



CONVERSIONS AND COMPONENTS FOR ALTERNATIVE FUELS

Ecomotive Solutions

Ecomotive Solutions develops innovative technologies and solutions for sustainable mobility, designing advanced systems for a wide range of applications and vehicle types. The experience gained in the industry enables the **Group** to deliver reliable, efficient, and tailored solutions.

The following pages present the main technologies, kits, engines, and projects developed by Ecomotive Solutions.

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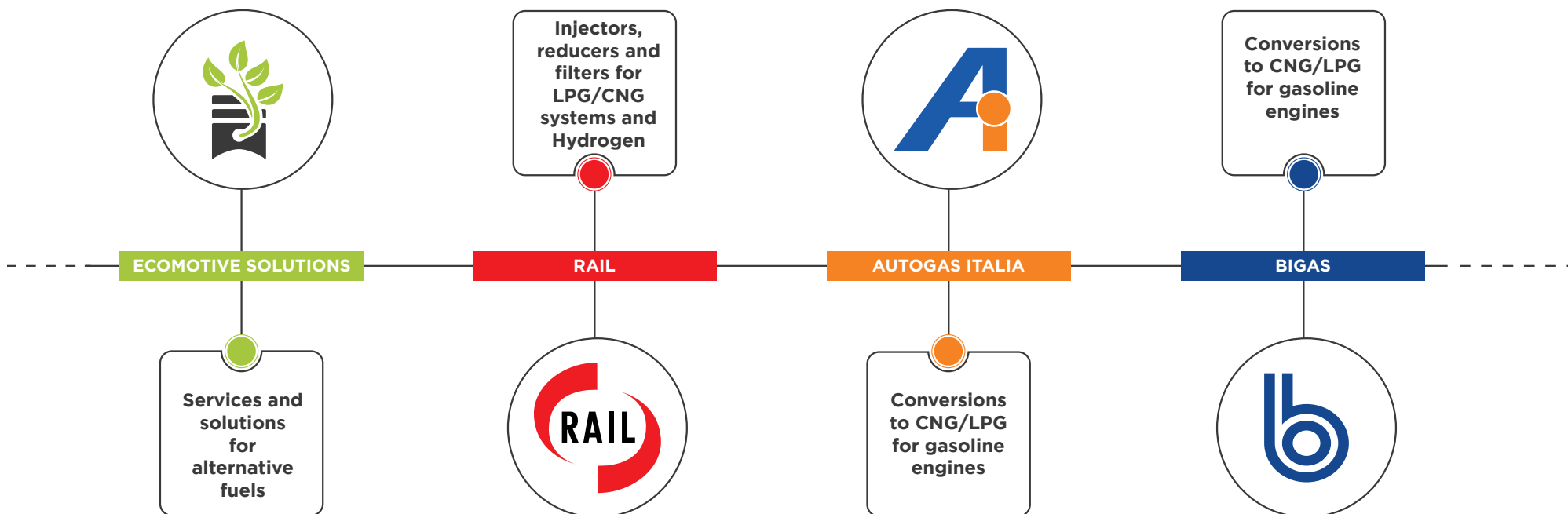
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Dimsport, Ecomotive Solutions, Rail, Bigas, Autogas Italia, GreenForce, Agridea, Valis, the Monferrato Circuit, GLF Turbine and Rail China



ecomotive solutions





Ecomotive Solutions

Since **2009**, **Ecomotive Solutions** has been developing technologies for the use of alternative fuels.

Leveraging its extensive expertise in engine control electronics, the company designs solutions for a wide range of applications, including **automotive, off-road, industrial, marine** and **railway** sectors. **Ecomotive Solutions** specializes in the design and production of **ECUs, software** and **mechanical components**, providing dedicated applications for every type of vehicle, along with the related homologation and certification services. The company also offers engineering, prototyping and

pre-series manufacturing services for the conversion of internal combustion engines to alternative fuels. **Ecomotive Solutions** designs, manufactures and markets systems and components for the use of alternative fuels, including **Dual Fuel, Bi-Fuel, Full Gas** and **100% dedicated systems**.

Together with **Rail, Autogas Italia** and **Bigas**, **Ecomotive Solutions** is part of an integrated industrial group that represents one of the largest technological players in the sector, offering a complete range of components, systems and expertise for alternative fuel conversion projects.



Ecomotive Solutions

Electronic platforms

Diesel Dual Fuel:

Enables all diesel engines, both new and existing, to use alternative fuels, reducing CO₂ emissions and operating costs, and setting a new global standard for sustainable mobility and engine technology.

Benzina Bi-Fuel:

Bi-Fuel systems for petrol vehicles with port injection and direct injection, designed to reduce emissions and operating costs.

Conversione Full Gas:

Electronic control systems, injection systems and engineered mechanical modifications for the development of spark ignition engines with minimal investment. The most flexible platform on the market for OEM applications and the retrofit of existing engines and vehicles.

