



NEWS AND INNOVATIONS FROM THE  
WORLD'S LEADER IN MATERIALS HANDLING

**SENNEBOGEN**<sup>®</sup>

**UPTIMES**

VOL 6  
ISSUE 1  
2019



# Lakeside Auto Recyclers' Hungry New Shredder Requires An Upgrade To SENNEBOGEN

# PG4



**PG12**

TREE CARE

Productivity Gains With  
SENNEBOGEN 718 Are "No Joke"



**PG16**

LOGGING/FORESTRY

SENNEBOGEN Design Allows For  
Uptime Goals To Be Met



**PG24**

PORTS/WATERWAYS

SENNEBOGEN 875 Delivers Fuel  
Savings That Truly Impresses

IN THIS ISSUE



# From Where We Sit



*Erich  
Sennebogen*

**Erich Sennebogen**  
Owner and  
Managing Director  
SENNEBOGEN  
Maschinenfabrik GmbH



*Constantino  
Lannes*

Constantino Lannes  
President  
SENNEBOGEN LLC

## Welcome to the 2019 Edition of Uptime!

With five editions behind us now, we approach this new Uptime volume with thoughts about the name we chose for our annual publication.

**“Uptime” is, indeed, ingrained in the heritage of SENNEBOGEN.**

The goal of improved uptime is often considered in terms of an equipment service regimen. At SENNEBOGEN, we have always thought of it as a much broader mandate. We are, of course, very proud of the load capacities and cycle times our machines can achieve, to deliver efficient throughput for our customers. These qualities are fundamental for any machine described as a “material handler.” But, as our customers know only too well, the production capabilities of a machine are of no use at all unless the unit is up and running.

**At SENNEBOGEN, our uptime program begins on the drawing board.**

Trade-offs are unavoidable in any engineering project. However, our engineers recognize that there can be no compromise that trades off strength, durability and reliability for the sake of price or speed. They also understand that our machines rarely go to work next door to a warehouse full of exclusive replacement parts. This thought explains why you find such a high degree of **parts commonality** in the various models and configurations of SENNEBOGEN machines. More importantly, it led us to ensure that every machine utilizes **industry-standard service parts** anywhere possible. We can’t eliminate periodic downtime for scheduled maintenance, but we can make sure your machine is not wasting time while you wait for basic service parts.

If you have ever serviced a SENNEBOGEN machine, you have also seen the steps we take to make service times easier and faster, too. **Time-saving service features** are a built-in element of our uptime strategy, including automatic lubrication, ground level access to service points, and well-labeled centrally located ports, fuses and relays.

### **Building Your Uptime Team**

Customers are consistently complimentary about our training facility in Stanley, NC, and the programs that it offers at no charge to both dealer staff and customer technicians. As one customer told us recently, having a **factory-trained service team** within your own organization is increasingly valuable when your facility is located in remote areas of the country. We have all seen that qualified mechanics are hard to find these days. As a result, wait times are getting longer for urgent troubleshooting and repair services. By providing **free hands-on training**, SENNEBOGEN is increasing the number of technicians who are qualified to support our fleet globally, and more customers are able to become self-sufficient for their in-house service needs.

We’ve learned, too, that factory training also pays off in benefits for parts departments. Attendees get a close look at operations in our Stanley parts warehouse, including our **pre-packaged “Uptime Kits.”** They see how the kits simplify the collecting of parts and tools for specific service tasks so, again, service times are reduced in the field. (Now you know why we call them “Uptime Kits!”)

Our success at SENNEBOGEN depends on our ability to deliver the **best value in material handling** to our customers. By focusing on dependability and serviceability throughout every aspect of our design, manufacturing and support processes, our uptime program delivers added value to every SENNEBOGEN machine, no matter what the application.



# In This Issue



Connect here to see over 160 videos on our YouTube Channel

## 2 Message from Erich Sennebogen and Constantino Lannes

- Welcome to the 2019 Edition of UPTimes!

## 3 In This Issue

- Table of Contents
- Get your SENNEBOGEN Gear

## 4 SCRAP/RECYCLING/WASTE

- Feeding a shredder
- Technology combines with tradition
- As simple as ABC
- Material handler handles it all
- Going electric all the way

## 10 ENERGY FROM WASTE (EFW)

Company "LEEDS®" the way

## 12 TREE CARE

- Productivity gains are a factor of 10
- Demo Days at SENNEBOGEN

## 16 LOGGING/FORESTRY

- Meeting uptime goals
- Europe's largest sawmill adds to its fleet
- ULS stick increases productivity
- Tracks required for operation
- Trouble free parts supply & training
- Hungry saw line has demands
- How to use less space & stack higher

## 22 Hybrid

- A new choice for cost saving efficiency

## 24 PORTS/WATERWAYS

- Fuel savings through the roof
- Special machine for special application
- Unloads and then feeds processing plants

## 28 Maxcab

- A great day at the office

## 30 Equilibrium Material Handlers

- Energy savings - a balancing act
- EQ = Always in balance

## 32 In-house Training

- Free training benefits everyone
- The next generation

## 34 SENNEBOGEN Capital

- Better choices. More options
- The benefits of Lease by the Hour® explained

## Show Your True Colors!

Visit our online store and "go green" with our wide selection of great SENNEBOGEN merchandise!

- SENNEBOGEN branded shirts, hats and all-weather wear
- Precision die-models
- Handy tech products, decals, golf balls and more!



[store.sennebogen-na.com](http://store.sennebogen-na.com)



OUR PERSPECTIVE



# Lakeside Auto Recyclers' Hungry New Shredder Requires An Upgrade To SENNEBOGEN



*The SENNEBOGEN 840  
is the key to keeping the  
shredder fed.*



*The reach on the 840 allows the operator to position himself and work the pile while feeding the shredder.*



Mike Levell says he and his family business have been easing their way into the auto shredding business. With their latest move up to a 4,000 HP, 6085 auto shredder last April, Lakeside Auto Recyclers has picked up the pace, and there's no time for time off!

"It's a full-throttle lifestyle," Levell says. With the new shredder, he found that his previous material handler couldn't keep up with the challenge. "It didn't have the best balance, and it needed a lot of maintenance and downtime. I wanted something more suitable for this kind of production - a more reliable machine."

#### **More bang for the buck**

Levell had spent some time traveling to other recycling yards to see their shredder operations. What he saw

Cummins engine. Levell had it fitted with SENNEBOGEN's orange peel grapple.

#### **Feeding the hunger!**

After almost a year in production, the 6085 is churning out shred as advertised and is running smoothly. The shredder sets the pace for every other aspect of the operation. "It's a hungry machine! Yesterday I watched it eat a 1-ton Chevrolet pickup in about 25 seconds," says Levell. "It can normally process two or three cars in a minute." As long as it's getting fed, the 6085 will produce 55 tons/hr. Any problem with other equipment just gets in the way of Lakeside's mission to "Shred The World!"

Lakeside is now receiving trailer-loads of cars to process from up to 100

miles away and uses the old machine to move cars into the staging area by the shredder. A wheel loader hauls away the outbound shred and fluff. "The 840's main job is to feed the shredder and keep everything going, without any downtime," Levell explains. "If you can't feed the shredder, you're pretty well out of business and SENNEBOGEN helps keep my operation going."

#### **Safe, quiet, comfortable**

Along with managing the business at Lakeside, Levell is often at work in the cab of the new SENNEBOGEN. "It's an amazing machine - it's really safe, really quiet, really comfortable. It has a good feel for the operator: smooth, strong and efficient. The cab is nice and quiet; you can't even hear the shredder. I love the two cameras (rear & right side), so you can see out the back and see through the blind spot next to you. And it's comfortable. When you're spending 10 hours a day in here, it's the place you want to be."

Levell credits SENNEBOGEN's hydraulic design for much of its reliability. "There's no electronics. So there's less to go wrong." To date, the SENNEBOGEN has also met Lakeside's expectation for dealer support. "Murphy Tractor has been really good; right on the spot. Once we have a few more SENNEBOGENs in the yard, I'll send a couple of my guys down to the Training Center in Charlotte. For now, Murphy has been on top of all the service." ■

*It's an amazing machine - it's really safe, really quiet, really comfortable*

convinced him that Lakeside needed a new SENNEBOGEN machine to feed his 6085. "I got down to two possible material handler lines. I really gravitated to the way the SENNEBOGENs are designed, and I learned that their service and support are really great," he concluded.

After the 6085 was commissioned, Lakeside took delivery of a new SENNEBOGEN 840 M. This model is a rubber-tired 117,000 lb. (53,000 kg) purpose-built machine powered by a 305 HP (227 kW)

*From the operator's perspective, when the cab is raised it makes the unloading process go that much faster.*



Maximum Throughput • Built-in Safety

SCRAP/RECYCLING/WASTE

# Schofield Metal Recyclers Combines Technology With Tradition

The Schofield family's scrap yard is unique in Great Britain because of the materials it processes. Not only do the green boom and sticks of the two SENNEBOGEN material handlers fit perfectly into the green hilly landscape, but the heaps of broken castings piled up several yards high seem to have been part of the landscape here for decades.

The sixth generation of the Schofield family business has been firmly rooted in recycling. Their business philosophy has always dictated that the company's machines and vehicle fleet are always at the cutting edge of technology. Recently they took delivery of two new SENNEBOGEN E Series machines; an 825 M and an 830 M.

## Quality vs Quantity

For an outsider, the mountains of scrap metal almost seem to belong to the landscape of the hills of the Colne Valley. Located between Leeds/Bradford and Oldham/Manchester, material is collected and purchased within a 100 mile (160 km) radius. According to Mark Schofield, "We have specialized in the processing of high-quality casting materials. We can break cast elements weighing up to 15 tons here on-site with our drop balls, which requires not



only skill, but also extremely robust and powerful machines. For twenty years, we have relied on SENNEBOGEN material handlers."

## Today's machines are faster, more efficient and safer

Equipped with the modern Maxcab comfort cab, which can be elevated, the operators have an excellent view of their working environment. They also work

comfortably and are protected from the elements in the SENNEBOGEN Maxcab. The SENNEBOGEN 830 E has a powerful 220 hp (164 kW) diesel engine with a reach of almost 56 ft. (17 m). This allows them to stack even the heaviest materials safely. The reliability of the machine and its components, the excellent stability and the simplicity built into the maintenance are features that are particularly appreciated on SENNEBOGEN machines.

"While a lot used to be done with rope-operated cranes, today modern material handlers are faster, more efficient and above all safer," explains Schofield. Only through the continuous modernization of space and equipment has the company been able to successfully assert itself in the market over the decades with a focus on the highest quality processes and procedures.

Although the iron foundries in the region have remained indispensable customers, today, almost 60% of buyers are from abroad. For this reason, being able to pile material higher allows them to safely fill any order, no matter how large. ■



*Equipped with a drop ball magnet, their SENNEBOGEN 825 has no trouble lifting it and smashing the castings.*



# ABC Recycling Builds Self-Sufficiency In Machine Support With SENNEBOGEN



“It’s difficult to find heavy equipment mechanics, generally,” says John Anderson, of ABC Recycling. “If we don’t have the people we need on our own payroll, we can end up waiting a long time for machine service. Having our own team makes a huge difference.”

