

FPT INDUSTRIAL PRESENTS ITS VISION AND SOLUTIONS FOR TOMORROW'S COLLECTIVE MOBILITY AT BUSWORLD

Turin, Italy, October 7th, 2023

FPT Industrial, the Iveco Group brand dedicated to the design, production, and sale of low-environmental-impact powertrains, is exhibiting at **Busworld 2023** (Brussels, Belgium, 6-12 October 2023), **the largest bus and coach-only B2B exhibition in the world**.

At its dedicated stand (**Hall 4 – Booth # 424**), FPT Industrial is showing off its **expanded range of innovative and sustainable solutions for collective transport**, aiming to fully satisfy environmental requirements, the needs of transport companies and municipalities, and those of passengers on board.



Held since 1971, Busworld's 26th edition features all the main bus OEMs, representing about 80% of total vehicle production in Europe and Turkey. For its debut as an independent exhibitor at Busworld, FPT Industrial is showcasing its **products and solutions both in the ePowertrain and in the internal combustion engine segments**, in which the brand holds leading positions.

ePOWERTRAIN SEGMENT

Thanks in no small part to the opening of its **dedicated ePowertrain Plant in Turin (Italy) in October 2022**, FPT Industrial is quickly becoming a serious player in the **ePowertrain market**

segment, positioning itself as a **zero-emission solutions provider for all bus applications**, focused on **battery packs and Battery Management Systems (BMSs)**.

At Busworld 2023, FPT Industrial is showcasing **three highly awaited ePowertrain products for collective transport applications**: the **37kWh eBS 37 EVO battery pack for minibuses**, the **first Battery Management System developed by FPT Industrial called eBM 5**, and the **69kWh eBS 69 battery pack for buses**.

eBS 37 EVO BATTERY PACK FOR MINIBUSES – HIGH ENERGY DENSITY, EIGHT-YEAR WARRANTY

The **37kWh eBS 37 EVO battery pack for minibuses** is a high-voltage battery with high **energy density of up to 140Wh/kg**.

The multipack option allows for high flexibility and allows it to fit several minibus applications. High performance and efficiency, to deliver maximum traction power to electric vehicles, are coupled with top reliability and durability. This maintenance-free battery pack is designed for over 2,500 charging/discharge cycles and is offered with **up to eight years' warranty** according to mission profile. New class-leading safety features (ECE R100.3) complete the picture.

The eBS 37 battery model is also at the center of a new partnership between FPT Industrial and **Reefilla**, an innovative Turin-based startup offering the first predictive mobile charging service for commercial fleets and private users. The pilot project aims to give **a second life to batteries from electric commercial vehicles and minibuses**. eBS 37 batteries no longer suitable for powering electric traction will be delivered to Reefilla, which will recover the batteries' modules and over 50% of their internal components. The components will then be installed in Reefilla's Fillee mobile power banks, for use in recharging its clients' electric vehicles.



eBS 37 EVO - 37kWh Battery Pack Technical Specifications

Nominal energy: 37 kWh

Weight: 260 kg
Dimensions: 854x925x310 mm
NMC technology
Liquid cooled

eBM 5 BATTERY MANAGEMENT SYSTEM – IN-HOUSE DEVELOPMENT FOR ON-ROAD APPLICATIONS

The eBS 37 EVO battery pack being presented at Busworld 2023 adopts the eBM 5, the first Battery Management System fully developed by FPT Industrial.

Featuring advanced BMS algorithms to **enhance safety, accuracy and performance**, the eBM 5 allows for **battery optimization thanks to cell and module balancing controls**, with **improved battery capacity and lifespan**. Available **off-the-shelf or as a customized smart solution**, the FPT Industrial BMS delivers high flexibility and can be **designed according to customer and mission needs**. Built to provide longer-lasting and more reliable battery-powered applications, the eBM5 is already **certified to ASIL C integrity in accordance with ISO26262 and compliant with new battery regulations**.



eBS 69 BATTERY PACK FOR BUSES – BEST-IN-CLASS ENERGY DENSITY, TEN-YEAR WARRANTY

The third product on display at FPT Industrial's own stand at Busworld 2023 is the **69kWh eBS 69 battery pack for buses**. Featuring **best-in-class energy density of up to 178Wh/kg**, this **high-voltage battery pack** is equipped with **specific BMS safety and cyber-security features** for bus applications. With a **length/height ratio 42% better than the competitor average**, this powerful battery pack is perfectly shaped for bus applications, optimizing installation for client missions.

