

CONTENTS

	Group structure Core values
16	PRODUCT BRANDS AND FACTORIES
	History
20	WIRTGEN
30	VÖGELE
36	HAMM
42	
48	BENNINGHOVEN
54	Production facilities in Brazil, China, and India
58	WORLDWIDE CUSTOMER CARE
60	Customer support
62	A strong team

WIRTGEN GROUP



PAVING THE WAY TO GREATER MOBILITY

WE LEAVE NO WISHES UNFULFILLED. AS A STRONG PART OF JOHN DEERE, WE - THE WIRTGEN GROUP - FULFILL THE NEEDS OF THE ENTIRE ROAD CONSTRUCTION PROCESS CHAIN. PROCESSING, MIXING, PAVING, COMPACTION, AND REHABILITATION. OUR CUSTOMERS SUSTAINABLY AND COST-EFFECTIVELY REALIZE INFRASTRUCTURE PROJECTS AROUND THE WORLD WITH THE SOLUTIONS PROVIDED BY OUR SPECIALIST PRODUCT BRANDS. WE ASSIST THEM IN THIS WITH EVERYTHING FROM INDIVIDUAL MACHINES TO COMPLETE PRODUCTION SYSTEMS.







5 productbrands 1 company group



IDEAL IN EVERY WAY.

THE WIRTGEN GROUP IS AN INTERNATIONALLY ACTIVE GROUP OF CONSTRUCTION EQUIPMENT MANUFACTURERS. THE POWER OF OUR GROUP RESULTS FROM THE COMBINED STRENGTHS OF OUR FIVE SPECIALIST PRODUCT BRANDS, WIRTGEN, VÖGELE, HAMM, KLEEMANN, AND BENNINGHOVEN. WE OFFER OUR CUSTOMERS INNOVATIVE AND RELIABLE SOLUTIONS FOR ROAD CONSTRUCTION AND THE MATERIALS PROCESSING SECTOR.

Our corporate group is at home around the world. Our worldwide success is assured by five specialized production facilities in Germany, three local production facilities in Brazil, China, and India, a large number of our own sales and service organizations, and a global dealer network. Despite our international alignment, we never lose sight of our roots. Our corporate culture is built on our history of delivering value - for the success of our customers on construction sites around the world. This is what motivates our employees to work together on the development of innovative processes and manufacture sustainable products.

ROAD CONSTRUCTION AND MATERIALS PROCESSING

We have successfully positioned our business segments in the global marketplace: over the years, our innovative solutions for new road construction and road rehabilitation, have earned us our place as the global market leader. Our cost-effective and reliable products for materials processing lead the field when it comes to the extraction and processing of valuable mineral resources and, above all, the recycling of building materials and the production of asphalt paving mixes.

Although our premium product brands focus entirely on their respective areas of expertise, they are united by a common commitment to the needs of our customers.

WIRTGEN is the market leader for milling machines and recyclers in the road construction sector and leads the field with the quality and technologies of its slipform pavers and Surface Miners.

VÖGELE is the global market leader and sets industry-wide trends with its seamless portfolio of road pavers, paving screeds, and mobile feeders.

HAMM is the specialist for rollers and is unrivaled in field of asphalt compaction.

KLEEMANN is a global technology leader in the market for mobile crushing and screening plants.

BENNINGHOVEN builds the world's leading asphalt mixing plants.

The WIRTGEN GROUP is proud to bea strong part of the John Deere Construction & Forestry Division.





WE ARE

YOUR PARTNER



WE STRIVE FOR NOTHING LESS THAN THE SUSTAINED SUCCESS OF OUR CUSTOMERS ON CONSTRUCTION SITES AROUND THE WORLD.



INNOVATION

WE SET TECHNOLOGICAL STANDARDS IN THE INDUSTRY AND SHAPE THE FUTURE OF ROAD CONSTRUCTION.



RELIABILITY

WE STAND FOR THE HIGHEST QUALITY AND ENDURING VALUE OF OUR PRODUCTS AND SERVICES.



SPECIALIZATION

OUR FOCUS ON THE ROAD CON-STRUCTION VALUE CHAIN MAKES US RECOGNIZED AND RESPECTED EXPERTS.

BECAUSE, TO US, SUSTAINABILITY IS BOTH A COMMITMENT AND AN OPPORTUNITY.

FOR US AS THE WIRTGEN GROUP, SUSTAINABILITY REFLECTS OUR RESPONSIBILITY FOR SAFEGUARDING THE LIVELIHOODS OF INDIVIDUALS AND COMMUNITIES AROUND THE GLOBE FOR GENERATIONS TO COME. WE SEE IT AS AN OPPORTUNITY FOR FURTHERING THE CAPABILITIES OF THE ROAD CONSTRUCTION INDUSTRY WITH SUSTAINABLE SOLUTIONS THAT WILL ASSURE THAT OUR CUSTOMERS CAN SUCCESSFULLY REALIZE TOMORROW'S INFRASTRUCTURE PROJECTS. THIS IS THE REASON WHY SUSTAINABILITY IS FIRMLY ANCHORED IN OUR CORPORATE PRINCIPLES.



LOWER EMISSIONS

WE ARE AWARE OF OUR RESPONSIBILITY AND ARE MOVING FORWARD CONSCIENTIOUSLY. OUR PLANS FORESEE A SIGNIFICANT REDUCTION OF OUR ECOLOGICAL FOOT-PRINT BY 2030:

- > 50% LOWER OPERATIONAL CO₂E EMISSIONS (SCOPE 1 AND 2)
- > 30% LOWER UPSTREAM AND DOWNSTREAM CO₂E EMISSIONS (SCOPE 3)

We utilize the internationally recognized Greenhouse Gas Protocol standard for the accounting of our CO_2e emissions.

Learn more about sustainability and our goals:

www.wirtgen-group.com/sustainability





SUSTAINABLE PRODUCTION

The strict environmental standards already implemented at all WIRTGEN GROUP factories protect our employees and the environment. These include, above all, energy saving concepts such as the use of geothermal energy for heating, closed-loop water cycles for reducing fresh water consumption, and noise mitigation solutions for the protection of our employees Our factories in Tirschenreuth and Langfang are already certified in accordance with ISO14001, the global standard for environmental management systems. In the future, all WIRTGEN GROUP factories will work in accordance with the strict standards defined in ISO 14001.

MACHINE EFFICIENCY

The efficiency of our machines and solutions is decisive for ensuring that our customers can work cost-effectively on their project sites. Digital assistance systems, the use of alternative

fuels, and new drive train technologies further reduce carbon emissions. For instance, our first series of battery-powered electric tandem rollers fulfills the demand for local zero-emission operations. If required, and assuming the availability of an electric power source, the Pro series crushers can be used for the purely electric recycling of stone and building rubble.

PRODUCTION SYSTEMS

Our production systems enable greater sustainability in road construction by optimal combination of machines and special processes. For example, in the case of cold recycling, the asphalt layers removed are recycled and reused in situ. This reduces the need for new materials and a large proportion of the otherwise necessary transportation. This can reduce CO₂ emissions by up to 60 percent. Digital connectivity across entire construction sites in an "Operations Center" is the next step towards further optimization of efficiency and utilization of resources.