Field Application

DIESEL DUAL FUEL



AUTOMOTIVE



HEAVY DUTY



ENERGY



OFF-ROAD



MARINE

CARBURANTE ALTERNATIVO

GPL

(BIO) CNG

(BIO) LNG

H2

Field Application

BI-FUEL



AUTOMOTIVE



ENERGY



OFF-ROAD



MARINE



RAILWAY

CARBURANTE ALTERNATIVO

GPL

(BIO) CNG

H2

Field Application

ENGINE CONVERSION - Full Gas



HEAVY DUTY



ENERGY



OFF-ROAD



MARINE



RAILWAY

ALTERNATIVE FUEL

LPG

(BIO) CNG

(BIO) LNG

H₂

ETHANOL

METHANOL

DME



Ecomotive Solutions

Ecomotive Solutions develops electronic control units (ECUs) for **Diesel Dual Fuel, Bi-Fuel, engine management and direct injection applications**. The company also designs dedicated accessories, such as fuel changeover switches for monitoring gas levels and vehicle driving range. **Ecomotive Solutions** carries out engineering, software development and mechanical component design entirely in-house, providing integrated solutions for the automotive industry.

Diesel Dual Fuel Application

D-GID LIGHT 32

Light-duty vehicles **4** Cylinders



D-GID EVO

Medium/heavy-duty with less than **300 hp** up to **6** cylinders

D-GID EVO PLUS

Heavy-duty with more than **300 hp** up to **6** cylinders



Diesel Dual Fuel Application



D-GID

Heavy vehicle over **400 hp**

SWITCH

Gas level monitoring

DIGITAL SWITCH

Gas level monitoring, range estimation, diagnostics



Port Injection

JUPITER and SATURN

ECUs for **LPG** and **CNG** system management on gasoline engines with Port Fuel Injection (MPI)

Jupiter: for **5- and 6-cylinder** engines

Saturn: for engines up to **8 cylinders**



NEPTUM

ECUs for **LPG** and **CNG** system management on gasoline engines with Port Fuel Injection (MPI)

Neptune: for engines up to **10 cylinders**



Direct Injection



ES DIRECT 48.4

ES DIRECT 48.4 is a control unit for sequential gas injection, specifically designed and developed for the conversion of **3** and **4** cylinder direct injection engines.

The **ES Direct 48.4** control unit integrates a new gasoline injector reading and emulation system, making it compatible with a wide range of direct injection vehicles.

This reduces gasoline consumption while maintaining injector functionality. Thanks to an innovative self-calibration and mapping algorithm, the control unit is quick and easy to set up and guarantees optimal performance during gas operation.



Direct Injection



Technical data

- Supply voltage: V batt.= **10 ÷ 16 Volt**;
- Operating temperature **-40 ÷ 120° C**;
- **48-pin Molex** automotive connector;
- IP protection rating: **IP65**;
- Integrated ventilation valve;
- Supports vehicles with up to **8 cylinders** using **two ECUs**;
- Integrated gasoline injector emulation;
- Supported OBD communication: **CAN 250 - 500 Kbs standard and extended**;
- Simplified automatic self-calibration via **OBD** data;
- Support for vehicles equipped with **START/STOP** systems;
- Integrated **High Pressure Fuel System** (HPS) and **Low Pressure Fuel System** (LPS) emulators;
- Continuous logging and monitoring of gasoline percentage during gas operation;
- Continuous logging and monitoring of all acquired and managed signals;
- Approvals: **67R-01 026902, 110R-04 026903, 10R-05 026904**;
- Dimensions: **122 x 170 x 38mm**.

Direct Injection



ES DIRECT 90.4

ES DIRECT 90.4 is a sequential gas injection control unit for **4** or **6** cylinder cars, designed and developed for managing engines with dual injection systems, i.e., equipped with both sequential indirect injection (MPI) and direct injection (DI).

The control unit incorporates a new system for reading and emulating both indirect (MPI) and direct (DI) gasoline injectors, allowing it to use only **3** or **4** gas injectors to fuel the engine.

Thanks to an innovative self-calibration and mapping algorithm, tuning the control unit is quick and easy, allowing for optimal performance when running on gas.



Direct Injection



Technical data

- Supply voltage: V batt.= **10 ÷ 16 Volts**;
- Operating temperature **-40 ÷ 120° C**;
- Supports **3** cylinder vehicles (3 DI gasoline injectors + 3 MPI gasoline injectors) and **4** cylinder vehicles (4 DI gasoline injectors + 4 MPI gasoline injectors);
- Integrated **MPI** and **DI** gasoline injector emulation;
- Supported OBD communication: **CAN 250 - 500 Kbs standard/extended**;
- Automated and simplified self-calibration via **OBD** readings;
- Support for cars with **START/STOP** function;
- Integrated high fuel pressure (**HPS**) and low fuel pressure (**LPS**) emulator;
- Continuous recording and monitoring of the percentage of gasoline while driving on gas;
- Continuous recording and monitoring of all signals read and managed;
- Approvals: **67R-01 026902, 110R-04 026903, 10R-05 026904**;
- Dimensions: **205 x 135 x 38mm**.

Engine Control Unit



ECU-CM

The **ECU-CM** is an electronic control unit designed to manage Otto-cycle engines and was developed specifically for engine and vehicle applications, particularly where homologation and certification requirements are involved.

The **ECU-CM** was created to provide maximum flexibility in engine conversion projects and to enable the same engine platform to be used across a wide range of vehicles and applications, including gensets, off-road machinery and automotive vehicles.

Developed in collaboration with **Dimsport**, a leading company in the automotive electronics sector, the **ECU-CM** combines reliability, safety and versatility.

