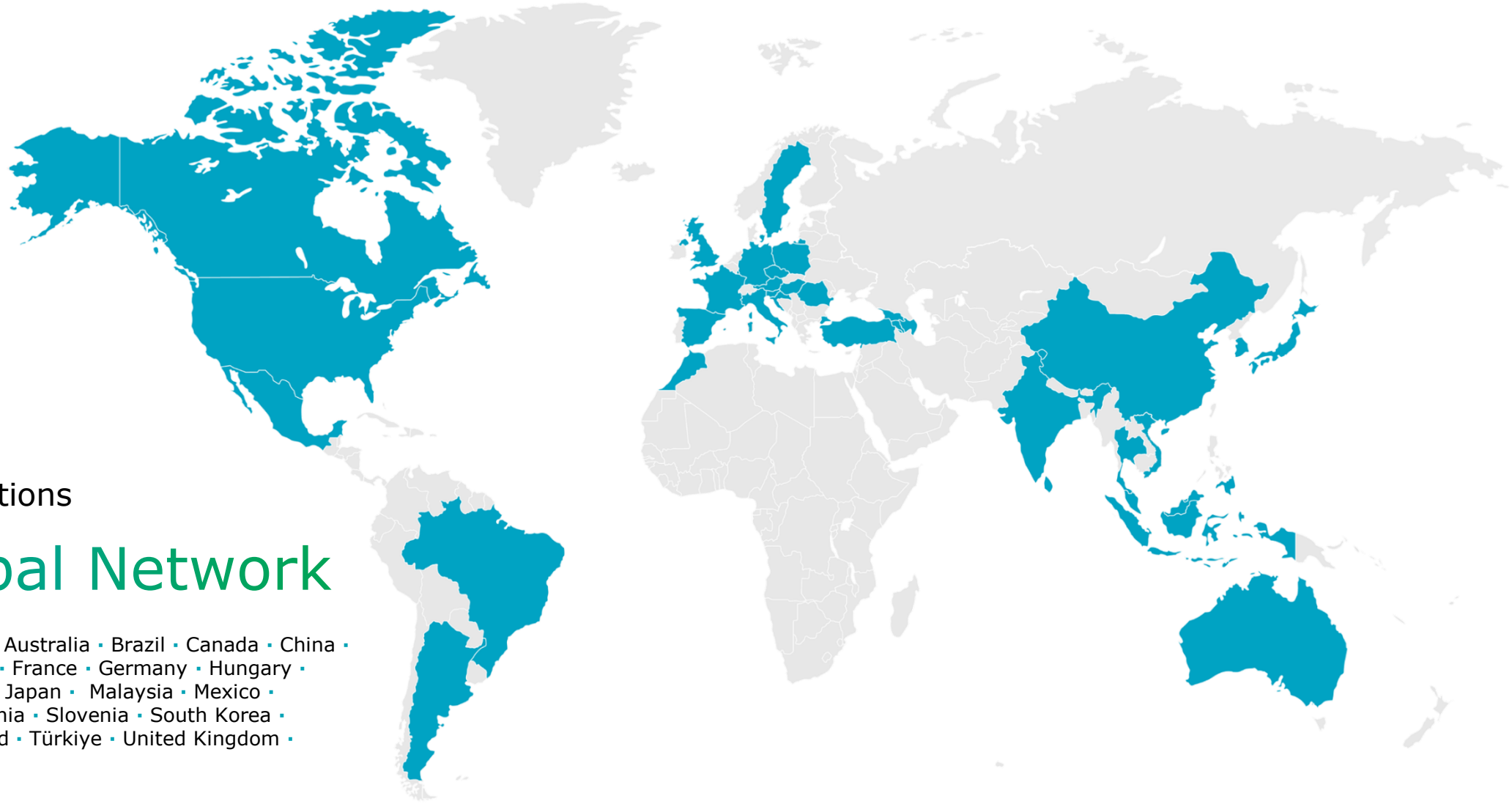
- Proven partner in delivering efficiency gains through virtualization
- Wide range of simulation solutions for all propulsion systems and phases of the vehicle development process
- High-definition insights into the behavior and interactions of components, systems and entire vehicles

Our Global Footprint

Strong global presence through a worldwide network of affiliates that allows us to work with our customers locally, from project start to a long-term partnership.

