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Digital service solutions in the concrete block industry

Digitisation is radically changing the way the concrete block industry operates. New technologies not only open up potential for more efficient processes but also for product quality and customer service improvements. Companies are increasingly obliged to integrate digital solutions into their day-to-day production. This trend is also clearly evident in the concrete block industry. With this in mind, the Hess Group is continuously developing digital services with the SmartFamily that aim to optimise the production and maintenance of concrete block and paver machines.

A pilot project by the Hess Group in cooperation with BWV, a company of the Lehnen Group specialising in the production of concrete products and interlocking pavers, is a convincing example of how digital services can significantly improve day-to-day business. BWV produces and sells high-quality concrete structural elements for garden, landscape and urban design and specialised manhole components for sewers, wells and seepage systems. BWV commissioned an RH 1500-4 MVA system from Hess at the beginning of 2020. It was integrated into an existing circulating system. They aimed to increase production efficiency and expand the product range.

BWV has been participating in the Hess Group's SmartCloud pilot project since the end of 2021. This digital platform provides real-time data to monitor and optimise machine performance. The machine was connected at the beginning of 2022, so the customer can now access the production data anytime and from any location. Using this real-time data in the SmartCloud, BWV can identify potential disruptions in the production process at an early stage and take targeted countermeasures. Data protection is a top priority: The sensitive data is only accessible to the customer and Hess as a partner company and cannot be viewed externally. The data is encrypted via an IoT gateway to a database server with its own customer directory and is hosted complying with German data protection regulations. The data is redundantly hosted on three servers in Germany, and the backups are also separately encrypted. That ensures that the data cannot be read even if someone gains physical or digital access to the server.

BWV has taken advantage of additional digital services offered by the SmartFamily since 2022 to boost production efficiency. This includes SmartCheck, in which experienced Hess technicians regularly check the concrete block and paver ma-

chine professionally. Regular inspections mean fewer repairs. Signs of wear can be recognised and rectified at an early stage. The results are automatically uploaded to the SmartCloud and are accessible to all authorised users. This makes it possible to continuously monitor the machine's condition and perform proactive maintenance.

The BWV has also received and put into operation the Smart-Vision glasses for video conferencing with the Hess support hotline. This facilitates remote diagnosis and rapid replacement in the event of technical problems.

Effective maintenance management at BWV was further improved using the dynamic maintenance calendar in the SmartCloud. This feature allows for even more precise planning of maintenance intervals, thus helping to minimise downtime. Complementary digital tutorials and events support employee training and improved machine performance.

BWV uses the SmartParts digital spare parts catalogue to manage and order spare parts. The integrated news dashboard regularly informs the company about technical innovations and events. The artificial intelligence-based PartsFinder feature is an innovative addition that uses image recognition to reduce the time needed to identify spare parts. This tool optimises the entire ordering process and thus contributes to more efficient maintenance.

The Hess Group's use of digital solutions shows that the digitalisation of production and maintenance in the concrete block industry brings far-reaching benefits. Companies that use these technologies benefit from optimised processes, improved machine performance and a faster response time to technical problems. The continuous development and implementation of such digital tools will play a key role for competitiveness in the industry in the future.

The holistic SmartFamily concept and its advantages

Hess's SmartFamily concept offers a comprehensive solution that provides a 360° view of the Hess concrete and paver machine and combines various digital tools to make production processes more efficient. These include, among others, training, spare parts management, plant inspection, and condition monitoring. The SmartCloud digital customer portal, which brings together all relevant information on one platform, is at the center of this.

