JOST times

Company magazine of the **JOEST group.**

#01 | 2020

Big step:

JOEST Australia moves into new facility in Perth.

A member of the
JOST® group

A year of challenges

GERMANY. No shutdown during lockdown.

Since the beginning of the year, the Coronavirus COVID-19 has had a firm grasp on Germany and the whole world. As a globally active machine manufacturer, we have also been feeling the impacts.

Since the beginning of the year, the Coronavirus COVID-19 has had a firm grasp on Germany and the whole world. As a globally active machine manufacturer, we have also been feeling the impacts. Starting with a ban for all business trips to and from China, we have reacted immediately according to the developments at hand and switched over to Video conferences where possible. In an effort to protect our employees, we announced a code of conduct that has continuously been adjusted to the latest developments of the pandemic.

Right now, we rely mostly on videoconferences with clients, partners and suppliers, allowing only important appointments to still take place. Internal meetings follow the same rules. In some cases, this doesn´t fully replace a personal conversation whilst viewing machine drawings or a production status, but safety always comes first. Whenever possible, walking around the office buildings has to be avoided using the telephone or digital communication tools is the preferable alternative. If this is not possible in urgent cases, there is a strict obligation to wear a mask on our entire premises. The only exception is when seated at the personal workdesk with safe distance to other people.

Additional measures such as regular ventilation of offices and meeting rooms, strictly following the hygiene rules – at work and at home – and constantly maintaining safety distances to others are essential. Home Office work allows enough space for the remaining people working in the office buildings. Furthermore, the cafeteria is closed until further notice to reduce the risk of infection amongst our employees. Every suspicion of infection with the Coronavirus must be reported to our human resources department and the local health authority immediately. This way strict, additional measures can be taken right away. In the meantime we bought a sufficient number of rapid tests our own qualified and trained personal can use.

Although presented with these challenges, the work of the #JOESTeam was never and will not be compromised. Thanks to modern communication methods and flexible working models, we can continue our work without major constraints.

Dr. Marcus Wirtz

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Merry
Christmas

The year 2020

Dear clients,
Dear employees,

We wish you
and your families
a Merry Christmas
and a happy New Year
– stay safe.

Who would have thought beginning of the year, that a virus would captivate the entire world and influence daily lives far beyond business. For many of our clients, particularly in the automotive and supplying industry, the necessary restrictions had and continue to show an impact. The JOEST group also suffers from the effects of the pandemic, especially in Europe, the USA and India.

The situation is aggravated not only by a rapidly evolving energy policy, but also by rigid customs regulations by the US. A President that evidently does not accept democratic decisions doesn't relieve any of the stress in the global political landscape either.

The only way we will overcome this significant obstruction, which will last far into the year 2021, is by a joint effort of the government, citizens and also our employees. The help and forethought of every single employee is therefore of upmost importance to the company.

We explicitly thank our employees for their efforts and understanding in this extraordinary year. We thank our suppliers and clients for a constructive cooperation. We wish you and your families a Merry Christmas and a happy New Year – stay safe.

Sincerely,
Dr. Hans Moormann,
Dr. Marcus Wirtz

Highest standards in concrete recycling

GERMANY. Innovative concrete recycling plant in the Netherlands equipped with JOEST Circular Motion Screens and Vibrating Trough Type Feeders.

„We chose JOEST screens, because they deliver extremely precise screen cuts.“

Vincent Jansen,
Technical Manager
(Urban Mine Concrete Solutions)

Sustainably saving resources: Concrete is a silent polluter, causing high CO^2 emissions in manufacturing. The company Urban Mine Concrete Solutions is now working against these effects with an innovative and newly developed process.

The enterprise based near Amsterdam has specialized in recycling concrete. In the new process, the original components sand, gravel and cement are recovered from concrete rubble and used to make new concrete in an ecofriendly process. The energy supply of the plant is delivered by solar panels and the rainwater is collected in a container and then used in the process.

In order to enable high quality recycling of the concrete, Urban Mine puts an emphasis on a precise separation of the concrete particles into multiple fractions. JOEST screens are ideal for this scenario and are distinguished by a very clean screen cut. In total, three Circular Motion Screens and a Flip-Flow Screen are used for various screening processes throughout the plant and three Vibrating Trough Type Feeders manage parts of the material transportation.

The crushed concrete rubble is placed on the first Vibrating Trough Type Feeder which feeds the material to the double-decker Circular Motion Screen beneath, guaranteeing an even material distribution to begin with. Featuring 2.1 m in width, 5 m in length, a capacity of 125 t / h and a double shaft drive, the screen separates into fractions smaller than 16 mm, 16 to 55 mm, and larger than 55 mm.

The fraction smaller than 16 mm is then fed to the Flip-Flow Screen OSCILLA, which is installed right beneath the first Circular Motion Screen. The OSCILLA screen has been successful in the market for many years, presenting a great solution for demanding bulk materials. The machine is based on a resonance system. An inner screen-frame is displaced via vibro blocks and enables significantly higher acceleration rates. The design is known for its extreme durability, individually configurable screen decks and a quick and simple exchange of screening mats. With a width of 2.4 m and a length of 6m, the JOEST Flip Flow Screen separates the material into fractions smaller than 4 mm and 4 to 16 mm.

Further fractions are separated by two additional Circular Motion Screen within the plant, both of which are shaft driven. The single deck screen guarantees a cut into fractions larger and smaller than 26 mm. With the double decker screen,

three additional fractions, smaller than 16 mm, 16 to 26 mm and larger than 26 mm are gained.

A special feature of all the screens is the automatic lubrication of their drive shafts, which enables an automated, continuous and progressively controlled lubrication. Service times are drastically reduced thanks to the featured automation and the implementation of easily exchangeable PU-screens.

A Trellex collar seal prevents dust from escaping the system at the charge and discharge ends. Furthermore, the machines are covered by Alucore-composite panels, closing them off completely. The cover is extremely light weight without sacrificing durability, again simplifying maintenance. To reduce stress on the mounting structure, the screens are equipped with an isolation frame in combination with ROSTA-Elements. All the machines are packed to the full extent with optimal features.

During a visit at the JOEST group headquarters in Duelmen, the team from Urban Mine was able to convince itself of the manufacturing capabilities and the high-quality work, as well as the new 500 m² Test Center. Project handling worked out without any issues and to the full satisfaction of both sides. Time and again, new demands were made by the client. JOEST was able to react in a consistent interaction with the client and used its expertise to solve all problems to satisfaction. Commissioning of the entire plant including the JOEST machines is scheduled for the

The JOEST Flip-Flow-Screen OSCILLA is the ideal solution for sticky and difficult to screen materials.

Typical applications are inhomogenous and wet recycling materials as well as high moisture and sticky ash, minerals and clay type materials.

The particle size is typically between 0 – 100 mm (0 – 4 inches).

beginning of next year. JOEST will accompany commissioning on-site to guarantee the best result possible.

With this project, the JOEST Team proved once again that they can offer the right solution for every client. They are looking forward to the now upcoming further cooperation with Urban Mine. As a qualified partner in special purpose machine manufacturing, JOEST is prepared for any challenge and awaits your personal use case.

Process engineering solutions in glass recycling

GERMANY. Dosing, screening, drying, sifting and conveying with JOEST machines!