Key Features

- **Versatile Engine Management:** compatible with both conventional and alternative fuels;
- **Customization:** developed using INCA software, widely adopted by vehicle manufacturers, allowing independent calibration and reducing development costs;
- **Certifications:** compliant with **R110**, **R67** and **R10** regulations;
- Designed specifically for **Otto-cycle engines**, providing efficient and reliable control of up to **6 cylinders**, with management of up to **6 ignition coils** and **6 injectors**.

Engine Control Unit

Technical Specifications

- Supply voltage **6.5 – 30V**;
- **20** analog inputs;
- Analog sensor supply **5V, 500mA**;
- **Engine speed sensor support**: Hall effect and inductive;
- **Camshaft position sensor support**: Hall effect and inductive;
- **3** auxiliary Hall-effect camshaft sensors;
- Management of up to **2 wideband** and **2 narrowband lambda sensors**;
- Management of up to **2** electronic throttle bodies;
- Management of up to **6** high-impedance injection channels;
- Management of up to **6** ignition channels with external power modules;

- Up to **6** low-side auxiliary outputs;
- Up to **3** timing measurement inputs;
- **6** digital inputs;
- Support for up to **2** knock sensors;
- **SENT** communication protocol support;
- **CAN** communication, minimum 2 channels: **SAE J1939, standard and extended IDs**;
- Operating temperature: **-40°C to +125°C**;
- **Standard OBD-II** vehicle diagnostics support
- Support for standard **OBD-II** vehicle diagnostics



Rail

Rail specializes in the design and manufacture of automotive-grade injectors and pressure regulators for **LPG, CNG** and **hydrogen** applications. The company markets high-performance components for the alternative fuel and vehicle conversion industries.

Since **2025**, Rail has been part of the **Ecomotive Group**, which, together with **Autogas Italia** and **Bigas**, forms an industrial hub offering one of the broadest technology portfolios in the alternative fuel conversion sector.

Injectors

RAIL PRODUCTS



IG4 DAKOTA OEM

Single injector for **LPG/CNG** applications
IG4 DAKOTA OEM version

IG1 APACHE HD

Rail injector for gaseous phase **LPG** and **CNG**



Injectors



IG7 DAKOTA LP & LHF

Rail injector for gaseous phase of **LPG** and **CNG**

IG6 TAURUS II

Single Point Dispenser for **LPG/CNG** Gas Phase
for Heavy-duty Vehicles



Injectors

RAIL PRODUCTS



IG6.0 e IG6.1

Single injector for **LPG** and **CNG** applications

IG6 5.0

Single injector for **LPG** and **CNG** applications



Pressure Reducer



GREENER LNG REDUCER

Single stage reducer for **LNG** applications, standard version

GREENER LNG REDUCER

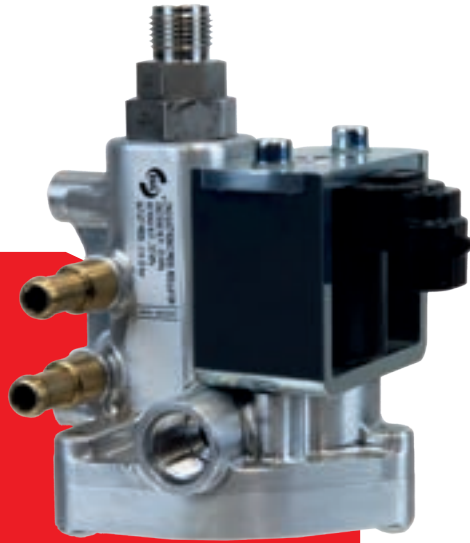
Single stage reducer for **LNG** applications, version with coil

TYRION REDUCER

Single stage reducer for sequential injection applications of **CNG**

Pressure Reducer

RAIL PRODUCTS



CNG ELECTRONIC PRESSURE REDUCER

Electronic **CNG** reducer

SPECTRE

New **LPG** reducer



Autogas Italia

An established company within the **Ecomotive Group**, **Autogas Italia** manufactures and distributes **LPG** and **CNG** conversion systems for gasoline and diesel vehicles, developing electronic control units and pressure regulators for automotive applications. The company is a reliable and versatile partner for gas conversion professionals, offering advanced technological solutions for a wide range of engine types and vehicle applications.

Bi-Fuel Application

Ecu



MERCURY

New electronic control unit dedicated to engines with up to **4** cylinders with indirect injection

Pressure Reducer

SPECTRE

New **LPG** reducer - up to **150 kW**



Bigas

An established company within the **Ecomotive Group**, Bigas develops and manufactures components and complete **LPG** and **CNG** conversion systems for the automotive sector. Its product range includes electronic control units, pressure regulators and dedicated solutions designed for a wide variety of applications and vehicle types.



