UpLoad

The magazine for customers and friends of mobile and crawler cranes

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We use male pronouns simply to make our articles easier to read.
However, the content of the articles applies to all genders.

Dear readers,

For the first time in my role as Managing Director of Design and Development at Liebherr-Werk Ehingen GmbH, it gives me great pleasure to welcome you to the latest issue of our UpLoad customer magazine.

My career has been shaped by our mobile and crawler cranes. Over the years, I have had the privilege of getting to know Liebherr from a variety of different perspectives – as an engineer, as a manager and as a colleague: something that is really important to me. What impresses me time and time again is the close connection between technology and people.

For this reason, it is a key pledge of mine to listen carefully – to our workforce, to our partners and of course to you, our customers around the world. I'd like to understand what moves you, what your requirements are and how we can best support you. After all, this is the only way in which we can develop cranes that not only impress from a technological perspective, but which also offer real added value in practice.

The innovations we are showcasing in this issue are an excellent example of this: the LTM 1055-3.3, the lightest 3-axle all-terrain crane on the market. It's efficient, approval-friendly and perfect for flexible use (page 34). The new "twins" – the LTM 1150-5.4 and LTM 1150-5.4E – are also setting standards: the electric-powered version with battery pack allows use on "local zero-emissions" construction sites and is virtually silent during operation (page 36).

We are also taking a look at special missions – such as the 18 mobile cranes reinforcing a power line in southern Germany (page 44) or how our mobile cranes are helping to transform a historic suspension ferry into an event location (page 26). From page 54 onwards, you can read how modern tools are revolutionising crane planning: Crane Planner 2.0, now supplemented with precise drone data, brings reality even better on the screen.

Another highlight: in our interview, the Managing Director of a crane and heavy haulage company reports how she switched her company to HVO fuel – inspired by her interactions with us (page 52). Sustainability is not a buzzword for us, but rather a shared goal that we actively define with our partners.

Please dive into this issue of UpLoad – and I look forward to engaging with you.

Best regards,

Bernd Boos
Managing Director Design and Development
Liebherr-Werk Ehingen GmbH

The subjects of our articles.

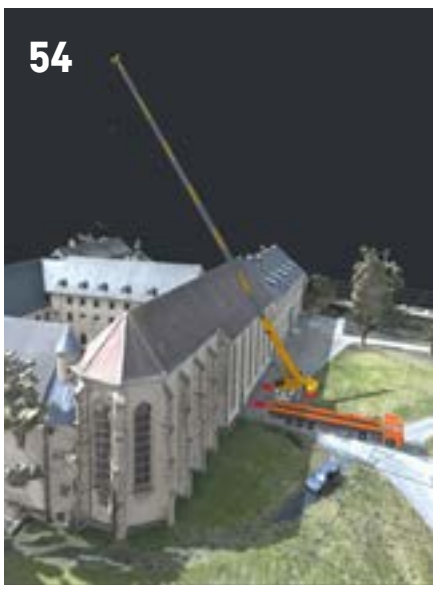
Mobile and crawler cranes

Also online:
UpLoad is also available at liebherr.com to read, look at and download.

www.liebherr.com/upload

In focus

The world with Liebherr



Moments

Twins in the Swabian Jura
Two LR 11000 crawler cranes owned by the transport and crane company Felbermayr are operating close to their place of birth. Just 20 kilometres away from Liebherr's manufacturing facility in Ehingen, they are assembling six wind power turbines with a gondola height of 162 metres. The 1,000-tonne crawler cranes are equipped with state-of-the-art crawler crane technology: V-Frame® and VarioTray®.