Recycling is a growing market – especially in glass recycling new plants are currently arising or existing ones are updated and upgraded. JOEST is an expert for vibratory equipment conveying and processing bulk materials. As such, JOEST offers plant manufacturers customized solutions for glass recycling. With dosing, screening, drying, sifting and conveying, the company covers five fundamental processing steps in a plant.

Thanks to the continuous development of standardized components and subsystems, the JOEST competence center recycling in Duelmen can assist each client with the individual configuration of their plant layout, especially regarding the procedural design of the individual processing components.

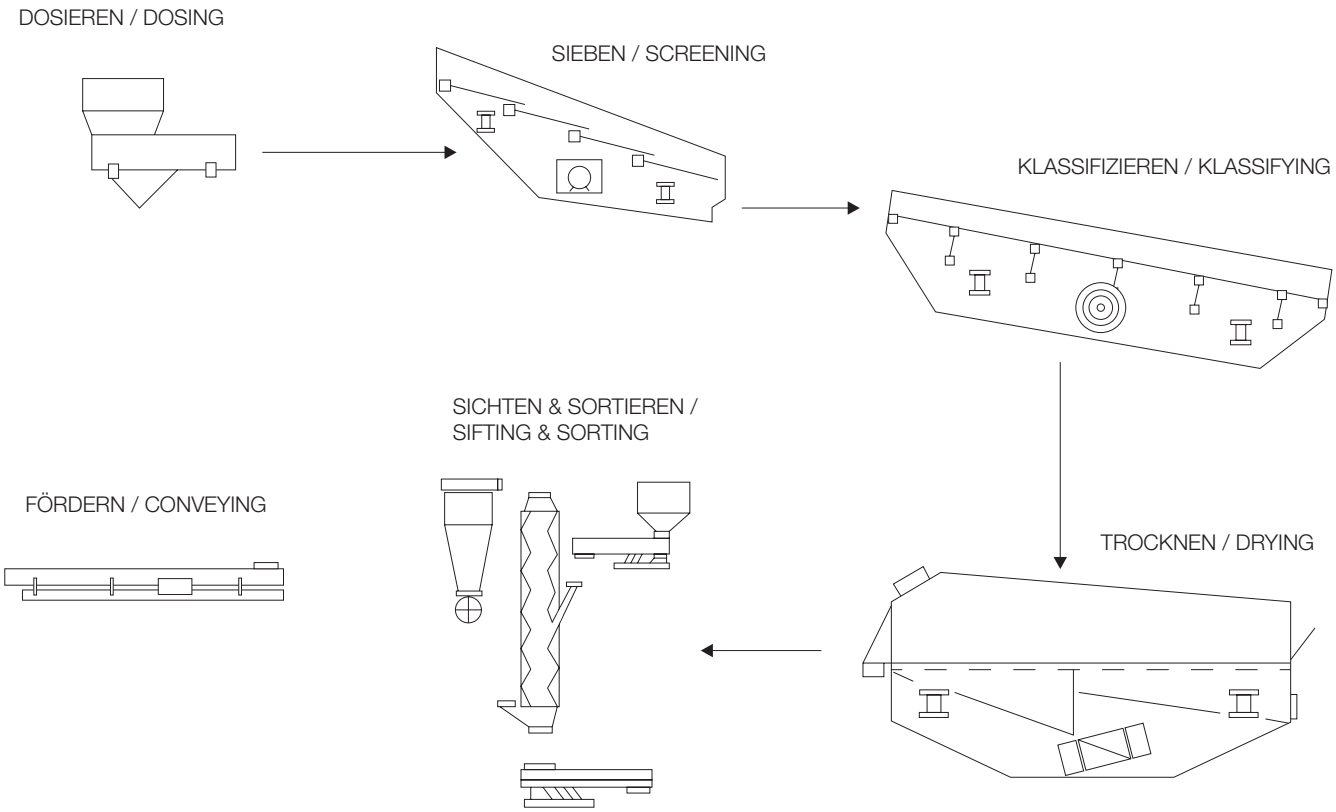
The challenge of wear and tear

JOEST covers a wide spectrum of applied technologies throughout the glass recycling process and simultaneously goes in depth with various versions as well as the corresponding periphery. The individual components are specifically designed for the demands of each industry and size, performance and features are determined by the client. The operational availability of the plant is very important. In particular the high wear resistance, thus the low abrasion of plant components plays a big role in Glass Recycling since glass brakes and is one of the most abrasive materials. Using highly wear resistant chromium carbide plates or special ceramic, the machines set standards and ensure high runtimes and yet low maintenance costs.

Dosing – with an innovative drive

From bottle caps and labels to cardboard and plastic: Glass waste can contain up to 50 % organic and waste materials. Depending on this composition and the final desired quality of the recycled material, a variety of sorting processes are necessary. The first step is to convey and dose the glass waste

JOEST covers a wide spectrum of applied technologies throughout the glass recycling process and simultaneously goes in depth with various versions as well as the corresponding periphery.



out of the hopper. JOEST magnetic feeders are ideal for such an application, since the feed rate is continuously variable and after being shut down, the machine stops immediately. In addition, the JOEST Hopper Discharge Feeders use an innovative, self adjusting JM-Magnetic Drive. With relatively high amplitude in combination with a comparably average vibration frequency, this drive system results in an efficient discharge. For their particular application, different parameters such as hopper pressure and geometry, grain size, ease of flow, moisture and tendency to bake-on must be considered. The optional covers and discharge hoods are also specifically designed for Glass Recycling. The drive´s self learning mode, enabled by the digital control unit, is as easy to maintain as it is economically efficient. This JM-Drive is an exclusive and unique JOEST product in the world market.

Pre-Screening – via Rod Finger Screen and Air Separation

Special JOEST Finger Screens pre-classify the glass waste into cross cuts between 10 and 40 mm grain size. The high acceleration rates and oscillation of the fingers loosen the material on the screen deck. They also ensure a near clog free screening process.

Fine fractions are screened out, coarse grain continues on to a crusher. In another processing step, the JOEST Air Vibe separates the first material flow and sorts out the coarse light weight fraction like foils or paper for example.

In addition, the JOEST Hopper Discharge Feeders use an innovative, self adjusting JM-Magnetic Drive.

With relatively high amplitude in combination with a comparably average vibration frequency, this drive system results in an efficient discharge.

Screening – with the OSCILLA Flip-Flow-Screen

The JOEST Flip-Flow-Screen is designed for inhomogeneous or moist and thus difficult to screen materials. Particularly glass waste has varying levels of contamination with organic material, depending on the country and region it originates from. Here, the OSCILLA Flip-Flow-Screen provides ideal preconditions with a feed grain size of 0 to 80 mm. With its trampoline-effect, this special process prevents the product from sticking on and near-mesh grain from getting clog the sieve. The elastic screen mats which are fixed under tension with the traverse mutually beams and thus the dynamic frame and screen body, are decisive to the process.

JOEST delivers anything from the machine alone all the way to the entire drying plant including air handling equipment, air filtration, ductwork, steel construction and electrical control unit.

The low maintenance is just as beneficial. Changing over the mats is quick and easy to do. In the newest OSCILLA generation, JOEST implements viroblocks between the dynamic frame and the screen body, following the demand for a simple, cost efficient, yet robust solution. The traverse beams also feature special profils to ensure flexibility and efficiency. They are simply cut to the desired length and bolted to the machine body.