- Global structure and organization
- Global project execution
- Local engineers as part of a global team
- Global pool of expertise
- Global supply chain management





Worldwide Locations

Our Global Network

Austria, HQ | Argentina · Australia · Brazil · Canada · China · Croatia · Czech Republic · France · Germany · Hungary · India · Indonesia · Italy · Japan · Malaysia · Mexico · Morocco · Poland · Romania · Slovenia · South Korea · Spain · Sweden · Thailand · Türkiye · United Kingdom · United States · Vietnam

Our Global Tech and Engineering Centers

We run best-in-class test facilities across the globe. By offering leading solutions and methodologies, we meet customer's demands while ensuring highest quality and robust results throughout the entire development process.

315

Testbeds Operated
Worldwide

95 ICE-based powertrains
81 Electrified powertrains
82 Vehicle and transmission systems
57 HiL and virtual testbeds

2

Test Tracks including
ADAS Infrastructure

50+

Locations in 22
Countries



Engineering a Better Future

Next Generation Vehicles

With our comprehensive technological know-how in all vehicle systems and functions, and our many years of experience in the implementation and use of virtual development methods, we support our customers in managing complexity.

- Development, engineering, services and products
- Vehicle and vehicle systems
- Vehicle functions
- Vehicle development targets and attributes



Redrawing the Lines of Electrification



E-Mobility

We are relentlessly striving towards climate-neutral mobility. Not just by increasing the efficiency of multiple propulsion systems, but also by pioneering energy from green resources.



