

BOOM

Information for customers, distributors, staff and friends

1st Issue - 2018



SEB NEBOGEN

Dear Customers, Sales Partners, Staff & Friends,

Today already thinking about tomorrow - as a family business this has been our motto for decades. Most of all this emphasizes our belief in the fact that we haven't inherited this business from the first generation, from our parents, but rather, that we loan it from our children. It is with this sense of responsibility that we continue to lead the SENNEBOGEN Group.

The constant change within the firm also plays an important role. With the Multi Line Business Unit we have just brought a new product line to life, that, with its focus on the new telehandlers, ensures a strong concentration on the development and production of these products while also facilitating perfect support for clients in this market segment. As a result we have once more broadened our scope and are creating space to grow in the future.

Furthermore, we are constantly working on improving our procedures in order to reduce running times, optimized supply quality and made the performance of our After Sales Department even better. To do so we are developing and implementing new tools with the help of the IT, making the processes modern and effective. You might have visited us at the INTERMAT in Paris, the IFAT in Munich, or at conferences and trade fairs across the globe. Nothing, however, can replace a visit at our Erich Sennebogen Museum in Straubing, as only here you can fully experience our lively history, something I would very much encourage you to do. The future, after all, lives from the solid roots of the past.

Walter Sennebogen - Director

Cover:

The new generation of Telehandlers - with the 355 E SENNEBOGEN is laying the cornerstone for the new Multi Line -
for more information see page 26

Back cover:

Port handling in a new dimension. In Turkish Izmir, our client, IDC Liman, has put the first SENNEBOGEN 9300 E Mobile Harbor Crane to work -
for more information see page 46



DEALER MEETING

Crane Line

January 29 - 31, 2018



In January SENNEBOGEN Crane Line sales specialists from around the world met in Straubing to exchange information on current trends and product innovations.

Wherever heavy loads need to be moved, special machines need to dig into the ground to build foundations, or construction materials such as sand and gravel need to be extracted, the cranes and duty cycle cranes from Straubing are the best option. The meeting of the international dealership in Straubing in January included, among other things, new products in the telecrane portfolio, current uses of duty cycle cranes, and technical innovations in the crane sector. Around 80 guests from 30 countries participated in continuing education workshops and training events. The conversations and exchanges between one another were also provided for the 40 participating dealers an important reason to come to Straubing. «



Around 80 participants from 30 countries attended the meeting with the new and particularly compact Telecrane 613 E being an important topic for them.

Digitalization and future themes in focus

Digitalization is currently turning the entire world of economics and politics around. This future theme has been paid particular attention to at the 47th VDBUM seminar from February 20 to 23rd, 2018 in Willingen.

With around 1,200 participants the organizer, the Verband der Baubranche, Umwelt- und Maschinentechnik e.V. (Association of the Construction Industry, Environmental and Mechanical Engineering Sectors), was able to attract manufacturers and specialists from all across Germany. SENNEBOGEN itself has been a member of this professional association for 40 years. During the podium discussion on the topic of "Digitalization in the Construction Industry" Erich Sennebogen was therefore also available to answer questions. «



VDBUM
Verband der Baubranche,
Umwelt- und Maschinentechnik e.V.

47th VDBUM SEMINAR
February 20 - 23, 2018



115 dealers from 30 countries visited Straubing



There was keen interest in the live demonstration of the new 355 E.



Debut for the new telehandler from Straubing



3E-Egyptian Co. For Engineering Equipment: Dealer of the Year 2017 - Corporate Compliance



MOLSON Equipment Service Ltd.: Dealer of the Year 2017 - Business Development



ASCENDUM Máquinas Unipessoal, Lda.: Dealer of the Year 2017 - Business Development



SMT Group Belgium-Netherlands-Luxemburg: Dealer of the Year 2017 - Best Turnover

DEALER MEETING

Green Line / Multi Line

April 9 - 10, 2018

With the new multi-functional telehandler 355 E SENNEBOGEN is expanding its wide-ranging product pallet with a further small machine with a lot of potential, and also applicable to new global markets. 115 dealers from 30 countries visited Straubing for the official presentation of the machine and product training session.

The presentation of the new telehandler 355 E was even for these long-term sales and service partners from across the globe who had come to the dealer meeting in Straubing a real novelty. The compact loading machine that looks like a telescopic-loader is much more than that. Thanks to its robust and powerful design it can even be used for wheel loader operations. *"With this unique machine we are positioning ourselves in an entirely new machine sector"*, explains Erich Sennebogen. Above all, the elevating cab is a unique selling point particular to SENNEBOGEN. After all, safety and monitoring capacities are of special importance in the challenging activities of truck-loading, recycling or industrial uses.

For the development of the new SENNEBOGEN 355 E a completely new product line, the "Multi Line" has been established. It includes engineers, technicians and product specialists as well as an own sales and back office. The new machine range, which should soon get even more products, has generally been developed and built at the Wackersdorf site. <<





Midlantic Machinery - from the left: for SENNEBOGEN Tim Hyland and Bill O'Keefe, then Eric Marburger (Sales Director), Barry Talley (Area Leader), Pat Sherwood (Deputy Director) from Midlantic Machinery, together with Constantino Lannes and Erich Sennebogen.