Drying – via Fluidized Bed Dryer

The raw material in Glass Recycling contains about 7 % moisture. This moisture sticks to the product and complicates processing it. A drying stage eases further processing. For this purpose, JOEST uses a Fluidized Bed Dryer. With airstreams of more than 150 °C, it reduces the moisture level to a target value of 1 %. Thanks to the special design and layout of the air distribution chamber(s), the air passes evenly through the material and thus results in an equally even drying result. The conveyance within the dryer occurs via micro throwing motions, which are characteristic for vibration conveying technology. Amplitude, frequency and throwing angle are adjusted individually to the application and machine type. Additionally, air outlet hoods are available and follow the motion of the machine. JOEST delivers anything from the machine alone all the way to the entire drying plant including air handling equipment, air filtration, ductwork, steel construction and electrical control unit.

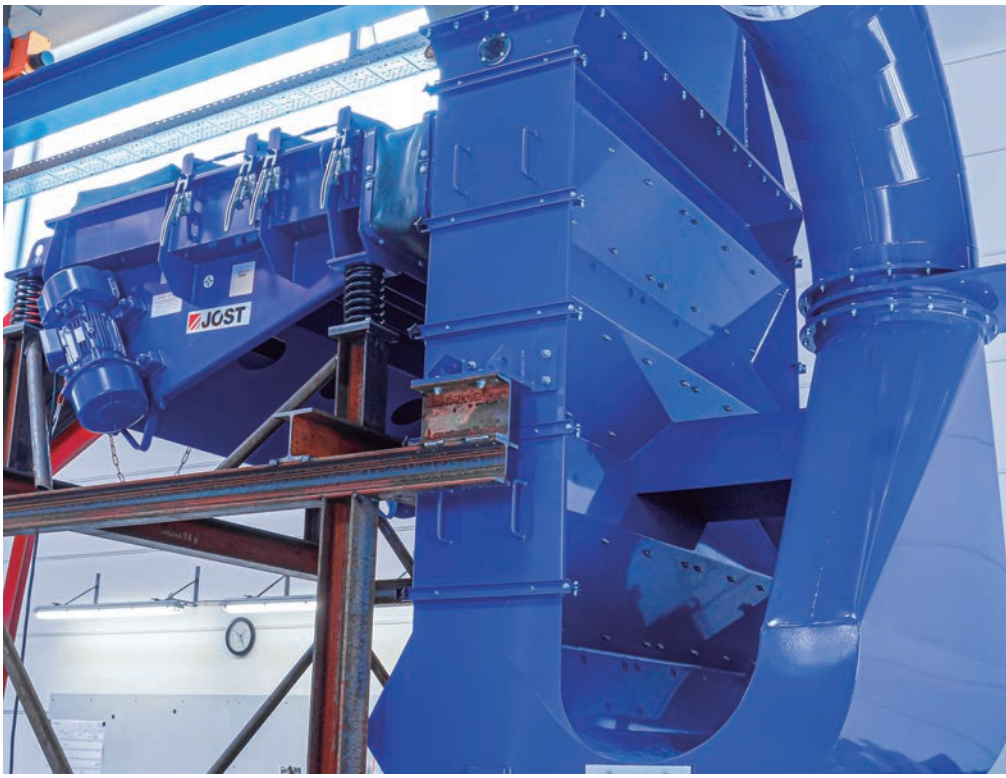
Sifting and sorting – via Zig-Zag

Inside the Zig-Zag Sifter, a multi stage separation of organic material from the individual pre-classified fractions takes place – the goal is an entire elimination of pollution from the raw material. In order to achieve this, the raw material is fed

into the zig-zag shaped sifter-channel through an air-tight feeding mechanism. After the Multi Cross Flow Sifting Process, the light weight fraction separates itself from the heavy fraction. The Zig-Zag Sifter is also adapted to the glass material in abration intensive areas. Thus the JOEST Zig-Zag Sifter uses a Vibrating Trough Type Feeder, as opposed to a Rotary Feeder. This results in an even distribution across the width of the machine and feeding of the machine, whilst keeping the wear resistance high. Here too, JOEST offers the complete system with air handling equipment, used air filtration, pipelines, steel construction and electrical control unit.

And time and time again – Conveying

Depending on the glass recycling plant, there are different demands: Covering distance, feeding and distributing. For this, JOEST offers the matching drive technologies, like for example Unbalanced- or Resonance Vibrating Trough Type Feeders. All Trough Type Feeders feature an abrasion resistant lining and can be configured as dust tight if the client wishes so. In general, conveying stretches of up to 80 meters with a single machine are possible. Appropriate solutions for shorter distances with difficult installation situations can also be carried out.



Recovery journal interviews Dr. Marcus Wirtz

GERMANY. Dr. Marcus Wirtz, managing partner at JOEST group, examined interesting system solutions and – not only technical – challenges in glass recycling in an interview with the editor-in-chief of the recovery journal, Dr. Petra Strunk.

www.recovery-worldwide.com

RECOVERY: *Glass can be repeatedly recycled, and the energy input required in the production process can also be significantly reduced when end-of-life glass is used. But only provided the end-of-life glass is also correspondingly prepared. What is most important here? And what is the attraction for JOEST in being so active in the field of glass recycling?*

DR. MARCUS WIRTZ: *JOEST has been working in glass recycling for more than thirty years. The company is not a plant builder, but supplies all the main components for glass sorting, with the exception of the actual sorting units. These components include various types of mechanical screens, conveying equipment such as vibrating-trough feeders, for example, and machinery for air separation technology, which has greatly gained in importance recently, thanks to intensified development work – on zig-zag classifiers, for example.*

And what is now so special about glass recycling? This field has developed further and further, and with high speed, both in Germany and globally. Where, initially, it was mainly a question of relatively simple sorting by colour, with accuracy not really playing such an important role, the demands made on sorting are now becoming ever greater. The core technology, optical sorting, operates at high speed, and it sorts by colour with great accuracy, down into the 2 to 3 mm particle-size range. It also eliminates other non-glass contaminations. These capabilities have, simultaneously, resulted in the demands of glass-industry customers growing significantly. And, not least of all, customers' demands on glass quality have also risen in parallel.

RECOVERY: *What are the special challenges of glass recycling?*

DR. MARCUS WIRTZ: *Glass is by far the most wear-intensive material. That's a very important point, especially for vibrating-trough feeders. Correct design and appropriate protection against wear makes it possible to achieve much longer life times. This is not just a question of protecting specific material elements, but also of achieving the lowest possible level of abrasion by means of corresponding design provisions. Wear plays, of course, an even greater role in air separation, in other words, in zig-zag classifiers and cyclones, because there you have high air velocities combined with fine particles. This combination acts like a sandblaster, which will cause incredible wear. We have optimised our systems across decades – particularly the design of the piping, pipe routing, and the feed to the cyclones – and this has enabled us, with modified geometries and additional wear protection, to significantly minimise wear.*

RECOVERY: *JOEST equipment can be found around the world. What is JOEST's position internationally?*

DR. MARCUS WIRTZ: *We do not operate as plant engineers, but we do supply many of the main components for glass recycling. Our systems are also very well known internationally. JOEST machines have a very strong presence in China, the USA and Australia, in particular. End customers are familiar with our technology and value its quality. In addition, we have a worldwide local presence, with local manufacturing, warehouses for spare parts and services on all continents which provide after-sales service for our systems. In some cases, we also produce locally.*

RECOVERY: *What have been the most exciting projects already completed by JOEST? What special demands did JOEST encounter on these projects?*

DR. MARCUS WIRTZ: *For the largest glass recycler in the USA we have equipped very many of these plants with JOEST machines during the past 15 to 20 years, for example.*

In addition, our projects have become ever larger during the last few years. In the recent past, we have increasingly been involved in projects that could claim to be the world's largest glass-recycling project. At the moment, this alternates between the large markets of the USA and China. Here, the mass flows themselves are, of course, a challenge, the equipment is getting larger and larger,

„“I have a very positive view of the future, I perceive potentials for expansion, globally – and also in Eastern Europe, there is a need there to catch up. ”

Dr. Marcus Wirtz, managing partner at JOEST group

but the same efficiency is demanded.