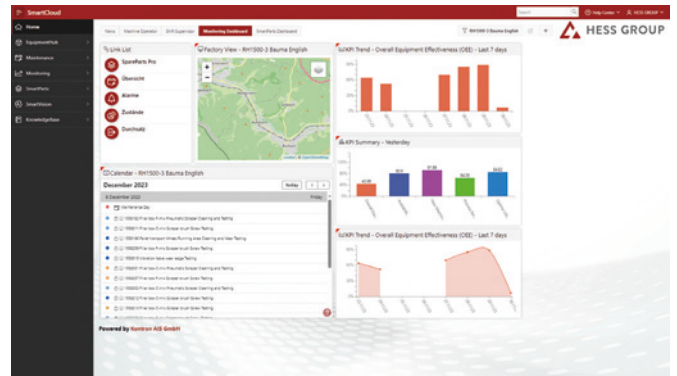


SmartCloud Login

The Hess Group's Smart Family is a future-oriented solution that relies on proven support and advanced digital technologies to increase efficiency and reliability in concrete block production. This innovative concept combines several services under one roof, giving users a 360° view of their systems via the central SmartCloud platform and simplifying access to all key operating and maintenance data.

SmartCloud: Central data platform for efficient control

The SmartCloud is the centrepiece of the digital solution and provides real-time, cloud-based monitoring and analysis of



SmartCloud Dashboard Monitoring Dashboard

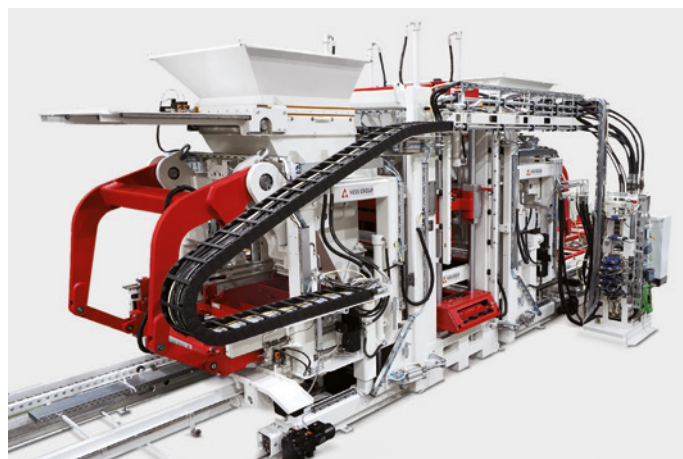
production data. Users can access key machine parameters such as throughput, status and process data using customisable dashboards. This data serves to optimise production processes and ensure that maintenance requirements are identified in good time, avoiding downtime and increasing the efficiency of production processes.

SmartParts: Intuitive spare parts management

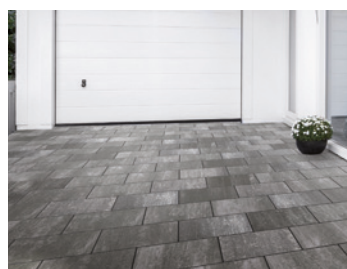
A well-functioning spare parts management system is essential for the smooth operation of a concrete block and paver machine. This is where SmartParts offers a user-friendly, digi-



A member of **TOPWERK**



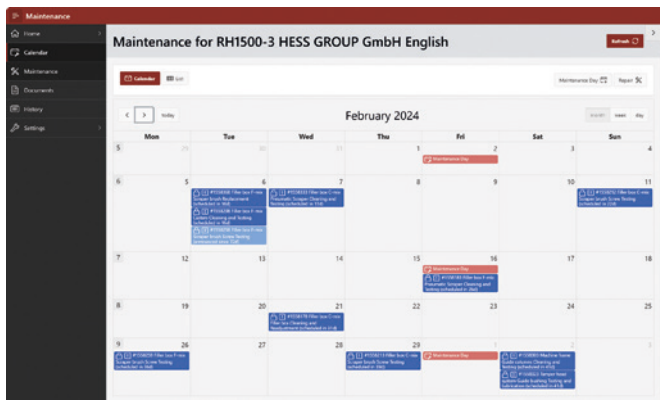
RH 2000-4 MVA –
high **PRECISION** *in*
concrete **SHAPING**