Anderson is ABC’s Director of Maintenance in British Columbia (BC). His goal of self-sufficiency is one reason ABC has been growing its fleet of SENNEBOGEN material handlers over the past 10 years.

With 8 recycling yards under the ABC Recycling flag in BC and one in Alberta, the firm has been operating in the region since 1912. A service crew in Burnaby supports the SENNEBOGEN

do: feeding shears and balers, loading trucks and rail cars.”

## Free factory training

Anderson’s maintenance staff as well as operators have attended the SENNEBOGEN Training Center in Stanley, NC. The Training Center, part of the 100,000 sq. ft. head office complex built by SENNEBOGEN LLC, provides classroom instruction as well as hands-on training with a demonstration module and full-size machines in a 3-storey high indoor bay. The Level I course and the Level II advanced program for technicians are 5-day programs offered free to dealers and their customers.

“It’s a very impressive facility,” says Anderson. “And while you’re there, you

take an active role in ABC’s purchase process for new equipment. According to Anderson, the maintenance team appreciates how SENNEBOGEN simplifies access to routine service points. Hydraulics ports, electrical fuses and relays are all arranged together, accessed on one side of the machine from ground level. Auto-lubrication is standard equipment on SENNEBOGEN machines, which further simplifies servicing tasks.

Anderson listens to his operators’ recommendations as well. “They are in the machine eight hours a day. We want to be sure they have a comfortable operating environment along with good functionality. They like the SENNEBOGEN Maxcab for its visibility and its two-camera system. They tell us the seating is comfortable and the machine is easy to handle.”

## Ready access to low cost parts

The parts warehouse also attracted ABC to SENNEBOGEN machines. Anderson notes that, where many machines are designed with proprietary components, SENNEBOGEN uses commonly available parts wherever possible for power, hydraulics, electrical and other service requirements. This approach advances Anderson’s goal of self-sufficiency. “We can get all the parts we need from our dealer, of course, but we can also source parts locally. With their Cummins engines, we can find routine parts almost anywhere.”

In the long run, the simplicity and serviceability of the SENNEBOGEN machines lead to a lower lifecycle cost for ABC. “We do track all that detail here,” Anderson says. “Run time, fuel, spare parts. Using industry standard components and Cummins service parts saves money for us. With our own crews and easy parts supply, the SENNEBOGEN equipment needs little downtime for service and repairs, so that brings down our total operating cost.” ■



machines there and in nearby Surrey. The fleet includes SENNEBOGEN 835 M and 830 M models, equipped with both grapples and magnets. “We’ve had good success with these machines,” Anderson reports. “The 835 seems to be the right machine for everything we

also get to see the extent of their parts inventory. They have a whole room full of just booms and sticks. You can see the company has invested heavily in parts for North America.”

## The choice of operators and technicians

ABC technicians and operators also

Maximum Throughput • Built-in Safety

SCRAP/RECYCLING/WASTE

# SENNEBOGEN 821 E Makes Immediate Impact In New Waste Recycling Operation

Clearaway Ltd., a recycling company in the UK, recently acquired their new SENNEBOGEN 821 M material handler. The machine is being used to presort materials and feed their shredder. According to Paul Whitehair, the Managing Director of the operation, this machine is perfectly suited to this job.

Clearaway Ltd., about an hour outside of London, England, is a full-service provider to the marketplace, in terms of the recycling and disposal of household and industrial waste in South Essex and the surrounding area. The company has a range of roll-on roll-off bins that are delivered to customers' sites and then regularly exchanged and emptied as part of their delivery and pick-up service.

In 2018, after 10 years of experience in waste recycling, the company knew it was time to invest in a new and expanded recycling and waste handling site for their existing operation. The decision was clear cut for Paul Whitehair, "We needed to expand our on-site capacity. With our growing customer base, we were soon



*Shredder loading and material presorting are the SENNEBOGEN 821 E material handler's main tasks.*

going to be out of space and lose the operational efficiency we had when we first started. For this reason, we decided to procure a new material handler from SENNEBOGEN and we are very pleased we did."

On the job since June 2018, the new mobile SENNEBOGEN 821 E material

handler has developed into an all-purpose machine for the company. It is used to feed the company's shredder, as well as presorting materials from the bins and loading trucks.

For the operator, one of the best things about his new SENNEBOGEN is the elevating comfortable Maxcab with its protective grate. The latest generation is larger and is truly a "great place to work". Its view height of around 18 ft. (5.5 m) along with a number of safety cameras gives him a clear view of his working environment.

The SENNEBOGEN 821 E Series is equipped with a 36 ft. (11 m) long handling attachment and the reliable hydraulics are driven by an economical 140 HP (104 kW) Tier 4 Cummins diesel. Their material handler is also equipped with a sorting grab.

For Paul Whitehair, it is clear, "The SENNEBOGEN 821 M we have is the ideal machine for our requirements. Above all, the support supplied by the local SENNEBOGEN dealer, is perfect. Personally, my visit to the SENNEBOGEN plants in Straubing and Wackersdorf was what convinced me. I have never before seen such well organized and clean production of purpose-built machines. That impressed me." ■



*The SENNEBOGEN 821 E has a 36 ft. (11 m) reach, and from almost 18 ft. (5.5 m) in the air, the operator has an unobstructed view of his working area.*



# Steelworks Service Provider Relies Completely On SENNEBOGEN Electric Material Handlers



*The flexible 840 crawler gantry solution ensures work can continue uninterrupted while trucks deliver scrap to the steelworks.*

Innovation, safety and a reliable partner - that is what was important to the owner of Steelage, Jørgen Sassen. "We were looking for the perfect balance in terms of price, performance, productivity and reliability that others in the market were not offering." They finally found the perfect match with their local SENNEBOGEN dealer in terms of product service and support.

The new SENNEBOGEN E Series machines, painted in the company livery, really stand out. They have been a permanent fixture at mill service specialists Steelage since

the beginning of 2018. Steelage has been operating at Ostrava, the largest steelworks in the Czech Republic and is located in the heart of the third largest Czech town since the 1950s. Steelage, working exclusively with SENNEBOGEN since their first days of operation, has become indispensable as the internal

the SENNEBOGEN design, an 840 crawler gantry material handler, powered via a spiral winding engine line drum, was created. This meant that trucks can drive under the material handlers without interrupting their workflow. Now with a reach of over 75 ft. (23 m) and a strengthened

*“ Using the modularity of the SENNEBOGEN design, an 840 crawler gantry material handler, powered via a spiral winding engine line drum, was created ”*



scrap logistics expert for Ostrava, handling on average 120,000 tons a month.

Those in charge of the project faced an interesting challenge due to the limited space available. The central scrap yard is surrounded by narrow pathways and two sets of railroad tracks! On top of that, the scrap has to be transported across the tracks. Complicating it even further is the need to be able to easily load and unload railcars and trucks.

By working closely with SENNEBOGEN and their dealer, a customized solution was configured using the SENNEBOGEN product line. Using the modularity of

special attachment, this robust machine is able to withstand the rigors of 6,000 operating hours a year.

In the middle of the front section of their 215,000 ft<sup>2</sup> yard (20,000 m<sup>2</sup>), another stationary SENNEBOGEN 825 electric material handler feeds a compactor. It will be replaced by a SENNEBOGEN 830 E Series machine giving it more reach and lifting capacity. Three more electric drive 840 R-HD material handlers mounted on a 2 m pylon work the various areas of the yard. The additional 2 m extension ensures that the operators have the best possible view of the piles as well as when loading the rail cars. ■

Maximum Throughput • Built-in Safety

SCRAP/RECYCLING/WASTE



# Clean And Cool 818s Ensure Uptime For “Leeding” Waste Recycling Plant

No surprise: running neck-deep inside a building that moves up to 800 tons of construction and demolition debris (C&D) every day is going to be tough on a machine. Just ask Sun Services, a C&D recycling facility serving communities in the Beltway region of Baltimore, MD and Washington, DC.

Maximizing uptime was top-of-mind for Sun Recycling partners Brian Shipp and Andrew Springer when they recently purchased a new SENNEBOGEN 818 M material handler from Midlantic Equipment. It was the third 818 they had purchased over a 14-month period.

Their facility, first opened in 2013, starting with a conventional fleet of wheel loaders and excavators. Looking for alternatives to load their new shredder, their wish list led them to consider replacing the excavator with material handlers. “We wanted an elevating cab,” Shipp recalls. “And we needed rotation in the grapple in order to pick out material that shouldn’t go into the shredder.” But a material handler that could live in the recycler’s extreme environment remained a top priority.

## **Serious about recycling**

Shipp and his father Gary, first got in to the trash business with Springer in 2004. As their knowledge of trash hauling grew, their interest in new processes for recycling grew. Following a 5-year process of licensing and planning, they built the new Sun Recycling facility with the goal of sending no material to a landfill. With the success they’ve achieved, Sun Recycling is now able

to offer LEED® credits to projects that use their services. “We are serious about recycling; we don’t just pay lip service to it,” said Springer. “We believe recycling will only become more important. There aren’t many companies recycling at our level.”

Today, their facility receives 125 to 200 truckloads of waste material every day, six days a week. They deploy dumpsters and roll-off trucks throughout the DC region.





Loads of construction and demolition debris, asphalt, dirt, metals, drywall, wood, carpeting, furniture and other waste materials are all dropped on the facility's tipping floor. Then, one of the 818s goes to work. The system runs flat out for 10 hours straight to process and sort the mixed waste into various recycling streams.

with Midlantic Equipment, their SENNEBOGEN dealer, who have supplied all of Sun Recycling's other mobile equipment.

"We needed a machine, and our territory rep at Midlantic, Shane Pinzka, was able to demo an 818 quickly," says Shipp. "One of the reasons we selected Midlantic was

conditions like this. For an extra boost, the Sun Services units were fitted with a custom pre-cleaner.

### The load-out solution

A continuous stream of walking floor trailers is ready to transport the plant's residual material to an energy plant. "Residual" covers about 40% of the material processed here. The need to move product efficiently into the trailers led to Sun Services' purchase of the second 818 M.

"We made some changes to the building to improve our load out," Shipp explains. "We had been using our wheel loaders, but we realized that another 818 would be the best fit for that end of the operation." With the 818's elevating cab, operators are able to see into the trailer as they place the materials, so they can fill holes and finish the load quickly. According to Springer, the operators are also pleased with the new machines. "They love how big and comfortable the 818s are inside – especially the big guys!"

### Three to stay ready

The latest addition to Shipp and Springer's SENNEBOGEN fleet is identical to the first two machines. Again, the driving factor behind the purchase is uptime. "We cycle in the new machine while one of the other two are in for scheduled maintenance", says Shipp. "And if our wheel loaders get a bit behind on the piles, our 818 is ready to jump in." The owners appreciate that consistent PM is essential to keep their process



### Keeping pace with waste

Employing about 50 workers and drivers, the whole operation takes place under roof, in a fully enclosed building. Metals and concrete are sold into recycling markets. The residual stream goes to a nearby energy-from-waste producer. Cycle times are critical.