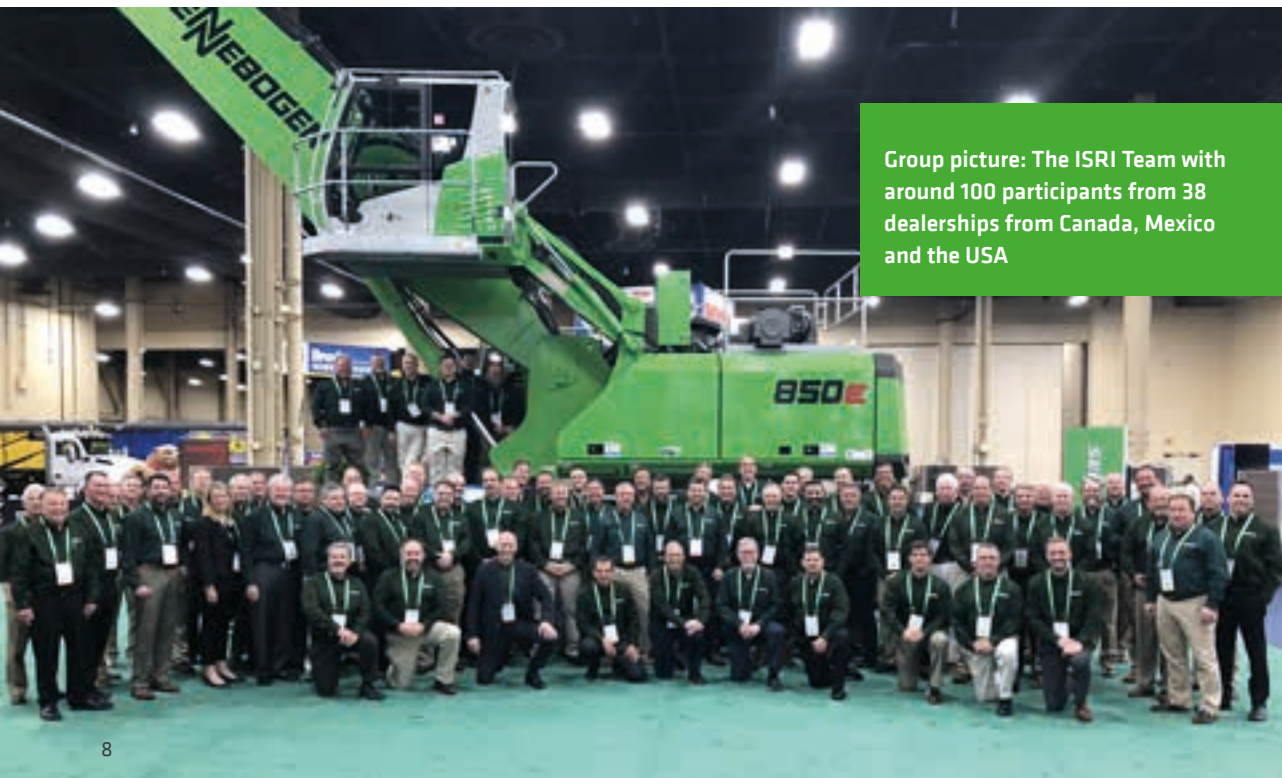
Las Vegas

April 14 -19, 2018

At the ISRI in Las Vegas SENNEBOGEN displayed two material handling machines from the current E Series - the 830 E Mobile and the 850 E Mobile. Over 5,000 trade fair visitors from 55 countries were able to admire the machines of the current Tier 4f engine generation and inform themselves about the many safety-relevant design features.

ISRI 2018

This included the new, even more spacious Maxcab with reinforced glass, surrounding upper carriage rails, or series-specific protective enclosure. The SENNEBOGEN sales team was on site with more than 100 participants from the 38 dealerships in Canada, Mexico and the USA. CEO Erich Sennebogen and Constantino Lannes could also personally hand over the Dealer Award for Exceptional Performance to the dealer Midlantic Machinery. «



Group picture: The ISRI Team with around 100 participants from 38 dealerships from Canada, Mexico and the USA



Paris

April 23 - 28, 2018

Bienvenue à Paris

The construction industry visits France: At the INTERMAT manufacturers from across the world displayed their new products to an audience of experts from April 23 to 28. Together with our French sales and service partner, Sygmat, SENNEBOGEN presented a part of their portfolio of material handlers, cranes and duty cycle cranes on an area of around 380 m².



673 E: The further development of the successful crawler telecrane convinced with the new Maxcab Comfort cab, a flange-mounted double folding jib, the tried and tested Full-Power Boom and an engine design equipped for emissions level 5.

670 E: The new duty cycle crane in the portfolio impressed with its compact dimensions, its telescopic crawler tracks and wide field of application, whether with the diaphragm wall grab shown or in dragline or piping operations.

850 E: To represent the Green Line SENNEBOGEN displayed the 850 E with its Green Hybrid Energy Recovery System. The machine on display, just like the 673 E, was put into use on construction sites around Paris shortly after the trade fair. «





IFAT

MUNICH

May 14 - 18, 2018

The recycling experts: SENNEBOGEN introduced the new 355 E & 817 E telehandlers at the IFAT

At the IFAT 2018 in Munich SENNEBOGEN presented the completely re-developed 355 E telehandler to the public for the first time. Together with the just as new compact 817 E material handler they form the Recycling Experts Duo.

Live in action: material handler and telehandler at the VDMA practice days

Interested visitors could also be convinced between 05/14 and 05/18/2018 by the impact of our machines during the practice runs. During the VDMA practice days our Recycling Experts proved their skills. The two compact SENNEBOGEN machines are particularly well-suited for sorting and loading paper, green waste or recycling materials from the waste management industry.

Together, both machines have the new elevating Multi-cab which drivers were also able to examine carefully on site. After getting into the comfort cab, they could test the joysticks and the view, and then hold a talk shop on new developments and potential improvements.

The inviting green trade booth, which was just about 300 m² in size this year, was also the meeting place for dealers and clients from across the world who informed themselves about the new products on site and who were also able to simply enjoy the atmosphere over snacks and drinks. <<

World Premier
at the IFAT!



The live demonstration at the VDMA practice days induced up keen interest among the visitors.



SENNEBOGEN presented its two recycling experts, the **new 355 E Telehandler** and the **new compact 817 E Material Handler** for the first time at the **IFAT 2018**.





Walter Sennebogen
Director & Owner

What makes us so unique as a company.

Interview with Walter Sennebogen

66 years of SENNEBOGEN – that also means 66 years of a successful family business. What were exciting, decisive moments for the company and you personally?

It's the big, pioneering decisions that I remember most of all. Just a little while after I joined the company I intensively accompanied my father in the build up construction of the Wackersdorf plant and gained my first management experiences. The path towards Eastern Europe with the takeover of our supplier, TLC, in Balatonfüred, Hungary, made the company even more international. I also remember the decision to place plant 2 in Straubing on the green-field, that was an exciting time. It has always been important to make well-considered decisions with long-term ambitions in mind. For me, the most important question has been always: "How do we want to hand this family business over to the next generation?" – for this the milestones mentioned above were definitely groundbreaking.

How has SENNEBOGEN developed, particularly over the past few years, and what are the current challenges?

The development of the economy in itself has been marked by intensive fluctuations in the past few years. The biggest challenge is, as it was before, to absorb the effects as good as possible as the economy seems to be going up and down at an ever faster pace. The days of 7 fat years and 7 thin years are long gone. We have to learn how to predict these fluctuations even better than before and, at the same time, also have the next development in view. This means for us and our employees to be even more flexible in our work and working time in future.

For many clients and dealers you and your brother Erich are the company's identifiable figures. How important is personal contact for your business partners?

I just got back from a client trip to Asia and there I once again noticed how positively clients react to sitting at the table with the owner himself. Many of our clients are family-owned businesses themselves and we speak the same language which makes everything much easier. On the other hand, as a company we also have the duty and responsibility to keep our word - in this case you can't make any badly thought-out decisions.

