

The logo for FuVEP, consisting of the letters 'FuVEP' in a bold, white, sans-serif font. The 'F' and 'V' are significantly larger than the other letters. The logo is set against a dark green rectangular background.

FuVEP

Centre of Excellence for

**Future Vehicle Environmental
Performance**

A blue-tinted, futuristic cityscape with curved buildings and roads, suggesting advanced urban infrastructure and technology.

**We help
researchers
and the industry
create a better
automotive
future**



we share our vehicles' future

*Global vehicle sales
rising to 100m by
2020*

*Another 50m drivers
in USA by 2030*

*EU markets
returned to
growth in
2014*

*Low car density
in China to rise
sharply*

the global automotive industry is

growing

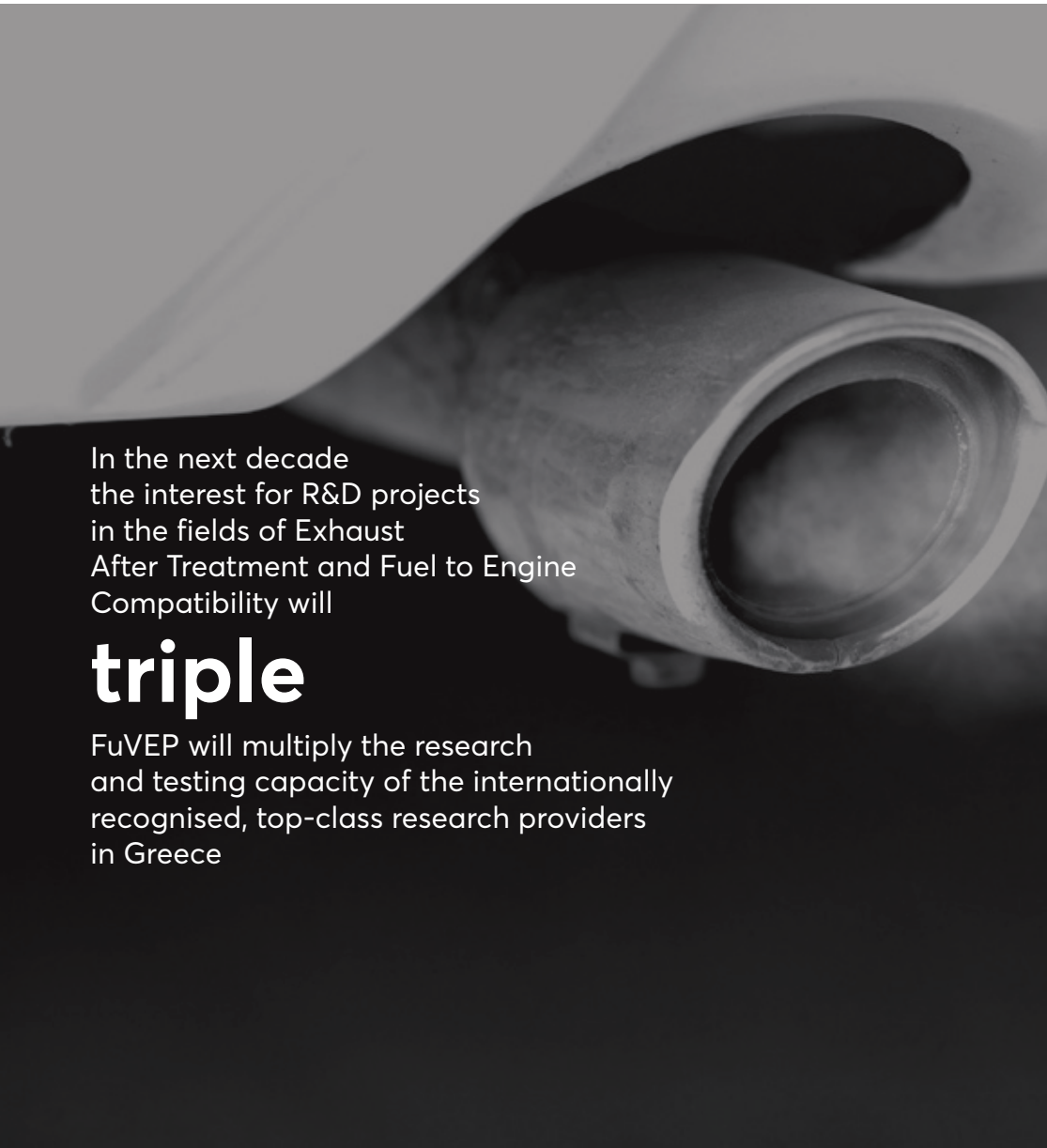
it becomes smarter and

environmentally

conscious

OEM'S prioritise R&D and engineering
to address new safety and environmental
regulations in the most cost-effective way