"We can't be down," says Shipp. "We only have 250 yards of metal storage in three bunkers; and another two bunkers for concrete. However, we don't have the capacity to store our residual material stream. We have to truck material out immediately. We watch those numbers pretty closely day-to-day, to make sure we're moving out at least as much as we're bringing in."

### Up to the task

Finding the right machine to feed the shredder non-stop turned out to be a simple search. Shipp and Springer enjoy a solid relationship

because the support was way better than what we were getting. I can call my salesman and a tech's here within an hour."

The first 818 proved it was up to the task. "We have a lot of dirt, a lot of dust, a lot of heat... it's not good,"

*...but it does a much better job of not overheating, compared to an excavator*

Springer admits. "Our machines look terrible at the end of a week-long shift. With the 818, we still need to pause to blow out the radiators periodically, depending on weather, but it does a much better job of not overheating, compared to an excavator."

All SENNEBOGEN machines are equipped with powerful reversing fans to help them run cool in harsh

cost-effective for customers. Day-to-day, the 818s are keeping up with the demands of the pace and the working environment. According to Shipp, "Their downtime for general maintenance and blowing out the machine because of over-heating has become almost negligible. We used to have to do that all the time. These 818s have been a great addition to our fleet." ■



# Productivity Gains With SENNEBOGEN 718 Are “No Joke” In Urban Tree-Trimming Projects

Hurricanes, Nor-easters, snow storms and infestations of Emerald Ash Borer have been taking a toll on trees in Massachusetts for several years. For arborists like Jason Yerke of Distinctive Tree Care, it's been a challenge to keep up with demand

for clearing roads and power lines. But with the arrival of his new SENNEBOGEN 718 M “E” tree care handler, Yerke feels he now has the right tool for the job. “It’s like, year after year, you go off to war with a musket,” he says, “...and then one day you show up with a machine gun!”

Adapted from SENNEBOGEN’s extensive line of log-handling

equipment, the 718 is a 21 ton rubber-tired machine equipped with a telescoping stick and a grapple saw attachment. The machine has a maximum reach of up to 43 ft. (13 m), with powerful hydraulics tuned for delicate tree surgery. With a lifting capacity of up to 3,700 lbs. (1,700 kg) and a hydraulic tree saw, Yerke’s machine easily grasps, cuts, moves and stacks tree limbs at an astonishing rate. The operator works from SENNEBOGEN’s enclosed Maxcab, that can be hydraulically elevated to an eye-level of 18 ft. (5.5 m).

*With the cab raised and tilted, the operator has a clear view of the work being done.*





The cab also comes with a tilting mechanism to improve the operator's visibility while operating the machine.

#### **"No joke" – 10 times faster**

Yerke says that the 718 is simply doing traditional tree-trimming and removal, but doing it better. "It's not 'what' we can do with it" he explains, "... it's how fast we can do it now, with one person instead of three. Until now, we'd have one guy up in a bucket, and one with a rope, and another one handling the limb either by hand or with a mini-excavator. Now a single operator in

SENNEBOGEN spokesperson. Mayer purchased the first 718 in North America, and has become a vocal fan of the machine. Yerke recalls, "Dan was there kind of explaining the benefits of the 718. We hit it off, and I hired him to work at a site in Connecticut. I've been doing this for 25 years and I know that job would have been 20 days with our usual bucket truck and crews. He completed it in 3 days!"

"Once, I saw it I thought 'sold.' I drank the kool-aid! It just arrived here

Yerke is also impressed with the safety aspect of the 718. "Nobody is in harm's way here. It really eliminates the hands-on cutting and hands-on handling of the branches. It's so methodical; it's like a robot with the right operator. It's such a great way to 'dismantle' a tree."

#### **"You can't touch it"**

The Distinctive crew is quickly getting a sense of how to make best use of the unique capabilities of the 718. "It's not perfect for every job," Yerke



See the 718 in action

*Its long reach and capability to lift and place logs make it easy for the operator to stay in one place while working an area.*



the 718 can handle or dismantle trees safely, under control, in a climate-controlled cab. And he's increasing production by – no joke – ten times!"

After another season of heavy storms, on the heels of Hurricane Sandy and Storm Alfred a few years ago, Yerke was on the hunt for a new solution last year. He considered equipping an excavator for the job, but had doubts that he could achieve the capability he wanted. When he attended the TCIA show in Columbus, he discovered the 718.

#### **Doing more with less**

A fellow arborist, Dan Mayer of Mayer Tree Service, was at the show as a

two weeks ago – today, we'll have it working at 3 or 4 locations." Speaking to his operator, Troy, on his morning rounds, Yerke found that the 718 had already dismantled seven trees in the first hour of the day: "Cut, stacked and ready to chip."

#### **A big step forward for safety**

Troy agrees that the 718 is a big step forward. "The visibility is great – with the cameras I can see forward to the stick, to the side or behind, or all three views at once. I'm really comfortable in it. The cutting feels a lot safer. I can sit 40 feet away from the cut point; the chances of anyone getting hurt are slim to none."

admits. "But, when you do the right stuff with it, you can't touch it. It's ideal for the urban environment. You just set up at the edge of the pavement or on a nice piece of flat ground. You get the rubber tires, outriggers and crazy reach! You're not going to put metal tracks in a shopping mall, or on a curb, or next to a guard rail."

"Once you see it, it all makes sense. With its strength, you can move and stack larger pieces, too – there's also less handling to do, and clean-up is easier. Then when you're done, often, you can simply drive it right to the next job!" ■

TREE CARE



# DEMO DAYS



*Demo Days was held November 2018, on the grounds of the SENNEBOGEN America operations. During the course of 3 days, over 100 arborists got an up-close look at the capabilities and productivity of the SENNEBOGEN 718, their purpose-built machine for this industry.*



*The tour included a visit to the SENNEBOGEN Training Center where free, hands-on maintenance courses are provided for dealers and their customers.*



*Constantino Lannes, President of SENNEBOGEN LLC, showcased their 100,000 sq. ft. offices and parts warehouse where they inventory over 17,500 line items and achieve a fill rate of 98.6% within 24 hours for customers in the US.*



# 718 Tree-Handler Owner Is Keeping Busy, Having Fun!



See the 718 in action

Robert Frost enjoyed his job operating a SENNEBOGEN 718 tree handler for someone else so much, he decided to buy one of his own!

Frost talked about his experience with the 718, and with SENNEBOGEN, at our Demo Days event in Stanley, NC, last November. The tree handler demonstration was timed to coincide with TCI Expo 2018 held at the Charlotte Convention Center. Frost was invited to attend, and to show his fellow tree care specialists what the machine can do.

## “Second to none”

Frost’s own business operates just outside of Boston, taking on contract work with other tree-service companies along with roadside work for municipalities and clearing right-of-ways for utilities. For most jobs, it’s just him working the 718, and another operator to run a chipper and clean up. Before buying his own machine, he ran a 718 for another tree-service company for 2½ years.

“SENNEBOGEN is the reason I bought the 718 and why I wanted to be an owner/operator,” Frost said. “After seeing what the machine could do... it seemed foolish not to purchase one. The machine and the company support are second to none.”

## Safety net for small business owners

“I’m confident knowing that I can call to get support any time I need it,” he added. “Having a safety net around you to make sure you can get the parts you need almost instantly is very important to a small business, to make sure you can keep going all the time.”



Robert Frost, explained to groups at the Demo Days event why he decided to invest in his purpose-built SENNEBOGEN 718.

“SENNEBOGEN is the reason I bought the 718 and why I wanted to be an owner/operator.”

According to Constantino Lannes, President of SENNEBOGEN LLC, the parts warehouse in Stanley has a 98.6% success rate in delivering parts to customers anywhere in the United States within 24 hours. Frost’s experience backs up that claim.

## Purpose-built for tree care

The 718 is a custom-engineered, rubber-tired tree care handler with a hydraulically elevating cab that allows operators an up-close view of their work zone and the surrounding jobsite. Its 43 ft. (13 m) telescoping boom is equipped with a ±90-degree tilt and ±140-degree rotating tilt/rotator carrying a heavy-duty grapple saw. The 160 horsepower machine weighs in at just over 47,000 lbs. (21,400 kg) and has a maximum load at full horizontal reach of 3,700 lbs. (1,700 kg) and a maximum load at full vertical reach of 12,125 lbs. (5,500 kg).

## Keeping busy

Frost says he’s been logging 70-80 hours per week on his new 718, sometimes as much as 100 hours. He averages 1,500-1,800 ft. (450 to 550 m) a day when working on roadsides right-of-ways, or 1 to 1¼ acres (4,000 to 5,000 m²) a day when land clearing.

“It’s fun,” he said. “It’s comfortable, you don’t have to worry about weather issues, and I can do the work of 10 men with this machine.” ■





# SENNEBOGEN Parts Support Lets Cameron River Logistics Meet Uptime Goals

When an engine fire destroyed a log handler at Cameron River Logistics (CRL), Andrew Moore and his team decided it was a chance to rethink their original purchase decision.

“We had issues with parts availability. Wire harnesses were taking four to five months to deliver; a steering knuckle failed in January and we were told it would be April before they’d have one to ship from the factory.”

Parts availability became a key factor in the decision to replace the damaged machine with a new SENNEBOGEN 830 M-T. “With SENNEBOGEN, you’re not reinventing the wheel,” Moore continued. “It’s got a Cummins engine, Bosch-Rexroth hydraulics;

all industry-standard components easily sourced nearby or available at the local SENNEBOGEN dealer.”

To simplify support for their global customers, SENNEBOGEN engineers have always worked to keep the equipment simple and minimize their use of proprietary OEM components. In North America, the 100,000 square foot SENNEBOGEN LLC warehouse near Charlotte, NC maintains a complete inventory of replacement parts for every make and model currently in service. Cameron River’s local SENNEBOGEN distributor, Great West Equipment, also inventories a large supply of common service parts, as well as providing factory-trained service technicians.

## Throughput depends on uptime

According to Moore, uptime is critical to the CRL operation. Located in northern British Columbia, CRL is a transload station moving 16-foot CTL logs from truck to rail for the Dunkley Lumber mill, 5 hours to the south. CRL is one of several stations that collect and ship logs to feed the big mill.

## Purpose-built chassis powers through Spring yard conditions

Moore reports that parts availability already had the yard leaning toward SENNEBOGEN, but the ready availability of a purpose-built 830 M-T trailer puller clinched the decision.

The 830 M-T is a 91,000 lb., 225 HP (41,400 kg, 168 kW) machine built specifically for log-handling and trailer pulling applications.



*When you have literally tens of thousands of logs to move and processes are counting on you downstream, Cameron River Logistics chose SENNEBOGEN to get the job done.*



It features a hydraulically elevating cab and a unique undercarriage designed by SENNEBOGEN to handle the stresses of pulling heavy log trailers through difficult yard conditions.