RECOVERY: *Do you notice geographical differences in glass recycling around the world, and how does JOEST react to them?*

DR. MARCUS WIRTZ: *It is, naturally, something quite different, if I collect waste types separately in Germany. Even there, of course, there is cross contamination, but the quantity is not even comparable to a single-stream waste flow, where the different types of waste converge with no sorting at all. Separate collection always generates the best sorting results. Where other collection policies apply, like in India and Southeast Asia, for instance, the feed material is much more inhomogeneous, and does not permit corresponding waste-type purity.*

RECOVERY: *Does this have implications for the system concept?*

DR. MARCUS WIRTZ: *Even at JOEST alone, this has resulted in optimising our zig-zag classifier and other air separators for glass recycling. These components were previously not used at all in this sector, because there were no, or much less, organic contaminations in the end-of-life glass, or also because the glass was not recycled to such high quality standards. Customers' requirements on the recycled glass are now so high that they will only accept higher-quality end-of-life glass. And in the case of single-stream waste, in particular, one vital task is to remove the organic constituents right at the start of preparation. This is why we have optimised our classifier systems, and the zigzag classifier, in particular, specifically for glass recycling. Likewise our screening technology, which separates the fines fraction out of the flow of waste. One particular challenge is found in moist fractions for which, above all, our vibrating screens, such as the OSCILLA Flip-Flow-Screen, for example, above all, are used.*

We observe that glass recycling is increasing in volume globally. Less and less can, and should, be landfill dumped, and the recycling rates demanded are rising; primary resources are also becoming scarcer and more expensive, which is why there is ever greater demand for high-grade secondary resources that have been prepared to a high quality level. And sorting technology itself is, of course, also continuously improving.

RECOVERY: *From plant engineer to recycler – what, in your opinion, are the most important tips in the planning and operation of a glass-recycling facility?*

DR. MARCUS WIRTZ: *This is an important question for us ourselves, this relates, very specifically, to screening technology. How can I optimise the feed and pre-sorting of the material? Older plants that are now upgrading focus, above all, on the organics constituent, a fraction which must be removed from the flow of glass at the very start of preparation. Air separation is then added to mechanical screens to solve this problem. These are precisely the topics that we are working on, and they show a positive trend for us.*

RECOVERY: *A look into the future – how do you see the upcoming development of glass recycling and the technology needed for it?*

DR. MARCUS WIRTZ: *I have a very positive view of the future, I perceive potentials for expansion, globally – and also in Eastern Europe, there is a need there to catch up. Even now, during this Corona crisis, capacity utilisation in the recycling machinery sector at JOEST is very good.*

Around the world, there is a rising trend for the use of glass instead of plastics. It will also be necessary, for this reason, to recycle correspondingly more glass. We are focussing on the optimisation of systems, even better separation, higher system availability, longer equipment service-lives. In glass recycling, we are talking of a mass product for which a separation efficiency just one half of one percent higher makes a difference in the calculation, with system availability also improved and maintenance costs dropping again by a couple of points. This means much better profitability and cost-effectiveness for the system. So we also see this global trend, since the yield of end-of-life glass will become ever larger and the countries of the world will increasingly ask themselves how they should handle their waste flows and what can they make from them.

RECOVERY: *Many thanks for this very interesting discussion!*

Complete Article
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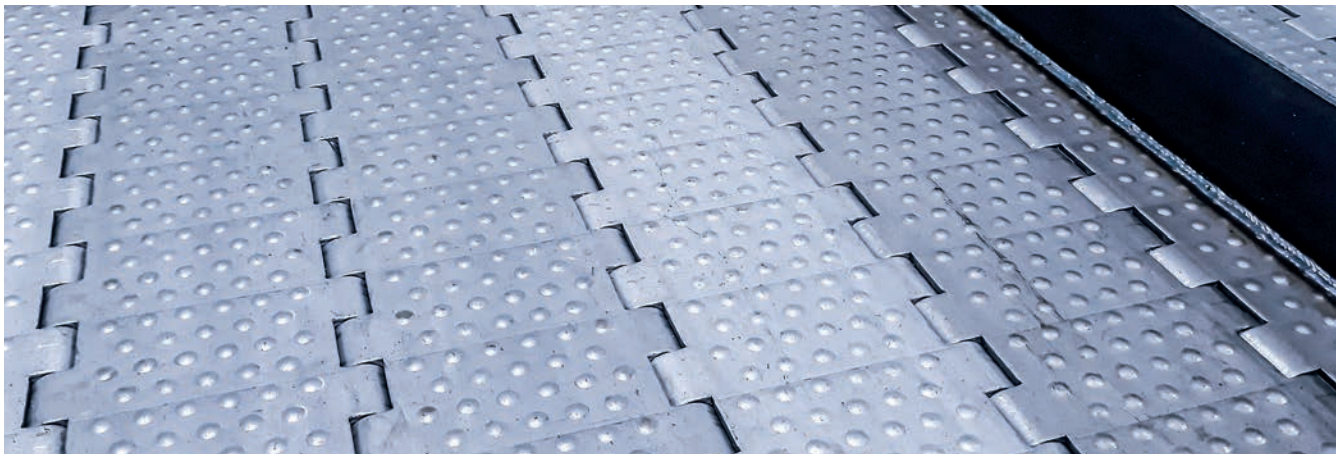
63 meter Hinged Belt Conveyor for stamping scrap

POLAND. Dr. Goessling delivers z-shaped conveyor for a plant in Poland.



63 m

Hinged Belt Conveyor

To replace the existing main conveyor in the client's plant, Dr. Goessling once again manufactured a conveyor to transport scrap from metal plates for the automobile industry. The model T150 Hinged Belt Conveyor was designed in a z-configuration and is operated in a plant in Poland.

A special demand by the client was to design the conveyor to transport scrap from a total of three press units, resulting in a throughput of up to 250 kg per minute. The conveyor is fed by upstream conveyors and slides with parts ranging from 3 to 700 mm in diameter and a thickness of 0.5 to 5 mm.

The Hinged Belt Conveyor has a total length of 63 meters designed in a z-shape. The total width of the conveyor is 1.4 m whilst the effective width is roughly one meter. The stamping scraps originate from three stamping units and are transported to the Goessling conveyor by other conveyors and slides. The conveying speed is 10 meters per minute. The charging end of the conveyor measures 46 meters in length. The conveyor then climbs at a 45° angle, covering 8 meters in height and finally extending another meter in horizontal direction at the discharge end.