> Battery-powered electric rollers enable local zero-emission operations.



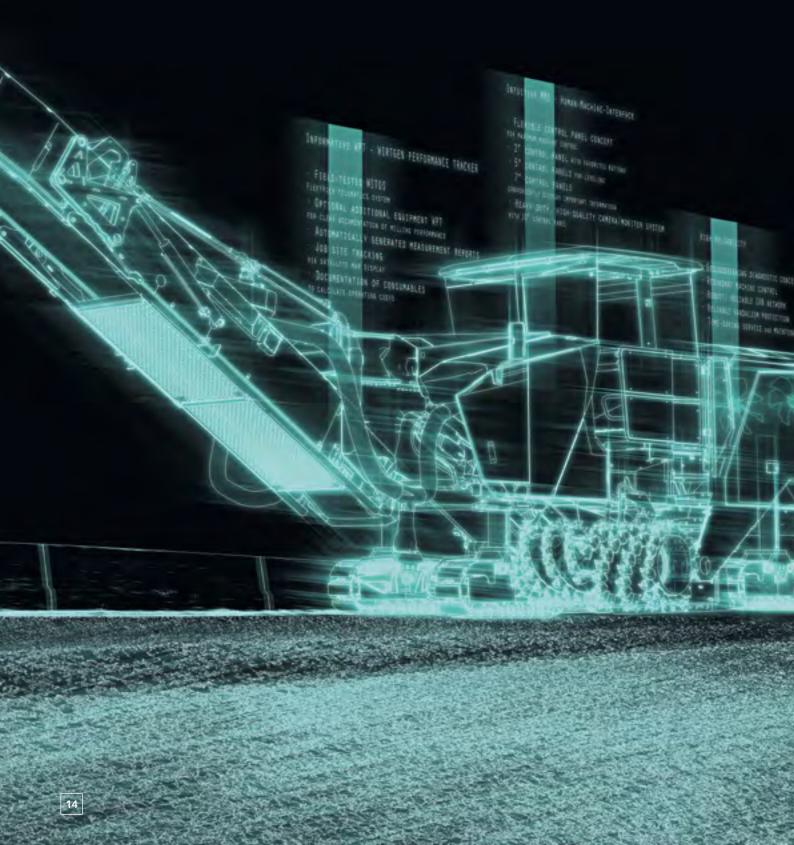
> In the future, all of our factories will operate in compliance with ISO 14001 certified environmental management systems.



> 250 model series

> 12,000 options

1 goal



THE POWER OF INNOVATION.

OUR GOAL IS CLEARLY DEFINED, OUR STANDARDS ARE EXTREMELY HIGH: WE WANT TO MOVE THE WORLD BY CONTINUING TO DEVELOP LEADING TECHNOLOGIES AND PROVIDING UNPARALLELED SERVICE IN THE FUTURE. THIS IS HOW WE ARE CONTRIBUTING TO THE ONGOING IMPROVEMENT OF THE WORLD'S INFRASTRUCTURE.

PAVING THE ROAD TO THE FUTURE

Being number 1 is an obligation - we take our market leadership in our Road Technologies business segment very seriously. We are also well aware of the fact that we have to work hard to maintain this lead every day. Our aspiration is to be a pioneer in the industry, and to reach this goal, we constantly work towards shaping the future of both road and mineral technologies as a leader. This is our mission and our motivation.

At our production facilities, we work with passion on developing the technologies of tomorrow and manufacturing the technologies of today to the highest standards of quality. At each of our brand headquarters in Germany, the focus is fully on the brand's respective area of expertise. As a result of this specialization, we have achieved technological and market leadership and are passionately driving innovation in the industry. What drives us: our commitment to fulfilling our customers' needs With our reliable products, technology, and services – worldwide.

DIGITALIZATION: ADDED VALUE FOR OUR CUSTOMERS

For us, digitalization is not just an end in itself. We develop assistance systems that help machine operators to work safely, with minimal fatigue, and deliver outstanding quality. Our diagnostics tools help our customers' service personnel, our subsidiaries, and our dealers to ensure that customers' machines always deliver maximum productivity. Our planning and analysis tools offer our customers the instruments they need for the cost-effective and sustainable realization of entire construction projects. At the same time, data from their own projects helps them to learn how to increase their productivity and efficiency the next time around. Our digital systems for construction site documentation make our customers' dealings with their clients much easier and serve as documented proof of performance.

WE GO THE EXTRA MILE

We are growing our business with moderation and a long-term perspective. As a reliable partner, we are completely dedicated to our customers' lasting success. And we gladly go the extra mile for them.





TRADITIONAL VALUES LEAD TO SUCCESS.

EACH OF OUR FIVE PRODUCT BRANDS CONTRIBUTES DECADES OF EXPERIENCE IN THE CONSTRUCTION OF MACHINES AND SYSTEMS TO THE WIRTGEN GROUP - OVER 500 YEARS IN ALL! OUR EMPLOYEES HAVE CONTINUOUSLY IMPROVED THE PROCESSES IN THEIR CORE BUSINESS, DECISIVELY SHAPING OUR PROGRESS.



Developed in-house and operated, too - WIRTGEN invents and establishes milling as the standard process in road rehabilitation.



The towed spreader is the first road paver from VÖGELE.

WIRTGEN GMBH

WIRTGEN's history began in **1961** and is marked by numerous innovations in road construction. Imbued with a pioneering spirit, the company evolved to become the global market leader for road milling machines, setting milestones in cold recycling, and perfecting the automatic paving of concrete slabs.

JOSEPH VÖGELE AG

Many of the groundbreaking inventions in asphalt paving have their origins at VÖGELE, a company with a long tradition that began in **1836**. Whether automated grade and slope control, electric screed heating, high-compaction technology, or a unique control concept - VÖGELE technologies have repeatedly set new standards and propelled quality in road construction to new heights.



HAMM builds the world's first road roller powered by a diesel engine.



Hand-fed, wheeled mobile jaw crusher with a drum screen from KLEEMANN.



The early 1950s saw BENNINGHOVEN's first steps in the field of industrial combustion technology.

HAMM AG

Since its founding in **1878**, HAMM has been a trendsetter in the market for compaction technology, repeatedly setting new standards. HAMM's successful history is studded with groundbreaking technologies: the first road roller powered by a diesel engine set a milestone in 1911, followed by further innovations such as the first tandem roller with all-wheel drive and dynamic compaction with oscillation.

KLEEMANN GMBH

Specialists since **1857**: KLEEMANN began building mobile plants for processing aggregates as long ago as in the 1920s. The breakthrough came in 1976, when the company built its first wheeled mobile crushing plant for a customer in the United Arab Emirates. A decade later, KLEEMANN ushered in a new era with its first tracked mobile crushing and screening plant.