so let's design them well



In the next decade
the interest for R&D projects
in the fields of Exhaust
After Treatment and Fuel to Engine
Compatibility will

triple

FuVEP will multiply the research
and testing capacity of the internationally
recognised, top-class research providers
in Greece



we are a network of experts

ΙΣΧΥΣ ΕΝ ΤΗ ΕΝΩΣΕΙ

unity makes strength

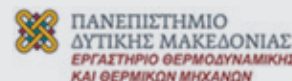


LABORATORY OF APPLIED THERMODYNAMICS (LAT)
Aristotle University of Thessaloniki



Εθνικό Μετσόβιο Πολυτεχνείο
Εργαστήριο Τεχνολογίας Καυσίμων και Λιπαντικών

**LABORATORY OF FUEL TECHNOLOGY
AND LUBRICANTS (LFTL)**
National Technical University of Athens



**LABORATORY OF THERMODYNAMICS
AND THERMAL ENGINES (LTTE)**
University of Western Macedonia

The founding partners work closely together with highly esteemed spin off companies, technology associations, standardisation bodies and international institutions

JOINT RESEARCH CENTRE'S VEHICLE EMISSIONS LABORATORY
TU GRAZ'S LABORATORY OF INTERNAL COMBUSTION ENGINES
EUROPEAN ROAD TRANSPORT RESEARCH ADVISORY COUNCIL (ERTRAC)
EUROPEAN RESEARCH FOR MOBILE EMISSIONS SOURCES (ERMES)
EUROPEAN COMMITTEE FOR STANDARDISATION (CEN)
ARGONNE NATIONAL LABORATORIES [USA]



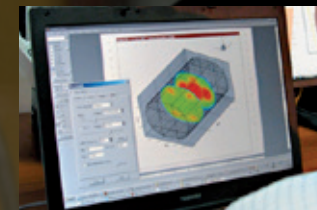
our goal

Support researchers develop new concepts and put them to the test

- Basic research in internal combustion engines
- Pollution control systems
- Development of new fuels and lubricant technologies
- Innovative technologies for propulsion systems with emphasis on hybridization and electrification



Exhaust gas emissions & after-treatment technology



Vehicle fuel efficiency



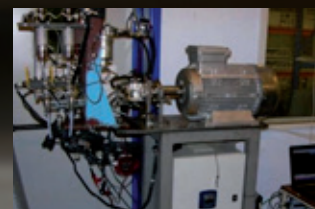
Renewable energy



Chassis dyno for vehicle emissions testing



2 fully equipped engine benches for emissions testing



Fuel injector test rig



Mobile biomass gasification unit

an ecosystem of partners and clients

Long-term R&D partnerships with the automotive industry and universities

A number of international companies, including Stoneridge (USA), Toyota Motor Europe and AVL Graz, have expressed their interest to support FuVEP with direct funding, projects and contracts. They will further enhance FuVEP's partners' track record of successful performance in working with clients like Daimler, Peugeot-Citroen (PSA), Honda, Concawe, European Commission and other well-known companies, associations and public bodies.

FuVEP coincides with the development of the largest Greek Science and Technology Park, Thess INTEC, which already has over 70 local industries eager to combine resources, skill, know-how and experience. FuVEP has an exciting role to play at Thess INTEC and plans are underway to make its mark there.