20+

Years of
Experience

5,700+

E-Mobility
Experts

900+

Executed
Battery
Projects

5

Fuel Cell
Tech Centers

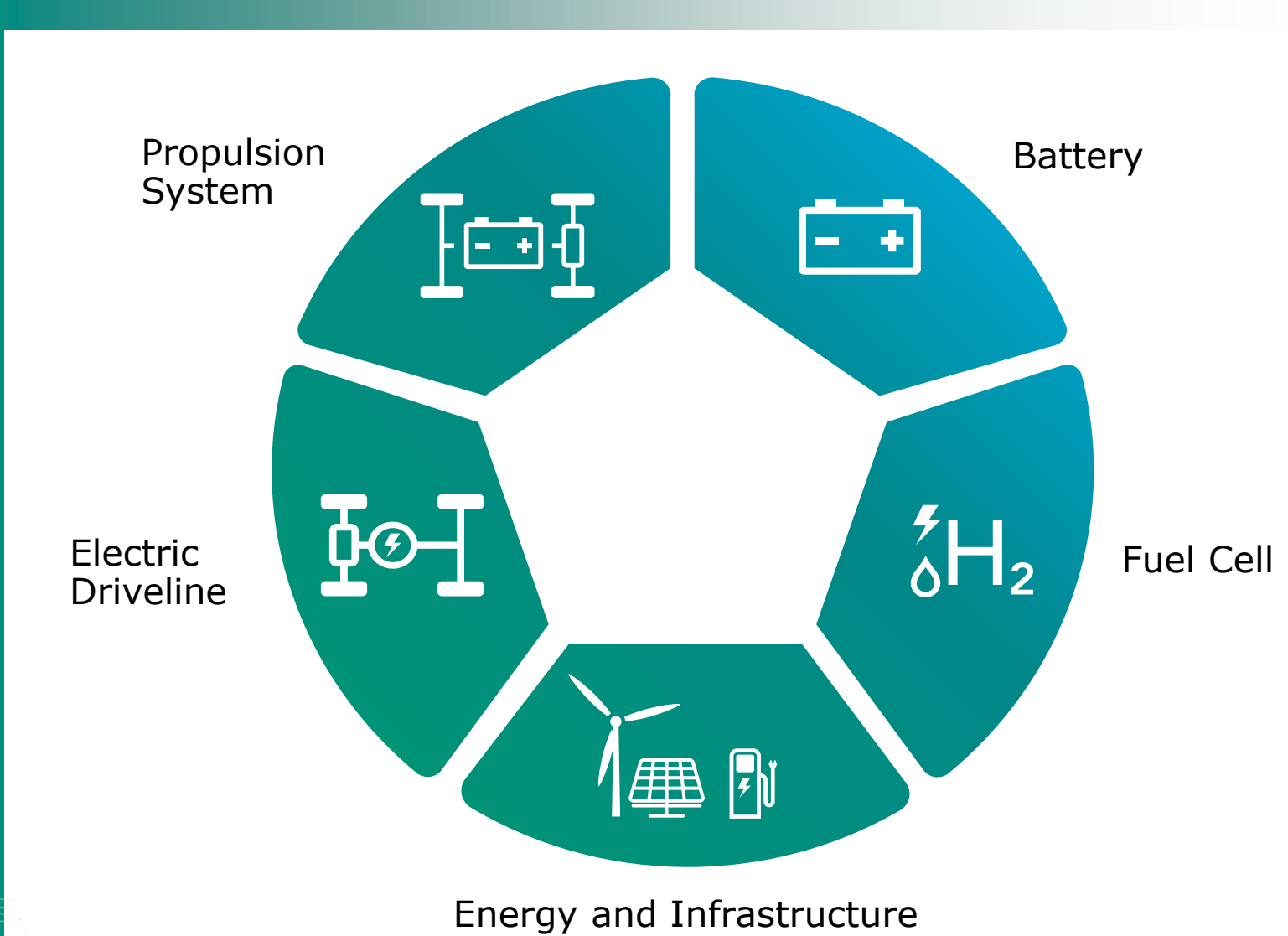
450+

Fuel Cell
Engineers

Redrawing the Lines of Electrification

E-Mobility

From battery to fuel cell technologies, we are paving the way for e-mobility by driving innovative and affordable solutions.



E-Mobility - Highlights



Battery Innovation Center

Our center of excellence at our headquarters in Graz focuses on the development, implementation and validation of new, highly efficient battery production processes.



Hydrogen and Fuel Cell Test Center

The new center in Graz is one of the largest and most advanced test sites for fuel cells and electrolysis systems in the world.

Technology Designed for the Human Journey



Automated and Connected Mobility

Mobility is changing. As technologies such as assisted and automated concepts gain focus, we face a paradigm shift in the way vehicles are designed, built and used. We are your professional and reliable partner for high demanding technology solutions within ADAS/AD system development.



15+

Years of
Experience

200+

Customer
Projects

70+

Automotive
Customers

19

Competence
Centers

450+

ADAS/AD Experts
Worldwide

Comprehensive and constantly evolving
partner ecosystem

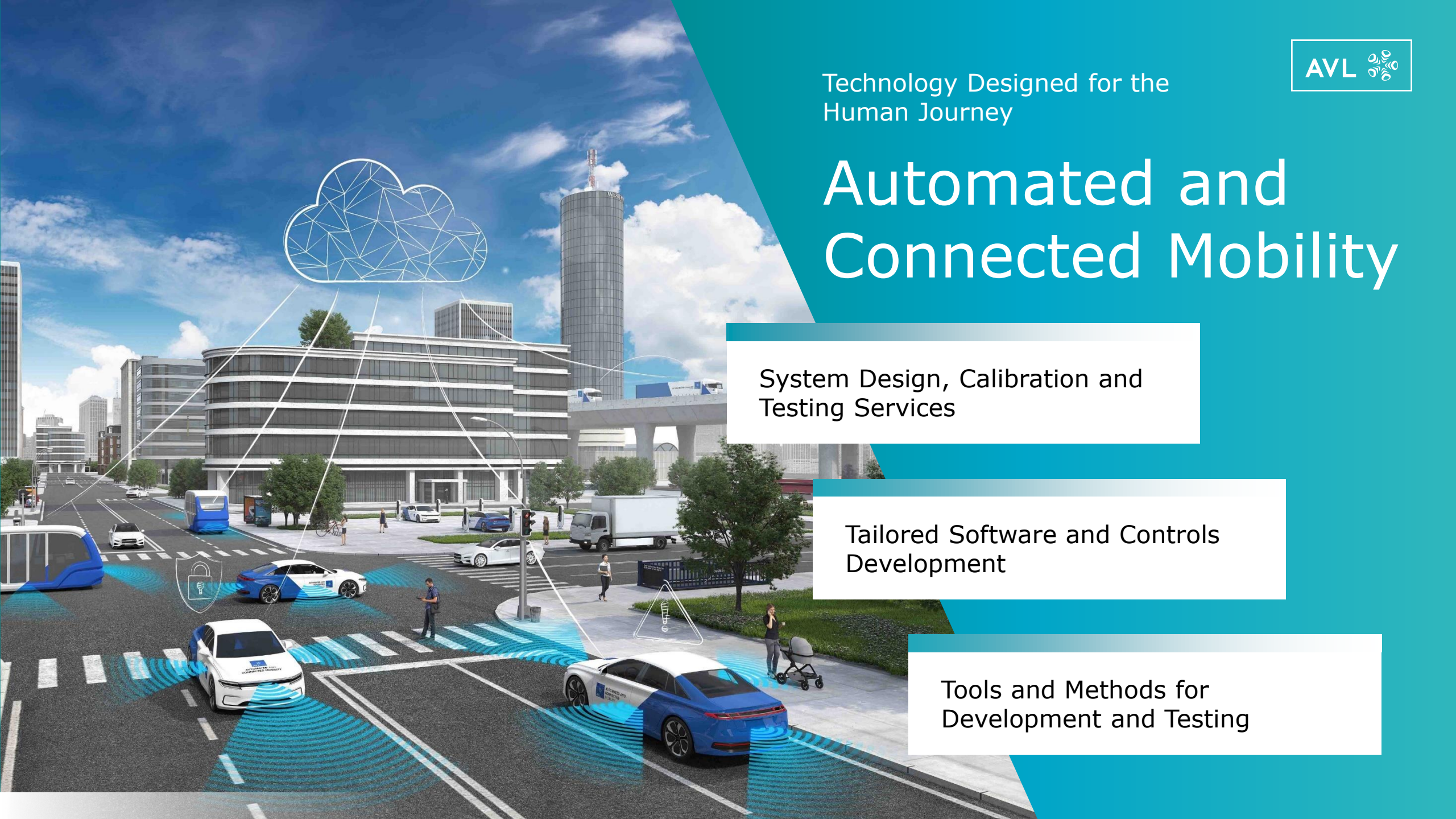
Technology Designed for the
Human Journey