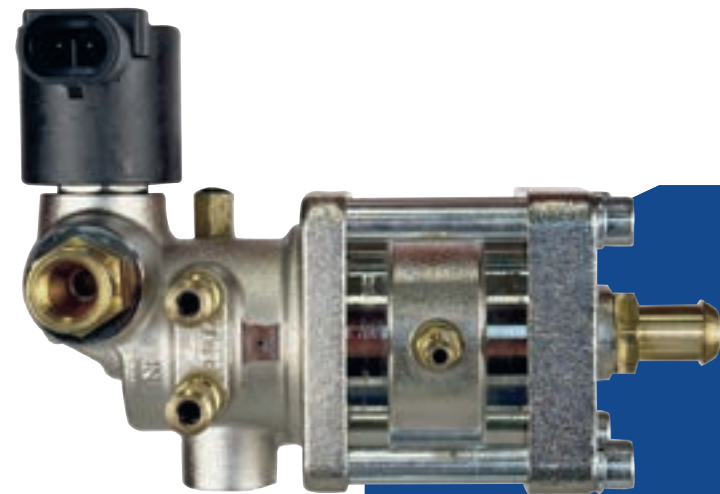
VENUS OBD

New electronic control unit designed for indirect injection engines with up to **4 cylinders**

Pressure Reducer

REDUCER RI27-J

The **RI27-J CNG** pressure regulator for sequential systems is suitable for all vehicle types with engine outputs of up to **300 kW**



Pressure Reducer



SPECTRE

New **LPG** reducer - up to **150 kW**

SPECTRE II

New **LPG** reducer - up to **250 kW**





Kit of the Group

Thanks to the technologies developed by **Ecomotive Solutions** and the experience gained across a wide range of applications, the Group is able to **design and deliver tailor-made kits for every type of vehicle**. Each solution is engineered to ensure seamless integration with the vehicle and to meet the customer's specific operational requirements.

The main kits developed by Ecomotive Solutions are presented below.



Diesel Dual-Fuel Kit

Thanks to the products illustrated in the previous pages, kits for diesel and petrol vehicles can be created.

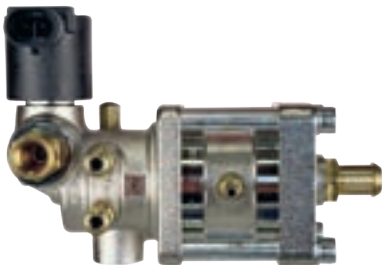
In detail DIESEL vehicles:



D-GID LIGHT 32



SWITCH



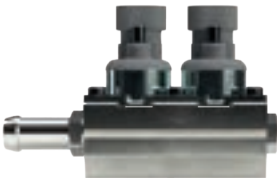
BIGAS RI27-J



FILTER



P/T MAP SENSOR



INJECTOR



Diesel Dual-Fuel Kit

Thanks to the products illustrated in the previous pages, kits for diesel and petrol vehicles can be created.

In detail DIESEL vehicles:



D-GID EVO PLUS



SWITCH



SPECTRE II ES



FILTERS



P/T MAP SENSOR



INJECTOR



Bi-Fuel Kit

Thanks to the products illustrated in the previous pages, kits for diesel and petrol vehicles can be created.

In detail PETROL vehicles:



MERCURY



SWITCH



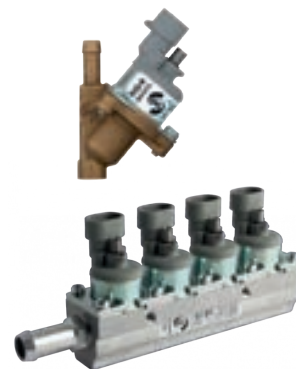
SPECTRE GPL



FILTER



P/T MAP SENSOR



INJECTORS



Bi-Fuel Kit

Thanks to the products illustrated in the previous pages, kits for diesel and petrol vehicles can be created.

In detail PETROL vehicles:



VENUS OBD



SWITCH



TYRION CNG



FILTER



P/T MAP SENSOR



INJECTOR



Direct Injection Kit

Thanks to the products illustrated on the previous pages, kits can be assembled, in this case with the 48.4 4 cylinder control unit - LPG.

In detail:



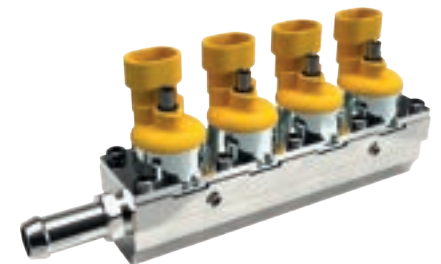
ES DIRECT 48.4



SPECTRE ES



FILTER



INJECTOR



Direct Injection Kit

Thanks to the products illustrated on the previous pages, kits can be assembled, in this case with the 90.4 4 cylinder control unit - LPG.

In detail:



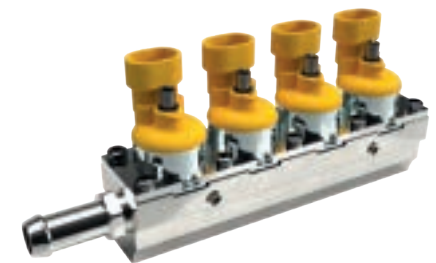
ES DIRECT 90.4



SPECTRE ES



FILTER



INJECTOR



Direct injection kit

Thanks to the products illustrated on the previous pages, kits can be assembled, in this case with the **48.8 4** cylinder control unit - **LPG**.

In detail:



ES DIRECT 48.8



SPECTRE II ES



FILTERS



INJECTORS



Direct injection kit

Thanks to the products illustrated on the previous pages, kits can be assembled, in this case with the **90.6 4** cylinder control unit - **LPG**.