The conveyor feeds a reversible hopper-charging conveyor which then fills containers on-site via multiple slides. The conveying element in place here is a steel hinged belt. The belt and the carriers are design in a way that no scraps remain in the conveying structure. The structure is made of a sturdy steel plate construction with bolted side plates. The inner chain-guiding rails are made from hardened steel.

The conveying speed is 10 meters per minute.

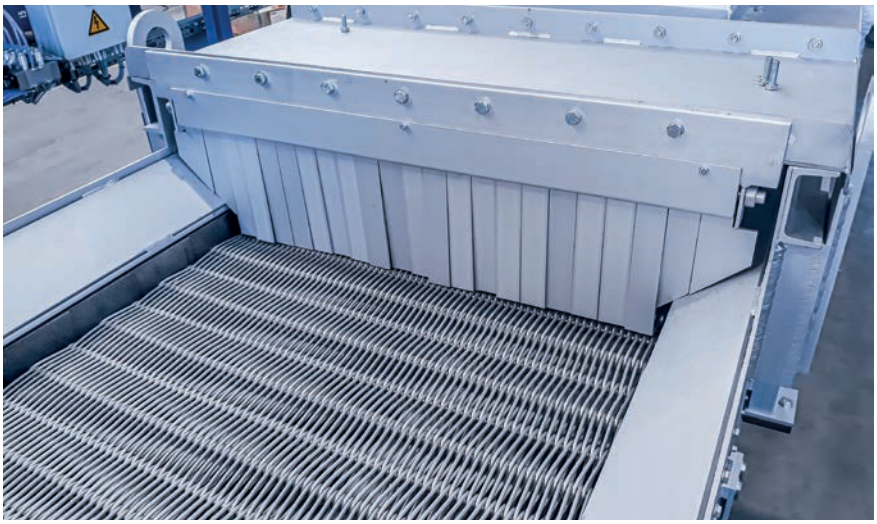
Steel Hinged Belt is made up of stamped and rolled steel hinge segments with a burled surface. The hinge cranks are level, as opposed to those of our competitors. This reduces or even eliminates parts getting caught on the surface of the belt. The burled variant prevents parts from sticking to the belt due to oil residue carried over from earlier processing. The lateral seal of the belt is designed specifically for metal stamping scraps. The seal is created by the PS (precision-)side rails of the steel hinged belt and the machined steel ledge that runs the length of the machine. It hermetically seals the circulating side rails and drive chains and also keeps the material from jamming in-between the belt and the frame. A big advantage of the system is its robust and low-maintenance technology. An oil pan that runs the length of the conveyor prevents leakage or a carryover of oil.

In addition to the advantages in technology, many years of prior cooperation with the client were deciding. The client's plant already houses multiple Dr. Goessling conveyors, resulting in yet another choice for Dr. Goessling technology. Furthermore, Dr. Goessling convinced with many years of experience in this field, an outstanding service and highest quality standards.

Commissioning of the Hinged Belt Conveyor is scheduled for the end of this year and will be performed by Dr. Goessling. Thanks to good previous cooperation, Dr. Goessling is looking forward to finishing this project and to start future ones. The broad spectrum of products contains a solution for nearly every use case – including yours!

100 m Conveying Cooler for forging parts

SPAIN. Dr. Goessling delivers Hinged Belt Conveyor and Wire Mesh Conveyor to client in Spain.



1100

°C parts and scrap

Dr. Goessling Maschinenfabrik GmbH delivered a conveying system specifically optimized for the client. Its main job is cooling, separating and transporting of 1,100°C parts and scrap. After the forging press, the parts are cooled and conveyed. During the process, the hot scraps are separated from the parts and disposed in according containers.

The 1,100°C hot forging parts that leave the forging press weigh up to 1,800 g each. They are placed on a welded Hinged Belt Conveyor that has been specially designed for the rough forging application and features a separation in the middle of the belt. At a rate of up to 100 parts per minute, the parts are conveyed on the right half and the scraps on the left.

To the left, the parts are then fed to a Wire Mesh Conveyor with cooling hoods and ventilators to generate the cooling air flow, where they are cooled. To the right, the scraps are fed to additional stamped Hinged Belt Conveyors.

The stamped hinge elements are connected to the side rails, chains and each other by crossbars. The stamped Hinged Belt Conveyors are designed in a way that prevents parts from getting

Dr. Goessling has the right products for your specific demands too, and is happy to consult!

caught or pinched. Hence, the gap width is kept very small. All of the conveyors are equipped with special chains with manganese steel bocks that are suitable for forging applications.

During a prior project with Dr. Goessling in a parallel plant, the client has already had a positive experience and was convinced by the quality of the products.

The client's high satisfaction with Dr. Goessling's technology and execution was once again the foundation for further cooperation. Commissioning of the plant with the Wire Mesh Conveyor and the welded and stamped Hinged Belt Conveyors was successfully performed by the Dr. Goessling Team in September 2020.

The wide and extensive product spectrum of Dr. Goessling Maschinenfabrik GmbH was able to offer the perfect solution for this client. Dr. Goessling has the right products for your specific demands too, and is happy to consult!

Fully automated **de-oiling**, **washing**, **cleaning** and **drying** of screws – within a single system

GERMANY. Dr. Goessling supplies wash centrifuge for baier & michels, specialists in joining technology.

Maximal throughput when de-oiling and cleaning screws or small parts of various dimensions: Dr. Ing. Goessling Maschinenfabrik GmbH, a subsidiary in the JOEST Group, took on this challenge in a joint effort with baier & michels GmbH & Co. KG, based near Frankfurt.

This global player with over 400 employees has specialized in the development and production of innovative joining parts and C-part management for the automotive industry. In addition to the preexisting relationship with the client, Dr. Goessling convinced with high quality and a matching system, the washing centrifuge WZ550.

The wash centrifuge WZ550 is an inline cleaning machine that uses a patented process to de-oil and clean mass parts. All steps of the process are performed in sequence within the plant, avoiding the need to extract the parts throughout the process. Furthermore, parameters can be adjusted to change the cleaning result according to the client's demands.


DR. GÖSSLING
145
b&m
öl- und wasserdicht · 37 kg

PATENTED SYSTEM

The wash centrifuge consists of a portable base with three identical washing drums that are arranged in a plain. The lids, that vary from station to station, are fixed.

An apron conveyor with a built-in scale feeds the parts into the first centrifuge. The apron conveyor prevents the parts from getting trapped or hooked and thus results in an even distribution of material. In the first step the oil is separated from the parts by centrifuging them at up to 1,000 rpm, collecting the oil in a surrounding housing. From here, the oil is drained off through hoses and can either be collected in containers or directly inserted into a further process. After each step, the turn table the centrifuges are mounted to, is rotated by 120 °C for the next step.

During the second step, the mostly oil free material is washed with warm suds at up to 80 °C. This also acts as corrosion prevention. Afterwards the material

„The task we gave Dr. Goessling was to design a plant that could clean parts up to a size of M14x100 and a weight of 100 g in a gentle fashion, after they have been pressed or rolled. It was also very important to recover the oil that sticks to the parts after pressing or rolling and returning it to the process...“

Olaf Ambros,
Head of Technology & Development
(baier & michels GmbH)

is centrifuged once again, removing excess suds and drying it in the process.

