



Fuel Cell Electric Vehicle Powertrain Services

Applus+ IDIADA provides comprehensive powertrain development services, covering the entire process from concept to production. We work with various propulsion technologies, with a growing focus on hydrogen fuel cell systems. Our aim is to support manufacturers in developing efficient and sustainable mobility solutions.

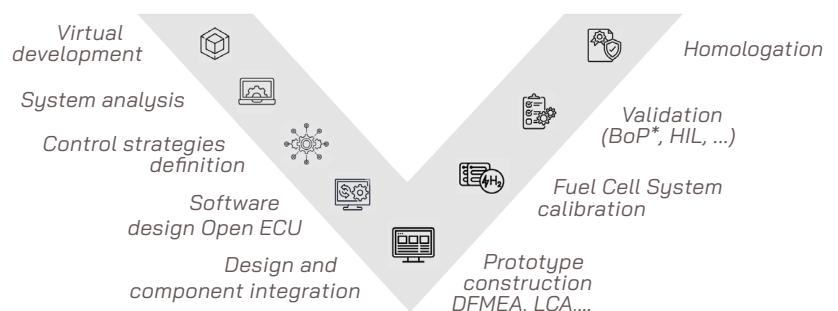
In the field of hydrogen powertrains, IDIADA offers a range of services to advance fuel cell technology. Our facilities and engineering team are equipped to handle component testing, system optimization, and full vehicle integration. We strive to contribute to the development of safe and reliable hydrogen-powered vehicles.

DEVELOPMENT, TESTING & VALIDATION

COMPLETE FUEL CELL SYSTEMS DEVELOPMENT

IDIADA's approach to fuel cell systems development includes:

- Virtual development (OD, 1D, CFD)
- Design development (CAD, CAE)
- Control strategies and software development
- Fuel cell validation tests



We use simulation tools to optimize system design before creating physical prototypes. Our design phase focuses on integrating components efficiently and maximizing system performance. We develop control strategies and software to manage the system under various conditions, followed by validation tests to evaluate performance in different scenarios.

COMPLETE FCEV VEHICLE DEVELOPMENT

For FCEV development, IDIADA offers a comprehensive suite of services:

- Virtual platform for vehicle sizing
- Design integration for electric and hydrogen components
- Control strategies, software development, and functional safety for complete vehicle
- FCEV calibration and validation on chassis dyno and on road
- Hydrogen vehicles crash simulations and testing
- Hydrogen vehicles homologation

Our comprehensive FCEV development and testing services encompass the entire lifecycle of hydrogen-powered vehicles, from initial design and virtual simulation to control system development, rigorous testing, specialized safety assessments, and regulatory compliance support.

Virtual Platform and Design Capabilities

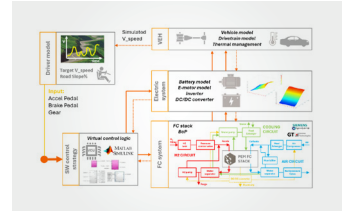
- Vehicle sizing and performance prediction
- Integration (packaging) of electric and hydrogen components
- Weight distribution and safety considerations

Control Systems Development

- Control strategies for complete vehicle
- Software development
- Functional safety measures for hydrogen systems

Calibration and Validation

- FCEV calibration
- Chassis dynamometer testing
- On-road testing
- Fine-tuning of performance and energy management



Specialized Hydrogen Vehicle Services

- Crash simulations and testing
- Safety testing addressing unique hydrogen considerations

Homologation Support

- Expert guidance for hydrogen vehicle homologation
- Navigation of complex regulatory requirements
- Ensuring market readiness

TESTING & FACILITIES

IDIADA's commitment to advancing hydrogen powertrain technology is reflected in our specialized testing facilities. Our dedicated hydrogen testing centre is equipped to evaluate:



FUEL CELL SYSTEMS



HYDROGEN REFUELLING SOLUTIONS



COMPLETE VEHICLES

Our proving ground includes dedicated areas for FCEV testing, allowing for real-world evaluation of:



VEHICLE PERFORMANCE



RANGE



REFUELING PROCESSES

The on-site hydrogen refueling station supports extended testing campaigns and provides valuable data on refueling efficiency and safety protocols.

By combining these advanced facilities with our team's expertise, IDIADA provides a comprehensive ecosystem for hydrogen powertrain development. Our approach ensures that manufacturers can confidently develop and deploy hydrogen-powered vehicles that meet high standards of performance, safety, and sustainability.



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