As far as working with my brother is concerned, I'm delighted that we get on so well as siblings and think similar about many things. I concern myself with commercial matters, plant controlling, and other issues. My brother Erich, on the other hand, is more at home in technical matters and in sales.

Why is it important for clients and suppliers to know how we are constantly improving our internal processes?

In the past few years we have worked intensively on permanently optimizing the procedures within the company and also place great focus on this for the future. We want to become more efficient, faster and more client-oriented. A significant component of this is paper-free archiving, electronic product configurations or our appearance in modern media.

Current key words are digitalization, Industry 4.0 or sustainability. What are we already doing and what does the future look like?

Digitalization is more than a glass fiber cable. By this I mean very generally the change in processes within the company, in dealings with suppliers and clients as well as the collection and processing of data such as part of the After Sales Service or remote diagnostics run on our machines. We are part of many areas of the Industry 4.0, our plants are highly modern and we are constantly investing in the digitalization of our processes. But we're not doing that just to follow trends, rather, the use for our clients, partners and ourselves must be first and foremost. Digitalization should not, however, create more bureaucracy at the same time - a lot should be made easier by it, only then it does really make sense.

SENNEBOGEN is active across the world, how difficult is it to keep track of international regulations and country-specific particularities? Is it even possible?



In the end, digitalization also has to be sustainable.

In general it's fine - the trend for international standardization is already evident in many fields. Nevertheless, here too we are thankful for the help of our global sales and service partners who represent us on location. To be active across the world also means aligning yourself with country- and client-specific requirements. This is a major challenge for people and systems in the case of our wide product range. It is important that we pay careful attention so that we can best fulfill the requirements of the international markets.

The skills shortage issue: is that a problem for SENNEBOGEN and how is it, nevertheless, still possible to find a good workforce?

The skills shortage is a massive business problem and will intensify even more in the future. We have always successfully trained our own junior staff within the company. For this to continue in the future, we invest in a high media presence in the region. We have partnerships with schools and technical universities and support social activities. Not only our non-profit SENNEBOGEN foundation, which targets the sponsoring of training content, but also the sponsoring of high-performance sports such as ice hockey and volleyball, or of popular sports, is important and increases our publicity. Not least, with the Technik für Kinder Association, we are already starting our partnerships at elementary school age in order to enthuse young people for technology. I am already confident that we will be able to enthuse employees for our attractive jobs in the future.

If you had to apply to SENNEBOGEN today, what would be particularly important to you? What should the company offer, and what arguments could you use to score points as an applicant?

The most important thing for me would be a challenging, interesting occupation - basically for there to be no boredom. A good working atmosphere is also particularly important for feeling at home in a job and an efficient team can trigger high performance and make work fulfilling.

In my application I would of course emphasize my industrial engineering degree from the Technical University of Munich and refer to my experiences gained in the family business from age 10. The most decisive characteristics would however be those that were lived out in my parents' home - the values of honesty, responsibility, reliability, the fair treatment of others, and also willingness to work and diligence.

And now personally: what does your working day look like? What makes a day successful and how do you manage to relax and stay fit?

For me a good day begins with my breakfast and the daily newspaper. In the morning I indulge in some time to inform myself about the current state of the world. After that no working day is really like any other. My work is fed by communication with my employees with whom I often work hard on creating the best for the company - I therefore rarely have a look at the clock. Relaxation, on the other hand, is now often simply a pleasant evening with my family or friends. At the weekend I like to go for a spin on the bike or cruise through the country side in my vintage convertible. «

At the weekend I like to go for a spin on the bike or cruise through the country side in my vintage convertible.



Walter Sennebogen
Director & Owner



To be much more than a telehandler...

is the challenge for the new 355 E.

"Already during its construction we took all measures needed to ensure that the machine could meet even the highest requirements. All components have been trimmed for the utmost longevity, and even multiple-shift operation in daily use is no problem. The Z-kinematics known from wheel loaders, with its enormous breakaway torque, makes the machine a real power package."

The continuous hydrostatic Compact Drive works with 300 ccm displacement and 45° swing angle technology and, through a perfect combination of pressure and speed, offers a conversion range not yet achieved with enormous thrust powers with, at the same time, compact dimensions and modern controls. Do I have to say anymore? The new 355 E is the very best in material handling!"

Andreas Baumann - Telehandler Development



355 E

 103 kW

 5,5 t

 8,5 m



Achieving even more with new harbor equipment

Since 2018 there is a total of three new equipment variants for the 875 E, which, with increased load capacities, are particularly useful for port handling. The first machines are already in use around the globe. One has even made it to Iceland and is impressing people there:

"The first machine delivered by the IMB Maskiner AS Dealership, a SENNEBOGEN 870 E, had already won us over. As a result we decided to purchase another machine, this time a 875 Crawler Portal. The new machine has now been working for several months in the Husavik Harbor and unloads the incoming ships for PCC Bakki, a silicon plant. The unloading of the very first ship was enough to completely convince us of its worth."

Gudmundur Adalsteinsson, Senior Manager - Eimskip



875 E

 391 kW  165 t  29 m

Ambitious, demanding, multi-functional

"A machine with many use possibilities, that can only be a duty cycle crane. But what is it really? Our clients place particular value on the highest reliability, robust design and a particularly high-performing hydraulics system. With the new SENNEBOGEN 670 E we are offering our clients a modern 70 t machine that seamlessly fits into our product portfolio. We purposefully chose this weight class because it easily facilitates both dragline uses and well construction, but still facilitates the safe operation of heavy work with diaphragm wall grabs and other accessory equipment. And all of this with a transport width of only 3.0 m - it doesn't get more compact than this."

Karlheinz Ring - Duty Cycle Crane Construction



670E

 321 kW  70 t  56,9 m



Big, strong, mobile.

"We didn't just develop this unique machine for the demands we face on the company site. It is in particular the flexibility of the mobile undercarriage, the full-power boom and the simple operation that makes the 6113 Mobile an indispensable aid for all possible logistics tasks. Only SENNEBOGEN can provide such a strong mobile telecrane with up to 120 t load capacity!"

Uwe Richter - Telecrane Assembly

6113E

 168 kW

 120 t

 40 m



SENNEBOGEN industrial management assistant

For Michael Petzendorfer (18) everything quickly became clear after he finished school: "I really want to study for a commercial career." Since September 2016 he has been completing the three-year training apprenticeship to become a industrial management assistant with SENNEBOGEN in Straubing. But still, school isn't entirely over yet. Twice per week its back to the school desk, specifically in the state vocational college - the reason: Germany's dual education system.