BENNINGHOVEN GMBH & CO. KG

The specialist for asphalt mixing plants has been active in this field since the 1960s. What began in **1909** with the production of gear wheels has now culminated in technological leadership in the construction of asphalt mixing plants. A pioneering spirit and a long tradition combined with cutting-edge technology guarantee a steady stream of innovations from BENNINGHOVEN.







WIRTGEN - THE HOME OF INNOVATION.

Over the years, what began life as a trucking company for construction materials in 1961 has grown to become the largest of the WIRTGEN GROUP brand headquarters. Today, the WIRTGEN factory in Windhagen, located in the German state of Rhineland-Palatinate, manufactures cutting-edge technologies for the road construction and minerals processing industries. The production of road milling machines, cold recyclers, soil stabilizers, slipform pavers, and surface miners demands a versatile production system and the highest possible degree of vertical integration.

At WIRTGEN, we systematically improve our technologies to ensure that our customers are able to work as efficiently as we do. This is made possible by our decades of experience. All our inventions and innovations are all results of the experience gathered in road construction and road rehabilitation projects and the processing of primary resources around the globe.

470 thousand m² factory site

90 machine types

THE WIRTGEN BRAND HEADQUARTERS

Windhagen, Rhineland-Palatinate, Germany

Products: cold milling machines, hot and cold recyclers, soil stabilizers, slipform pavers, and Surface Miner

Core competences: cutting technology, leveling technology, machine control systems, mixing technology, concrete paving and concrete reinforcement

MILLING MACHINES FROM THE GLOBAL MARKET LEADER: DESIGNED AND BUILT FOR MAXIMUM PERFORMANCE.

THE WORLD'S ROADS MUST SATISFY EVER-INCREASING DEMANDS. OUR INNOVATIVE AND STATE-OF-THE-ART MILLING TECHNOLOGY HELPS ENSURE THAT ROAD REHABILITATION PROJECTS ARE BOTH COST-EFFECTIVE AND ENVIRONMENTALLY FRIENDLY. WE ARE THE DRIVER OF CONTINUOUS ADVANCEMENT IN THE INDUSTRY.



VERSATILE REHABILITATION

The cost-effective removal of pavement packages for road rehabilitation has been one of WIRTGEN's core technologies for over 50 years. Road milling machines from WIRTGEN can mill off damaged surfaces layer-by-layer or remove entire pavement packages to their full depth. The reclaimed milled material (RAP) is a high-quality construction material and can be fully reused. The new surface can be paved immediately after removing the old pavement, which keeps construction times to a minimum.

LARGEST RANGE OF COLD MILLING MACHINES

As the market leader, WIRTGEN offers the industry's most extensive range of cold milling machines, from maneuverable small milling machines to high-performance milling machines for large surfaces. Possible working widths range from 14 millimeters to 3.8 meters. It goes without saying that the machines meet the statutory emissions requirements so that customers

worldwide can be supplied with the appropriate machine technology. With its specialized range of hightech, cold milling machines, WIRTGEN offers innovative solutions that create real added value for customers on construction sites worldwide. The cold milling specialist consistently implements suggestions from the field when making advancements to its high-performance machines and developing intelligent features. This results in solutions that meet real-world requirements and achieve perfect milling results while optimizing the cost of milling operations.

> Small milling machines are the specialists for spot road repairs such as milling out manhole covers or hydrants.



> The compact class combines the advantages of small milling machines, such as maneuverability and flexibility, with the productivity of large milling machines.



COLD RECYCLERS

Heavy traffic eventually always makes itself felt - so there comes a time when every road needs a general overhaul. With the world's largest fleet of recyclers, WIRTGEN supplies the leading technologies for this job. Environmental protection and the conservation of valuable resources are also becoming increasingly important in the context of road construction. This is where WIRTGEN recyclers are playing their part for a brighter future on construction sites around the globe. The recycling method used depends on the type of road damage. Hot recycling is used to rehabilitate porous or deformed surface courses in the shortest possible time. If the entire road structure is affected, WIRTGEN cold recyclers give the roads new stability. WIRTGEN has been a pioneer in the use of environmentally friendly cold recycling right from the beginning.

SOIL STABILIZERS

The task of WIRTGEN soil stabilizers is the improvement of the load the bearing capacity of soils or roadway structures. With their outstanding area performance and working depths of up to 50 cm, WIRTGEN soil stabilizers process the unstable ground by uniformly mixing it with a previously spread binding agent. Since the existing material is processed on site, soil stabilization is a fast and efficient process compared to the conventional method of removing and replacing the soil.



W 380 CRi _ _ _ _ _ _

In the cold recycling process, the road surface is milled in a single pass, its functional properties are improved with binding agents, and it is then repayed.



KMA 240i _ _ _ _ _

> The mobile cold mixing plant makes it possible to process milled material close to the paving site.





WITH THE WORLD'S LARGEST RANGE OF RECYCLERS AND SOIL STABILIZERS, WIRTGEN HAS THE IDEAL SOLUTION FOR EVERY APPLICATION. WHETHER THE SOIL HAS INSUFFICIENT LOAD BEARING CAPACITY, OR A ROAD NEEDS TO BE REHABILITATED IN PLACE, WIRTGEN COLD RECYCLERS AND SOIL STABILIZERS ALWAYS DELIVER PERFECT RESULTS.



ROADS AND AIRPORT RUNWAYS ARE SUBJECT TO IMMENSE LOADS.
CONCRETE SURFACES ARE DESIGNED TO WITHSTAND THIS HEAVY WEAR
FOR YEARS ON END. SLIPFORM PAVERS ARE AN INVALUABLE TOOL
FOR PAVING CONCRETE, AS THEY PRODUCE CONCRETE
PAVEMENTS AND A WIDE VARIETY OF MONOLITHIC PROFILES
WITH AN EFFICIENCY UNMATCHED BY ANY OTHER METHOD.



INSET PAVING

Slipform pavers from WIRTGEN perform precision work when paving heavy duty, durable concrete roadways and other traffic infrastructure such as airport runways at working widths of up to 16 m. Texture curing machines then create the desired texture of the concrete surface. In the two-layer paving method, bottom layer and top layer concrete are paved in a single pass – saving manpower, time, and resources.

OFFSET PAVING

A further field of application is the continuous paving of monolithic concrete profiles such as gutters, concrete safety barriers, or curbs. The smaller slipform pavers can produce almost any profile using the offset method. The slipform paving mold can be mounted at the right or left side of the machine, which makes it easy to adapt to the particular requirements of the construction site. An intelligently designed quick-change system makes the concrete pavers extremely versatile and enables them to complete a variety of on-site tasks in one day.

COST-EFFECTIVE CONCRETE PAVING WITH PREPLACED REINFORCEMENT

When paving concrete over preplaced rebar, the concrete can often only be supplied to the paver from the side. In general, a placer/spreader is then deployed together with a slipform paver and a texture curing machine. The placer/spreader receives the concrete from a truck and then spreads it evenly over the preplaced rebar. The slipform paver following behind then paves the concrete to the required width – while simultaneously compacting and smoothing it.