Automated and Connected Mobility

System Design, Calibration and
Testing Services

Tailored Software and Controls
Development

Tools and Methods for
Development and Testing

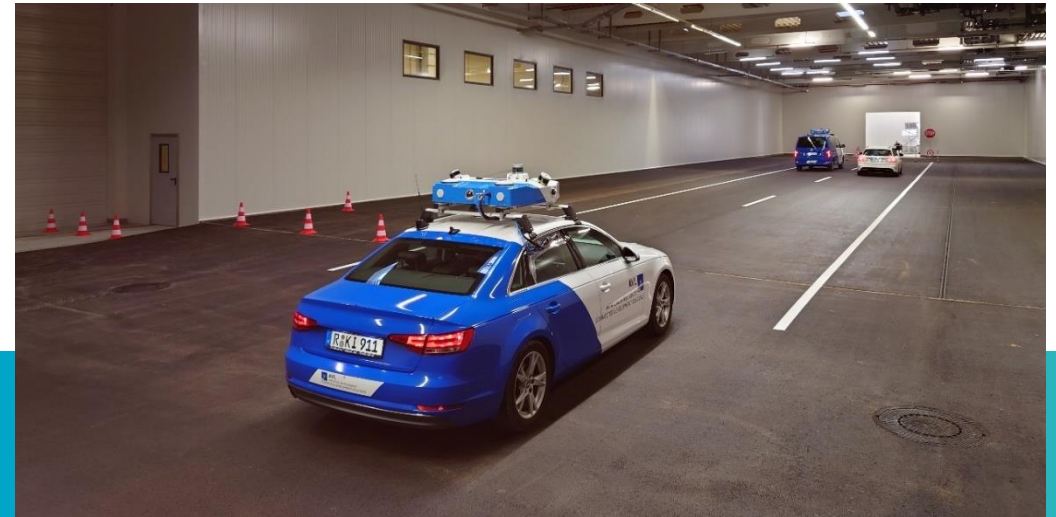


Automated and Connected Mobility - Highlights



AVL ZalaZONE Proving Ground

250-hectar vehicle proving ground specifically designed for development and validation tests of autonomous and electric vehicles. The smart city allows numerous traffic, technical (NCAP/GSR/V2X), and dynamic test scenarios.