More than half of all school leavers still decide upon a funded professional apprenticeship in a workshop or in industry. A majority of the teaching content is provided by the trainers in the companies - Learning by doing then. The theoretical foundations and

business knowledge are taught in the classroom, with experiential exchanges with trainees from other companies also proving important here - a model for success in Michael's opinion.

We meet Michael just as he is preparing the tools for the next training session in one of the training rooms in the SENNEBOGEN Academy. "It's terrific how many different insights I have already been able to gain into the job over the past 1.5 years. From accounting to purchasing to production control, I have already been able to move through countless divisions and not only get to know nice colleagues everywhere, but also learn a lot about each department." «

I like the variety

Practical technical knowledge is taught in up to 10 departments rotated through during the apprenticeship.

The apprentices rotate through up to 10 departments during their three years in the company. As a result they don't just properly get to grips with all of the internal processes, but, as time goes on, often become invaluable employees in their own departments.

"It's terrific, that practical application is also at the forefront in school. Nearly all of our teachers have built up their own practical experiences in business and share their knowledge with us - but sometimes we also discuss if it's all still up-to-date." «

School and Career: is there still time?

"I find it particularly exciting that, already as an apprentice, I'm getting to know almost the complete background of a machine. I'm sure that a few of my schoolmates envy me that. My tasks are really varied, I've already got some of my own projects that I'm working on by myself and can see how important even we apprentices are for the smooth running of processes inside the company.

"Definitely", says Michael. Even if school work and working hours to just before 5 p.m. evidently restrict free time, he doesn't get bored at the weekend. On Sundays Michael is always in full kit on the football field. He stands his ground as a defense player for the Straubing Spiders in the U19 team. "It's not so easy to get past me!" he claims and adds: "Sport and meeting up with friends, that is my favorite thing - there's always time for that."

Because, of course, the theoretical foundations can't be allowed to slip, in the vocational college Michael and his classmates are swotting up on subjects such as economics and social sciences, learning operational and business processes and the strategic foundations for a company as well as the rights and obligations of the employers and employees. In brief, everything required for their future career life as regards specialist and general knowledge.

On Sundays Michael takes his place on the pitch for the Straubing Spiders football players.



It's back to the blackboard twice a week. Lessons in the vocational college are as much a part of this as the practical training.



Full Power Boom

IF TWO PEOPLE QUARREL, THE THIRD REJOICES - this is how you could start the story of how the Telescopic Crawler Crane was finally developed as a machine model.

As a synthesis of the Crawler Crane and Mobile Telescopic Crane (AT Crane), the Telescopic Crawler Crane combines the advantages of both worlds. The SENNEBOGEN Telescopic Crawler Cranes were developed as such from the very beginning and should therefore not be seen as a compromise solution.

One of the main benefits of the Telescopic Crawler Crane is its high flexibility in various applications. Even at the operation site it can be driven under full load. Cheap maintenance and operating costs as well as quick set-up add to the list of advantages. In relation to load capacity it scores points with low space requirement, with, above all, no extra space being required for the assembly of the boom.

Another main aspect of the SENNEBOGEN Crawler Telecrane is its Full Power Boom.

In contrast to the one-level telematic boom, which can be found, for example, in AT Cranes, the Full Power Boom has a multi-level system.

The advantages of the multi-level Full Power Boom are evident. Telescoping under load is possible along the entire boom length, and the smooth adjustment of the boom length is possible at any time during work. The boom is easily retracted and extended via a joystick. The whole system can be easily serviced and undergoes little wear. The use of accessory devices in dynamic applications, for example, leader or vibrator mode, or hammer use in specific civil engineering jobs, is possible thanks to the Full Power Boom. The robust construction of the boom also safely absorbs the resultant forces and torsion.

Pick & Carry Application:

- Pick up load
- Move load
- Telescope & position load



5 Advantages of the Full Power Boom

- Telescoping and carrying under load/Pick & Carry
- Inclination/360° swing
- Use of accessory devices in dynamic applications
- Robust, maintenance-free system
- Continuous telescoping via joystick, always friction-locked

Dynamic soil compaction



Demonstration of the functions on the SENNEBOGEN factory site



How does the dynamic soil compaction work?

The procedure for dynamic soil compaction comes into play if an improvement in soil thickness and/or cavity compression is required. For this a heavy weight is repeatedly dropped on the soil from a height of up to 30 meters. The kinetic energy created by the impact leads to a compaction of the soil for depths of 3 to 10 meters.

PUT SIMPLY:

the vibration caused makes the material oscillate, the result of which is that smaller pieces of grit fall into the cavities between the larger pieces. The material takes on another position, the soil is compacted.

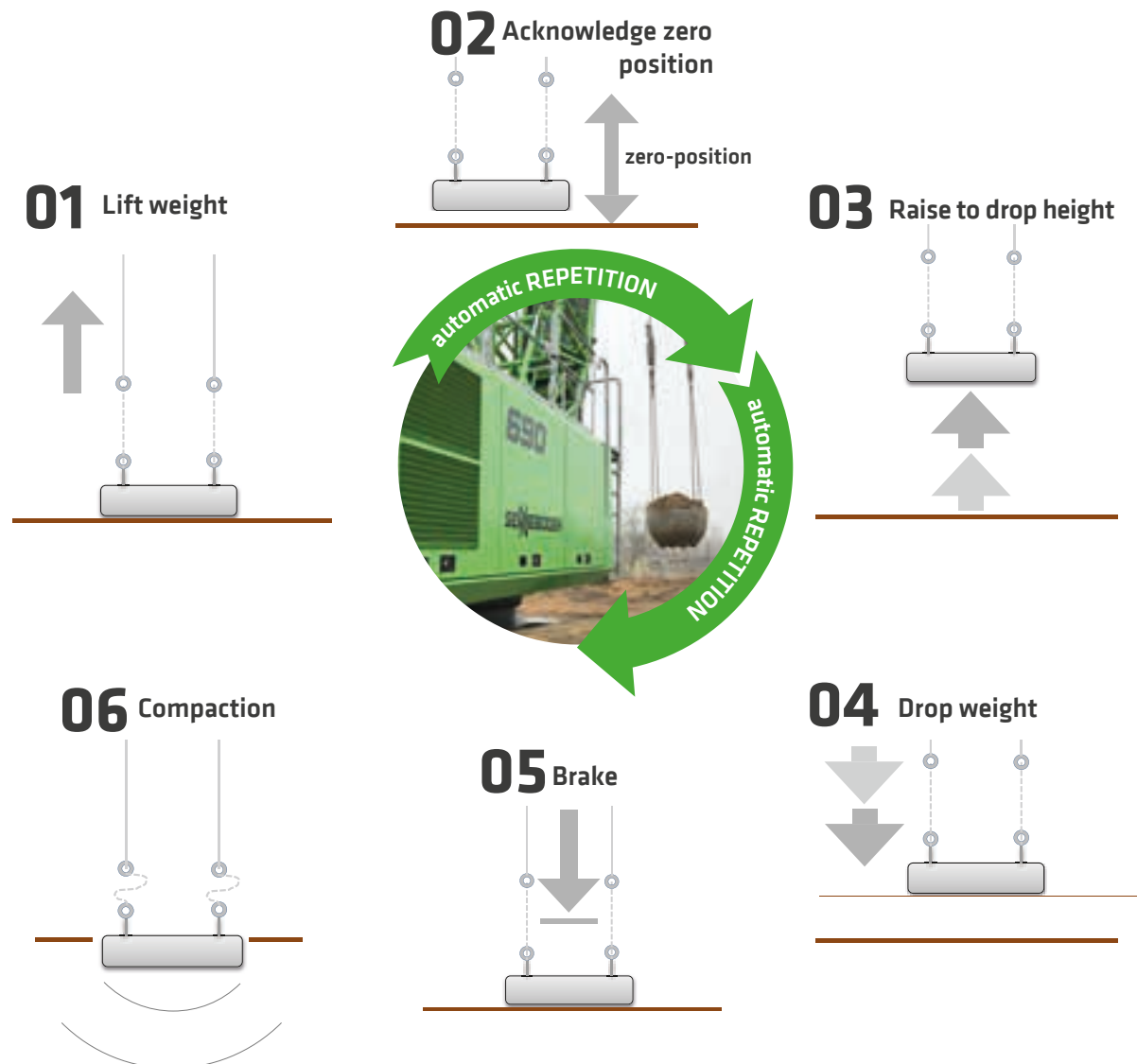
SPECIAL FIELD FOR THE SENNEBOGEN DUTY CYCLE CRANES:

the dynamic soil compaction is carried out by a duty cycle crane that raises the drop weight to a pre-defined height and then lets it fall, either fully automatically in automatic mode or through manual activation.



"The SENNEBOGEN Duty Cycle Crane also proves its strength in dynamic soil compaction thanks to its robust construction. Soils of the most variable types can thus be automatically compacted. The duty cycle crane itself can be individually programmed, and the desired drop heights and braking time are adjustable. As a result the duty cycle crane can work fully automatically or be operated manually by a driver. Of course, every duty cycle crane is also always fitted out specifically for the client in order to completely fulfill the specific challenges in the relevant area of activity."

Dr. Peter Sekler, Control Technology



ALL NEW...

The starting shot for the new MULTI LINE Business Unit: From left: Walter Sennebogen, Erich Sennebogen, Michael Trunzer, Stefan Czech, Andreas Baumann, Sandro Stamm, Marie-Luise Schuster, Ronald Haupt, Udo Thiess, Michael Kufner and Benedikt Käsbauer



Let us introduce our team:

MULTI LINE

With the SENNEBOGEN 355 E, the new telehandler introduced with much celebration at the IFAT 2018, SENNEBOGEN has not just expanded its portfolio but has also created a separate Business Unit alongside the material handlers and cranes.

The new MULTI LINE has been kicked off with the 355 E, further products are to follow. A separate team of developers, engineers, technicians, sales and customer service agents will take care of the new product line in the future. A major part of the skillset for this is focused in Wackersdorf, where the 355 E is also being manufactured. The proximity of developers and sellers to the product is nothing but an advantage here.

Responsible for the entire sales and product management for the new unit is Michael Trunzer, with the important German-speaking territory being supported by Ronald Haupt. The development team based around Andreas Baumann is responsible for constructions and is supported by a team of experienced engineers, customer service agents and the back office.



The MULTI LINE offer will primarily be aimed at clients from waste management and industry. Initially, sales will take place via the well-known and proven network of existing sales and service partners worldwide. <<

“We want to offer our clients across the world a fully developed product for various areas of application. The positioning as a separate business unit makes sense here and is important for us to be able to fully focus on the requirements of our future markets in sales, project planning and development.”

Michael Trunzer, MULTI LINE Sales Director

MULTI LINE

Let us introduce



Separate Development Division	Production in Wackersdorf	Close to the customer due to the focused sales team	Tests and Training
With specialists for the development of our new telehandlers, we have put together a team that can devote itself entirely to the new product line.	The machines of the Multi Line are produced at the Wackersdorf location. The proximity of development and production is therefore an important criterion.	Our experienced sales experts know the market and the customers and are on hand to help and to provide an optimum solution for every customer.	The new 355 E has already numerous test rounds behind. Take advantage of the opportunity for individual tests and training.



2,000 machines built

When the new SENNEBOGEN production site in the Straubing Harbor industrial zone was opened, barely anyone believed that just after a few years later a full 2,000 machines would have been developed, assembled and made ready for dispatch there. In spring the SENNEBOGEN Plant 2 workforce celebrated the completion of the jubilee machine.

“Every single person has contributed to this success”, says Director Erich Sennebogen, praising his team gathered together in the Straubing Plant in the industrial zone’s harbor. In the end they managed, together, to produce a full 2,000 machines in the new location. This is all more remarkable due to the fact that in the Straubing Harbor Plant SENNEBOGEN primarily deals with client-specific solutions. From the large 300 t harbor crane to the complex electronic material handlers on portal undercarriages, nearly every client wish is made reality in Straubing.

The 2,000th machine, is a 875 Material Handler with a 26 m range and a 5 m high crawler portal, built for a client from Russia. The completion is not only a day of celebration for the client, but also for the Straubing employees. At the end of this day this is now a quite special machine. “We can be proud of this, I look forward to many further projects together”, says Erich Sennebogen as he already looks to the future in expectation.



Group picture of the SENNEBOGEN team under the 2,000th machine built in the Straubing Harbor Plant 2.

Telescopic crane assists in rescuing a derailed train in Switzerland

In early January, winter storm Eleanor battered the village of Lenk in Switzerland, pushing a 19-tonne Montreux Oberland Bernois Railway (MOB) vehicle off its rails in the process. But now, the vehicle is back in action. It was a SENNEBOGEN 673 E crane that came to the rescue. Working on a frozen area of ground, it hoisted the vehicle securely back on to the tracks.

So what exactly happened? On January 3, 2018, the MOB train left Lenk station and began its journey towards the village of Zweisimmen. On reaching Boden/Lenk, the 19-tonne vehicle that was driving the series of carriages was hit by a gust of wind from storm Eleanor, lifting it off the rails and leaving it lying on its side on a patch of open ground. One month after the storm, and following some extensive preparation work, a rescue operation was able to put the derailed vehicle back on track. The process involved two telescopic crawler cranes that were positioned on the frozen terrain on either side of the toppled vehicle. One of these was a SENNEBOGEN 673 E: working together with the second crane, it was able to hoist the vehicle off the ground and place it securely back on the rails. The process involved two stages, in which the vehicle was first placed back onto its still-intact chassis and then lifted onto the rails. Thanks to its track width of 4.10 meters and its crawler tracks' extensive footprints, the SENNEBOGEN crane was able to keep any damage exerted on the ground to a minimum.