Reliability, durability and low TCO result from a number of efficiency-enhancing features, including **up to 10-year warranty depending on mission profile, and up to 6,500 cycles, depending on the specific mission**. Thanks to the Multipack option, the **69kWh eBS 69 battery pack** can be used on several applications to power different length buses with a wide range of passenger capacities.



eBS 69 - 69 kWh Battery Pack Technical Specifications

Nominal energy:	69.3 kWh
Weight:	388 kg
Dimensions:	1785x700x250 mm
NMC technology	
Liquid cooled	

INTERNAL COMBUSTION ENGINE SEGMENT

In the internal combustion engine bus business, FPT Industrial is a **proven full-service manufacturer with both diesel and natural gas engines in the 3-12.9 liter range, covering minibuses, city/intercity buses, and coach applications**. FPT Industrial is the No. 1 internal combustion engine manufacturer in the Bus segment for Europe and Turkey, and through IVECO BUS, it is **the market leader in the intercity segment**. At Busworld 2023, the brand is presenting its **N67 NG engine**.

N67 NG – THE NATURAL, SUSTAINABLE AND READY-TO-USE SOLUTION

Optimized for city and intercity buses, the Euro VI Step E compliant N67 NG engine is a sustainable, ready-to-use solution as well as the most powerful natural gas engine on the market. Featuring best-in-class performance capabilities of up to **210 kW and 1250 Nm, low fuel consumption, and reduced engine noise** compared to diesel engines thanks to FPT Industrial's multipoint stoichiometric combustion, this proven natural gas engine, compatible with CNG and LNG allows for reductions in CO₂ emissions of up to 15% (WHTEC) compared to equivalent diesel engines and achieves zero CO₂ emissions when fueled with biomethane.

Best-in-class durability of up to 450,000 km and **best-in-class maintenance** thanks to maintenance-free CNG Particulate Filter (CPF) provide transport companies and municipalities with exactly what they need to balance ecological and financial issues. **Euro VI Step E compliance** comes courtesy of a simple aftertreatment system with three-way catalyst with CPF and **without EGR**. The no-EGR solution also ensures **high reliability, low fuel consumption**

and **faster transient response**, while the Nickel-Resist cast-iron exhaust manifold and water-cooled wastegate turbocharger guarantee trouble-free, reliable operation.



N67 NG Technical Specifications

Certification:	Euro VI E
No. of cylinders / valves:	6L / 4
Injection system:	Multipoint injection system
Turbocharger:	WG
Displacement [liters]:	6.7
Bore x stroke [mm]:	104 x 132
Max Power [kW] @ rpm:	206 @ 2000 *
Max Torque [Nm] @ rpm:	1000 @ 1250 *
Dry Weight [Kg]:	548
Dimensions [L x W x H, mm]:	1060 x 704 x 868
ATS:	3-Way Catalyst + CPF

* Max capabilities 210kW/1250Nm

A dedicated **Customer Service** corner provides a full and easy-to-navigate overview of all FPT Industrial services dedicated to the bus sector.

***FPT Industrial** is a brand of Iveco Group (EXM: IVG), dedicated to the design, production, and sale of powertrains and solutions for on- and off-road vehicles, as well as marine and power generation applications. Over 8,000 people across ten production sites and eleven R&D centers work for FPT Industrial all around the world. Active in nearly 100 different countries, its global sales and its Customer Service department supports all Brand customers. The extensive product offering includes six engine ranges with power outputs from 42 hp to over 1,000 hp, transmissions with torque up to 500 Nm, and front and rear axles from 2.45 to 32 tonne GAW (Gross Axle Weight). FPT Industrial offers the most complete line-up of*

natural gas engines for industrial applications on the market, with power outputs ranging from 50 to 520 hp. A dedicated ePowertrain division is accelerating the path towards net zero-emissions mobility, with electric drivelines, battery packs, and battery management systems. This extensive offering, and its strong focus on R&D, makes FPT Industrial a world leader in industrial powertrains and solutions. For more information, visit www.fptindustrial.com.

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