The 830's dual transmissions, providing 4-wheel traction, were especially

appealing to CRL. "We have a really small yard here and haven't had to pull the trailer yet," Moore admits. Most of Moore's yard is packed clay with a gravel top. But Moore expects that, with the new machine, operators will be able to access undeveloped areas that

previously, they were unable to reach. Operators have said that the SENNEBOGEN has already pulled through spots where, in the past, the old machine would have been stuck. ■



Lift More • Stack Higher • Cycle Faster

## SENNEBOGEN Provides Timber Handling Technology

The Ziegler Group headquartered in Bavaria operates Europe's largest sawmill. With a total of 12 machines in operation, SENNEBOGEN has been a constant and reliable resource to the Ziegler Group for many years.

The company processes an impressive 1.8 million solid cubic meters of lumber every year. The challenge for them today is ... logistics. According to Ziegler, they have their own state-of-the-art container and handling terminal at the rail station nearby. With a fleet of 120 trucks and an additional 70 subcontractors, Ziegler Logistik GmbH

transports wood and other goods from the terminal to locations all over the world. Efficient handling solutions are critical. To achieve their goals, Ziegler has been using SENNEBOGEN material handlers for log handling for almost 15 years.

**At the terminal, a pair of SENNEBOGEN 818s are up to the task** Ziegler handles approximately 25,000 containers at the terminal every year. Every day, a freight train traveling between Wiesau and Hamburg, takes containers of lumber for export and brings back logs for the mill to process.

Two new SENNEBOGEN 818 E material handlers unload the stake cars on arrival and load trucks that transport the logs to the mill some 12 miles (20 km) away. The two 818 E rubber tired machines with a 30 ft. (9 m) reach, are equipped with a 1.5 yd<sup>3</sup> (1.25 m<sup>3</sup>) log grab.

Due to the central location of the station, they needed machines that were eco-friendly and quiet. Despite the requirement of continuous operation and heavy loads, its noise emission values are significantly below the legal limits set in the Noise Emission Directive 2000/14/EC. The SENNEBOGEN 818 proved to be the right machine.

### The green log yard:

Back at the yard, it is impossible to miss the booms of the green Pick & Carry 735 E Series machine, in the log yard, some with as many as 40,000 operating hours. They take care of box removal, transportation, and sorting of the logs into the various woodpiles next to the three conveyors. The machines are also required to assist with unloading some of the 350 trucks that arrive at the sawmill every day. In order to keep up with the demand in 2017, two new 735 machines from the current E Series were added to the fleet. ■



*A fleet of SENNEBOGEN 735 Pick & Carry material handlers work along the three sorting lines in Europe's largest sawmill.*



## ULS Stick Provides Added Productivity

To maximize the lift capacity of SENNEBOGEN purpose-built material handlers in log-handling operations, the SENNEBOGEN ULS stick is particularly well suited to work with forestry grapples.

The ULS stick option is designed to take a live heel with a top- or bottom-mounted cylinder, as well as a fixed/dead heel or butt 'n top grapple or even a hanging log grapple. ■

LOGGING/FORESTRY

# High Level Woodyard Is Moving Up With SENNEBOGEN 840 R-HD Log-Handlers

Most woodyards face periodic challenges in having enough space for their inventory. But in the northern reaches of High Level, Alberta, the Tolko sawmill is challenged by both space and time!

According to Gary Ross, the Plant Manager in High Level, his woodyard has about 3 months to receive and stack 6 months worth of production for the mill. The rest of the time, the roads into High Level and the grounds in the yard are in no condition to receive trucks.

## It gets worse

With new processes under construction, the woodyard is losing space to the mill's increased footprint on the property.

## Stacking more wood easier

To increase the yard's capacity, Tolko recently upgraded its equipment fleet with four new SENNEBOGEN 840 R-HD log-loaders. At 130,000 lbs., (59,000 kg), these tracked-mounted models are appreciably larger than the SENNEBOGEN models usually seen in log-handling applications. High Level's Maintenance Manager, Peter Fehr, explains, "We needed a larger machine for its lifting capacity and stacking height. This part of the country is on muskeg, so we needed



distributor in Alberta, then provided a week of on-site instruction to the Tolko operators. Deirdre Prill, the mill's Log Yard and Mobile Shop Supervisor, notes that their goal has been to make the transition from old to new equipment as stress-free as possible. "The operators are still getting comfortable with the SENNEBOGENs. We still have our older equipment in service while they get accustomed to the capabilities of the new grapples and longer reach. Then we

The planned expansions for the facility includes a new bio-fueled thermal energy plant which will reduce its need to purchase natural gas for its drying operations. A new, continuous dry kiln facility is also in the works along with a new wood pelleting mill to be built on the site. It will fuel the energy plant using bark, chips and other by-products from its primary operations. The power plant will be equipped with an electrostatic precipitator to minimize air emissions.

## "A thing of beauty"

Prill reports that the plant began to see the benefit of the 840s right away. With the previous loaders, deck heights were averaging 6.5 meters. With their extended reach, operators are currently averaging 7.5 meter heights, and moving toward the eventual goal of 9 meter stacks. Increasing these deck heights from 6.5 meters to 9.0 meters will effectively increase capacity of the available yard space by close to 50%.

"We're getting some positive feedback from the operators as they get used to what the machines can do," says Prill.

"There's a lot of touch and feel in the whole log-handling process," Deirdre continues. "We rely heavily on the talent of our operators. They create this harmony with their machine and it's quite a thing of beauty to watch." ■

**“ We needed SENNEBOGEN 840 R-HD tracked models to work in the mud! ”**

a tracked model to work in the mud in "the Spring and Fall. Our yard is soft most of the year."

SENNEBOGEN is known for making extensive use of widely available, industry-standard components for routine hydraulic and electrical service. Ready access and low costs for every day parts are especially valued in a remote location like High Level, an 8-hour drive north of Edmonton, AB.

## Easy does it for managing change

Two of the facilities' technicians attended SENNEBOGEN's Training Center in Stanley, NC, before the first unit arrived in early summer. Strongco, SENNEBOGEN's

can gradually move up the targets for our maximum decking height."

## Doing more with less

The High Level mill is one of the five largest lumber producers in Western Canada producing over 400 mbf of dimensional lumber from locally sourced birch, pine and fir.

The mill is moving to increase its capacity and add new processes, which calls for more capacity in the yard. "As we continue to increase the footprint and the capacity of the mill," continued Ross, "We have to maximize the volume we have in the yard, especially as we get close to the end of the season."



# SENNEBOGEN 830 M-T: “More Than The Sum Of Its Parts” At Plaster Rock Lumber Mill



Earle Fawcett knew that he had squeezed everything he could out of his aged knuckleboom loaders. It was time to move on. “When you’ve made mill upgrades and you’re putting money into your operation, but you’re trying to feed it with some old equipment that’s almost impossible to find parts for anymore, you have to say, look, we can’t just keep running that way!”

He explains that the mill had a purpose-built material handler in the yard, too, for a few years, but found that timely access to service parts was a problem with that machine, too.

## “Trouble-free” parts supply

Fawcett brought up the need for new log-loading equipment with Strongco, the local SENNEBOGEN dealer. Strongco introduced Fawcett

parts were easy to source. We were on our way to a third yard when I decided I’d seen enough – let’s go back and sign up the paperwork!”

SENNEBOGEN has made access to parts a strategic aspect of their engineering. Known for their unique expertise in hydraulic systems for crane and material handlers, the engineering team is tasked to minimize the number of proprietary parts in their design. They specify standard off-the-shelf parts wherever possible. This way customers can find what they need when doing routine hydraulic and electrical service from any nearby industrial supply house. SENNEBOGEN also ensures that its distributors maintain extensive service inventories in all their branches, while the central warehouse

more than meets his production targets for his upgraded mill.

Handling the volume of 9 ft. (2.7 m) stud wood was a new line of production for the mill. This was a key driver for upgrading the loading equipment. Fawcett says the 830 M-T easily replaces the older material handler. “The operators are very happy with the 830,” he laughed. “It’s like they stepped off a dinosaur and into a Cadillac!”

The M-T model of the 830 is specially designed for log yards. A standard 830 upper chassis is mounted on an undercarriage that has been designed for heavy pulling stresses, with separate transmissions on each axle for added pulling power and traction. The mill yard is about to expand into an adjacent property, and a new high capacity log trailer is on-site to begin ferrying wood to the feed deck.

Hauling fully loaded log trailers is a challenge in most yards. As Fawcett says, “Depending on the time of year, this yard is a dust bowl or a mud pit!” The trailer-pulling capability of the 830, though, will allow an increase in ready stock for the sawmill.

## Going the extra mile

Running double shifts 5 days a week also presents challenges for the two technicians responsible for Plaster Rock’s mobile equipment. Along with their various log loaders, the fleet also includes three recently acquired front-end loaders.

As Strongco customers, Fawcett and his technicians were invited to attend the SENNEBOGEN Training Center in Stanley, NC. The training facility provides free classroom and hands-on technical instruction.

Through its first four months in Plaster Rock, the SENNEBOGEN log-loader has given little need for Fawcett to make those calls. As reported by the maintenance teams Fawcett first met in Bathurst, the 830 M-T has performed “trouble-free.” ■



to some of the maintenance crews servicing SENNEBOGEN machines in other nearby yards.

“We visited two mills in the Bathurst area,” Fawcett recalls. “I watched the SENNEBOGENs work and the maintenance people told me they were trouble-free machines and that the

at SENNEBOGEN headquarters in Stanley, NC is well stocked with every component for any green machine in the field including customized Uptime Kits.

## Keeping pace with upgrades

Fawcett reports that his new SENNEBOGEN 830 M-T log-handler

Lift More • Stack Higher • Cycle Faster

LOGGING/FORESTRY

# SENNEBOGEN Log-Handler Helps Edgewood Mill Keep “UP” With New Sawline

Everything is on the up & up at the Edgewood sawmill, here in central Saskatchewan. The brand new Linck sawline is ramping up to full production. Yield from its processed wood is up 20%. And, thanks to a new SENNEBOGEN 830 M-T log-handler, summer stockpiles are stacked up higher than ever before.

In 2016, the firm committed to a \$25 million upgrade, highlighted by the installation of Canada’s first German-built Linck sawline in over 20 years. The goal for Edgewood Forest Products was to upgrade to current technology, become more efficient and to take on the larger-diameter round wood available in the region.