In detail:



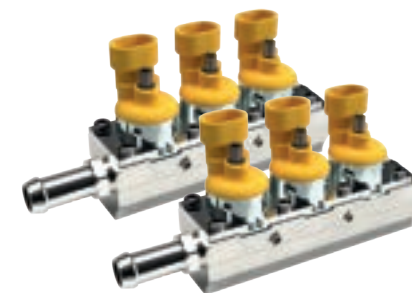
ES DIRECT 90.6



SPECTRE II ES



FILTERS



INJECTORS
2x3 cyl.



Engine case histories

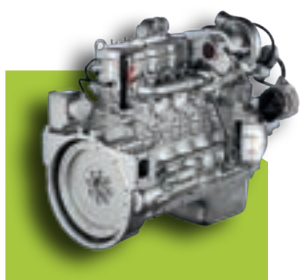
Thanks to its extensive know-how in the development of sustainable mobility systems, **Ecomotive Solutions** delivers conversion solutions for a wide range of engine types, tailoring them to specific application requirements. Each project is engineered to ensure reliability, efficiency, and seamless integration with the vehicle or intended application.

The main engines and related conversion solutions developed by Ecomotive Solutions are presented below.

FPT NEF N67 - FPT NEF N60 - CATERPILLAR CAT C 15 - ISUZU 3CB1

This page presents some of the developments designed and implemented by Ecomotive Solutions.

In detail:



FPT NEF N67

N67 TURBO, CNG, 129 kW;
2150 RPM, port
injection, application:
OFF ROAD

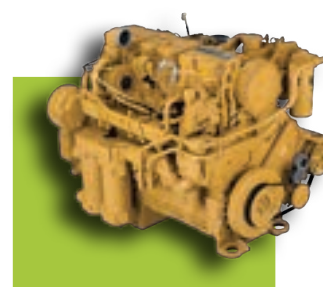
N67 TURBO, METHANOL,
85 kW; 1500 RPM,
port injection, application:
INDUSTRIALE



FPT NEF N60

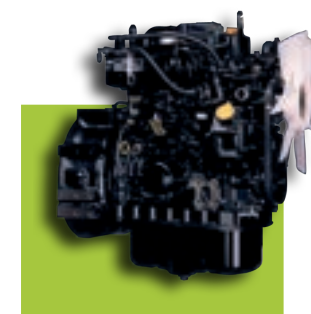
N60 TURBO, HYDROGEN,
130 kW; 2500 RPM,
port injection

N60 TURBO, METHANOL,
85 kW; 1500 RPM,
port injection, application:
INDUSTRIAL



CATERPILLAR CAT C 15

CNG, 220 kW; 1500 RPM,
draw gas
application: **INDUSTRIAL**



ISUZU 3CB1

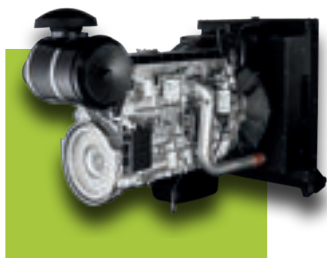
CNG, 11 kW, 1500 RPM,
draw gas,
application: **INDUSTRIAL**

LPG, 10 kW, 1500 RPM,
port injection,
application: **INDUSTRIAL**

FPT CURSOR 13 - FIAT 8217 - VOLVO PENTA - DEUTZ TC36

This page presents some of the developments designed and implemented by Ecomotive Solutions.

In detail:



FPT CURSOR 13

C13 ASPIRATED, ETHANOL,
120 kW, 1500 RPM, port
injection, application:
INDUSTRIAL

C13 TURBO, CNG, 270
kW, 1500 RPM, draw gas,
application: **INDUSTRIAL**

C13 TURBO, SYNGAS, 200
kW, 1500 RPM, draw gas,
application: **INDUSTRIAL**

C13 TURBO, LPG, 160
kW, 1500 RPM, draw gas,
application: **INDUSTRIAL**



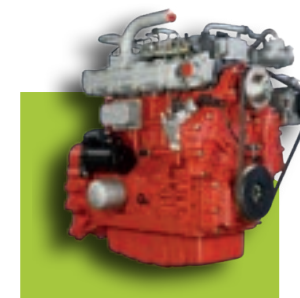
FIAT 8217

FIAT 8217 TURBO, LNG,
170 kW, 1800 RPM, port
injection, application:
RAILWAY



VOLVO PENTA

CNG, 180 kW, 3300 RPM,
port injection, application:
MARINE



DEUTZ TC36

DEUTZ, 95 kW, 2200 RPM,
port injection, application:
OFF-ROAD



Vehicles case histories

The experience gained by **Ecomotive Solutions** in the development of vehicles and sustainable mobility systems has led to numerous real-world applications. Through the integration of proprietary components and technologies, the **Group** has developed innovative solutions for a wide range of vehicle types, addressing the specific needs of different industries and markets.

The following section presents some of the Group's key projects and vehicle developments.