SMART AUTOMATIC FUNCTIONS

Numerous smart technologies work hand-in-hand in these fully-automated machines – from systems for continuous concrete feeding and precise 3D leveling to modules for the automatic insertion of side tie-bars. WIRTGEN slipform pavers deliver made-to-measure concrete slabs with excellent load-bearing capacity and a precise pavement profile.

WPS 62i _ _ _ _ _ _

> The WPS 62i placer/spreader spreads the concrete evenly over the preplaced rebar.



SP 25i

> The compact SP 25i slipform paver can pave any type of offset profile and construct concrete safety barriers.



A UNIQUE RANGE OF APPLICATIONS

Our WIRTGENSurface Miner surface miners cut, crush, and load mineral resources in a single operation. Alternatively, the material can be deposited to the side of the machine or in a windrow between the track units. WIRTGEN is the only manufacturer to offer these two methods, which positions our Surface Miners as the most versatile machines of their kind. The crushed material is so fine that it can often be processed without further treatment. While materials of different grades are mixed together during blasting, mining with surface miners improves the quality of the minerals. Thanks to our state-of-the-art cutting technology, our customers can even selectively mine thin seams of the purest quality. But that's not all - as the mining process is vibration-free and produces little dust and noise, it allows efficient extraction of mineral resources in the immediate vicinity of residential areas and roads.

24/7 RELIABILITY

WIRTGEN Surface Miner can work around the clock. We offer our customers unique, customer-specific service for large-scale projects: in close collaboration between the brand headquarters and the local subsidiary, we can set up additional service bases close to the project site. This gives us the ability to repair or overhaul the machines professionally and to stock spare parts locally as required. Furthermore, to ensure that these locations provide the highest standards of service, we keep our qualified experts on site 24 hours a day, seven days a week.



220 SM 3.8 _ _ _ _ _ 280 SM _ _ _

> Mining and depositing coal in windrows with the 220 SM 3.8.



> Limestone mining using the side casting method with the 280 SM.





WHEN IT COMES TO MINING MINERAL DEPOSITS, DRILLING AND BLASTING HAVE LONG SINCE BECOME OUTDATED. SURFACE MINING IS THE COST-EFFECTIVE AND ENVIRONMENTALLY FRIENDLY SOLUTION. THE INNOVATIVE PROCESS CONSIDERABLY REDUCES THE AMOUNT OF EQUIPMENT, PERSONNEL, AND TIME REQUIRED COMPARED TO CONVENTIONAL METHODS.







VÖGELE -A WORLD OF QUALITY.

The WIRTGEN GROUP brand promise is a commitment to offering customers outstanding quality in all products and services. How do we fulfill this promise at VÖGELE? With the highest standards of mechanical engineering. With sophisticated innovations and a seamless, cutting-edge product range that offers made-to-measure technology for all paving scenarios. With employees who possess comprehensive professional expertise and with technologies that not only deliver perfect results, but are also particularly user-friendly. This is how we give our customers a decisive competitive edge. With the knowledge and experience of the global market leader for pavers, we ensure that you always achieve outstanding paving results, no matter where you are. If you want to be number 1, you can't be satisfied with anything less.

Our factory in Ludwigshafen am Rhein is the world's most modern manufacturing facility for road pavers. There, our highly trained employees produce highly specialized pavers, paving screeds, and mobile material feeders for every application.

VÖGELE BRAND HEADQUARTERS

Ludwigshafen, Rhineland-Palatinate, Germany

Products: road pavers, mobile feeders, extending screeds, fixed-width screeds, process documentation and optimization

Core competences: High-compaction technology, screed technology, leveling technology, and 3D control systems

370 thousand m² factory site

35/13 machine / screed types

www.wirtgen-group.com/voegele

PREMIUM-CLASS PAVERS FOR ALL APPLICATIONS.

VÖGELE'S SEAMLESS PRODUCT RANGE IS UNIQUE IN THE INDUSTRY. WHETHER FOR RESIDENTIAL STREETS OR HIGHWAYS, AIRPORTS OR RACING CIRCUITS, NEW CONSTRUCTION OR REHABILITATION, THICK OR THIN, HOT OR COLD - CUSTOMERS WILL ALWAYS FIND EXACTLY THE RIGHT MACHINE FOR THEIR ROAD CONSTRUCTION PROJECT IN OUR EXTENSIVE RANGE OF PAVERS.



WHEELED AND TRACKED PAVERS

VÖGELE offers a broad range of tracked and wheeled pavers for every paving need. From small mini and sidewalk pavers to large pavers capable of paving widths of up to 18m, VÖGELE offers its customers state-of-the-art machines. VÖGELE pavers are known for their innovative and reliable technology. For example, each unit is equipped with state-ofthe-art control technology and robust material handling components. The tracked pavers are equipped with a drive system designed for maximum precision and traction. This enables the pavers to advance powerfully at all times. Wheeled pavers are highly maneuverable and easy to transport under their own power.

In order to more clearly differentiate the models offered in its extensive product range, VÖGELE has divided it into two lines: the Premium Line and the Classic Line.

PREMIUM LINE

The Premium Line encompasses all VÖGELE pavers fitted with the latest technologies and featuring advanced engineering. Alongside the brand new and technically-upgraded Dash 5 pavers, this also includes all Dash 3 generation models. Among the most significant characteristics of the Premium Line pavers is the ergonomic, intuitive and easily learnable ErgoPlus operating concept.

CLASSIC LINE

The Classic Line is a range of pavers equipped with the easy-to-understand ErgoBasic operating concept. These models are characterized by an extremely rugged machine concept that offers a basic level of convenience. This does not, however, mean that the machines lack anything that is of fundamental importance during day-to-day paving operations.

MT 3000-3i POWERFEEDER_ _ _ _ _

> The most outstanding feature of this state-of-the-art, highperformance mobile feeder is a continuous, contact-free feed of mix.



SUPER 800i Offset _ _ _

> The ideal small paver for a wide range of applications, such as the construction and rehabilitation of utility roads, minor roads, bicycle paths, and sidewalks.





VÖGELE OFFERS INNOVATIVE SOLUTIONS FOR EVERY CONCEIVABLE _ _ REQUIREMENT - FROM LAYING COMPACT ASPHALT PAVEMENTS USING THE INLINEPAVE PROCESS TO THE PAVING OF THIN OVERLAYS WITH SPRAYJET TECHNOLOGY AND THE OPTIMIZATION OF ROAD CONSTRUCTION PROCESSES WITH WITOS PAVING. WITH TECHNOLOGIES FROM THE GLOBAL MARKET LEADER, CONSTRUCTION PROJECTS CAN BE REALIZED WITH HIGHEST QUALITY AND MAXIMUM COST-EFFICIENCY.



PAVING SCREEDS

VÖGELE offer paving screeds for a wide range of applications. They can realize working widths between 0.5 m and 18 m and perfectly pave a variety of materials such as asphalt, concrete, gravel, or special mixes. The high compaction technology is unique: it enables the production of asphalt layers with the extremely high degree of compaction required to ensure maximum evenness and durability.