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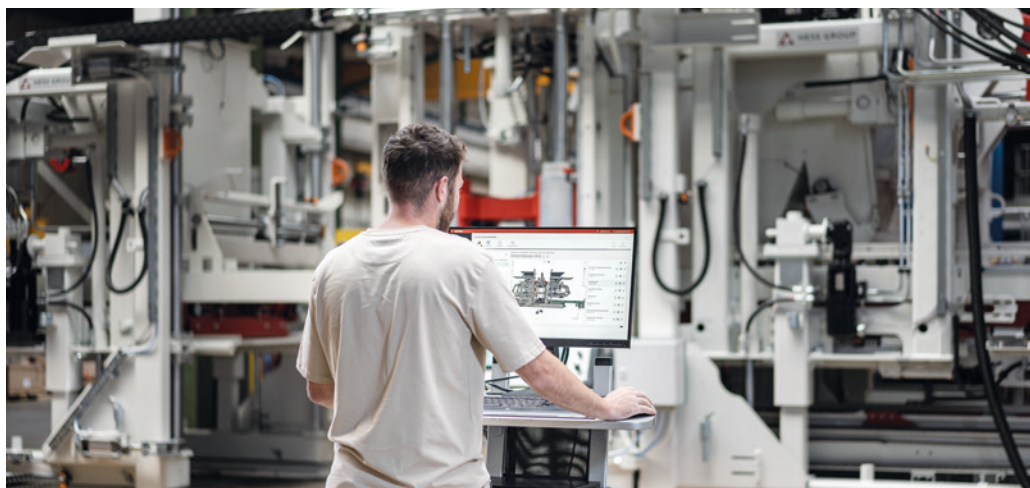
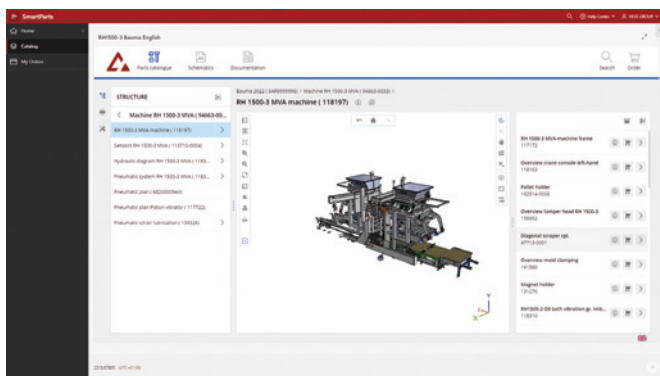
We put concrete into shape.



Dynamic maintenance calendar

tal solution. An intuitive interface makes it possible to identify and order spare parts quickly, minimising downtime while also ensuring efficient stock-keeping. The AI-supported tool PartsFinder, deserves a special mention. It uses image recognition to speed up and simplify the identification of spare parts.

The software accesses a database of over 60,000 items to recognise the corresponding spare part. The image recognition software will even recognise soiled or worn parts. The self-learning AI software improves with every search query. Images can be captured directly via a mobile device or uploaded via a file browser when using a desktop PC.



SmartCheck: Digitally supported system inspection

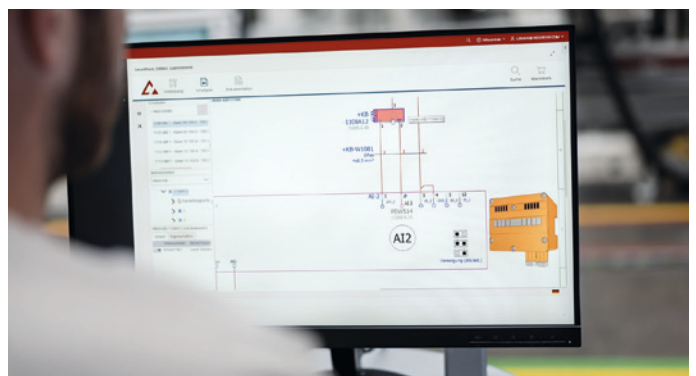
SmartCheck is explicitly designed for regular inspection and testing of concrete block and paver machines to maximise their availability and reliability. Predictive inspections can prevent costly breakdowns, extend the service life of machines and optimise overall performance. Customers can access the inspection reports at any time via the SmartCloud, allowing them to continuously monitor the condition of their systems.

