

Graphene Cuts Elevator Energy Consumption in Half

Großröhrsdorf, Germany, May 8, 2019. Skeleton Technologies, the European market leader for ultracapacitors and energy storage systems for transportation and grid applications, is entering into a strategic partnership with the Spanish company Epic Power to reduce the power consumption of elevators by up to 50%, enabling significant cost savings. The system is already in use in a number of public, residential, and commercial buildings throughout Europe.

Usually, the counterweight to be calculated in elevator construction consists of the empty mass of the elevator car plus half the payload. This means that the elevator can recover energy both when it is loaded going down and when the empty elevator car is driven up via the elevator motor. This energy is lost when braking systems are used. The regenerative return of energy to the grid is only possible via a regenerative frequency drive (VVVF). The best solution here is to use the Kinetic Energy Recovery System (KERS) powered by Skeleton Technologies' graphene ultracapacitors to recirculate and store the energy. This energy can then be recalled from the ultracapacitor pack when the elevator consumes again.

The KERS can be applied to new installations or retrofitted to existing lifts. As a rule, the systems have a capacity of up to 15 KW. If, however, a higher demand for stored energy is necessary, it can be achieved by installing multiple systems in parallel.

"There are around 640,000 passenger elevators and 110,000 freight elevators in use in Germany today. Even with cautious estimates, hundreds of millions of elevator trips take place every day - an enormous energy requirement that should be supported by modern storage systems", explains Taavi Madiberk, the CEO of Skeleton Technologies.

"Ultracapacitors and the innovation Skeleton Technologies has brought to the market is not only a great technology, but make a great business case. Ultracapacitors provide a high power density and amazing durability. With optimized sizing, plug-and-play functionalities, and the best possible efficiency due to SiC based DC/DC converters, recovering energy in braking applications makes a lot of sense" says Pilar Molina, the CEO of Epic Power.



About Skeleton Technologies

Skeleton Technologies, a Bloomberg New Energy Pioneer, 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 46M EUR to support manufacturing scale-up in Germany and in Estonia and grown our headcount from 4 to over 115 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.

Press Contact (English):

Jussi Pikkarainen
+358 40 144 2277
jussi.pikkarainen@skeletontech.com

Skeleton Technologies OÜ
Õpik II house, Valukoja 8
11415 Tallinn
Estonia
info@skeletontech.com
www.skeletontech.com

Press Contact (German):

Moritz Wolff
+49 89 5329 5737
moritz.wolff@harvard.de

Harvard Engage! Communications GmbH
Heimeranstraße 68
80339 München
Germany