Supplied by service and sales partner Kuhn Schweiz to Toggenburger AG, the equipment features a 168 kW diesel engine that complies fully with Tier 4f emissions specifications and is able to lift loads weighing up to 70 tonnes. The innovative self-assembly system of the 673 E enables it to be set up and taken down within the shortest time possible. With a transport width of just 3.0 m, even a standard flat-bed trailer can be used for removal transport - and the ballast can be dismounted for transport in six easy steps. In addition to the 673 E, Toggenburger's fleet of machinery includes a SENNEBOGEN 643 R 40-tonne telescopic crawler crane. The prominent Swiss company has projects for all over the entire world and is able to take on even the most complex types of job. Organized by the MOB, the two-crane rescue operation was a complete success. «



The SENNEBOGEN 673 E telescopic crane rescuing the toppled Montreux Oberland Bernois Railway (MOB) vehicle in Switzerland

Proving its worth right from the start: 817 E

The impressive new compact material handler for the waste industry

Making its debut at the end of 2017 and developed specifically for the needs of the recycling and waste industry, the 817 E-series is SENNEBOGEN's smallest material handler. The first machines are now proving themselves successful in applications in the field, testament to the merits of the particularly compact and agile design of this green sorting specialist. We took a closer look at the new green addition in action at Meinhardt Städtereinigung GmbH & Co KG in Mainz, Germany.

A waste disposal company operating in the Rhein-Main region, Meinhardt has been efficiently disposing, processing, and recycling waste for over four decades. Its ingenious disposal concept supports the end-to-end processing of waste products and recycling materials. Meinhardt has been using SENNEBOGEN material handlers in its sorting and loading process for almost 20 years. The launch of the new SENNEBOGEN 817 E, of the 65th SENNEBOGEN anniversary celebrations in Strau-

bing in fall, marks the addition of the smallest material handler to date to the green portfolio. The new SENNEBOGEN 817 E material handler tidies up, sorts, moves material and is simple and compact – making it ideal for the use in waste recycling. It even copes extremely well with demanding conditions such as dust, heat and continuous loading. This is most of all evident when the machine is using its sorting grab to load shredded industrial waste onto trucks in the huge hall. On board in the height-adjustable cab today is SENNEBOGEN test driver Thomas Bugl, who is currently training drivers to use the new machine. From a height of approx. 4.50 m, as well as having an unrestricted view of the area in which he is working, he is also able to show us just what the little power pack is capable of. The trucks are loaded with waste quickly by the ton. Illumination is optimized thanks to a comprehensive lighting package on the machine featuring LED headlights. The Meinhardt drivers cannot wait to take a seat in the cab for themselves, since they have enough experience.. It's not



„Precise sorting, highly responsive control and of course speed when loading waste on arrival at the facility and onto trucks ready for departure are key requirements in our sector. The machines also have to be capable of maximum reliability and require minimum maintenance in continuous use. SENNEBOGEN has been more than equal to this challenge for many years through its sales and service partner Schlüter Baumaschinen, from whom we have received the best possible quality and service “

Frank Kühnle - Yard Manager

only during operation in halls with low ceiling heights or in narrow loading spaces that the compact material handler plays to its strengths. Equally impressive are the numerous thought-art features that are delivered as standard with this recycling specialist. One such standard feature, the reversible fan, can be relied on for uncompromising dust discharge, and inverting the position of the hoist cylinder prevents dirt accumulating during continuous operation. All components – the large thermostatic radiator, pipe fracture safety devices, hard-wearing side cover made from sheet steel, and solid equipment, for example – as well as the SENNEBOGEN grab (an in-house de-

With an operating weight of around 17 t and a range of up to 9 m, the new 817 E machine class is deliberately positioned below the existing SENNEBOGEN material handlers. The SENNEBOGEN 817 E is just 2.54 m wide, 4.61 m long, and 3.20 m high.



sign), are dimensioned for continuous use in recycling applications. A variety of optional special equipment features and safety systems from cameras through protective grating completes the range. What's important for drivers is of course the new Multicab cab – after all, this is where they have to spend all day. Ensuring that they remain focused and work safely isn't a problem thanks to the brand new ergonomic joystick design, all-round safety glazing, and the standard comfort seat, along with numerous other features. «

The Grand Paris Express is a group of six fully automated metro lines in Greater Paris to be realized by 2030. The project is planned to include 72 stations along its 205 km of tracks. Construction work commenced two years ago. The already existing fully automated lines will be upgraded and extended, and four completely new lines will be added. Many SENNEBOGEN cranes and handling machines are already being used at the construction sites.

Currently, a great number of civil engineering projects are being prepared to be launched within the next months. Excavation work will then start together with the associated logistics flows to and from the various construction sites. The actual construction phase will start after these impressive preparatory measures have been completed.



1,600 suppliers 30 architectural offices, 15,000 temporary jobs:

„A construction site of this dimension has not been seen since the 1960s“, says Philippe Yvin, president of the Soci t  du Grand Paris, that is in charge of the project. The challenge is to complete the major part of this new public transport network before the Olympic Games in 2024. Since three thirds of the new lines will be underground, specialist machines for underground construction work are required.

- » Duty Cycle Cranes for special underground construction, soil and gravel excavation in deep shafts
- » Service cranes (Crawler Cranes with lattice boom or telescopic boom) for universal use
- » High-performance, highly productive „Green Line“ Material Handlers for all tasks associated with construction sites and material logistics

The machines on site are supplied and supported by sales and service partner SYGMAT. Together with professional technicians and specifically trained in SENNEBOGEN technology, SYGMAT also takes care of any service the machines may need. «



Large-scale project Grand-Paris-Express: SENNEBOGEN machines at work at the super-metro construction sites



A SENNEBOGEN 6113 E as service crane.



Highest flexibility at the jobsite for customer Route 61.



6140 E - for heavy-duty special underground work using hydromills

Construction work for future line 15 south of the Grand Paris Express commenced at the end of 2017. At this site, SPIE FONDATIONS, a subsidiary of the SPIE BATIGNOLLES group, performs the special underground construction work to build a tunnel more than eight kilometers long.