INLINE PAVE TECHNOLOGY

VÖGELE's InLine Pave concept is a particularly innovative paving method designed especially for paving compact asphalt pavements "hot on hot". In this process, the binder course and surface cource are paved in a single pass, which not only creates a perfect bond between the layers but also ensures that the layers are thoroughly interlocked, which is essential for assuring the roads' durability.

SPRAYJET TECHNOLOGY

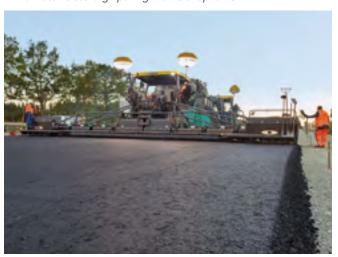
VÖGELE's SprayJet technology has confirmed its value over many years and is used for pavement rehabilitation and construction tasks in many markets around the world. With this method, the paver sprays bitumen emulsion immediately before paving the new asphalt layer. The innovative SUPER 1800-3i SprayJet enables the paving of high-quality and particularly durable thin overlays.

DOCUMENTATION AND PROCESS OPTIMIZATION

Maximum paving quality under the tightest deadlines: demands on contractors are growing fast. With VÖGELE's software-based solutions, WITOS Paving Docu and WITOS Paving Plus, contractors can document process data from their construction site or actively optimize their processes - thereby improving their operational efficiency.

PAVING SCREEDS _ _ _ _ _

> The SB 350 fixed-width screed guarantees maximum evenness across large paving widths of up to 18 m.



INLINE PAVE _ _ _ _ _

> With InLine Pave, two asphalt courses are paved in a single pass.











HAMM - BEST COMPACTION.

The Upper Palatinate lies in the middle of Europe. Creative energy and boundless inventiveness have a long tradition in this region, Confirmed by the numerous globally-active companies who use high-tech products and solutions developed and manufactured here. One of these global players and technological leaders in the field of compaction technology is our company, HAMM AG.

Our rollers for road construction and earthworks compaction prove themselves each and every day on construction sites around the globe. As the world's leading manufacturer in this segment, we offer the construction industry a wide range of products. Our extensive range of machines includes tandem rollers, compactors, and pneumatic-tire rollers. Numerous solutions for optimizing compaction processes round out our portfolio. As a result, we offer customized, real-world solutions for all compaction jobs in road construction and earthworks.

HAMM BRAND HEADQUARTERS

Tirschenreuth, Bavaria, Germany

Products: Compactors, tandem rollers, pneumatic-tire rollers, compact rollers

Core competences: Compaction technology, oscillation, compaction measurement and control, ergonomic machine design, state-of-the-art drive technology

390 thousand m² factory site

170 machine types

ECONOMICAL AND EFFECTIVE: COMPACTORS FROM HAMM.

THE COMPACTOR'S JOB IS TO PRODUCE SURFACES WITH A HIGH BEARING CAPACITY. COMPACTORS FROM HAMM PERFORM THIS TASK WITH MAXIMUM PRODUCTIVITY AND QUALITY WHILE SIMULTANEOUSLY ASSURING ECONOMY AND EASY HANDLING: THE COMPANY'S EXTENSIVE PRODUCT RANGE INCLUDES MACHINES FROM 5 TO 25 TONS WITH SMOOTH, PADFOOT, OR VC CRUSHER DRUMS.



SMART MACHINE CONTROL SYSTEM

The sheer variety of possible applications makes HAMM soil compactors extremely versatile and therefore extremely cost-effective. For instance, when using VIO compactors, the operator can choose between vibration and oscillation. Hamm's Hammtronic electronic machine management system guarantees optimal performance in every working scenario. Hammtronic monitors all engine and vehicle functions, in particular advance drive, vibration, oscillation, and engine speed. The system adapts the vibration and advance speed to the respective operating conditions, prevents the drums or wheels from slipping, and even makes compaction on gradients of up to 63 percent possible. At the same time, Hammtronic keeps the compactors fuel-efficient with low noise emissions.

HAMM SMART DOC

The free Smart Doc app for Android devices provides real-time monitoring of compaction progress and links the machine data to GNSS positioning data. The compactor driver has a real-time overview of all important parameters during the compaction process, e.g. the number of passes, the current speed, the HMV compaction value, the frequency and amplitude, and the asphalt temperature. The app uses this data to create compaction reports in PDF format and is therefore also suitable for self-monitoring. Fundamentally, the app can be used in both asphalt compaction and earthworks scenarios and, apart from documentation and analysis, offers a range of other functions such as, for example, the generation and editing of various layer models.

H 7i _ _ _ _ H 20i _ _ _ _ _ H 20i _ _ _ _ _ _ _ H 20i _ _ _ _ _ _ _ _

> The models of the H CompactLine series of compactors impress with extremely easy handling and a powerful advance drive.



> The 3-point swivel joint guarantees unsurpassed off-road mobility and maximum driving comfort.



THE RIGHT ROLLER FOR EVERY JOB

The very smooth and gentle acceleration and braking of HAMM rollers for asphalt paving work prevents the formation of ripples in the asphalt surface. With their harmonious overall design, the small rollers of the HD CompactLine series and the tandem rollers of the HD or HD+ series with weights of up to 14 tons give the driver a perfect overview of the drums and surrounding site. The DV+ series of tandem rollers with all-wheel steering stand out thanks to the Easy Drive operating concept and the automatic reversing system, in which the driver always faces the direction of travel. The HP series of pneumatic-tire rollers rounds off the product range.

OSCILLATION

The achievement of a higher degree of compaction with fewer passes and dynamic compaction where other rollers deliver only static compaction - that's what makes oscillation compaction from HAMM so special. The principle: the drum oscillates horizontally instead of vertically and always remains in contact with the material being compacted. As a result, this technology improves compaction performance in standard applications, such as the construction of base and binder courses. But it has much more to offer, as it also enables dynamic compaction when paving asphalt on bridges, when compacting surface layers, when paving thin overlays, or when compacting pavements in the vicinity of structures sensitive to vibration. The split oscillation drum has been patented by HAMM and is particularly suitable for compacting in curves and roundabouts as well as crossings and junctions.



HD COMPACTLINE SERIES _ _ _ _ _ _

> HD CompactLine compactors are also ideal for landscape gardening.



_ DV+ SERIES_ _ _ _ _ _ _

> The DV+ tandem roller offers the operator an ergonomically optimized, comfortable workplace.





OPERATOR-FRIENDLINESS, HIGHEST PRODUCTIVITY, SERVICE-FRIENDLINESS, AND ECONOMY - THESE ARE SOME OF THE TYPICAL FEATURES OF HAMM TANDEM ROLLERS. SO IT SHOULD COME AS NO SURPRISE THAT ALMOST ALL MODELS OF THE CURRENT PRODUCT RANGE HAVE RECEIVED AN INTERNATIONAL AWARD FOR THEIR USER-FRIENDLY AND INNOVATIVE DESIGN.