Mobility and Sensor Center Roding

In the new indoor sensor center in Germany, sensors for driver assistance systems can be verified and validated. For example, weather effects can be tested independently of real outdoor conditions.

Driving the Now, Defining the Next



Software

At AVL we place innovation at the heart of development. Our software is both ready for today and designed for tomorrow's challenges. Our solutions range from simulation, virtualization, and test automation (for vehicle development) to ADAS/AD and car software.



3,000+

Software Experts and Engineers

100+

Data Engineers and Scientists

20+

Software Development and Support Centers

6,500+

Test Automation Systems

40+

Software Products and Solution Suites

20+

Mio. Vehicles Using AVL Technologies

Software

All software solutions contain our innovation, engineering legacy and application insight.



Application Know-How

Propulsion systems

Next generation vehicles

Automated and
connected mobility

Electrification of
functions



Embedded Software Development

- E/E platforms and integration
- Advanced Driver Assistance Systems (ADAS) and Automated Driving (AD)
- Functional safety and cybersecurity
- ASPICE compliant development

Simulation, Test Software and Methodology

- Design and simulation solutions
- Functional testing (MiL, HiL, SiL)
- Lab and process management
- Test automation and virtualization

Software - Highlights



Advanced Simulation Technologies

Innovation for efficient development

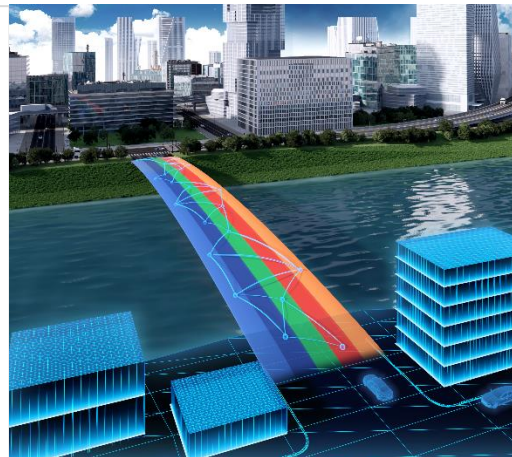


Software for All Phases of Product Lifecycle

Long history of proven solutions

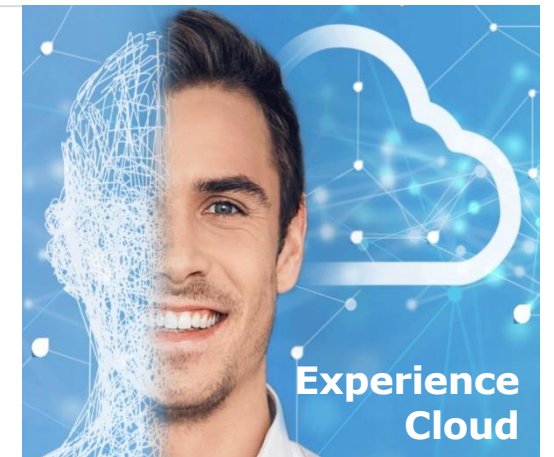
Integrated and Open Development Platform