## “Hungry” sawline demands higher yard capacity

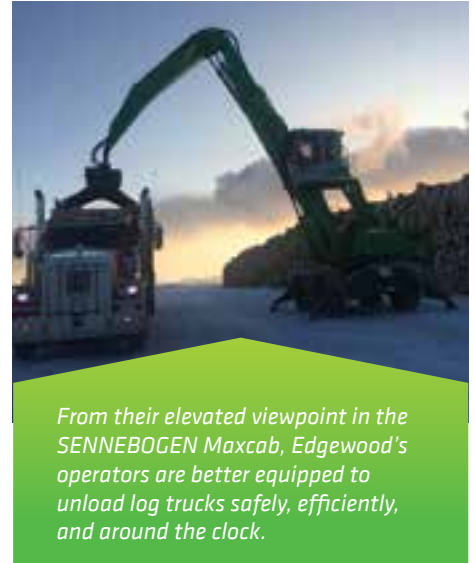
As Edgewood’s General Manager, Trevor Reid, reports, “Since it’s been commissioned, the sawline has become a hungrier and hungrier beast!” Its appetite remains constant year-round, so stockpiles must be maximized through winter months to avoid costly summer

hauling due to unfavorable logging conditions. “We had to start stocking more wood in the yard. The only way to increase our yard’s capacity was to pile it higher.”

The old wheel loaders then in use in the Edgewood yard simply were not “up” to the task. But after visiting the German factories and observing their operation, SENNEBOGEN’s 830 M-T trailer-pulling model was Edgewood’s preferred choice. On their return to Canada, they found that Redhead Equipment, SENNEBOGEN’s distributor in the region, already had an 830 M-T on the lot. “We’ve known Redhead for a long time, so, we gave him a call.” Reid requested an on-site demonstration of the 830 and, after a short trial, the mill bought the unit.

## Reliability is key for remote northern mills

Reid notes that “uptime” was a key factor in his evaluations. “Our log-handlers have to be available 24 hours a day, five days a week. Our yard has to use the windows that Mother Nature gives us.



*From their elevated viewpoint in the SENNEBOGEN Maxcab, Edgewood’s operators are better equipped to unload log trucks safely, efficiently, and around the clock.*

The SENNEBOGEN seemed best suited to very harsh Saskatchewan winters.”

He also favored SENNEBOGEN’s extensive use of industry-standard components and Cummins engines. “Cummins engines are very common in Saskatchewan. The engines are familiar to our technicians and parts are plentiful.”

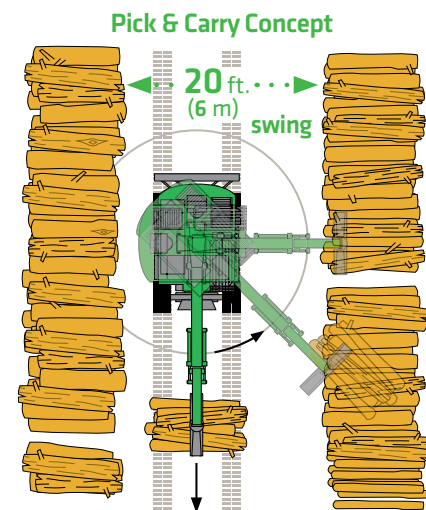
# SENNEBOGEN 730 and 735 Machines Set The Pace For Pick & Carry



Purpose-built to move wood with minimal maneuvering effort along direct travel paths. With all-wheel steering and just 12 ft. (3.6 m) wide, the 735 M-HD easily negotiates its way between tight rows of stacked logs. With a 32 ft. (9.7 m) reach, it is able to pick loads quickly and safely.

The driving and transport machine is especially designed for free-standing use with safe working loads up to a maximum of 20 t. ■

**25%\*** Less Needed



With all-wheel steering and just 12 ft. its way between tight rows of stacked

\* Percentages will vary depending upon conditions.



“The way SENNEBOGEN has sourced its service components, you’re not married to the manufacturer for proprietary parts.”

### Dual transmissions to dig through summer ruts

“We feel that the 830’s dual transmissions are an important feature here. Our yard conditions are tough when the thaw comes. Water tends to pool in the level yard and the ground turns to muck while we’re trying to forward trailer loads of logs up to the mill. You’ll often see ruts 2 and 3 feet deep. The 830 has the pulling strength and traction to handle these conditions, as well as the high ground clearance required.” Surprisingly, Reid found that for all its power, SENNEBOGEN held the edge in economic fuel consumption when compared to competitive models.

### A “dream upgrade” for operators

Operators accustomed to the antiquated loaders have also welcomed the 830 as a “dream upgrade.” SENNEBOGEN’s comfortable, ergonomic Maxcab can be hydraulically elevated so that it can raise the operator’s eye-line to over 15 ft. (4.6 m)

above ground level. “It’s a great safety feature,” Reid says. “The operators get a clear view down into the trucks they are unloading, so they’re not breaking stakes. It helps in stacking and picking from these higher stockpiles as well.

### Special training for a resident service specialist

The Edgewood mill performs most machine servicing with its own maintenance team. Redhead service staff are often in the Carrot River area to support various customers, but Reid decided to send technician Jeff

Doerksen to the SENNEBOGEN Training Center in North Carolina for the free hands-on training.

“We’re in a very remote area,” Reid explains. “We’ll have two machines operating so we really need a resident expert on site – Jeff’s our SENNEBOGEN guy. He came back with rave reviews, and all it cost us was airfare and a hotel room. He’s eager to return to the Center for advanced troubleshooting instruction, possibly next year.” ■

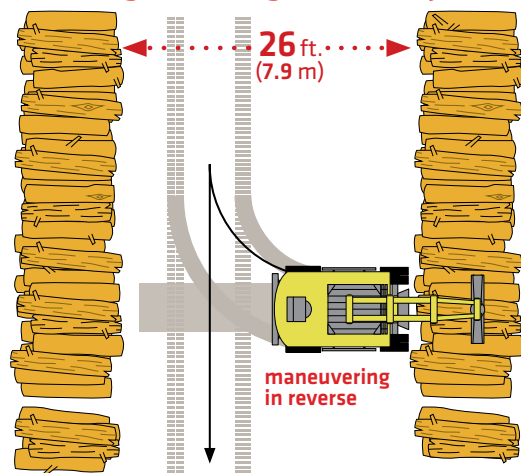


*Utilizing the 830's stacking capability to build high stockpiles, Edgewood has effectively increased yard capacity to feed the appetite of its new sawline.*

Lift More • Stack Higher • Cycle Faster

## Space Between Stacking Rows

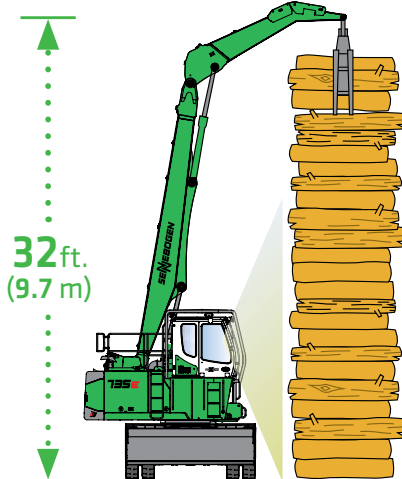
### High-Lifter/Log-Lifter Concept



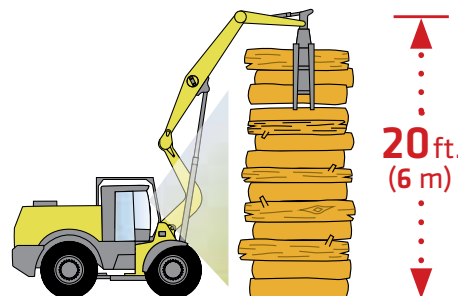
(3.6 m) wide, the 735 M-HD easily negotiates logs.

50%\*

## Higher Stacking



See the SENNEBOGEN 735 M-HD pick & carry machine in action, handling timber in a sawmill.



Being able to stack the logs higher makes business growth possible.

LOGGING/FORESTRY



# The Green Hybrid System

## The new choice for cost-saving efficiency in material handling

The Green Hybrid energy capture system has been making its mark on America's heaviest material handling applications since our first 875 R-HD model went into service in the port of Charleston, SC, in 2015. At that time, the new machine showed how it could move more material, faster, than the giant SENNEBOGEN 880 machine that it replaced – while reducing the customer's fuel cost by a stunning 43%!

Today, an entire family of Green Hybrid machines is in the field, ranging in size from 70 to 140 tons, including both diesel and electrically powered units mounted on wheels and pedestals, as well as the original crawler undercarriage.

While its difference in efficiency is dramatic, its design is in keeping with the SENNEBOGEN hallmark of simplicity. The system builds on our generations of expertise in hydraulic engineering. In fact, the energy capture system is built entirely of standard components that any hydraulic technician will easily recognize.

### **Easy, simple, award-winning**

When the Riverport Authority in Paducah, KY, commissioned its new Green Hybrid 870, Executive Director Bill Miller commented, "The energy recapture concept is a welcomed feature, easy to understand and simple to work on."

The 870's clean, efficient operation helped the Authority to achieve a variety of environmental goals, leading to its win of the "America's Marine Highway Leadership Award" from the U.S. Department of Transportation's Maritime Administration.



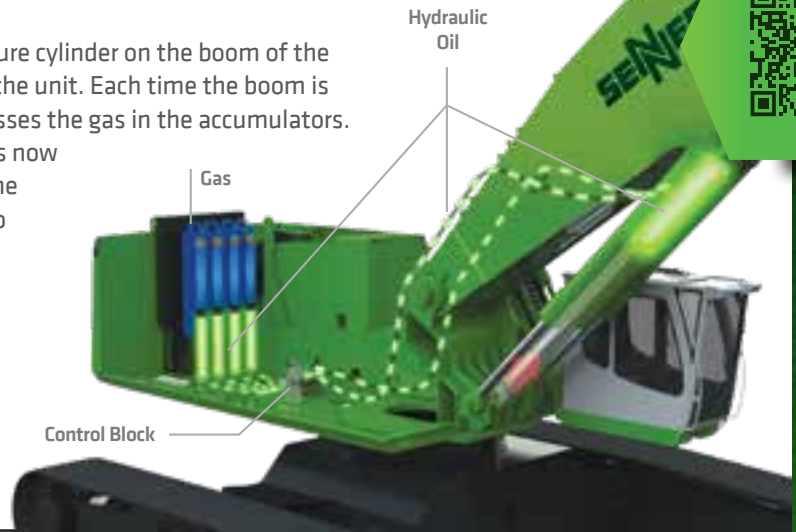


# How It Works

The Green Hybrid system consists of a large hydraulic capture cylinder on the boom of the machine, coupled to a nitrogen accumulator in the rear of the unit. Each time the boom is lowered, hydraulic pressure in the capture cylinder compresses the gas in the accumulators. The energy, generated simply by the weight of the boom, is now available again for the next lift, virtually loss-free. When the boom begins to lift, the accumulators release the energy to assist in raising the boom.

It helps to think of the accumulator system as a coiled spring, which is compressed when the boom is lowered, then released through the lifting cycle.

Using the boom itself as an energy source in typical applications, SENNEBOGEN estimates that the system will reduce the energy cost of lifting loads by 30%.



High Capacity Production • Cost-Efficient Performance

# A Safer Environment

At a barge facility in Hailey's Harbor, not far from Nashville, TN, Ryan Hollingshead of SRM Concrete is also pleased with cost-savings achieved by his electric-drive Green Hybrid 870 R-HD. But he says the safety features of the system are its real attraction. His machine receives power through a 200 ft. (61 m) tether cable, which allows the machine to move freely and be positioned optimally for unloading at dockside.