In the third and last step, the material is rinsed to remove all remaining suds. It is then centrifuged again, dried with warm air of up to 350°C and emptied into a container. An intervening flap and vibrating slide allow for gentle conveying into the container. To prevent damage to the material, the funnels and vibrating slides are lined with Vullkolan. A full cycle with the product provided by baier & michels takes roughly 85 sec. The steps are repeated until all of the parts have been cleaned and fed into containers.

A water purification unit is set up alongside the wash centrifuge to seamlessly provide water and suds. It processes the washing suds, removing any remaining oil with an oil extractor and filling it into a tank for reuse. The washing suds tank holds 2,000 l and the rinsing tank holds 1,000 l of fresh water. Both fresh water and washing suds are automatically refi-

1000

kg/h material throughput

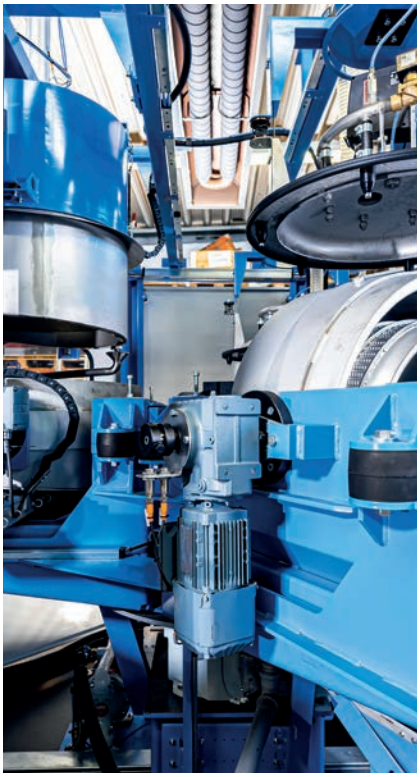
“… This was achieved to perfection in this plant, allowing us to uphold our high product standards in the area “product cleaning” as well”

Olaf Ambros, Head of Technology & Development (baier & michels GmbH)

lled. Since 95% of the oil sticking to the material is separated in the first step, a carryover of oil is avoided. The water purification and automatic refill function enable a long lifetime of the washing solution. All inlets, outlets and pumps of the unit are fitted with filters that col-lect debris such as metal shavings from the fluid circuits. This eliminates causes of damage and significantly reduces maintenance.

A high material throughput, clean result and very little loss of water and suds during a cycle make the WZ550 stand out. When evenly charged, the WZ550 is designed for a material throughput of up to 1,000 kg per hour, depending on the materials bulk mass bulk mass. It can clean small and large parts with diameters ranging from 5 mm to 100 mm, lengths between 5 mm and 150 mm and even complex geometries with unit weights of up to 230 g.

Materials such as steel, stainless steel, aluminum and also non-ferrous metals can be processed. The unit designed for baier & michels features a maximum throughput of 800 kg per hour, cleaning parts of up to 100 g and 100 mm in length per piece. The patented process



The wash centrifuge featured here is also available in a smaller edition, the WZ350.

enables an oil recovery of 95% which can then be reused, drastically reducing oil disposal fees in comparison to other systems. An additional advantage is the unit's compact design: roughly 10 m² of floorspace are required. A smooth operation is provided thanks to a very effective vibration damping system.

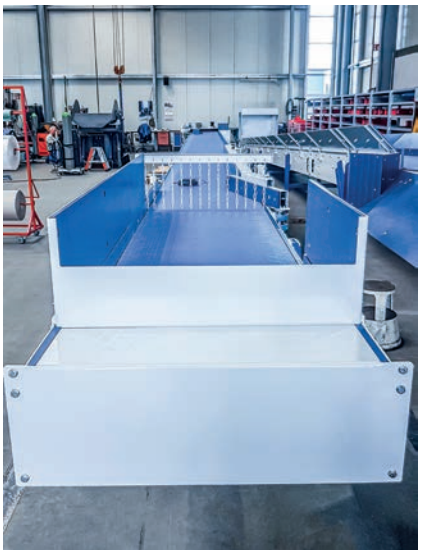
Installation and commissioning at baier & michels was performed by Dr. Goessling. Both worked out seamlessly and to the full satisfaction of the client, as did all prior cooperation. Dr. Goessling managed to extend the good relationship and build on the clients trust. They are looking forward to future projects.

The wash centrifuge featured here is also available in a smaller edition, the WZ350. The extensive product portfolio also features pure de-oiling centrifuges. These also implement the small form factor which makes them easy to integrate into any existing production. Complete solutions can be complemented by the extensive portfolio of bulk material handling machines offered by the JOEST group Dr. Goessling is part of since 2019.

VIDEO
WASH CENTRIFUGE

Conveyor plant for quality inspection of aluminum forging parts

GERMANY. Dr. Goessling designs plastic Hinged Belt Conveyor with special discharge arms.



The client's demands were to design a conveyor plant to gently transport aluminum forging parts.

For a longstanding client with expertise in metal processing, Dr. Ing. Goessling Maschinenfabrik GmbH designed a special conveyor plant that allows for aluminum forging parts to be gently conveyed in a circuit. A particular discharge enables employees to manually perform quality inspections in full operation.

The client's demands were to design a conveyor plant to gently transport aluminum forging parts. One specification was for the plastic Hinged Belt Conveyor to run in a circle and to discharge the parts at multiple arms for manual quality controls. Many years of experience in the development and manufacturing of conveyors of all sorts and the capability to incorporate individual client demands made Dr. Goessling the first choice.

The Hinged Belt Conveyors with lengths of 21 and 25 meters have a throughput of 25 to 50 parts per minute. The plastic hinges are low-maintenance and guarantee very safe and disturbance free conveying. In the bend areas, a sectional strip reduces gaps to a minimum and provides significant edge protection

Dr. Goessling is looking forward to your application too and is happy to consult.

against the conveying material in the charge areas. The discharge arms enable a simple rearrangement of the layout to meet new demands. The aluminum forging parts that are transported by the plastic Hinged Belt Conveyor range from D20x335 to D100x750 mm in diameter and weigh 0,3 to 0,7 kg each.

Four similar plants have already been delivered to the client. The good cooperation, service and quality of the Goessling machines were once again the reason behind the decision to build another conveyor together. Commissioning is scheduled for the end of the year and is performed by Dr. Goessling.

The Dr. Goessling team was once again able to offer an individual design, meeting special demands and reaching full customer satisfaction. Dr. Goessling is looking forward to your application too and is happy to consult.

■

State of the art: Painting booth with optimal equipment

GERMANY. Dr. Goessling extends its production area.

Two independent spray-painting booths measuring 5 meters in width and height with a length of almost 9 meters offer new opportunities.

The construction of the long-awaited new painting booth at Dr. Goessling Maschinenfabrik GmbH was finalized this year. Two independent spray-painting booths measuring 5 meters in width and height with a length of almost 9 meters offer new opportunities.

Being arranged back to back, they can be transformed into a single large cabin when opening a dividing door. This large cabin can fit parts of up to 17 meters in length. Illumination and routing of airflow meet latest standards, creating ideal conditions for high quality and effective surface treatment.

The ventilation capacity of 33.000 m^3 per hour and cabin is provided by a total of four ventilators with 15 KW each. Energy from the outgoing air is taken by the incoming air in an air to air heat exchanger.