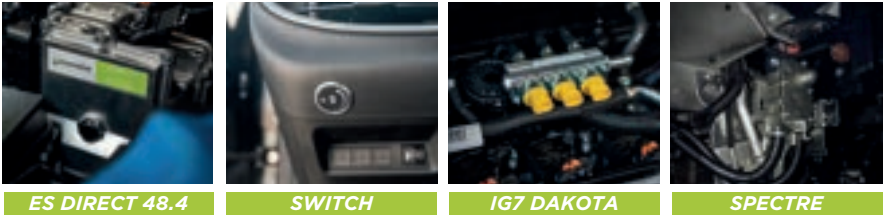
Fiat Panda

From PETROL to PETROL + LPG



Fiat 600

From MILD HYBRID to BIFUEL + MILD HYBRID



Fiat Panda

From MILD HYBRID to BIFUEL + MILD HYBRID



Toyota C-HR

From HYBRID to HYBRID + CNG



Jeep Cherokee

From PETROL to PETROL + LPG



SATURN



SWITCH



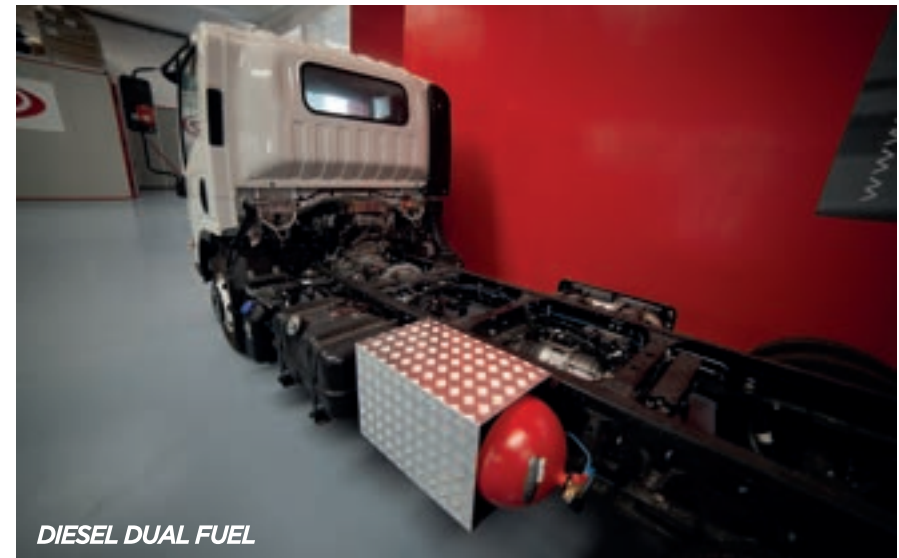
IG7 DAKOTA X2



SPECTRE X2

Isuzu

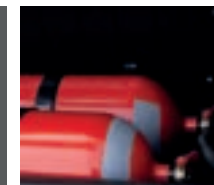
From DIESEL to DIESEL + CNG



ECU



SWITCH



TANK



REFUELING PORT

DAF XF 51

From DIESEL to DIESEL + LNG



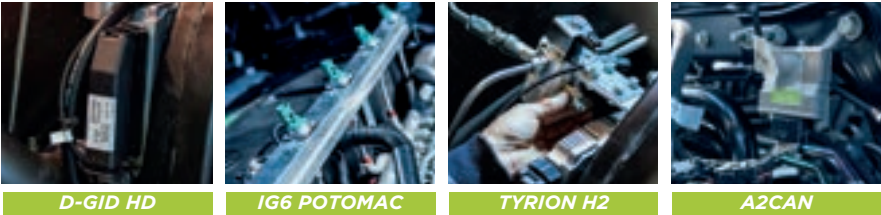
Bus

From DIESEL to DIESEL + CNG



Ford Truck

From HVO/DIESEL to HVO/DIESEL + HYDROGEN (H-DUAL)



SEAT Ateca

From CNG to CNG + HYDROGEN



GRU RTG

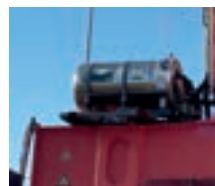
From DIESEL to DIESEL + LNG



ECU



SWITCH



TANK

Reach stacker

From DIESEL to DIESEL + LNG



ECU



SWITCH



TANK

Boat

From DIESEL to 100% CNG



Telehandler

From DIESEL to 100% BioCNG



TMR mixer

From DIESEL to 100% BioCNG



BIO CNG DEDICATED ENGINE



ECU



TANK

Train

From DIESEL to BioLNG (Liquefied Biomethane)



BIO LNG DEDICATED ENGINE



DISPLAY



TANK



REFUELING PORT

EMISSIONS TESTING ROOM

360° TESTING

Testing a vehicle means observing it from every perspective. For this reason, we provide advanced tools and dedicated environments—from the emissions test chamber to the track—to evaluate performance, behavior, and environmental impact on real vehicles. A comprehensive testing system that combines technical precision with realistic operating conditions.

Emissions Testing Room

For years, the company has consolidated its expertise at the **European Union's Joint Research Center**. The new emissions room not only allows for internal testing but also offers product certification services to other interested companies.

Emissions roller room is **20.4m** long, **8.4m** wide and **5.6m** high. This allows for accommodating bulky vehicles and parking two cars for any **soak requirements**. The external soaking room has direct access to the roller room and allows for conditioning **6 cars** regardless of the temperature set in the room.