KLEEMANN - A TRADITION OF EXPERTISE.

KLEEMANN has been producing crushing and screening plants for the materials processing segment since the 1920s. All of the company's manufacturing processes, from prefabrication to final assembly, are consolidated under one roof at the brand headquarters in Göppingen. All of its systems are manufactured with the highest degree of precision.

KLEEMANN crushing and screening plants are produced on a cyclic assembly line. The production process is assisted by state-of-the-art parts logistics. This increases productivity and minimizes delivery times. The quality of the core components produced manufactured by the company has been further improved by process innovations such as the environmentally friendly powder coating system.

An additional benefit is the large warehouse. This not only means that assembly processes can be flexibly adapted to the order situation at any time, but also that genuine spare can be shipped at short notice to any destination around the globe.

KLEEMANN BRAND HEADQUARTERS

Göppingen, Baden-Württemberg, Germany

Products: track-mounted jaw crushers, impact crushers, cone crushers, and screens for processing minerals, track-mounted and wheeled stockpile belts

Core competences: Crushing and screening technology, user-friendly and customized machine design, efficient drive systems and material flow concepts

> www.wirtgen-group.com/kleemann

150 thousand m² factory site

23
machine types

CRUSHING AND SCREENING PLANTS FOR PROFESSIONAL MATERIALS PROCESSING.

CRUSHED AGGREGATE IS NEEDED AS A RAW MATERIAL FOR CONSTRUCTION AND CIVIL ENGINEERING PROJECTS. CRUSHERS AND SCREENING PLANTS FROM KLEEMANN TRANSFORM UNWIELDY STONES AND ROCKS INTO MINERAL AGGREGATES OF PREDETERMINED GRAIN SIZE. THE RUGGEDLY CONSTRUCTED MACHINES CAN ALSO RECYCLE RECLAIMED MATERIAL FOR THE CONSTRUCTION INDUSTRY OR BE USED FOR PROCESSING RAW MATERIALS IN THE MINING INDUSTRY.



WORLD-CLASS PRODUCTS

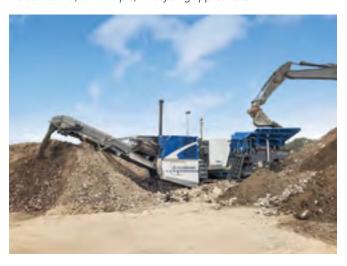
KLEEMANN plants are designed to cost-effectively process a wide variety of materials and to produce an end product of the highest quality. They stand out thanks to their high quality and availability, ease of operation, and impressive versatility. Customers can choose from MOBICAT mobile jaw crushers, MOBIREX mobile impact crushers, and MOBICONE mobile cone crushers for the processing of various different materials and achieve outstanding results. The MOBISCREEN series of mobile screening plants rounds out the company's product range.

POWERFUL AND ROBUST

The MOBICAT series of jaw crushers are used for cost-effective coarse and preliminary crushing of natural stone, recycling, and raw material processing. Their outputs range from 220 to 750 t/h. The MOBIREX series of impact crushers is mainly used for the processing of soft to medium-hard natural stone and recycling. They achieve high crushing rates and ideal cubic results in the 1st, 2nd, and 3rd crushing stages. The mobile cone crushers of the MOBICONE-series are used in medium-hard to hard and abrasive natural stone, as well as for raw materials processing in the mining industry. They produce excellent final cubic grain sizes in the 2nd and 3rd crushing stages, especially ain the role of secondary crushers. The MOBISCREEN screening plants are available for classifying or coarse screening and round out the overall process.

MOBICAT _ _ _ _

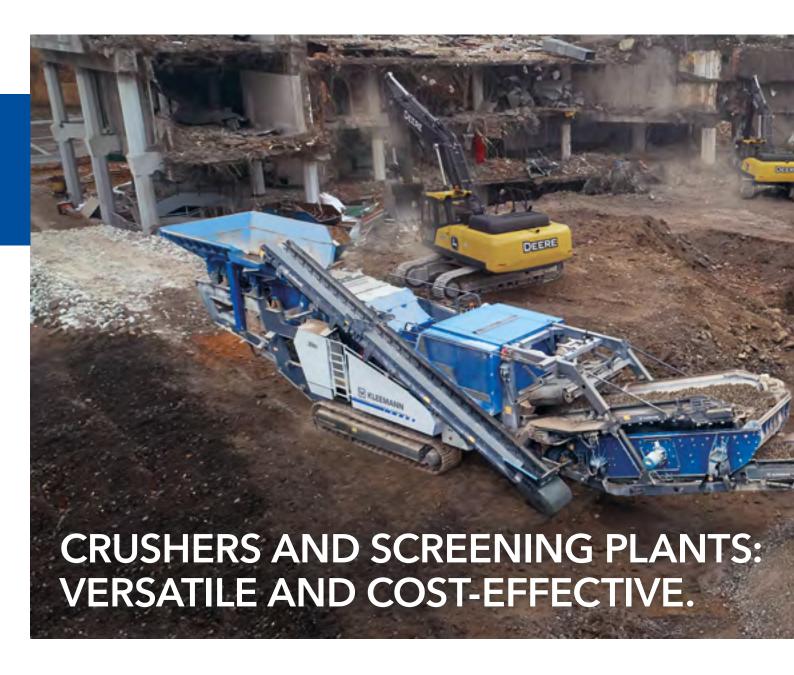
> The MOBICAT series of mobile jaw crushers are used as coarse crushers and, for example, in recycling applications.



MOBICONE _ _ _ _

> The MOBICONE series of cone crushers are used as secondary crushers for natural stone in the 2nd and 3rd crushing stages.





AS OUR PLANET'S NATURAL RESOURCES BECOME INCREASINGLY DEPLETED, _ . RECYCLING IS BECOMING INCREASINGLY IMPORTANT. IN THE CONSTRUCTION INDUSTRY, RECYCLED PRODUCTS CAN REDUCE THE OVERALL DEMAND FOR PRIMARY RAW MATERIALS. DUE TO THESE FACTORS, THERE HAS BEEN A CLEAR GLOBAL TREND TOWARDS THE USE OF RECYCLED BUILDING MATERIALS IN RECENT YEARS.



EXTREMELY VERSATILE

Whether for natural stone, recycling, or mining applications: KLEEMANN crushing and screening plants are a versatile and flexible solution for various applications.

The EVO Line plants are versatile all-rounders that can be used for a variety of applications, are easy to transport, have short setup times when being brought into operation and during maintenance, and impress with high machine utilization rates. They are particularly suitable for the contractor market. The PRO line plants are particularly robust and extremely efficient. Their large feed sizes, maintenance-friendly operation, and dual-power capability make them ideal for use in quarries.

COST-EFFECTIVE TECHNOLOGY

Thanks to the robust design of the machines and a broad performance range, we can offer the right plant or plant combination for every requirement. Our products are designed and constructed to handle even the hardest minerals and materials, ensuring that regardless of the material, it can be extracted as cost-efficiently as possible at the specified daily output rate. Our mobile jaw crushers, impact crushers, cone crushers, and screening plants impress not only with the superior quality of the end product they produce, but also with the broad spectrum of applications and cost-effective, environmentally friendly operations they offer. Customers can rely on the reliability of our machines just as much as on our decades of real-world experience in application technology.