The methodology to link the virtual and physical world



Easy Access and Knowledge Sharing

Application know-how is the key

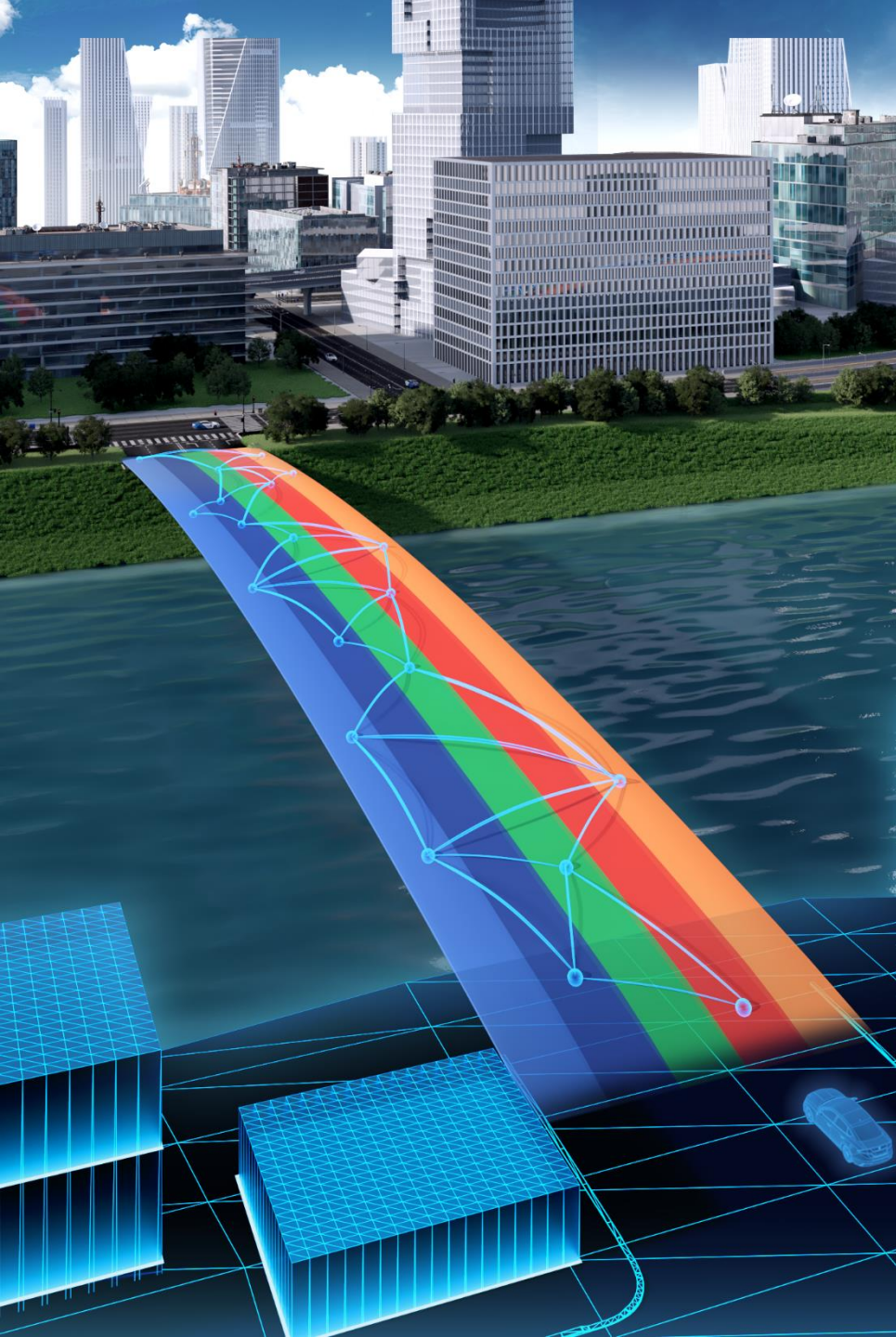


Experience Cloud

Integrated and Open Development Platform (IODP)

We bridge the gap between the virtual and the real world, connecting simulation and testing for a continuous and functional view of your product throughout the development process.

We pursue our vision of an integrated and open development platform that seamlessly integrates into your development ecosystem and is open to third-party tools.



Creating a Cleaner and Greener Future

Future ICE Solutions

To achieve climate-neutrality, we are committed to support OEMs with mobility solutions that help to improve the performance and efficiency of traditional powertrains, as well as their electrification.

- ICE-based powertrains
- Hybrid-based powertrains
- RDE / ISC and WLTP
- Alternative fuels
- Emission legislation



Innovate. Accelerate. Lead

AVL RACETECH

Our global motorsport division provides state-of-the-art technology and services in the fields of engineering, testing, simulation, and manufacturing. We are a key supplier for teams, series and drivers. From Formula 1, as well as NASCAR or MotoGP. We believe in and utilize motorsport as the platform for innovation.

20+

Years of
Experience

110

Employees Across
Business Units

17

Race Series Worldwide
with AVL RACETECH
Involvement



Looking Beyond the Limits of Technology



Passion for Innovation

Together with an international network of experts and with 45 Tech and Engineering Centers worldwide, we drive sustainable mobility trends for a greener future.