"With that electric machine, you can have an entire conversation while it's running right beside you", he says. "It's just so much safer to be able to talk to the deck hands while they're down there on the barge. With diesel engines, it's so loud, I was having to use walkie talkies. The quiet of the electric-drive was a huge point for me on the operation side."

Hollingshead also believes that the electric-drive gets a favorable view from regulatory inspectors. All fluids in the 870 are eco-friendly. "Environmental restrictions are getting tighter and I've had OSHA (Occupational Safety and Health Administration) in here. When they see an electric machine, they just seem easier to deal with. It's better on the environment. With no diesel, no exhaust and no refueling, that's less fluids I have to deal with, to keep away from the water." ■



*With their large center cylinder set between the boom's two lift cylinders, Green Hybrid machines are easy to distinguish from conventional material handlers.*

# Cost-Saving Efficiency

The cost-saving efficiency of the Green Hybrid technology is available in an extensive range of E Series material handlers from SENNEBOGEN.



## Green Hybrid Model Specifications

### Green Hybrid 855 M E-Series

**Engine Model:** Cummins L9 Tier 5  
**Engine Net Power:** 318 HP (237 kW)  
**Operating Weight:** 156,950 lb (71,190 kg)

### Green Hybrid 860 M E-Series

**Engine Model:** Cummins QSG12-C Tier 4F  
**Engine Net Power:** 350 HP (261 kW)  
**Operating Weight:** 206,132 lb (93,500 kg)

### Green Hybrid 870 M E-Series

**Engine Model:** Cummins QSG12-C Tier 4F  
**Engine Net Power:** 350 HP (261 kW)  
**Operating Weight:** 206,132 lb (93,500 kg)

### Green Hybrid 875 M E-Series

**Engine Model:** Cummins QSX15 Tier 4i  
**Engine Net Power:** 530 HP (395 kW)  
**Operating Weight:** 363,763 lb (165,000 kg)

HYBRID

# Fuel Savings And Lifting Power Make Watco Manager A Believer In SENNEBOGEN 875

When Jon Mihalic's last cable crane operator retired recently, he knew the time had come to also retire the aging Manitowoc 4000 crane from his barge dock. "You can't find a qualified cable crane operator anymore," he noted, "but really, that old crane just wasn't efficient by today's standards."

Mihalic heads the Watco Companies barge and rail terminal in Industry, PA, near Pittsburgh. His two berths on the Ohio River handled 529 barges of ferro-alloy, gypsum and steel last year, serving 20,000 trucks in and out. As the terminal's Assistant General Manager, he led the search for a new machine to replace the cable crane.

## **A split vote goes to SENNEBOGEN**

His team's survey of new lifting equipment quickly narrowed down to two candidates: a 308,000 lb. (140,000 kg) purpose-built material handler from SENNEBOGEN, or 235,000 lb. (107,000 kg) hybrid excavator model similar to others in use at various facilities.





The Watco team was leaning toward the proposal from Murphy Tractor for a SENNEBOGEN “Green Hybrid” 875 R-HD, but it came to a split vote. “I was the hold-out,” Mihalic admits. “The sheer lifting power of the SENNEBOGEN 875 would give us a significant increase in capacity, plus the powered rotating attachments we wanted. I just did not believe the fuel figures that SENNEBOGEN was quoting to us.”

**There’s no comparison!**

To make his decision, Mihalic contacted other owners of the 875

by the massive center hydraulic cylinder mounted between the two main lift cylinders that operate the boom. The Green Hybrid cylinder is the heart of a novel energy recovery system that uses the weight of the boom to capture energy on each down stroke, then releases that free energy to provide lifting power for the next load. Fuel savings with the Green Hybrid system are dramatic – up to 30% less fuel compared to conventional material handlers.

Mihalic has now seen the results for himself. He was skeptical of the

but they burn about the same amount of fuel. That’s significant for us!”

**Twice the production; half the crew**

Convinced that the potential fuel economy with the 875 was real, Mihalic put the 875 to work in August of 2018. The new machine typically works a 10-hour/day, or runs up to 16 hours on a busy day. Equipped with 6-yard bucket, the 875 has also delivered on the increased throughput that Mihalic was counting on. “On steel coil barges where unloading might have needed a shift or shift and a half to complete before,” he says, “the SENNEBOGEN will finish in 4 hours. With a much smaller crew!”

“It took some getting used to for our operators to get comfortable with the 875’s hydraulic power and the elevating cab. But they’ve come around. Our biggest advantage is on steel barges: the control we have now, versus the cable crane, you can’t even compare it!”

**The only number that matters**

Most of the steel that Watco receives comes in 20,000 to 25,000 lb. (9,000 to 11,400 kg) coils, but the 875 has lifted coils up to 54,000 lbs. (24,500 kg). According to Mihalic, the terminal’s key factor is spec’ing equipment for the work we are doing. “We don’t look at the whole load chart. We look at how much it can lift from the outside wall of the barge from about 12 ft. (3.66 m) below grade, or our below dock level – that’s the only number that matters.”

Mihalic gives much of the credit to the powered rotator that carries the C-hook used to lift coils and billets. “You can put it anywhere you want it, very quickly; the old crane required a worker in the barge to place the C-hook into each coil; now the 875 operator can turn the hook any way he needs to, and engage the coil. We put a bunch of plywood out on the dock and the 875 just buries the forklifts that put the coils away. We’re unloading 120 coils in 4 hours, with a crew of one. It’s impressive!” ■



*“His 875 consumes half the fuel of the converted excavators used by other facilities”*

working on the Ohio and Mississippi waterways. “They all said the same thing,” he reports. “For fuel efficiency, there’s just no comparison.”

The 875 R-HD is the flagship of the distinctive Green Hybrid series of heavy-lift machines that SENNEBOGEN first unveiled in 2014. These models are easily recognizable

Green Hybrid concept. Then, when he looked closely at the system, he found that it’s “surprisingly simple.” His 875 consumes half the fuel of the converted excavators used by other facilities.

His yard also operates PC800 excavators. “The SENNEBOGEN is 50% bigger than our excavators,



# Port Handling On A Large Scale Calls For A SENNEBOGEN 870 E Series

The first SENNEBOGEN 870 M E Series with its upper carriage on a 2 m mast went to the Elzinga Group in the Netherlands. The material handler used in the port of Eemshaven has a reach of 79 ft. (24 m).

The Elzinga Group from the Netherlands has worked with SENNEBOGEN for many years. Therefore, it was no surprise when they took delivery of their latest 870 M material handler equipped with the SENNEBOGEN Green Hybrid energy recovery system. The Elzinga Group handles around 3 million tons of bulk goods and cargo in the Port of Eemshaven annually. Having the right purpose-built machine is especially critical when large ships have to be unloaded quickly. Fast cycles and safe working environments are decisive criteria for operators and the people responsible for the Port's operation. With the new 870 material handler, the company is prepared for every ship that comes in. As well, in order to maximize the life of the unit, SENNEBOGEN offers an extensive Seawater package which includes a maritime climate-resistant varnish and coated hydraulic cylinders.

Their SENNEBOGEN 870 E Series has a 355 HP (261 kW) Tier 4 Final diesel engine. The energy recovery system is designed to work with a more fuel-efficient engine as energy can be saved with each stroke. The secret behind the SENNEBOGEN energy recovery system is a third cylinder mounted on the boom. When the boom is lowered, the oil that it contains is displaced. The energy is temporarily stored in four nitrogen accumulators in the rear, and comes back into play again to support the next stroke. This results in operating cost savings up to 30%.

### 33 feet up and 23 over

In addition to the innovative energy recovery system, the machine also impresses with the height-adjustable Skylift cab. The spacious Mastercab can be adjusted up to 33 ft. (10 m) high and 23 ft. (7 m) forward in order to give it an unobstructed view into the ship's hull



during unloading. With its unique design, the operator can also get in and out of the cab at ground level.

Elzinga was very pleased with the mobile undercarriage and its 4-point swivel outrigger system. What they really like is that the supports can be folded in for traveling and providing maximum mobility for applications in the entire port area. When working in place with the outriggers down, stability is achieved even when it is at its maximum reach of 79 ft. (24 m). ■





# SENNEBOGEN Material Handler First Unloads & Then Feeds LZR Concrete Plant



LZR - Lenz Ziegler Reifenscheid GmbH in Kitzingen, Bavaria, a family-owned company supplies ready-mixed concrete and is also active in demolition and waste disposal. For over 2 years, a SENNEBOGEN 835 M E Series equipped with a 305 HP (224 kW) Tier 4 engine has been operating at the Kitzingen site located directly on the Main River. It is used to unload sand and gravel from incoming ships. Its rubber-tired undercarriage allows it to move around easily and quickly wherever it is required.

Sand and gravel extraction in the Main Valley has always been a mainstay of LZR GmbH. Every day, approximately 800 tons arrive at the gravel plant in Kitzingen via the Main River. Equipped with a reach of 59 ft. (18 m) and with a

2.5 yd<sup>3</sup> (2,000 L) clam shell bucket, the operator unloads the gravel from the hulls and then feeds the processing units of the concrete mixing plant. Its elevated and forward moving cab provides a complete view of the work



*A SENNEBOGEN 835 E Series unit in customer colors is successfully used to handle sand and gravel and feed the processing facilities.*

area as well as all the way down into the bottom of the ship.

The additional benefits of work safety and comfort were the decisive factors when looking for a new material handler. Additionally, the LZR team especially appreciates the low maintenance requirements, the easily accessible components and the machine's simple, straightforward engineering.

Usually the Green Machines are just that but by special request, their SENNEBOGEN 835 E was painted in the LZR company colors to match its yellow-blue environment. ■

## Did you know...



... that you can order "Uptime Kits" with all the parts and materials required for a specific service and machine. SENNEBOGEN's warehouse in Stanley, NC keeps them in stock, ready to ship.

Save time in the shop and on field service calls – easy to order, easy to stock!

- Electrical Kits
- SAE Flange Kits
- Fitting Kits
- Plug & Connector Kits
- A/C Service Kits
- Nut & Washer Kits
- O-Ring Kits

**And many more!**



High Capacity • Fast Duty Cycles • Low Operating Cost

PORTS/WATERWAYS

# A GREAT DAY AT THE OFFICE!



## The redesigned Maxcab takes operators to a new level of comfort, technology and visibility

A signature feature of all SENNEBOGEN material handlers is the industry-leading Maxcab operator station. It has been updated once again and sets the new standard in ease of use, jobsite visibility, safety and comfort. The Maxcab interior has always been impressive using high-quality materials while providing plenty of storage space. The new edition is even quieter thanks to enhanced insulation. The multi-adjustable air-suspension comfort seat makes this office the best place to work.

### What's new:

- More room: length increased 2.75" (70 mm)
- Bulletproof windshield
- Climate comfort seat with AC & heating
- Cell phone holder with 12V, 24V and USB adaptability
- Flush floor mats for ease of cleaning
- Improved positioning of speakers & AM/FM radio
- Large entry door & rear window
- Larger sliding window
- Improved air circulation
- LED headlights

The Maxcab's hydraulically elevating mount lets operators rise above obstacles for a direct look into bins, trailers, hoppers and holds, coupled with a wide-angle 270° view of nearby traffic and workers.

