

Specialist Press Release

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Contact:
Ruth Wallner
BAUER Aktiengesellschaft
BAUER-Strasse 1
86529 Schrobenhausen, Germany
Phone: +49 8252 97-1844
public.relations@bauer.de
www.bauer.de

Reduction of carbon emission on jobsite: Promising trial of electric drilling rig BAUER eBG 33 on HS2 project

- Results show the BAUER eBG 33 cuts more than 1,200 kg of CO₂ per day and reduces noise by up to 50%
- Wider roll-out of electrification will bring major environmental benefits for HS2 and the UK construction sector

Warwickshire, UK – HS2 is Britain’s new high speed rail line being built from London to the North-West, with HS2 trains linking the biggest cities in Scotland with Manchester, Birmingham and London. HS2 is one of the largest infrastructure projects in Europe and it is being built to the highest standards, using world-class engineering to protect the countryside, protect local communities, and cut carbon.

HS2 Ltd’s construction partner, Balfour Beatty VINCI Joint Venture (BBV) is currently trialling the world’s first all-electric, high-capacity Bauer drilling rig on a construction site in Warwickshire, as the Joint Venture steps up its plans to meet HS2 Ltd’s ambition for diesel-free construction sites.

Andrea Davidson, HS2’s Air Quality Manager said: “We are proud to be working with our supply chain and leading manufacturers to drive a step change in the UK construction industry, demonstrating the viability and benefits of emissions-free heavy electric plant. Being at the forefront of a ground-breaking trial like this is another step on our journey to achieving our target of all diesel-free construction sites by 2029, and net zero carbon from 2035 – helping HS2 to become the most sustainable infrastructure project ever delivered.”

First results of the trialling show: The 100 t BAUER eBG 33 drilling rig creates an overall reduction of 1,292 kg CO₂ per day compared to a traditionally powered rig. At the same time it reduces noise by up to 50%. In terms of performance, the rig is able to carry out exactly the same tasks as traditional machines.

This innovative new machine is being used by BBV’s deep foundations contractor SB3, a Joint Venture between Bachy Soletanche & Balfour Beatty Ground Engineering, and works alongside a diesel-powered rig to construct large diameter piles, with the aim of demonstrating that heavy, electric powered construction equipment can perform as traditional machines.

Dan Fawcett, Innovation Director at BBV commented: “We’re committed to driving real innovation across everything we do. That’s why we’re so excited to trial the world’s first all-electric, high-capacity drilling rig at one of our HS2 sites in

Warwickshire. This pioneering project marks a major step forward towards transitioning to all-electric powered plants, which is great news for the protection of the environment. We'll look to share what we learn from this trial and extend it across our other sites, as well as the wider industry."

Tim Laemmle from BAUER Maschinen GmbH, the rig's developer and manufacturer, emphasized: "It is great to be working with HS2, BBV and SB3, as the first UK specialist contractor to demonstrate the capabilities of the product. We're fully committed to bringing emission-free equipment to the deep foundation sector. There is a strong desire to promote our new electrified equipment as a genuine, reliable alternative to fossil fuel driven machinery."

Chris Merridew, SB3 JV Board Director, added: "Our team was eager to support Bauer as the first end user of the electric rig and its new technology. It has the potential to be a massive game changer for the industry and the wider construction sector in our continued drive to reduce carbon, noise and emissions."

And last but not least, the operator mentioned that there is hardly any noise to be heard in the cabin and the eBG can be operated just like a traditional machine. The cable is not noticeable and the guide arm just follows the machine.

The BAUER eBG 33 replaces the diesel engine drive with a powerful electric drive. The environmental benefits include reduced exhaust and noise emissions; high energy efficiency due to modern three-phase asynchronous motor; and flexibility through an integrated frequency converter. Currently, Bauer is also trialling different e-connection types and an innovative concept for set-up operation via an autonomous secondary drive which is independent of the power supply.

Photo : 2022-06_BAUER_eBG 33_HS2



The new BAUER eBG 33 drilling rig cuts 1,200 kg of CO₂ per day and reduces noise by 50%. © HS2

About BAUER Maschinen Group

For almost 60 years, equipment from Bauer has represented the highest performance and quality and constant innovation. The BAUER Maschinen Group is the world market leader in the development and manufacture of specialist foundation engineering equipment. BAUER Maschinen GmbH, which is also the holding company for a number of subsidiaries, designs and builds large-diameter drilling rigs, duty-cycle cranes, trench cutters, grabs and vibrators as well as the related tooling at its plants in Schrobenhausen, Aresing and Edelshausen. The subsidiaries manufacture state-of-the-art mixing and separation equipment as well as rotary drive systems and equipment for drilling small-diameter boreholes and wells. The BAUER Maschinen Group also operates manufacturing facilities in the USA, Russia, China, Malaysia, Italy, Singapore and Turkey. Component suppliers within the Group are Schachtbau Nordhausen and Olbersdorfer Guß. The company operates a global sales and service network. More at bma.bauer.de

About Bauer

The BAUER Group is a leading provider of services, equipment and products dealing with ground and groundwater. With over 110 subsidiaries, Bauer can rely on a worldwide network on all continents. The Group's operations are divided into three forward-looking segments with high synergy potential: Construction, Equipment and Resources. Bauer profits enormously from the collaboration of its three business segments, enabling the Group to position itself as an innovative, highly specialized provider of products and services for demanding projects in specialist foundation engineering and related markets. Bauer therefore offers suitable solutions to the world's greatest challenges, such as urbanization, the growing infrastructure needs, the environment, as well as water, oil and gas. The BAUER Group was founded in 1790 and is based in Schrobenhausen, Bavaria. In 2021, it employed about 12,000 people in around 70 countries and achieved total Group revenues of EUR 1.5 billion. BAUER Aktiengesellschaft is listed in the Prime Standard of the German Stock Exchange. More information can be found at www.bauer.de. Follow us on [Facebook](#), [LinkedIn](#) and [YouTube!](#)