

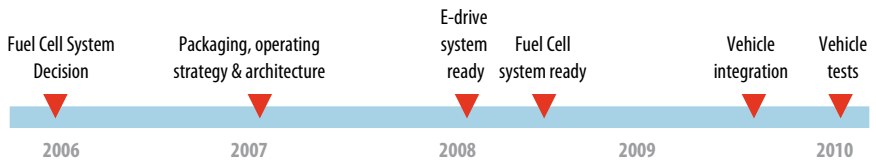


### Motivation and Objectives

- Improvement of fuel cell system technology for market readiness (functionality, reliability, cost, customer acceptance)
- Development of low cost mass market FC- & Drive Train components.
- Validation of component and system performance on two FC Vehicles (DC and PSA)
- Identification of common architecture and modular design
- Focus is on FC systems, considering also components that can be used in ICE Hybrids
- Identify synergies with ICE-Hybrids
- Involve suppliers in FC- and ICE Hybrid component development by cooperation in a European project
- Close cooperation of car industry with suppliers is needed for a successful market introduction of FC-vehicles

### Project Plan, Milestones and Deliverables

The figure summarises the main milestones to build up the validator vehicles and conduct the component tests on board of the vehicles under road conditions.



### Technical Approach

- Develop specifications for fuel cell hybrid vehicles, fuel cell- and electric drive system and all components.
- Select base fuel cell system from available systems (purchase part)
- Design, develop and test selected fuel cell system- and electric drive components.
- Integrate FC-system components in base FC system and E-drive components to E-drive system
- Integrate FC-system and E-drive system in validator vehicles
- Test and evaluate validator vehicles to verify achievements

### Achievements

- SP2000: Implementation of HC and CO low temperature oxidation mechanism modeling, validated at laboratory scale for the relevant conditions of temperature, Co levels and representative HC speciation.
- SP3000: The electrical turbocharger, and the hydrogen line are developed, tested and integrated in the fuel cell system. Humidification system components are developed and tested. The hydrogen sensors are developed and currently being improved.
- SP4000: Battery systems, power electronics and electrical motors are developed, tested and ready for vehicle integration
- SP5000: Packaging, operating strategy and architecture of the vehicles are ready. Vehicles are prepared for the integration of the fuel cell systems and electric drive system

### Organisational Information

Budget	22.7 M€	Funding	11.2 M€
Duration	60 months	Start	December 2005
DG	Research	Priority Area	Sustainable Energy Systems
Coordinator	Dr. Jörg Wind, DAIMLER	E-Mail	joerg.wind@daimler.com
Partners	28 partners among them DAIMLER, CR FIAT, PSA PEUGEOT CITROËN, RENAULT, VOLVO, VW, Bosch, ContiTemic, Saft, AVL, NuCellSys		
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