# FUEREX

## Multi-fuel range extender with high efficiency and ultra low emissions



### Motivation and Objectives

Worldwide, there is a strong trend towards highly efficient low emission vehicles to facilitate the transition from conventional fuel-driven vehicles towards electrically driven vehicles.

There is a need for advanced plug-in hybrids and electrical vehicles with range extenders with highly efficient, compact, clean and low cost engines to provide battery charging over longer trips in areas where electric recharge infrastructure is not available.

Three types of promising compact spark-ignition engines will be studied, representing solutions for sub-compact cars up to light duty vehicles:

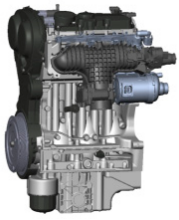
- An innovative rotary engine concept (AVL List ) with smallest dimensions,
- A 3-cylinder piston engine (AVL Schrick/Volvo) for compact and medium size vehicles,
- A 2-cylinder piston engine (CRF) for potential application on light commercial vehicles.

### Project Plan, Milestones and Deliverables

| | |
|---|---|
| Range extender (RE) and vehicle level requirements | June 2011 |
| Test bench results of complete RE | Mar. 2012 |
| Vehicle test results | Sept. 2012 |
| Comparison of the three RE concepts based on measurements | Dec. 2012 |
| Dissemination and stakeholders workshop | Dec. 2012 |

### Technical Approach

Design, packaging and optimization of engine for the dedicated target vehicle.

### Achievements

- Range extender and vehicle level requirements have been defined and delivered.
- Design releases and hardware procurement are on schedule.

| | | | |
|---|---|---|---|
| Budget | 4.44 M€ | Funding | 2.40 M€ |
| Duration | 24 months | Start | January 2011 |
| DG | Research / H4 – SST | Contract n° | SCP0-GA-2010-265885 |
| Coordinator | Theodor Sams, AVL | Contact | theodor.sams@avl.com |
| Partners | AVL List, AVL Schrick, CRF, Volvo, ALTRA SPA, Chalmers, Bosch | | |
| Website | www.fuerex.eu | | |

EUCAR
EUROPEAN COUNCIL FOR AUTOMOTIVE R&D

SEVENTH FRAMEWORK PROGRAMME