Maxcab's innovative steel sliding door and guarded catwalk provide the safest entry and exit in the industry.

Now standard on all new SENNEBOGEN material handlers, Maxcabs are equipped with a bulletproof windshield and skylight. Optional heavy-duty guarding offers additional impact protection for operators in hazardous applications.



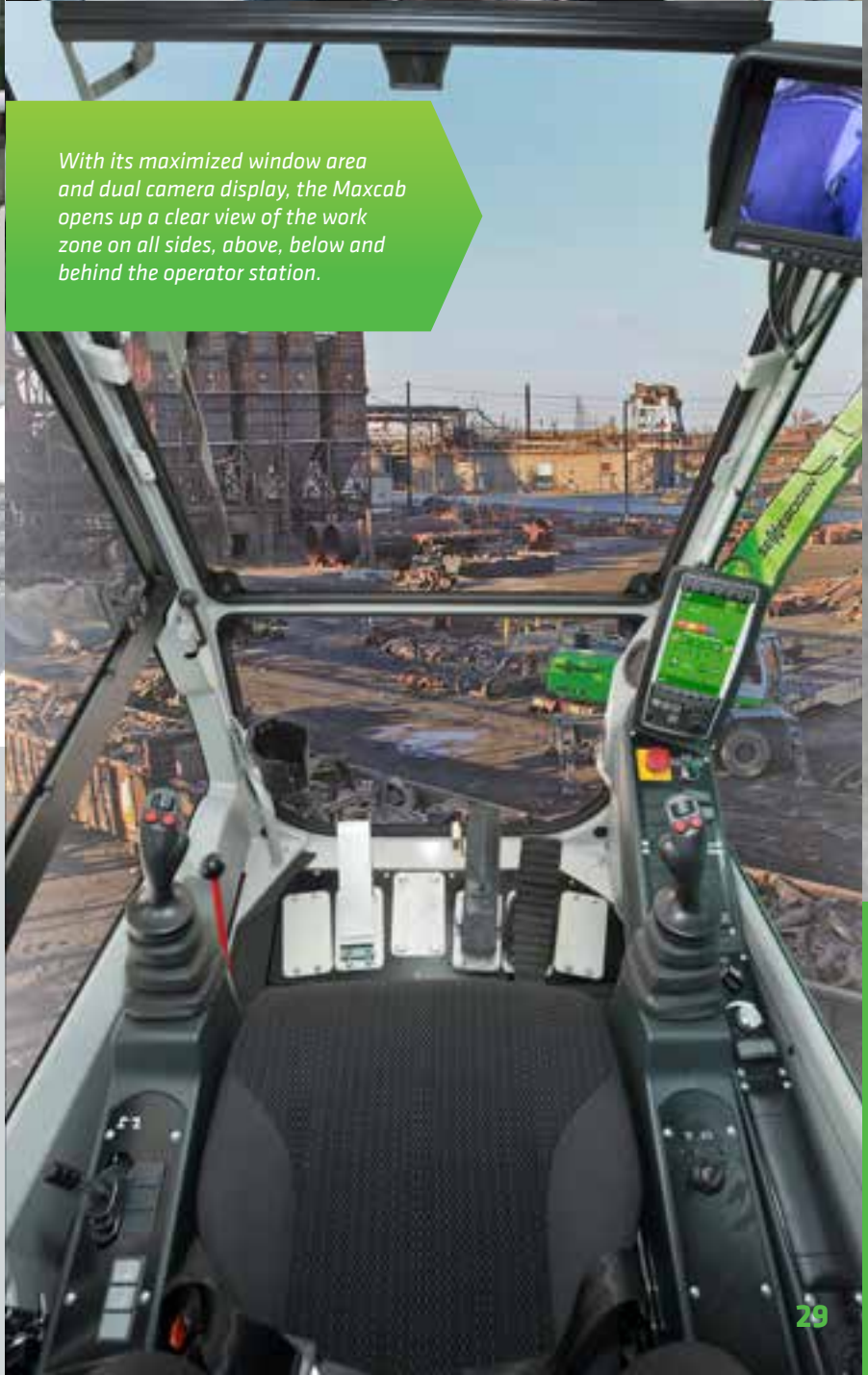


Ground to cab handrails and upper deck guardrails ensure that operators and technicians can have a secure 3-point grip to and from the cab and service areas.



Purpose-Built From The Ground Up

*With its maximized window area and dual camera display, the Maxcab opens up a clear view of the work zone on all sides, above, below and behind the operator station.*



## A "JOY" TO HOLD

Our ergonomically designed SENNEBOGEN joysticks are easy to hold and provide a direct, responsive control; always within comfortable reach no matter how you adjust the seat.

- Consoles and joysticks move with the seat
- Optimized design and placement of all buttons and switches
- Precise control of highly responsive hydraulic system
- Quick, easy access to all operating controls

MAXCAB



# EQ Technology Balances Productivity With Energy Savings

The classic lever principle is reimagined in SENNEBOGEN's family of EQ balance machines to minimize energy use and reduce running costs for large bulk handling facilities.

The EQ system shows off its strengths anywhere large volumes of material are to be handled, such as ports, pulp mills and scrap recyclers. By dynamically counterbalancing loads throughout the lift cycle, EQ material handlers can achieve heavier lifts with a longer reach than any previous equipment.

## Reduced Costs For High-Volume Production

At Pollmeier Massivholz GmbH, an electrically driven 8130 EQ is the heart of a new veneer layer lumberyard producing glued laminated beech panels on a large scale. From its fixed pedestal mount, the 8130 covers

a 23,000 sq. ft. (2,100 m<sup>2</sup>) area to load a logwood cross-cut system and a series of conditioning ponds, arranged in a fan shape around the machine.

Each pond has a capacity of more than 260 cu. yd. (200 m<sup>3</sup>) of wood. The 8130 EQ keeps the wood moving, lifting 5-ton loads with a reach of up to 80 ft. (27 m). The energy savings of the EQ balancing technology plus its electric-drive is reducing the cost of the machine's operation up to 75% for Pollmeier.

## Ease And Comfort For Scrap Yard Efficiency

Scholz Recycling GmbH & Co. KG is not your grandfather's scrap yard. A new 8100 EQ material handler is one recent innovation that keeps the Scholz scrap yard among the largest in all of Europe. With its 89 ft. (27 m) boom, the 8130 moves 80-100 metric tons of scrap per hour into a large stationary shear that is the centerpiece of the Scholz process.

Site Manager Mike Sommer says the purchase of the balance machine took some convincing but "the operators give their thumbs-up." One operator, Michael Chiemelski, concurs.







“The comfort of the machine is second to none. The electric-drive has low vibrations and does not require a fuel stop. Its service intervals are longer than diesel machines. It is simply more reliable to run and I am able to fully focus on my work.”

### Precise Handling In Multiple Tasks

Marty Hine of the Pedersen Group’s Tasman Mill in New Zealand is especially impressed with the precision of the site’s 880 EQ. “Even at its full reach of 99 ft. (30 m) with a 12-ton grab (26,500 lb.), the machine is rock steady,” he says.

Pedersen’s 600,000 lb. (275,000 kg) machine is just part of the site’s diverse all-SENNEBOGEN fleet. The 880 operator can deploy an electrical tether to maneuver the machine within a 110 ft. (33.5 m) radius to service infeed and storage areas.

### Long Reach Of The EQ Rocks A Sea Wall Project In Dubai

The 115 ft. (35 m) working range of the SENNEBOGEN 880 EQ allowed Bilal General Transport LLC [BGT] to vastly simplify its seawall reclamation project in Dubai. BGT was tasked to create nearly 250 acres (1 million m<sup>2</sup>) of new space for urban expansion. The project required the recovery of 11 million cubic yards (9 million m<sup>3</sup>) of sand and up to 6.5 million tons of rock from the sea.

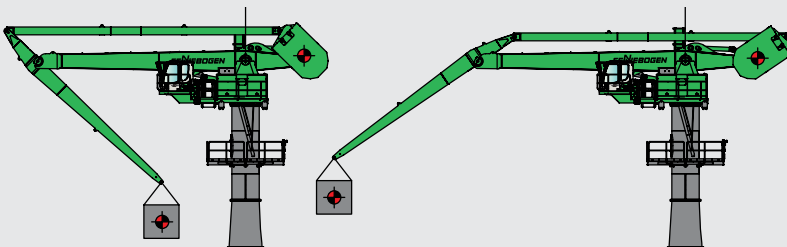
At first, the company took it on with a complex operation of shore-based cranes coordinating with barge equipment. The logistics of rebuilding the seawall through complicated lifts and shifting tides were taking a toll in project timelines and costs. But now, a single 880 can quickly lift and fit the 7-ton rocks within one inch tolerance in as little as 40 seconds!

Fitted with an orange peel grapple, the 880 EQ uses a GPS system to locate and pick the giant rocks off the sea floor. ■

## EQ = Always In Balance

EQ, for “equilibrium”, reduces energy costs by offsetting the weight of the lifting load with a counterbalancing system. Pivot points in the balancing system shift the counterbalance weight to maintain a constant equilibrium with the position of the load, without requiring complex controls.

This design allows cranes to extend their reach further than traditional material handlers and support more weight throughout their lifting envelope, while reducing energy and operating cost.



The counterbalance mechanism is designed simply, with just two cylinders connected to the jib and the rear counterweight, linked by a bar that runs parallel to the boom. This mechanical arrangement self-adjusts the counterweight to maintain a perfect balance over its center of gravity throughout the lift cycle.

# Training In-House Experts Gives SENNEBOGEN Customers An “Uptime” Advantage



SENNEBOGEN takes great pride in designing and building machines that customers can depend on: day in, day out, year after year. Built-in reliability is a key part of our commitment to deliver the lowest lifecycle cost and highest productivity in the industry.

Our Training Center in Stanley, NC, is another big piece of the puzzle.

At our 100,000 sq. ft. (9300 m<sup>2</sup>) headquarters in Stanley, we have invested in a purpose-built training facility that is among the very best in the heavy equipment industry. The Training Center was an essential investment to ensure that SENNEBOGEN dealers are able to support the machines they sell with factory-trained technicians. But we took it a step further. The technical programs we provide to our dealers is also offered to SENNEBOGEN customers, free of charge!

## **A nation-wide network of specialists**

This means that SENNEBOGEN is cultivating the nation's largest network



*We like to be self-sufficient. It keeps us ahead of everyone else. We take care of the machines and they take care of us.*

*Tim Thibodeaux, President  
Thibodeaux & Son Scrapyard*



of technicians with specialized factory training on material handling equipment. And almost every day, we hear from customers who agree that it's a good idea. As Mark Bond, President of Metro Group Recycling in Utah, commented, "A lot of OEMs don't want to show anybody else how to service their machines. It's a big advantage for us to be able to work on our own machines."

