

**PRESS INFORMATION**

Carbon emissions reduced by 98% at Volvo Construction Equipment and Skanska's Electric Site

Volvo Construction Equipment and its customer Skanska have recorded groundbreaking results from their Electric Site research project – including a 98% reduction in carbon emissions, a 70% reduction in energy cost and a 40% reduction in operator cost.

Volvo Construction Equipment (Volvo CE) and its customer Skanska have been testing the viability of the Electric Site research project over the last 10 weeks at Skanska's Vikan Kross quarry, near Gothenburg, Sweden. The results are now in and they are even better than expected. The tests showed a 98% reduction in carbon emissions, a 70% reduction in energy cost and a 40% reduction in operator cost. The results also indicate that the Electric Site project takes a big step towards helping Volvo CE achieve its future vision where work sites are ten times more efficient, with zero accidents, zero unplanned stops and zero emissions. Together, these results support the potential for a 25% reduction in total cost of operations. However, at this stage, the reduction in total cost of operations is just a prediction. As the prototype machines are part of a research project and are not commercially available, it is impossible to give a guaranteed figure.

“Over the last ten weeks, we've made incredible progress, learnt a lot and seen huge potential in the Electric Site solution's environmental, efficiency, safety and cost benefits,” says Uwe Müller, Chief Project Manager for the Electric Site at Volvo CE. “In fact, we have decided that we want to learn more, so we will extend our test period with Skanska until the end of the year. The results we have seen so far confirm that this research project is a step towards transforming the quarry and aggregates industry and creating emission-free quarries.”



A powerful partnership

The Electric Site project aims to electrify each transport stage in a quarry – from excavation to primary crushing, and transport to secondary crushing. It incorporates electric and autonomous prototype Volvo CE machines, new work methods, and site management systems, which together form a complete site solution. New technology encompasses machine and fleet control systems and logistic solutions for electric machines in quarries.

“With climate change reshaping our industry, we need to find new, sustainable solutions and build partnerships with organizations that have different competencies,” says Anders Danielsson, President and CEO of Skanska. “Our ambition is that this collaboration with Volvo CE will help us and our customers to reduce our carbon footprint. The power of partnership will make it happen.”

Prototype machines in focus

The Electric Site project involves eight HX2 autonomous, battery-electric load carriers, which transport the material from the primary mobile crusher up to the secondary static crusher. When it came to energy use per ton, the HX2s proved that they could help Volvo CE take a big step towards achieving its future vision where work sites are ten times more efficient. The second-generation prototypes incorporate shared technologies and components from the Volvo Group. They use a lithium ion battery to power two electric motors which drive the machine; the hydraulics are driven by an additional electric motor. The HX2 is fitted with a vision system, which allows it to detect humans and obstacles in its vicinity. It can follow an adjustable, pre-programmed GPS path.

The LX1 prototype electric hybrid wheel loader delivered more than a 50% improvement in fuel efficiency at the quarry, as well as significant reductions in emissions and noise pollution, compared to its conventional counterparts. Its job was to organize the piles of material at the site. The LX1 is a series hybrid that incorporates a driveline that consists of electric drive motors mounted at the wheels, electric-driven hydraulics, an energy storage system, a significantly smaller diesel engine and new machine architecture, including a new design of the lifting unit. It's this combination that enables the substantial gain in fuel efficiency.

The EX1 70-ton, dual-powered, cable-connected excavator prototype loaded the primary crusher at the quarry. The base machine for the EX1 is a Volvo EC750 crawler excavator that has been upgraded to incorporate an electric motor in addition to the diesel engine. At the quarry, the machine was plugged into the grid, so zero emissions were emitted. If the cable is connected, the EX1 will automatically start in electric mode. If it's not, it will start in diesel mode. The EX1 is operated in exactly the same way as a conventional Volvo excavator.

**Building tomorrow, together**

“At Volvo CE, we believe in a sustainable future and we are doing our best to build the world we want to live in,” concludes Melker Jernberg, President of Volvo CE. “The Electric Site is one example of how we are trying to achieve this. With this research project we are combining intelligent machines, automation and electromobility to challenge traditional ways of working in the quarrying industry and explore new alternatives. We will now further mature the technologies involved and the reliability of the concept. Developing, testing and validating prototype machines with a customer at an early stage in the process speeds up development and ultimately brings more value to us and our customers.”

Ends.

21 November, 2018

For further information, please visit: www.volvoce.com

Or contact:

Anne Bast

VP Corporate Communication

Volvo Construction Equipment

Sales Region EMEA

Tel: + 46 16 5415906

Email: anne.bast@volvo.com

Brian O’Sullivan

SE10

London

Tel: +44 77 333 50307

Email: brian.osullivan@se10.com

The Volvo Group is one of the world's leading manufacturers of trucks, buses, construction equipment and marine and industrial engines. The Group also provides complete solutions for financing and service. The Volvo Group, which employs almost 100,000 people, has production facilities in 18 countries and sells its products in more than 190 markets. In 2017 the Volvo Group's sales amounted to about SEK 335 billion (EUR 35 billion). The Volvo Group is a publicly-held company headquartered in Göteborg, Sweden. Volvo shares are listed on Nasdaq Stockholm.