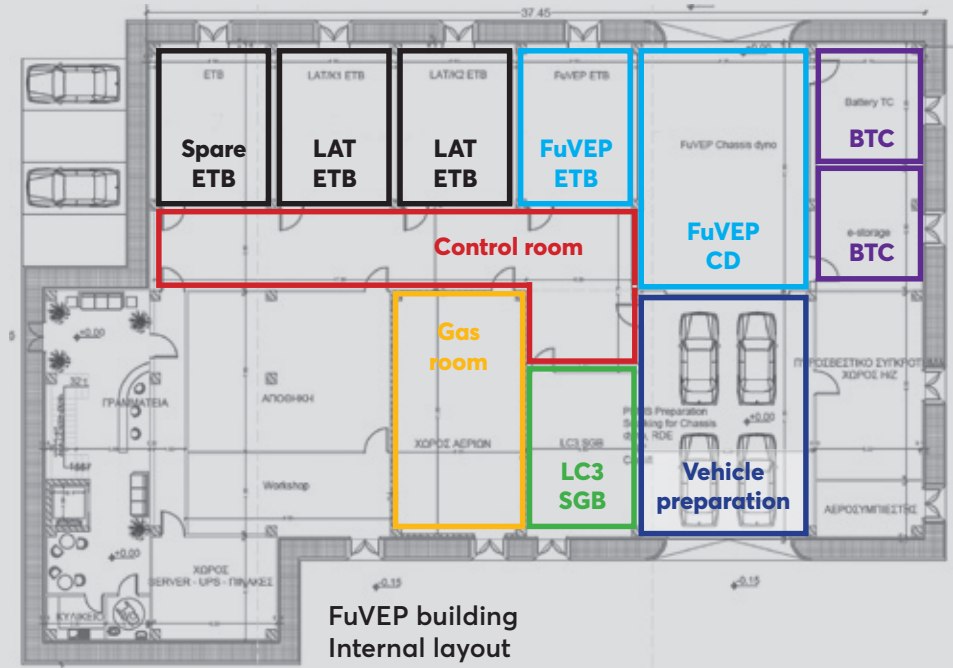


our center



Ground floor 1000m²
 Engine test cells, chassis dyno,
 synthetic gas bench
 Comfortable parking area

First floor 200m²
 Offices for 12 engineers, visitor
 reception and meeting room
 External auxiliary facilities



- 4 engine test cells
- Chassis dyno
- Synthetic Gas Bench
- Gas room
- Vehicle preparation
- Spare area for future electrification testing facilities
- Storage rooms and auxiliary areas

State of the art technologies

Testing with the chassis dyno

- On passenger cars and light commercial vehicles (2WD, 4WD) with weight up to 2500kg.
- Over legislated driving cycles (NEDC, WLTC, SRC, FTP).
- Over non legislated driving cycles or custom tests (CADC, simulated RDE).
- Full measurement of pollutant emissions (CO, CO₂, NO/NO_x, HC, PM) in diluted and raw exhaust.
- Integration of the existing equipment of the lab to expand testing capabilities of FuVEP (measurement of instantaneous PM, PN emissions, particle size distribution, non regulated pollutants).

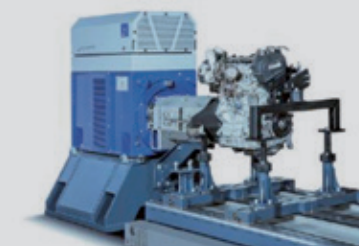


Chassis dyno

2WD/4WD vehicles
 Max. power 150kW
 Max. speed 200km/h
 Inertia simulation range 450-5400kg

Testing with the engine test bench

- On engines of passenger cars and light commercial vehicles rated up 250kW.
- Over simulated driving cycles according to the legislation (NEDC, WLTC, SRC, FTP).
- Over non regulated simulated driving cycles or custom tests (steady state, CADC, simulated RDE).
- Full measurements of pollutants emissions (CO, CO₂, NO/NO_x, HC, PM) in diluted and raw exhaust.
- Integration of the existing equipment of the lab to expand testing capabilities of FuVEP (measurement of instantaneous PM, PN emissions, particle size distribution, non regulated pollutants).



Engine test bench

Max. power 150kW
 Max. speed 9500RPM
 Max. torque 600Nm
 Simulation of transient engine operation



Lab for the Characterization of Catalytic Converters (LC3)

Synthetic Gas Bench (SGB)
 Preparation of synthetic exhaust gas using gas cylinders
 Fully controlled conditions (flow rate, temperature, gas composition)
 FTIR gas analysis system



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The background of the entire page is a photograph of a bright blue sky filled with soft, white, fluffy clouds. The bottom edge of the image shows the dark green tops of several trees.

**Join us in FuVEP
and step up
your pioneering efforts
to go green
and global**

Contact

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