11 %

Of Turnover Invested in Inhouse R&D

100+

University Cooperations

2,200

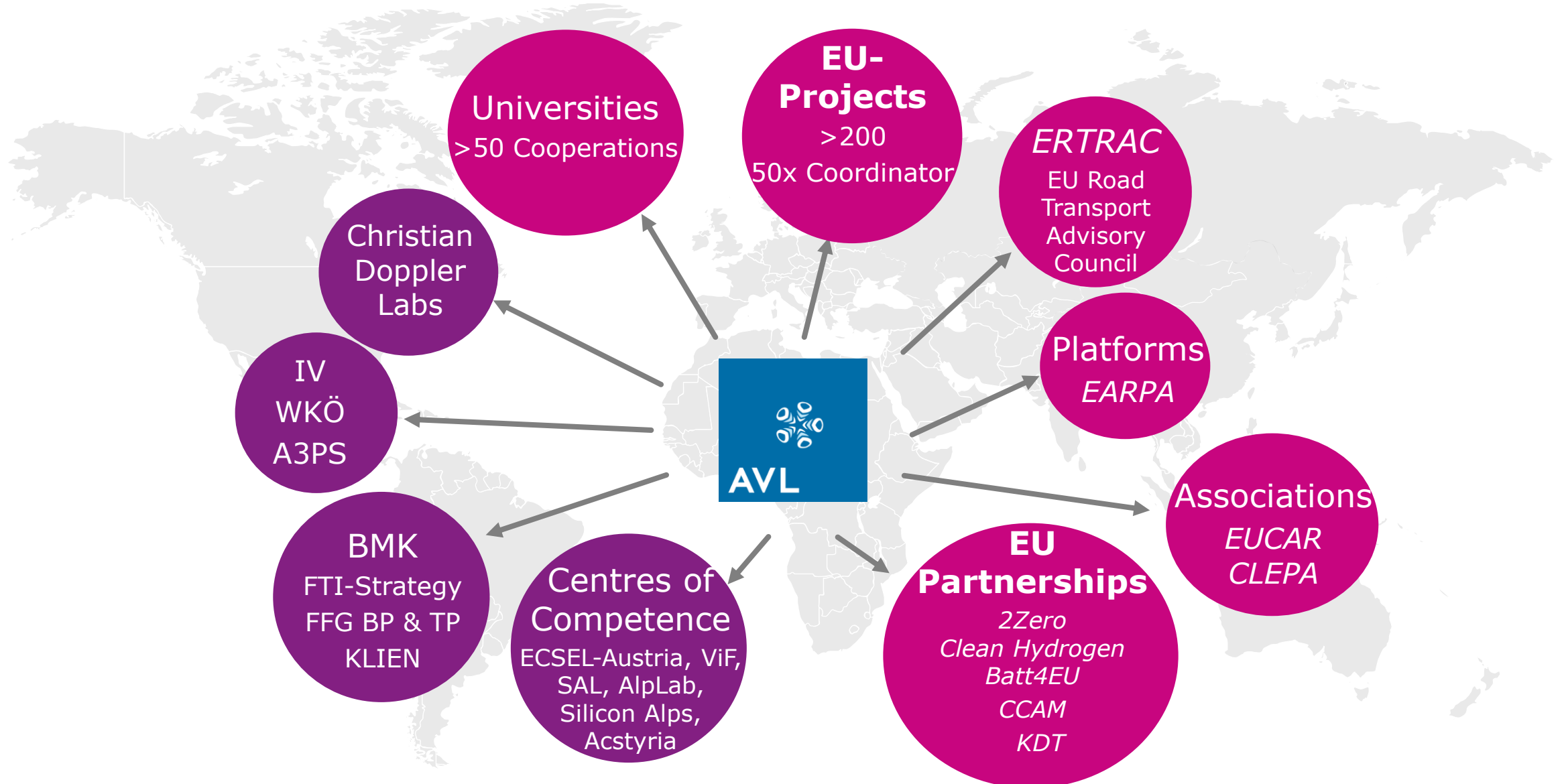
Granted Patents in Force

150+

Projects within European Programs for RTD

Styrian Innovation Award 2021 in the category of "Sustainability".

National and International Innovation Networks



Framework programme Horizon 2020 (2014-2020)

**Application and vehicle
integration of solutions**

EGVI/2Zero

22 projects

Batteries

Batt4EU

3 projects

**Digitalization and
Automation**

KDT/CCAM

42 projects

**Fuel Cells and
Hydrogen**

Clean Hydrogen

11 projects

Framework programme Horizon Europe (2021-2027)

7 projects

6 projects

3 projects

9 projects

Thank you



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