SmartVision: More efficient fault diagnosis through video support

SmartVision gives you a decisive advantage when it comes to diagnosing system errors. The Hess Group technicians can support the customer more efficiently in finding a solution through the live video transmission, as they can get a quicker overview of the overall situation. This leads to faster restoration of system availability and makes more efficient problem solving possible.

SmartAcademy: Training to increase efficiency

SmartAcademy has a comprehensive training program specifically tailored to the technical understanding and needs of concrete block and paver machine operators. With targeted training, users learn how to work optimally with Hess systems and how to fully exploit their potential. Training programs ranging from the basics to advanced techniques are available to continuously expand the operating skills of employ-



SmartParts: A well-functioning spare parts management system is essential for the smooth operation of a concrete block and paver machine.

CREATIVITY

KOBRA CARE

Your choice for more.
Side by side with creativity.

Combine design and function in your individual concrete block systems. We build the mold around your stone.

Together with you, we develop your product and look after all technical aspects to guarantee the highest quality standards.

Our most creative product designers stand behind your constructions.

Good molds create good stones.

KOBRA TOOLS



SmartCheck is designed for the regular checking and inspection of concrete block and paver machines.



SmartVision gives you a decisive advantage when it comes to diagnosing system errors.

ees. The SmartAcademy delivers not only proven face-to-face training, but also online events, tutorials and courses that can be accessed directly via the SmartCloud.

Sustainability and increased efficiency

An additional advantage of the SmartFamily concept is the promotion of sustainable operating processes. The optimisation of processes can reduce both energy consumption and the use of resources, which contributes to a long-term



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SmartAcademy Event and SmartAcademy Training

reduction in operating costs. The SmartFamily provides companies in the concrete block industry with a comprehensive, future-oriented solution for increasing efficiency, reliability and sustainability. The various digital tools not only minimise downtimes, but also optimise maintenance processes and make operating procedures more sustainable.

An industry pioneer

The requirements for modern production processes in the concrete block industry are diverse. Besides optimising production processes, it also focuses on topics such as maintenance, employee training, spare parts management the industry's challenges, and plant availability. The Hess Group pursues a comprehensive approach that specifically addresses the industry's challenges. This holistic approach combines physical machines with digital services, enabling customised solutions for more efficient concrete block production.

In contrast to most conventional maintenance programs, the Hess Group offers an integrated overall concept that combines digital and physical components. This combination not only ensures seamless machine maintenance, but also continuous improvement of production processes. The Hess Group's SmartFamily digital platform offers significant added value in this respect: Customers have access to all relevant machine data and additional digital services that provide more precise analysis and more efficient process control.

Thanks to innovations in the fields of digitisation and automation, companies in the concrete block industry are always at the cutting edge of technology. Automated processes and real-time monitoring of systems help to make production processes more efficient and reduce downtimes. This allows resources to be better utilised and productivity to be increased.

Digitalisation plays a central role here. Modern digital solutions provide companies with tools to optimise their workflows and improve production quality. The SmartFamily offers valuable services above and beyond pure machine maintenance



ance - including training programmes, optimised spare parts management and the use of predictive maintenance to improve planning of maintenance intervals and avoid unplanned downtime.

With this comprehensive digital concept, the companies not only obtain high-performance machines, but also tools for precise control and continuous optimisation of the concrete block and paver production process. This is how companies can increase their competitiveness and make their processes more efficient in the long term. ■



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