To prepare for this major project and to expand the machinery pool with ever more efficient machines, SPIE FONDATIONS decided to purchase two powerful 140-t SENNEBOGEN duty cycle cranes. The range of duty cycle cranes is now complimented by the impressive and powerful SENNEBOGEN 6140 E. «

Joining forces: 673 E & 655 E

A telescopic crane 673 E and a duty cycle crane 655 E are joining forces at the same site to remove soil and gravel and do hoisting work where space is confined.

The 673 E is the latest addition to the machine pool of ENCO, a company specialized in the rental of construction equipment. This investment was made to meet the needs of mid-term and long-term construction sites. After the diaphragm walls are set up, a lot of soil needs to be removed in order to make space for a large tunnel boring machine. This work can be handled by hydraulic excavators down to a depth of 20 meters, but if depths of 50 or even 55 meters must be reached, a duty cycle crane is the equipment of choice. Elevating cabs are a unique option of SENNEBOGEN duty cycle cranes. These cabs allow operators a direct view of their work area throughout the entire cycle, a clear benefit in terms of work safety. «

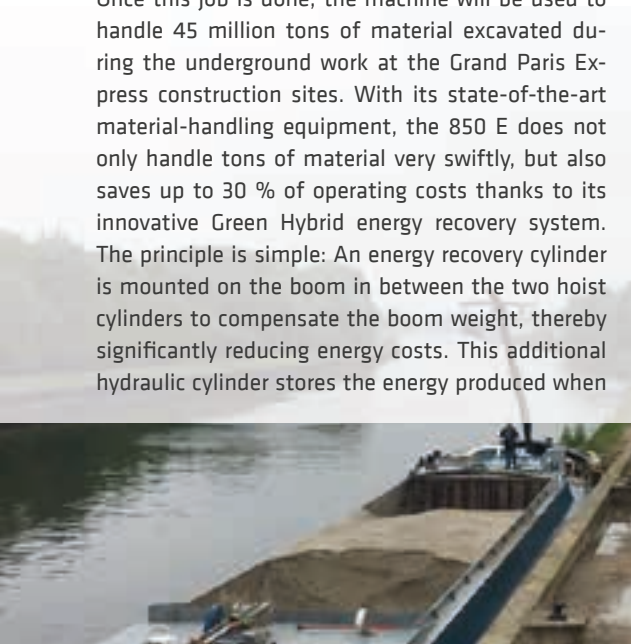


850 E-Series handling sand at the Seine

The family-owned company SARL GRAS owns several SENNEBOGEN material handling machines, of which currently one 850 E has been deployed to load and unload barges on the Seine in order to ensure the supply of sand and gravel to the concrete production plants in the city and suburbs of Paris.

Once this job is done, the machine will be used to handle 45 million tons of material excavated during the underground work at the Grand Paris Express construction sites. With its state-of-the-art material-handling equipment, the 850 E does not only handle tons of material very swiftly, but also saves up to 30 % of operating costs thanks to its innovative Green Hybrid energy recovery system. The principle is simple: An energy recovery cylinder is mounted on the boom in between the two hoist cylinders to compensate the boom weight, thereby significantly reducing energy costs. This additional hydraulic cylinder stores the energy produced when

the boom is lowered in compressed gas cylinders placed in the rear of the machine. This accumulated energy is then available for the next stroke. The principle is similar to a spring being compressed and then releasing its energy when it is allowed to expand. Together with the Green Efficiency technology, maximum energy efficiency is achieved. «





With a comfortable range of 33 m SAUER Bau has successfully put the new SENNEBOGEN 830 Long-Front Demolition Material Handler for demanding demolition tasks to work.

870 E: Demolition with precision

Long-Front Demolition Material Handler at SAUER Bau in Munich

Precision and agility is required for the demolition of buildings and industrial plants. The SAUER Bau und Projektentwicklung GmbH demolition specialists know this and as a result have decided upon the new SENNEBOGEN 870 E Long-Front Demolition Material Handler - a machine that, with a reach height of 33 m at 4 t load, leaves little to be desired.

The first use of the machine was also highly symbolic, with the former CSU Party Headquarters in Munich's Nymphenburgerstraße giving way for a new building. Right in the tightly-packed inner-city zone, sure instincts are needed if a building is to be demolished piece by piece. In this case the hydraulic handler has considerable advantages over other

dynamic demolition concepts such as, for example, wrecking balls. Above all, in built-up areas buildings can be demolished without any vibrations. The machine can grab individual facade elements and entire building structures with pinpoint precision using the demolition shears or grab and bring the parts safely to the ground. At the same time, the demolition material handler can also reduce and load the material on site. The driver has a perfect view of his working area from the cab, which can be inclined by 30 degrees, elevated 2.70 m, and has additional cameras. In total the SENNEBOGEN 870 E, with its tripartite demolition equipment, gives a reach height of 33 m and a reach width of up to 20 m with comfortable load capacities up to 4 t.



"Delicate and precise work, is often required in demolition. Particularly if it has to be carried out in extremely tight inner-city areas. Thanks to the cab that can be elevated and inclined, and with the help of several surrounding cameras, I always have my work site in view."

Heiko Striemke - Machine Driver / SAUER Bau und Projektentwicklung GmbH

Specialists in pipe handling

SENNEBOGEN 870 E material handlers at Mühlheim Pipecoatings

A total of seven SENNEBOGEN 870 E material handlers are now successful in operation as specialist equipment for pipe handling at the company Mühlheim Pipecoatings. Every day the material handlers move hundreds of pipes up to 18 m (approx. 59 feet) in length and up to 15 t in weight. This requires a fine touch - the pipes are to be used in the new pipeline Nord Stream 2, which in future will transport more gas under the Baltic Sea to Germany. That is just one of many major orders from around the globe - SENNEBOGEN material handlers have a lot of work to do.

Mühlheim Pipecoatings (MPC) is part of the EUROPIPE concern, which is a market leader in the production of longitudinal and spiral seam-welded large-diameter pipes in practically any dimension you could wish for. Among others, they also produce pipes for the Nord

Stream Pipeline in the Baltic. Since 2011, Russian gas has flowed through this pipe over a total length of 1224 km under the Baltic Sea to Germany. Back then most of the pipes needed also came from MPC from Mülheim an der Ruhr. In the future, with the construction of a second parallel pipe, up to an extra 55 billion cubic meters (1942 billion cubic feet) of gas will be transported. The construction of the Nord Stream 2 is currently underway at full speed and once again the pipes are from Mülheim - sorted, stored and loaded by SENNEBOGEN material handlers.