MOBIREX _ _ _ _ _

> The MOBIREX mobile impact crushers can achieve exceptionally high crushing rates and, above all, excellent cubic results.



MOBISCREEN _ _ _ _ _

> The MOBISCREEN mobile screening plants are ideal for screening almost all types of natural stone and for recycling.









BENNINGHOVEN -THE INDUSTRY PIONEERS.

State of the Art! BENNINGHOVEN has been successfully pursuing and achieving this goal for over 100 years. By systematically making advancements to its product range, BENNINGHOVEN has grown from a small skilled craftsman's business to a global player and is now setting the trends in the field of asphalt mixing plants. We set a further milestone in our successful history when we opened the world's most advanced production facility for asphalt mixing plants in the summer of 2018. This allows us to offer our customers the best possible solutions when it comes to the cost-efficient production of highest quality asphalt mixes.

Around 550 employees produce cutting-edge asphalt mixing plants at our facilities in Wittlich. Here, at the world's most advanced factory for asphalt mixing plants, over 313,000 square meters of space are used to create flexible solutions that ensure reliable, cost-effective operation over the entire service life of the plants. With unique innovations in the field of asphalt mixing and combustion technology, BENNINGHOVEN has always been regarded as an industry pioneer. Today the company's activities are still driven by a pioneering spirit and tradition combined with groundbreaking technologies and highly specialized employees.

At BENNINGHOVEN, all key components for everything from structural steelwork to complex control systems are developed and manufactured in-house. Short distances in production, state-of-the-art manufacturing processes, and a high degree of automation allow us to efficiently produce our systems in the world's most cutting-edge asphalt mixing plant production facility.

BENNINGHOVEN BRAND HEADQUARTERS

Wittlich, Rhineland-Palatinate, Germany

Products: Products: asphalt mixing plants optimized for containerized transportation, transportable asphalt mixing plants, stationary asphalt mixing plants

Core competences: Asphalt production, firing technology, bitumen, recycling, user-friendly control systems

www.wirtgen-group.com/benninghoven

313 thousand m² factory site

> 11 plant types





BENNINGHOVEN plants stand out thanks to maintenance-friendly, high-quality components with a long service life that meet all market and environmental requirements.

EXTREMELY VERSATILE

The ECO range of asphalt mixing plants with capacities from 100 to 320 t/h combines state-of-the-art, innovative BENNINGHOVEN technologies with the highest standards of production in compact container sizes. this guarantees maximum mobility and flexibility: ECO series plants can be operated as stationary systems, but can also handle rapid relocation without any problems. The modular design of the ECO series also makes it possible to subsequently integrate a wide range of high-tech components. This will allow operators to continue to respond to customer and market demands in the future, particularly with regard to asphalt recycling solutions. Since all main components are dimensioned for containerized

transportation (20 or 40 foot containers), they are also easy to transport by road, ship or rail. The strength of the plants is their ability to be transported worldwide and that they can be configured as simply, cost-efficiently and effectively as possible. At the same time, the high-performance plants with fixed options guarantee maximum mix quality.

UNPARALLELED FLEXIBILITY

The BENNINGHOVEN TBA asphalt mixing plants cover the output range 160-320 t/h and are suitable for both semi-mobile and stationary applications. The container-type design of the main components with plug-in wiring results in ideal transportation options and reduces the time needed to set up the modular system. The plant's high degree of flexibility, the available options, the large hot ensiling and mix loading silo storage capacities as well as the ability to retrofit components at any time make the TBA an impressive, highly versatile system.

ECO 2000 _ _ _ _ _

> This type of plant is characterised by high cost-efficiency and equally high investment security. The "plug & work" principle means that high-tech components can be retrofitted at any time.



_TBA 3000 _ _ _ _ _ _

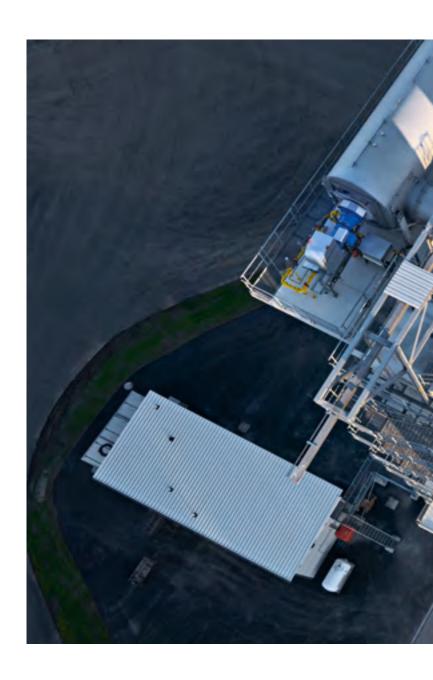
> Larger hot ensiling and mix loading silo storage capacities, and the ability to upgrade components at any time make the TBA an impressive and extremely versatile system.



COST-EFFECTIVE AND SUSTAINABLE ASPHALT PRODUCTION

With an impressive production capacity of up to 400 t/h and an unlimited range of equipment options, the RPP series of asphalt mixing plants is the flagship of BENNINGHOVEN's product range.

Particularly notable in the case of RPP plants is the high proportion of up to 100% added recycling material. BENNINGHOVEN RPP makes an effective contribution to energy efficiency, cost efficiency and proactive environmental protection. Like all BENNINGHOVEN plants, the RPP models stand out thanks to maintenance-friendly, high-quality components with a long service life that meet all market and environmental requirements.



_iNOVA 2000 _ _ _ _ _ _ _

> Continuous asphalt mixing plants from CIBER, like the iNOVA 2000, expand and complement the BENNINGHOVEN portfolio.





A THERMAL MIXING PROCESS IS REQUIRED TO TURN AGGREGATES AND BITUMEN INTO ASPHALT FOR ROAD CONSTRUCTION. ASPHALT MIXING PLANTS FROM BENNINGHOVEN ARE IDEAL FOR THIS PROCESS. THEY GUARANTEE OPTIMAL MIX QUALITY AND OFFER IDEAL SOLUTIONS THAT MEET THE SPECIFIC NEEDS OF EVERY MARKET. THE BROAD PRODUCT RANGE FEATURES PLANTS WITH CAPACITIES UP TO 400T/H.











PRODUCTION CLOSE TO THE MARKET.

THE WIRTGEN GROUP OPERATES PRODUCTION FACILITIES IN BRAZIL, CHINA, AND INDIA WHICH ENABLE US TO CATER FOR NATIONALLY-SPECIFIC DEMAND THROUGH PRODUCTION CLOSE TO THE LOCAL AND REGIONAL MARKETS.