The High Level wood yard in Alberta made technical training an integral part of their planning to replace older equipment with four new SENNEBOGEN

log-handlers. Deirdre Prill, the mill's Log Yard and Mobile Shop Supervisor, reports that two members of her team attended SENNEBOGEN's technical school before the first machine was delivered. Then her dealer, Strongco, provided on-site training for her operators. "Our goal has been to make the transition from old to new equipment as stress-free as possible. They [can] get accustomed to the capabilities of the new grapples and longer reach. Then, we can gradually move up the targets for our maximum decking height."

For Thibodeaux & Son Scrapyard in Louisiana, having expert service crews on site is a point of pride. "We run a tight shop," says President Tim Thibodeaux. "We like to be self-sufficient. It keeps us ahead of everyone else. We take care of the machines and they take care of us."

## **Do-it-yourself reliability**

Self-sufficiency is a recurring theme among those with Training Center graduates, especially those operating in areas where the distances from





dealer branches is a factor. John Anderson, Director of Maintenance for ABC Recycling in British Columbia says, "It's difficult to find heavy equipment mechanics, generally. If we don't have the people we need on our own payroll, we can end up waiting a long time for machine service. Having our own team makes a huge difference."

Running a sawmill in Carrot River, Saskatchewan (almost 200 miles from Saskatoon, if you can get there!), Trevor Reid of C&C Resources appreciates having knowledgeable staff on-site too. "We're in a very remote area," he explains. "We'll have two machines operating so we really need a resident expert. [Technician] Jeff Doerksen came back with rave reviews about the SENNEBOGEN facility, and all it cost us was airfare and a hotel room."

## SENNEBOGEN COURSES

Service Level 1  
D-Series

Service Level 1  
E-Series

Service Level 2  
E-Series

Operator  
Familiarization

Parts Training

Visit us online at  
[sennebogen-na.com/training](http://sennebogen-na.com/training)  
or scan the QR code on the right

### Hit the ground running!

The Training Center is designed to ensure that graduates can apply their training as soon as they return to work. While other programs may rely entirely on paper-based schematics and drawings for training, our well-equipped classrooms prepare students for hands-on training with a live machine in the facility 3-tiered indoor bay. The training bay also includes demonstration models and cutaway components that help attendees understand the inner workings of their machines. The Center is even "firewalled" from our adjacent warehouse and sales offices, so attendees have a distraction-free, learning-focused classroom and hands-on environment for both staff and trainees.

Even in our training programs, bottom-line productivity is always part of the plan at SENNEBOGEN. ■



### Service Level 1

5 Day Course

#### Course Content:

- Machine Safety, Operation & Functions
- Preventive Maintenance
- Read & Understand Hydraulic Schematics
- Read & Understand Electric Schematics
- Basic Troubleshooting:  
Magnet System, Hydraulics, Electrics

### Service Level 2

5 Day Course

#### Course Content:

- Remote Trouble Shooting
- Component Training & Repair
- Failure Analysis
- In Depth Troubleshooting  
Magnet System, Hydraulics, Electrics

Level 2 classes are smaller & more intensive & build on Level 1.

**Course fees:** No charge to SENNEBOGEN dealers, staff and customers. Training manuals are provided to attendees in both paper and CD format at no cost.



## Training For The Next Generation

SENNEBOGEN believes strongly in the value of training, not only as a service to customers but for "growing our own" skilled trades people and knowledgeable workers. We are a close-knit, family-run organization with a uniquely specialized focus on machine technologies. To prepare the best people for this kind of work, our factories invest in apprenticeships and internships every year, offering young people the opportunity to build a secure and satisfying career.

# SENNEBOGEN CAPITAL



## Better choices for financing your fleet

With generations of experience in the equipment industry, we understand that alternative sources of funding for your operation are key to successful business planning. SENNEBOGEN Capital can offer a wide range of financing solutions to match your business needs for cash flow management, cost certainty and seasonal utilization.

The advantages of working with SENNEBOGEN Capital instead of traditional funding and banking sources will mean different things to different people, depending on your business situation. Financing with us can offer:

- Tax advantages
- Simpler equipment replacement
- Unmatched payment and term flexibility
- Convenient one-stop financing with people who understand your business

### You have options!

Customers purchasing SENNEBOGEN material handlers can easily arrange flexible financing through our nationwide network of authorized distributors. SENNEBOGEN Capital can tailor programs to suit your funding and cash-flow needs with options such as:

**Full Payout Loan:** These have fixed payments over the term of the lease while building ownership equity in the equipment.

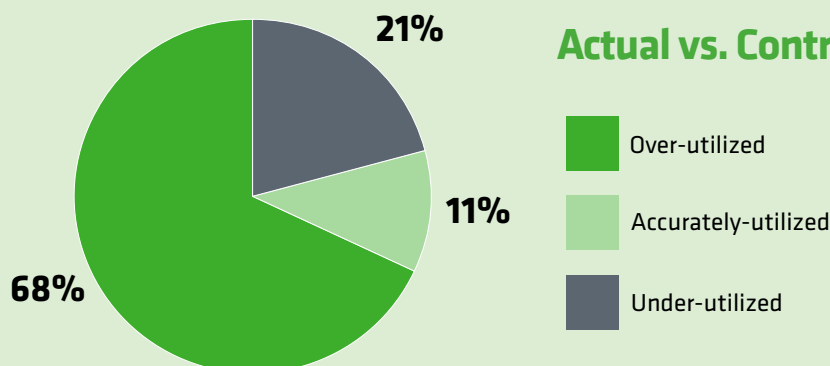
**Fixed Price Purchase Option:** Allows you to purchase the equipment for a specified amount at the end of the term or just turn it back in.

**Tax or True Lease Option:** Lets you purchase the equipment for a fair market value at the end of the lease, extend the lease or turn it back in.

**Lease by the Hour®:** The flexible lease that eliminates the extra costs of under- or over-utilizing your machines.

## DID YOU KNOW... as many as 90% of equipment users are overpaying for their equipment leases?

A recent survey covering thousands of equipment leases revealed that only 11% of users forecasted their utilization hours accurately. When they estimated too low, they paid extra for overtime penalties at the end of the lease. When they estimate too high, their monthly payments were more than they needed to be!





With “Lease By The Hour<sup>®</sup>”, what you pay for your equipment automatically adjusts to how you use it!

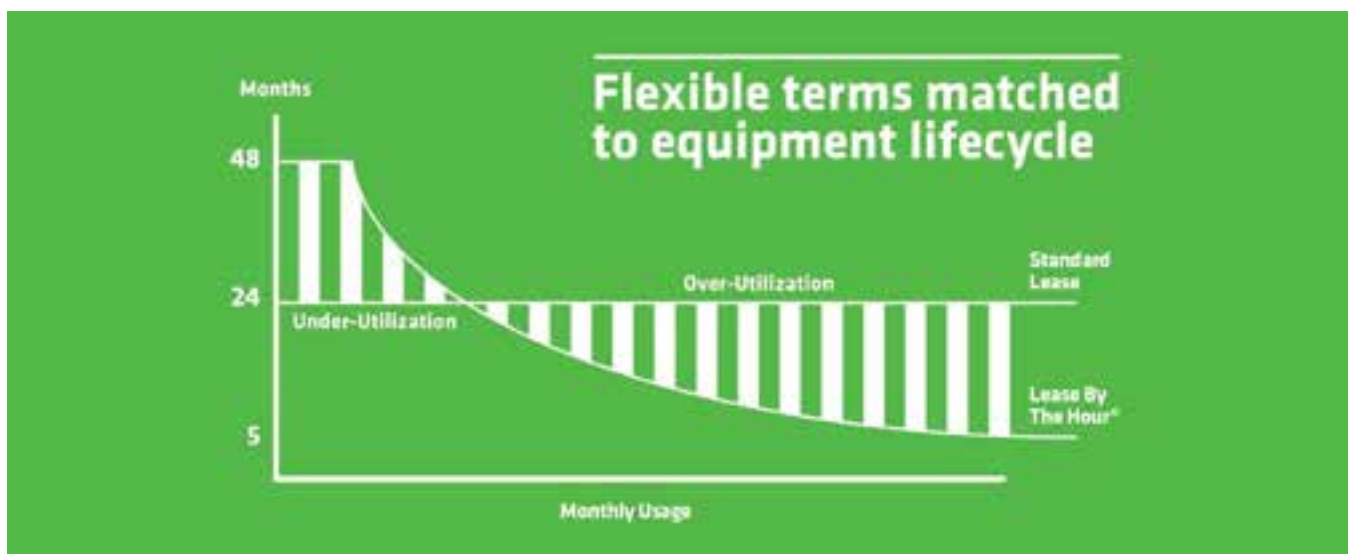
# Lease By The Hour<sup>®</sup>

## No overtime – No surprises!

Nobody likes surprises at the end of a leasing contract. With Lease By The Hour<sup>®</sup>, your payments and term adjust to changes in your business activity, so there’s no worry about overtime charges.

Traditionally, leasing costs are pegged to the expected residual value of the machine at the end of the term, and that value is based on the total operating hours of the machine while it’s in your fleet. At the beginning, when you’re negotiating the lease, it’s hard for Fleet Managers to predict their actual utilization over the full term of the lease.

But with a Lease By The Hour<sup>®</sup> plan from SENNEBOGEN Capital, you can always get it “just right.”



Based on your historical usage, we structure your Lease By The Hour<sup>®</sup> contract with a minimum monthly usage over the long term. If your utilization increases, we shorten the term. Your monthly payments stay at the minimum when business is slow, then increase only when you have the production and revenues to recover the cost.

FEATURES	BENEFITS
Set minimum contract hours	Supports maintenance-driven fleet management practices
Usage fluctuations affect term	Concerns over contract term and overtime are eliminated
Payments fluctuate with utilization over the minimum	Equipment expense matches business volume
Easy data upload	Simple format (serial number and life-to-date/LTD hours), low touch, system driven calculations, maintenance planning benefits
Base payment discounts in extension	In any scenario (high or low utilization) extension runs until maintenance signifies replacement

## Learn More About Lease By The Hour<sup>®</sup>

See your SENNEBOGEN dealer for more information on all the financing options available from SENNEBOGEN Capital - or scan this QR code for the answers to common questions about Lease By The Hour<sup>®</sup>.





The warehouse stocks complete inventories of service and repair parts for every model.

“ Every year SENNEBOGEN continues to invest in our facilities, staff, inventories and services – because we believe in the strength of our distributors and their customers. ”

*Constantino Lannes*

# Our Commitment



The SENNEBOGEN 100,000 sq. ft. (9300 m<sup>2</sup>) facility in Stanley, North Carolina is built on a 33 acre (13.4 hectare) site and includes the offices, Training Center and warehouse.



SENNEBOGEN LLC | 1957 Sennebogen Trail | Stanley | NC | USA | 28164 | +1-704-347-4910

**GO FOR GREEN**  
[www.sennebogen-na.com](http://www.sennebogen-na.com)

**SENNEBOGEN®**