At the end of 2016 Sales and Service Partner Baumaschinen Rhein-Ruhr (BRR) was able to deliver two more SENNEBOGEN 870 E material handlers for pipe handling at MPC. The machines in the current E series are equipped with a 261 kW diesel engine and the tried and tested Green Hybrid energy recovery system. With a



from left: Harald Ausmeier, BRR Company Director, Head of Maintenance Vaceslav Funk and Head of Logistics Alexander Jähring at Mühlheim Pipecoatings



maximum range of 20 m (approx. 66 feet) even pipes up to 15 t in weight and 18 m (approx. 59 feet) can be stacked and loaded safely.

As the cost per pipe can reach up to 20,000 Euros, the driver needs to be fully focused. The pipes are carefully lifted from the truck using a hanging spreader or vacuum traverse, are inspected again and then finally loaded onto wagons for further transportation - always within perfect view from the Maxcab industrial comfort cab which can be raised by 3.0 m (9.8 feet) and moved forwards by 2.6 m (8.5 feet). «

„Before loading them onto wagons we check each pipe for damage and ensure that they are loaded in the right order. For this reason, it is also important that, despite the heavy loads, it is possible to work as carefully as possible, ensuring that materials are not damaged. With the SENNEBOGEN 870 E we have the perfect combination of range, an easy to handle working load and sensitive control.

In the meantime we have seven machines from the 870 E range in operation. They have not had to undergo any major repairs and in the case of minor incidents we are able to solve the problem ourselves thanks to the easy to service machine structure - a quality feature that we are very satisfied with.“

Alexander Jähring -Head of Logistics



Working at a holiday destination

Italy's first SENNEBOGEN 2200 E has been hard at work in front of the Basilica di San Giovanni in Rome since February 2017. The 80 t crawler crane is doing sterling work as part of a microtunneling project to extend Rome's Metro network.

La dolce vita. It brings sun and an espresso at a small street café around the corner to mind – on the for example, Via Urbanara. The only thing that disturbs the sweet idleness is the traffic noise – an ever-present feature of the streets of Rome, as the Italian capital has one of the highest density of cars in Europe. To improve the traffic situation, the authorities are developing and extending a line of the Metro network.

The work on section T3 of line C (from San Giovanni to Fori Imperiali) began in 2013 and is still going on today. The section covers 3.6 km and includes two stations (Amba Aradam / Ipponio and Fori Imperiali). The trenchless installation of pipes using microtunneling technology is now an indispensable part of urban infrastructure management and construction and is becoming increasingly prevalent – not just in Rome.

This is where Italy's first SENNEBOGEN 2200 E comes in - on the site near the Basilica di San Giovanni. Equipped with a 28,9 m main boom and additional 1.2 m auxiliary jib for crane loads up to 12 t, its tasks include unloading trucks, moving the loads, and lifting down the prefabricated pipes for microtunneling. It also takes care of the logistics on site and lifting tasks.

Modern Port Handling

the new 9300 E impresses in Izmir/Turkey

With the 9300 E, SENNEBOGEN brought its new mobile harbor crane concept to the market in 2017. The first machine has now been working successfully for several months in bulk handling for our Turkish client IDC Liman Isletmelerei A.S. in Izmir Harbor.

With a 40 m working radius the crane serves ship sizes up to the Panamax Class for bulk handling as well as standard and feeder ships in container handling. At the same time, with a 90 t load capacity at almost 20 m extension, it offers an attractive solution for heavy load and bulk handling. For IDC the 9300 E is primarily being successfully used for the unloading of coal with clamshell buckets. The client is particularly impressed by the ability to elevate the cab. With an eye height of 21.2 m the driver has a perfect view from his comfortable and spacious

Portcab. The access up to it has been designed to be even more comfortable, with the driver entering his cab at a height just below 9 m and can then comfortably drive to his perfect working height thanks to the Skylift 1100 cab elevation. Overall the machine convinces with its simple and robust technical undercarriage design. Reliability and accessibility are features of SENNEBOGEN machines appreciated not only by the clients in Turkey. ◀◀



With the Skylift 1100 cab elevation the SENNEBOGEN 9300 E has a unique selling point in the mobile harbor crane sector. Thanks to this setting the driver can drive comfortably and safely to the optimal working position, and the machine can be safely driven in harbor sites when in the lower position.



The SENNEBOGEN 9300 E scores points through its high load capacity throughout the entire working range, while the mobile undercarriage with all-wheel steering and 14 wheel settings ensures maneuverability and low ground pressure. The first machine has now been working for several months for our Turkish client IDC Liman Isletmelerei A.S. in Izmir Harbor.

People at

This is where color comes into play

15 employees in the Straubing paint shop make sure that our machines impress from the outside. Their workspace covers four painting cubicles with lengths of 15 m, 25 m and 35 m, most of them are fitted with their own crane system in order to precisely position the components. Protected by filter masks, our employees spray the paint particles onto components big and small. Environmental friendly water-based paint is used for years. Even if we would prefer to paint everything SENNEBOGEN Green-RAL 6018, there are of course other RAL colors available.



Painter Jan Smailus takes care together with his colleagues that all components have the right color. He is protected with a body suit and filter mask.

SENNEBOGEN



SENNEBOGEN Academy

Hydraulics in Practice

Cooperative Training for Hydraulic Specialists

For many years the Schnupp Hydraulik firm from Bogen and the Straubing-based machine manufacturer, SENNEBOGEN, pursue the same path. In 2018 employees from both companies completed together more than 200 teaching units to become hydraulic specialists.

In the modern training rooms of the SENNEBOGEN academy the participants learned everything they need to know about hydraulic components and the use of these in the SENNEBOGEN cranes and material handlers. At the end everyone received the Hydraulics Specialist Certificate with focus on industrial and mobile hydraulics. Congratulations on the examinations passed and the successful cooperation. ◀



Australian dealer Pace Cranes celebrated its 30th anniversary and the opening of a new facility in Peakhurst, Australia.

Cranes in Down Under



Mr. Marco Burgmer (left) handed over the SENNEBOGEN present – a green beacon – to Managing Director Mr. Anthony Heeks

SENNEBOGEN dealer Pace Cranes celebrated its 30th anniversary and the opening of a new facility. The new facility was officially opened by local State member for Oatley and Parliamentary Secretary for Infrastructure and Transport, Mr. Mark Couré.

The company has worked on the same site for almost 30 years until last year it demolished the existing facility and built a new multi-million dollar, state of the art service workshop to prepare and service imported new cranes for markets in Australia, New Zealand and the Oceania region.

SENNEBOGEN Sales Director Crane Line, Mr. Bernhard Kraus and the Managing Director, Asia Mr. Marco Burgmer were together with approx. 160 guests, on hand to help celebrating and brought their best wishes for a long lasting relationship between the Bavarian crane manufacturer and the Australian dealer.



IMPRINT

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