

Graphene-Based Ultracapacitors Boost Double Deck Buses Through Low Carbon Emission Bus Test by Reducing Fuel Consumption.

IAA Hannover, Germany, 19th of September 2018. Skeleton Technologies and Wrights Group Ltd have signed a high-volume, multi-million-euro contract over the next 5 years. Skeleton Technologies supplies graphene-based ultracapacitors to the latest KERS enabled hybrid-electric double and single deck buses produced by the Wrights Group.

The demand to reduce CO₂ emissions in city centers is one of the key drivers for Wrightbus to implement new technology which cuts down CO₂ emissions by saving fuel.

The integration of graphene-based ultracapacitors into test WrightBus double deck buses enables a 36% fuel saving compared to a UK based EuroVI diesel bus baseline. It also adds at least another 3 passengers to the capacity of these buses compared to a lithium battery-based hybrid equivalent.

Skeleton Technologies has taken Graphene from the lab to the real world:

Graphene as part of the ultracapacitor technology significantly increases power and energy density extractable from ultracapacitors whilst keeping their internal resistance low and prolonging their lifetime.

With Skeleton Technologies' cells, Wrightbus operators are also cutting down on maintenance costs.

Whilst the lithium battery may last around 4 to 5 years, during their 1 million cycles, the ultracapacitors will quietly sit undisturbed for at least 7.5 years, with an estimated life of 12 to 15 years.

"Skeleton Technologies' ultracapacitors provide a major fuel saving and will reduce maintenance with a long lifetime. It is also a "Plug & Play" solution adding safety and reliability to the vehicles.", said Mr. Mark Nodder, Chairman and CEO of the Wrights Group.

Mr. Taavi Madiberk, CEO of Skeleton Technologies commented: "Ultracapacitors have been integrated into buses before but the energy and power densities of our ultracapacitors have been key in the selection process. We are excited to be part of the CO₂ reduction drive in cities onboard with Wrightbus."



PRESS RELEASE

About Skeleton Technologies

Skeleton Technologies is the global leader in graphene-based ultracapacitors and energy-storage systems. We deliver high power, high energy, reliable and long-life storage solutions across the industry. Through the use of patented 'curved graphene', we have achieved global breakthroughs in ultracapacitor performance and successfully commercialized our ultracapacitors, in trucks, buses, and grid applications.

Since our foundation in 2009, we have raised 42 M EUR to support manufacturing scale-up in Germany and in Estonia and grown our headcount from 4 to 100 people. Our ultracapacitors deliver twice the energy density and 4 times the power density offered by other manufacturers. Our current customer base ranges from leading Tier One automotive firms and industrial equipment OEMs to truck fleet operators and aerospace prime contractors.

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About Wright Group Ltd.

The Wright Group's originality, cutting edge technology and continual strive to innovate drive our success. Having established a platform in the PSV industry (c.1988), William Wright recognised that buses needed to be both passenger friendly and capable of serving ALL the community, from young parents with children and buggies to the elderly and handicapped. Hence, in 1993, The Wright Group was the first British manufacturer to design, develop and market a fully accessible low floor, easily accessible, public bus in the United Kingdom. Later, in 1999, we were also the first in the United Kingdom to engineer and build an articulated city bus.

Wright Group manufactures buses for many niche market segments including midi, middleweight, full size city bus, school bus, double deck, and Bus Rapid Transit vehicles utilising both diesel and hybrid electric drivelines. Notable milestones include the launch of the world's first hybrid-electric double deck at London's City Hall in 2006 and the development of the ground breaking StreetCar RTV, a unique combination of both Bus Rapid Transit and hybrid electric technologies; fifty of these vehicles now in operation in Las Vegas! Today, every fourth bus sold in the United Kingdom on a PSV chassis is made in Ballymena.

Wrights Group is still a family owned and managed business, with over 70 years' experience in passenger transit solutions. While remaining a family company in every respect, and proudly independent, Wright buses blend traditional values with innovative designs and technological excellence. This winning combination has laid a foundation upon which the company has grown from strength to strength, to the extent that the Group now employs more than 2000 people.

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