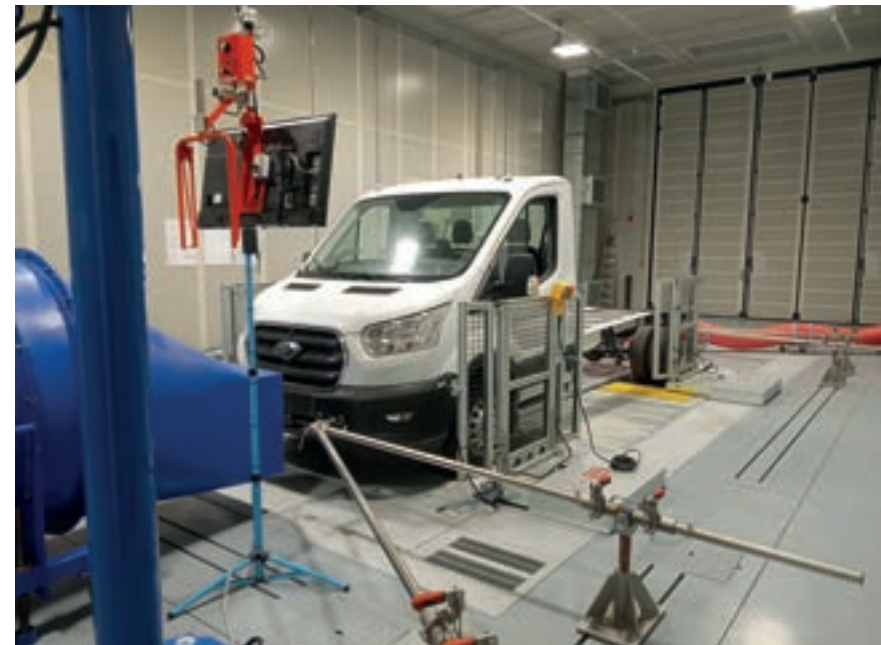


Photo Emissions Room: The emissions testing bench installed at **Holdim Group's** headquarters in **Serralunga di Crea** marks a new chapter in the company's history.

Analyzers

The **Diesel, Petrol, Bi-Fuel, Dual-Fuel Modal Analysis System** consists of an **analysis bench**, a **bench with particulate sampling** and **THC analyzer with sampling from the tunnel for diesel analysis**, a particle analysis bench (APC), a **CVS system with three automatically selectable Venturi tubes**, a **hydraulic circuit for gas temperature adjustment inside the tunnel** and a **rack with 12 bags for air/petrol/diesel analysis** on 4-phase cycles carefully protected from light with a darkening film to ensure maximum analysis accuracy.

The system is complete with a dilution tunnel for both petrol and diesel cycles, as well as for gas cycles and with heated sampling probes with temperature control. The entire pneumatic circuit (as well as all the fittings used and the various gas sampling pumps) is made of Teflon and stainless-steel tubes.



Performable Tests on Bench

- **Coast down:** allows to verify the correct operation of road load;
- **Speed limit tests:** allow the vehicle under test to be tested at a speed limit. The desired value is set by keyboard or remote control and the bench applies braking when the speed approaches the desired one, while below, braking is modulated according to the vehicle settings;
- **Constant speed tests:** allow the vehicle under test to run at a constant speed regardless of the delivered torque;
- **Constant torque tests:** allow the bench to pull or brake the vehicle with a constant torque value regardless of the vehicle's speed;
- **Road simulation tests:** the fundamental element of tests for the analysis of polluting emissions. The vehicle under test is subjected to braking conditions that simulate the real situation that occurs during road driving.

PEMS - Portable Emissions Measurement System

PEMS is a vehicle emissions monitoring system, compact and lightweight enough to be carried inside a vehicle or moved with a motorized vehicle during testing. This approach differs from the use of fixed rollers on a dynamometer, simulating real driving conditions.

With PEMS you have:

- The ability to measure exhaust gas flow (covering engine displacements from small to over 15000cc);
- The system includes a barometric station and a GPS device for localization and speed measurement;
- The ability to interact with the vehicle's CAN network both using databases (dbc) and diagnostic requests (PID);
- The ability to measure the Number of PN Particles on both Light-Duty and Heavy-Duty vehicles.

Monferrato Circuit

In 2021, Holdim Group launched a major redevelopment project, transforming the former racetrack into a state-of-the-art center for the testing of environmentally friendly vehicles. The new **Monerrato Circuit** features an urban driving simulation area, off-road tracks, and dedicated research and development facilities, becoming a technological hub available to OEMs and universities.

Monferrato Circuit



From the **Casale Racetrack** to the **Monferrato Circuit**. The circuit was inaugurated in **1972** with tests of the **Ferrari Gran Turismo**, driven by **Clay Regazzoni**, as well as the motorcycles of **Giacomo Agostini** and **Renzo Pasolini**.

However, in **1977**, the circuit was closed due to protests from neighbouring municipalities. Since **2021**, the **Holdim Group** has been engaged in redeveloping the area for testing eco-friendly vehicles, simulating urban routes and creating off-road trails.



Monferrato Circuit



Investment and improvements: Since **2021, Holdim Group** has been actively engaged in the redevelopment of the area dedicated to the testing of environmentally friendly vehicles, creating urban driving simulation routes and dedicated off-road tracks.

Monferrato Circuit



Holdim Group

Holdim Group is an industrial holding company that brings together businesses specialized in sustainable mobility, automotive, energy, agriculture, and technological development. Through an innovation-driven approach, the **Group** fosters collaboration among its companies, creating value and developing advanced solutions for both national and international markets.