This way energy is used very effectively once it enters the system. Each cabin also features a 310 KW gas heater for optimal thermal management. This ensures a consistent treatment even for

DR. GOESSLING

cold parts or in cold weather conditions.

With the new painting booth, Dr. Goessling is now perfectly equipped to meet any demands and wishes and can also perform surface treatments on special parts under optimal circumstances.

33.000

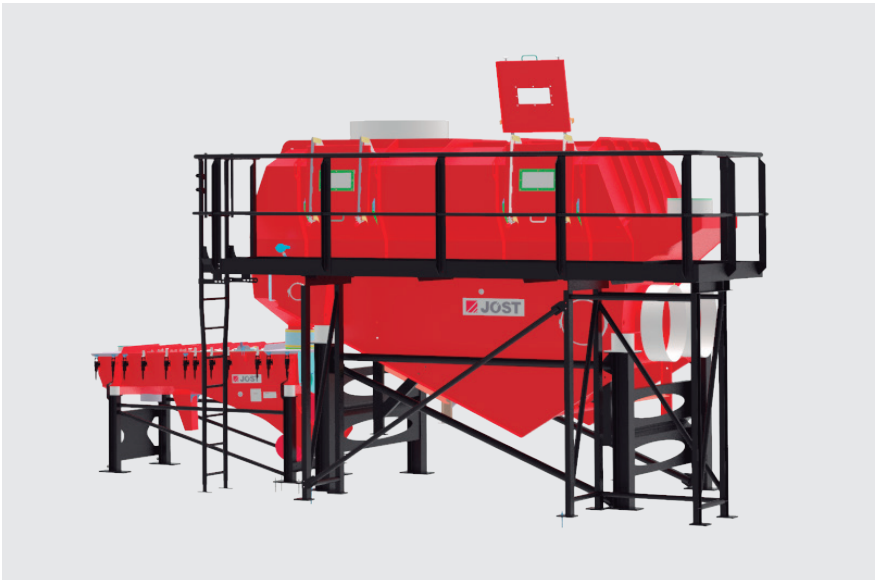
m^2 ventilation capacity

17 m

length of cabins

JOEST receives third order in a row

GERMANY. JOEST was awarded another contract to manufacture another large plant for screening and cooling of granulate material. The client is Melos GmbH the specialist in EPDM-Granulat and Cable Compounds, based in Melle by Osnabrueck.



The internationally leading producer of plastic- and EPDM rubber granulates and innovative system components placed yet another order with JOEST GmbH + Co. KG for the now 3rd generation of the plant.

The plant that is currently in design engineering is made for granulate screening and cooling.

It consists of a JOEST Fluidized Bed Dryer, a special process- and air ventilation system including the duct work package and a JOEST Vibrating Screen. Delivery and commissioning is scheduled for the first quarter of 2021.

MELOS

#greenpower - JOEST goes greener

GERMANY. Expansion of the electric car fleet.

With the use of an electrical vehicle, JOEST is taking another step in the green direction by contributing to climate protection.

Electric mobility is the future and is a key technology for the traffic and energy transition. Since November of 2020, an E-Smart is part of the JOEST car fleet and is used in the surrounding area and the city. "

There is no reverse gear for climate change", says the Managing Partner Dr. Hans Moormann.

Sustainability and #greenpower have been on the agenda at JOEST for several years now. Since 2014, the company has started to introduce electric forklifts.

In 2017, an electric charging station was installed for clients and employees. Additional chargers are now being added to the station.

With the use of electrical vehicles, JOEST is taking another step in the green direction by contributing to climate protection.

JOEST France expands office and workshop

FRANCE. The French subsidiary JMPV doubles its production to 800 m².

After merely five months of construction, the new workshop expansion and new office complex for the French subsidiary in the JOEST group was finalized in January 2020. Alongside the new buildings, the existing structures were also optimized.

Construction started in late May, 2019 at the facility in La Couronne, France. The new 54 m² office building that is replacing the existing, 20 year old office bungalow is part of the 520.000 € investment. The 400 m² steel workshop expansion is equipped with a 12.5 t crane. The entire workshop area now covers 800 m². The old workshop was supplemented by an intermediate ceiling, making room for a kitchen and additional toilets for the employees.

In order to heat the workshop efficiently, a new heating system was installed. The so called dark radiators are very energy efficient and cause only little condensation. All lights inside and outside the fa-

The JOEST Subsidiary was founded in 2006 and managed by Armin Krey.

The company is mainly focused on vibrating screens, feeders, spiral elevators, MUCKI® lifting and tipping devices.

cility were upgraded to LEDs. In January 2020, the new asphalt driveways were paved. They are now suitable for heavy-duty vehicles. Furthermore, the entire property was fenced.

The JOEST Subsidiary was founded in 2006 and managed by Armin Krey. The company is mainly focused on vibrating screens, feeders, spiral elevators, MUCKI® lifting and tipping devices. These machines are for the Primary and Secondary Raw Materials, Chemistry, Food and Thermal Processing Industries.

The facility expansion and investment in France is of great importance to the international market. Establishments on all continents enable JOEST to globally offer the technology and service it is known for and to meet international demands and expectations.

Big move:
JOEST Australia moves into new facility in Perth

AUSTRALIA. Completion of the new headquarters for the Australian subsidiary of the JOEST group .

Turning first soil was in December 2019 with the architect, the contractor Robert Biagioni Constructions and Ian Laws, Managing Partner of JOEST Australia.

In late October 2020, after one year of planning and designing and additional ten months of construction, the Australian #JOESTeam could finally move into the long awaited new building. The building designed by Brooking Design Architects is state of the art and is designed according to the lean principles.

Turning first soil was in December 2019 with the architect, the contractor Robert Biagioni Constructions and Ian Laws, Managing Partner of JOEST Australia. Construction work finished in August 2020 and the keys were handed to Ian Laws, allowing the preparations for the relocation to start. The company had worked successfully at the old facility in Sheffield Road, Welshpool for over 15 years. Especially in the mining industry, the rising demand for larger machines required a new facility after the old one exceeded its capacities. The new facility is located in a giant logistic park at Coldwell Road. This new location enables faster and more efficient manufacturing of machines and also helps meet the clients' rising demands.

The 10,000 m² property includes offices as well as the new workshop. A special design drastically reduces the noise emitted to the administrative part of the new headquarters. The large and open office area has room for over 40 employees, so design engineering, sales and purchasing can work together seamlessly. In addition to the open floor plan for the offices, there are separate areas for members of the management team.

With over 4000 m², three equally large assembly bays provide plenty of room for production, assembly and a separate storage area. To ensure an optimal production flow, multiple cranes with lifting capacities ranging from 5 to 50 tons run the length of the workshop. The central bay will shortly be fitted with two more 10t cranes. Alongside a new painting booth, the new workshop features a clean room, enabling gearbox and exciter service and repairs.

ANIMATION ABOUT
THE NEW FACILITY

With more than 50 employees, the Australian subsidiary of the JOEST group manly builds large vibrating screens and feeders for the Primary Raw Materials and Agriculture Industries. The company was founded in 2001 by the Managing Partners Ian Laws and Dr. Hans Moormann. The company also has another location in Newcastle on Australia's east coast. The new facility brings together two previously separate production locations in Western Australia, uniting the #JOESTeam at the new Australian headquarters.

