

PRESS RELEASE

BMZ, HORIBA MIRA and ZIEHL-ABEGG collaborate to drive electrification of Europe's buses

Karlstein am Main, 10/17/2019 – In a major step forward in the electrification of Europe's public transport networks, BMZ, HORIBA MIRA and ZIEHL-ABEGG have teamed up to offer a unique turnkey service for converting existing bus fleets to e-Buses.

As part of its environmental policy to reduce CO2 emissions from public vehicles, the EU has released a new vehicle directive that mandates the percentage of buses that must be emission-free by 2025 and 2030.

It lays out targets for each EU member, with Germany for example, targeted with having 22.5% of all buses as zero emission, increasing to 32.5% by 2030. This will drive huge demand for the development of new electric buses to meet these targets.

In addition, cities including Paris and Berlin have already committed to higher volumes of electrification at earlier dates than the mandate requires.

While the onus has traditionally been on bringing new electrical buses to market, not to be overlooked is the role retrofitting existing buses will play in meeting these crucial targets. In order to achieve this, existing bus, owner, operators and manufacturers will need to act now to invest in retrofitting.

Bringing together several decades of combined experience and expertise in the development and integration of electric drives for buses, BMZ, HORIBA MIRA and ZIEHL-ABEGG will develop and supply highly efficient, safe and reliable, electric powertrain solutions to electric bus manufacturers, operators and owners, with the option of a complete retrofit service for customers that need it.

Global player in powertrain technology, ZIEHL-ABEGG, will provide their compact and efficient electric axle for emission-free buses, BMZ, Europe's leading battery system manufacturer will provide the latest in battery technology and HORIBA MIRA, world-leading automotive engineering, verification and validation consultancy, will provide the vehicle control software, manage the integration of the electric drive systems and provide functional safety support to meet ISO26262.

Sven Bauer, CEO and Founder of the BMZ Group said: "We are very happy about the two globally positioned and extremely experienced partners, with whom we can jointly strengthen and expand our position in the automotive market. E-buses are a very fast-growing market, almost every major city is currently involved in the electrification of vehicle fleets and this collaboration enables us to deliver a unique turnkey service across Europe."

Christian Adamczyk, Company Speaker for BMZ Group added: "Together we provide a total solution consisting of battery, drive and integration specifically aimed at helping owners and

operators transform their existing bus fleets to the zero-emissions vehicles required for tomorrow."

Ralf Arnold, Managing Director of ZIEHL-ABEGG AUTOMOTIVE: "Our ZAwheel is the most efficient way of propelling a city bus – this has a direct impact on the size of the battery and saves costs in the long term."

Greg Harris, Global Electrification Services Leader at HORIBA MIRA, said: "Working together with BMZ and ZIEHL-ABEGG we are combining our extensive expertise in electrification into a single, easy-to-use consultancy service specialising in providing efficient electric powertrain solutions."

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Notes to Editors

About BMZ Group

The BMZ Group is a global player in the production of lithium-ion battery system solutions. The group is headquartered in Germany and has further production facilities in China, Poland and the US, as well as offices in Japan and France. In addition, there are research and development sites worldwide. For 25 years, BMZ has been continuously developing the lithium-ion battery together with the customer and its own development team at the BMZ E.Volution Center – around 150 engineers are responsible for processes from prototype construction to the planning and implementation of efficient series production.

As a one-stop-shop provider, BMZ realizes more than 250 projects every year, from the idea to the successful product, including intelligent charging technology and a communication interface, and is also available to the customer as a reliable service partner. Around 3,000 employees work for the BMZ Group worldwide.

About HORIBA MIRA

HORIBA MIRA is a global provider of pioneering engineering, research and test services to the automotive, defense, aerospace and rail sectors. We work in close collaboration with vehicle manufacturers and suppliers around the world, providing comprehensive support ranging from individual product tests to turnkey multi-vehicle design, development and build programs.

With over 70 years' experience in developing some of the world's most iconic vehicles, our engineers utilize the latest test facilities and simulation tools to improve lives by making journeys safer, cleaner and smarter. Our suite of 40 major test facilities, 100km of specialized proving ground and wealth of engineering experience, combined with our expanding international presence, means we are confident that we can achieve our vision – that every journey in the world will be positively influenced by us.

About ZIEHL-ABEGG

Fascination, innovation and always being one step ahead – these are the aspirations of the globally active company ZIEHL-ABEGG in the competence areas of ventilation systems, control

engineering, drive and automotive technology. The company has been achieving great things since it was founded by Emil Ziehl in Berlin in 1910, and today has its headquarters based in Künzelsau, Baden-Württemberg.

To do justice to the significance of e-mobility, in late 2011 ZIEHL-ABEGG founded the company ZIEHL-ABEGG AUTOMOTIVE, which has its head office in Kupferzell. ZIEHL-ABEGG is focusing its core competencies in the area of in wheel hub drives, axle drives and generators to provide the commercial vehicle industry with advanced solutions.

Contact:

BMZ Group

Christian Adamczyk CMO/Press Spokesman Am Sportplatz 28 63791 Karlstein am Main Phone: 06188/9956-770 <u>christian.adamczyk@bmz-group.com</u> www.bmz-group.com

ZIEHL-ABEGG AUTOMOTIVE GmbH & Co. KG

Harald Ludescher Head of Sales Günther-Ziehl-Straße 1 - 74635 Kupferzell, Germany Phone:+49 (0) 7940 16-95002 Mobile: +49 (0) 151 – 42608516 harald.ludescher@ziehl-abegg.de web:<u>www.ziehl-abegg.com</u>

HORIBA MIRA

For media enquiries regarding HORIBA MIRA please contact Monira Matin or Hayley Longdin at Whistle PR on +44 121 517 5177 or email HORIBAMIRA@whistlepr.co.uk.

For enquiries about HORIBA MIRA's eBus offer please contact enquiries@horiba-mia.com or call +44 24 7635 5000.

www.horiba-mira.com