The companies within **Holdim Group** share expertise, experience, and a common vision focused on sustainable growth and technological excellence.

HOLDIM group

Holdim Group

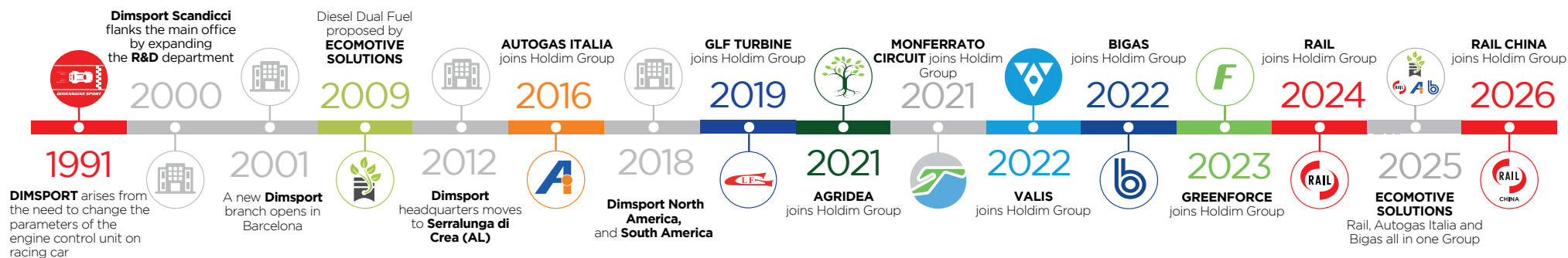
The headquarters of the **Holdim Group** is located in **Serralunga di Crea**, in the heart of the province of Alessandria, a symbol of solid roots and Italian excellence.

The **Group** has a state-of-the-art research and development center in Scandicci (Tuscany) and maintains a strategically positioned commercial presence in two countries: **Spain** and the **United States**.

Holdim's strength lies in its ability to build strategic and

collaborative relationships with original equipment manufacturers (OEMs), prestigious universities and internationally renowned research institutes.

At the heart of **Holdim's** mission is a deep commitment to environmental respect and support for local communities.



Since **1991 Dimsport** has been synonymous with electronic recalibration for Automotive in the world: the **Race line** includes professional systems for managing engine operating maps. **Rapid line** a wide range of add-on modules for turbo engines, **Rapid Bike** offers add-on modules for motorcycles. The **Dyno** line offers power test benches for cars, motorcycles, trucks and tractors.

Since **2009, Ecomotive Solutions** has been offering engine control electronics for the use of alternative fuels in the automotive, industrial, energy, railway, and marine sectors. The company offers **Diesel Dual Fuel** platforms, **Bi-Fuel** platforms, **full gas** conversions, gas hybrid vehicle solutions, ethanol and DME fueled engines, liquid methane/biomethane, cold ironing, gas charging systems for electric vehicles, and hydrogen mobility solutions.

A well-established brand within the **Holdim Group**, **Rail** designs, manufactures and sells injectors for **LPG/CNG** and hydrogen systems for the automotive sector since **2006**. In **2025** it was merged within **Ecomotive Solutions**, which together with **Autogas Italia** and **Bigas**, form the pole with the largest technological offering in the world of conversions.



Historical and established company in the gas world, becomes part of the **Holdim Group** from **2022**. In **2025** it was merged within **Ecomotive Solutions**. **Bigas** develops and manufactures components and complete systems for conversion to automotive **LPG** and **CNG**.



Active since **2000** and part of the **Holdim Group** since **2016** **Autogas Italia** has become over the years a reference in the world of gas engine conversions. In **2025** it was merged within **Ecomotive Solutions**. The company manufactures and distributes **CNG/LPG** conversion systems for gasoline or diesel vehicles.



GreenForce was founded in **2023**, a company engaged in the development of Fuel Cell system solutions and the transformation of endothermic engines into **100% hydrogen** engines.



Agridea looks to a sustainable future in agriculture and hospitality, enhancing the land and training young professionals. A training center, an exclusive relais surrounded by nature and the development of alternative crops are the missions of this company.



Recent group entity focused on the design and installation of dedicated fuel vapor recovery and industrial systems. These machineries are remotely manageable, allowing our operators to be able to constantly monitor and intervene on systems installed around the world.



In **2021**, **Holdim Group** redeveloped a track for testing vehicles powered by alternative fuels. An urban route simulation is planned within the circuit. A state-of-the-art technology hub available to **OEMs** and top universities.



GLF Turbine is a company specialized in the production of static components for gas turbines, including combustion chambers, gas ducts and nozzles. Established in the early **1980s** under **Nuovo Pignone** and later part of the GE Oil & Gas group, the plant expanded its production capabilities and, from **2002** to **2017** under GI&E Spa, strengthened its manufacturing capacity with advanced turbine technologies.



In **2025**, we launched a manufacturing facility in **China** dedicated to the production of automotive components for the gas mobility sector. The facility was established to ensure high quality standards, competitiveness, and operational flexibility in response to the needs of the local market. Our mission is to support the Chinese market and neighboring countries with reliable and innovative solutions, aligned with the ongoing evolution of the automotive industry.



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