Moving into the new building is another milestone in the history of the JOEST group. It is also the biggest single investment the company has ever made. JOEST Australia is now capable of living up to the increasing requirements and expectations of its clients on this distant continent and is therefore continuing on the path of international expansion in the JOEST group. Especially the free-trade agreement for Southeast Asia will enable new market opportunities.

Australian Ambassador visits JOEST group in Duelmen

GERMANY. At the invitation of Dr. Hans Moormann, Managing Partner of the JOEST group, Lynette Wood visited the JOEST group in Duelmen on September 8, 2020.

Lynette Wood has been the Australian Ambassador in Berlin for Germany, Switzerland and Liechtenstein since 2016.

The official welcome by Dr. Moormann and Dr. Marcus Wirtz was followed by a presentation of the JOEST group a special focus on the largest subsidiary of the JOEST group: JOEST Australia.

In Perth, the new plant has just been put into operation on an area of more than 10.000m² and with an investment volume of 10 million €. The growing demand in Australia is now being met with more than double the capacity, giving the opportunity to expand into new market segments and industries.

Founded in 2001, JOEST Australia Pty. with its 45 employees mainly develops and builds large screening and conveying machines for the primary raw material industry.

The company presentation was followed by a joint tour of the production halls at the headquarter in Duelmen.

Before Ambassador Wood visited the Wirtschaftsclub Westfalen e.V. in Muenster and gave a lecture there, an entry was made in the Golden Book of the city of Muenster. The Lord Mayor of the City of Muenster, Mr. Markus Lewe, welcomed the Australian Ambassador in the City Hall of Muenster.

Welcome to the #JOESTeam

GERMANY. Start into working lives for seven new apprentices.

On August 3rd, 2020 JOEST welcomed seven new apprentices to the #JOESTeam.

On August 3rd, 2020 JOEST welcomed seven new apprentices to the #JOESTeam. From now on, they will be trained as industrial clerks, technical product designers and design mechanics and will go through different departments during this time.

This offers deep insights into the different divisions of the JOEST group and will prepare them in the best possible way for their professions.

After a short welcome by the owner, a guided tour of the factory premises, an introduction to the operational processes and a safety briefing, the first working day in the specific departments began.

JOEST wishes all trainees a successful start to their professional lives!

Apprenticeship at JOEST – independent and flexible

GERMANY. JOEST offers many impressions and a broad foundation for a successful career.

Not only does JOEST let me develop myself and my professional skills. I can also gain an insight into the global economy from a family run business.

My name is Luisa. I am 19 years old and I started my apprenticeship as an industrial clerk at JOEST in Buldern in August 2018.

As most people my age, I put a lot of thought into what I want to do in my professional life and were that road is headed for me. Having done my student internship at JOEST in 9th grade, I decided to do my apprenticeship here too.

Now and then, it is the friendly, helpful colleagues and the flexible working hours that I enjoy most. As apprentices at JOEST, we get the chance to do many tasks on our own, but can still rely on the help of our colleagues. During the last one and a half years I passed through a number of departments which enabled me to get a detailed impression of the job as an industrial clerk.

Not only does JOEST let me develop myself and my professional skills. I can also gain an insight into the global economy from a family run business.

If you want to work in a future orientated company and be part of a strong team, apply now!

Luisa Kappert

Apprenticeship at JOEST - My successful final exam

GERMANY. Broad. Diverse. Helpful.

My name is Niklas Schulz and in July I successfully completed my apprenticeship as a construction mechanic specialized on steel and metal construction.

My apprenticeship at JOEST started on August 1st, 2017. After some organizational matters, I got right into the basics of technology and craftsmanship. Within the first few months, whilst filing, drilling, sawing, welding and flame cutting, you discover your initial strengths and weaknesses. From the start, the cooperation with the other apprentices and colleagues worked out great. They gave me tips or showed me new techniques and approaches. After the first few months, I circled through the various departments of manufacturing where I was introduced to the process and given an instruction on the steps necessary to build a machine.

The departments included everything from assorting and testing tools at the tool crib to welding a subunit and finalizing the machine in final assembly. Going through all manufacturing departments during my apprenticeship, I was able to get to know the various working processes and employees. I was always supported by my instructors, colleagues and other apprentices, leaving no question unanswered. In preparation for my practical and written exams, I was given plenty of material to practice with. This way I was well prepared and managed to successfully finish my exams.

I am glad to be part of the JOEST group even after my apprenticeship. I will be supporting the team in the service department performing installations, repairs and maintenance jobs. I find it exciting because every day brings new challenges and there is no dull routine.

Niklas Schultz

The apprentice wasn't the only one to receive an award for his very good performance: JOEST was also handed a certificate by the IHK Northrhine-Westphalia for the instructing achievement. The #JOESTeam congratulates Niklas Schulz once again for successfully completing his apprenticeship with the grade "A" and is glad to have such a dedicated employee on board.

JOEST apprentices have voted

GERMANY. New representative for the JOEST youth and apprentice committee.

YAC

Niklas Riering
Jonas Hochscheid
Hannah Johann

Each year, the representatives of the youth and apprentice committee (YAC) are elected. The YAC represents the interests of all youth employees under 18 and all apprentices under 20 within a company.

They work closely with the works council and monitor the compliance of e.g. the Vocational Training Act or the Youth Employment Protection Act, labor and employment agreements. Furthermore, the YAC is a contact point for all questions and problems in the work or learning environment.

The new representative elects of the JOEST-YAC are the employees Niklas Riering, Jonas Hochscheid and Hannah Johann. The vote results were happily accepted with lots of motivation by all three of them.

My internship at JOEST

GERMANY. Six weeks at accounting department.

First, let me introduce myself. My name is Lucy Dilkaute-Berse. I am 23 years old and am currently in the 5th semester of International Business and Management studies at the University of Applied Science Bochum.

My university requires me to do a six week internship, which I am performing at JOEST in February and March of 2020.

I support the accounting department which enabled me to expand my knowledge about accounts receivable and the accounts payable. Furthermore I helped with the creation of the annual report. Thus, I got the chance to get to know various different aspects involved in compiling the annual report. Moreover, I was able to connect the theoretical aspects, which I learned in my studies with real-life work.

Therefore, recognizing correlations und understanding more of the background was very interesting to me. The next big step is writing my bachelor thesis, presumably in autumn of 2020. In order to increase the international component of my study, I will spend two semesters at a university abroad. In conclusion I would recommend doing an internship at JOEST, because the employees take time to explain everything in-depth and any question can be asked.

What I liked best was having the opportunity to gain work experience in a motivated work environment whilst having the feeling of contributing support to the team.

Lucy Dilkaute-Berse

Did you know? JOEST is on social media!

As a modern employer, JOEST has its own page on LinkedIn and Facebook. Many likes and new followers help raise publicity.

Don't hesitate – network with the **JOEST group**!

Look forward to news about staff, machine solutions and the company.

On LinkedIn, we will mainly share new technology, new machine solutions and large orders. Here you will find that, JVM is featured with its own page to update you on our latest innovations in drive technology.

Our Facebook page however, will contain information on staff and other news from our company.

Posts on Instagram will focus on our current and possible future Trainees without neglecting the latest news from the JOEST group.

Feel free to share any posts to increase our range. JOEST will keep all followers posted with interesting information and references.

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