PRODUCTS FOR LATIN AMERICA

CIBER, a WIRTGEN GROUP company based in Porto Alegre, Brazil, produces continuous asphalt mixing plants for road construction under its own brand name. The plants are marketed in Latin America, Africa, and Asia, and several of the company's product lines are exported to customers around the globe.

> www.wirtgen-group.com/ciber

WHERE MADE IN CHINA STANDS FOR QUALITY

On a 200.000 m² site in Langfang, close to China's capital, Beijing, the WIRTGEN GROUP has built a state-of-the-art factory that bears any comparison with the brand headquarters in Germany. In addition to the production and assembly facilities, the plant also boasts a sales and service center with a workshop and parts warehouse, a training facility and a quality assurance organization. The local production program includes selected models from WIRTGEN cold milling machine, VÖGELE paver, and HAMM

roller product lines for the Chinese and global markets. The percentage of locally procured parts and subassemblies is constantly increasing, and the same strict quality standards are applied as at the brand headquarters in Germany.

www.wirtgen-group.com/china

TECHNOLOGIES FÜR INDIA

WIRTGEN'S Indian factory is located near the industrial center Pune in India's northwest. In addition to the production and assembly building, the site also has a sales and service center, a workshop, a blasting plant, a paint shop, and a spare parts depot. Licensed production of WIRTGEN GROUP models specially developed for the Indian market has been underway there since 2011. A new local supplier chain has been set up in Pune to ensure a high-quality supply of components for the company's production processes. KLEEMANN screening plants have also been manufactured here since 2015.

> www.wirtgen-group.com/india



W WIRTGEN GROUP







RELIABLE CUSTOMER SUPPORT.

THE WIRTGEN GROUP IS MORE THAN JUST A SUPPLIER OF MA-CHINES: THE DELIVERY OF A MACHINE MARKS THE BEGINNING OF A LONG-TERM SERVICE PARTNERSHIP. OUR TEAM OF EXPERTS FROM CUSTOMER SUPPORT IS ALWAYS AVAILABLE TO ANSWER ANY QUESTIONS YOU MAY HAVE ABOUT THE MACHINE.

SERVICE

We keep our service promise - with fast and uncomplicated assistance both on the building site and in our professional workshops. Our Service team has received expert training. Thanks to special tools, repair, care and maintenance work is completed quickly. On request, we can draw up a service agreement tailored specifically to your needs.

www.wirtgen-group.com/

SPARE PARTS

Original parts and accessories from WIRTGEN GROUP can ensure the high reliability and availability of your machines in the long term. Our experts will be glad to advise you on application-optimized wearing part solutions. Our parts are available worldwide, at any time and are easy to order.

> parts.wirtgen-group.com

TRAINING

Staff responsible for the WIRTGEN GROUP's product brands are experts in their fields and have decades of technical and practical experience in specialized applications. Our customers also enjoy the enormous benefits of this expertise. In our WIRTGEN GROUP training courses, we gladly pass on our knowledge to you, made-to-measure for your operators and service personnel.

www.wirtgen-group.com/ training

TELEMATICS SOLUTIONS

At the WIRTGEN GROUP, construction machines with industry-leading technology and sophisticated telematics solutions go hand-in-hand. Intelligent monitoring systems such as WITOS or JD Link* not only facilitate maintenance planning for your machines, but also increase productivity and efficiency.

www.wirtgen-group.com/telematics

*Both WITOS and JD Link are not currently available in all countries. Please consult your responsible subsidiary or dealer if you have any questions in this area.

A STRONG GLOBAL TEAM.

BEHIND EVERY MACHINE, BEHIND EVERY INVENTION, AND BEHIND EVERY GROUNDBREAKING TECHNOLOGY, YOU'LL ALWAYS FIND INDIVIDUAL PEOPLE: VISIONARIES, ENGINEERS, TECHNICIANS, AND USERS - ALL WORKING TOGETHER TOWARD A COMMON GOAL. IT IS THEIR IDEAS AND THEIR DEDICATION THAT HAVE MADE US WHAT WE ARE TODAY.

The story of our success began in November 1961, when 20-year-old Reinhard Wirtgen took his first steps into the world of road construction with a guillotine-type concrete breaker. Now, more than 50 years later, his small one-man firm has become one of the world's leading groups of construction equipment manufacturers, has more than 9,000 employees worldwide, and is proud to be a strong part of the John Deere Construction & Forestry Division.

In the past, the present, and the future, it is our employees who ensure that our company remains strong, stable, and successful. Around the globe, they pursue our common goal - the development and realization of the best technologies, machines, systems. and services for the road construction and materials processing industries to guarantee our customers' success on project sites across the world.

CLOSE TO OUR CUSTOMERS

Apart from our innovative technologies, one special component of all products and services from the WIRTGEN GROUP is our passion for what we do. We also share our customers' passion for their business, because we know that it is impossible to achieve excellence without common values such as absolute commitment, a service- and solutions-driven approach, or identifying with a project.

This is expressed in our value proposition CLOSE TO OUR CUSTOMERS, which all of our employees live and breathe on a daily basis. Their enthusiasm and commitment to our products and our service-oriented mindset join together as the driver of genuine progress - for you.

We fulfill the promise of our value proposition by providing each customer with a personal point of contact within our company - no matter where in the world that customer may be. Our dedication to our customers is reflected in our professional applications consulting and targeted training programs, we provide exemplary spare parts service, guarantee rapid servicing and repairs at our workshops, and reliable on-site service - wherever and whenever our customers need us. If required, we also offer sound financing assistance and project planning.

DRIVEN BY PASSION

Staying close to our customers is our top priority - in every respect. Our local specialists can always draw on additional assistance from our brand headquarters in order to provide our customers with the highest degree of professional expertise for all aspects of their machines at all times.

This enthusiasm will continue to motivate and inspire us in the future – because our passion is the best driver on the road to success. Let us convince you.

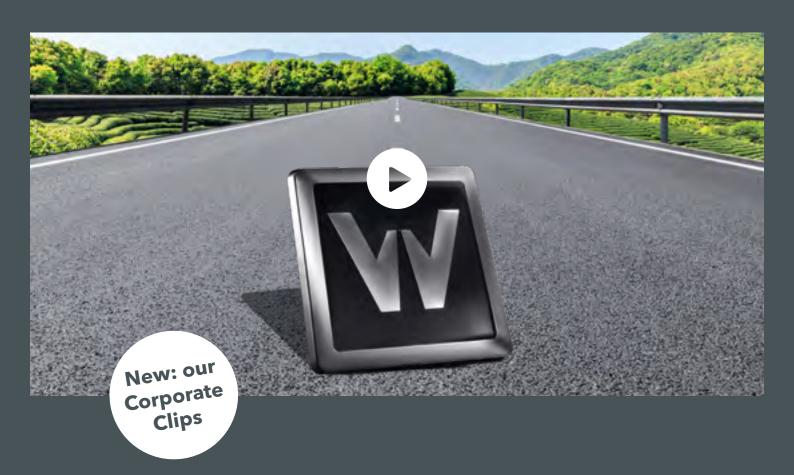
Come on board:

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