28-BXD-5

Flower power: spring awakenings in Holland

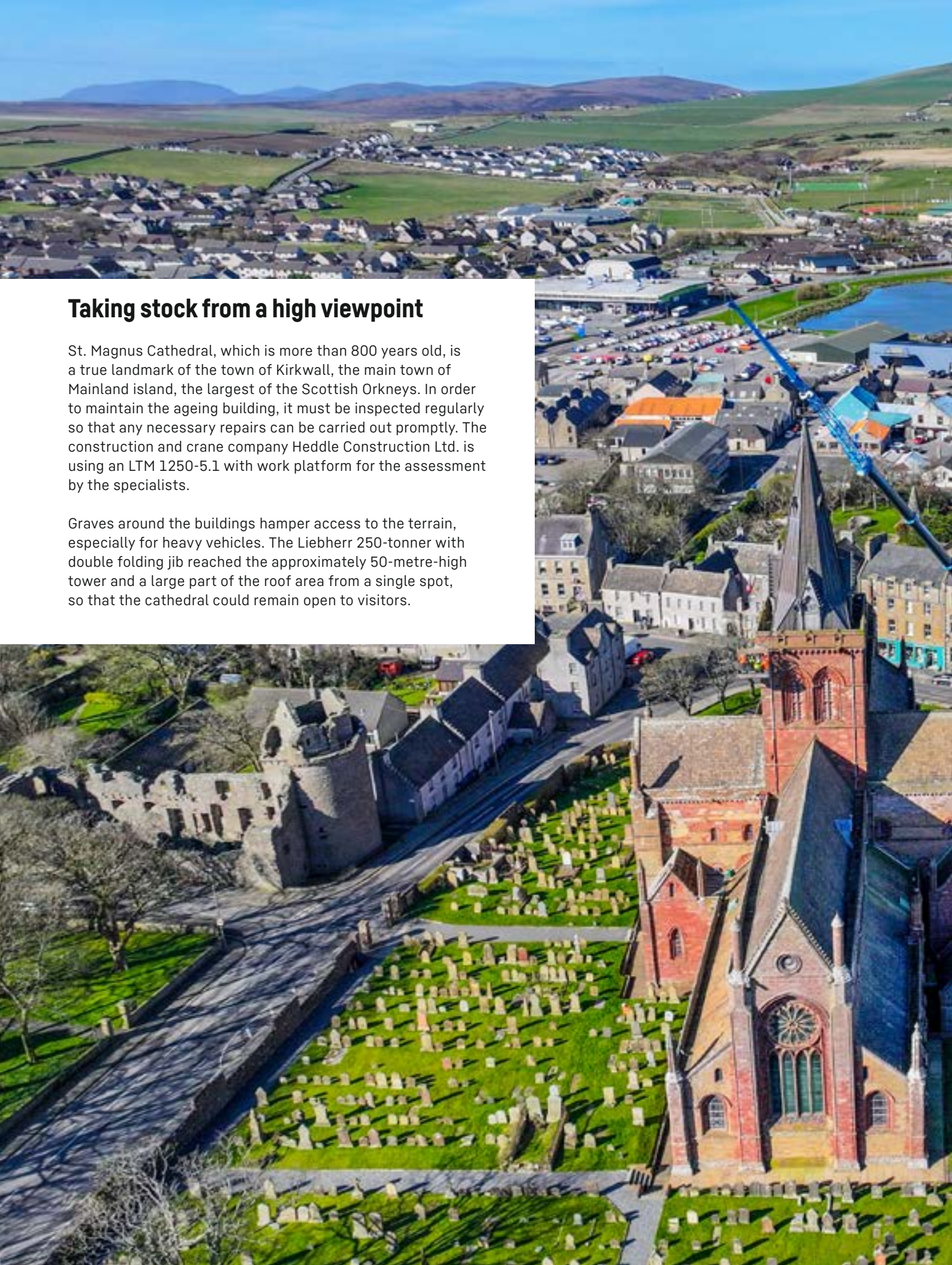
When spring arrives in Holland and the tulip fields are in full bloom, Haarlem – the city of flowers – becomes the venue for a spectacular spring festival. The highlight of the event is the 42-kilometre-long Bollenstreek flower parade. And right in the midst of it is an LTM 1070-4.2 from the US firm Mountain Crane Service. Inspired by a previous visit, Mountain Crane had the multi-tonne crane decked with fresh spring flowers – entirely in keeping with the motto “Faith Can Move Mountains”. The colourful crane drew admiring glances from far and wide, being awarded third place by the jury. It was an unforgettable appearance for the newly acquired crane before it began its journey across the Atlantic.

Tandem lift over the Rhine-Herne Canal

On the A42 near Bottrop, spectacular bridge work is being carried out as part of the road's six-lane expansion. An old industrial bridge is being replaced by a new one with a broader span. Two LR 11000 crawler cranes from Liebherr are lifting a 220-tonne bridge section simultaneously and rotating it around 90 degrees. Quite a logistical challenge! The bridge section was transported via the Rhine-Herne Canal, although even the harbour basin needed to be deepened for this to happen. During the lifting operations, the canal is closed off so as to avoid wave movements caused by passing ships.

Up, up and away for a birds-eye view

In the Dutch town of Urk, we discovered one of our mobile construction cranes working on a typical assembly job. After the completion of the steel construction, the walls had to be installed for the building of a hall. A Liebherr MK 88-4.1E from our partner Dick ten Klooster was holding a large section of wall on its hook. Thanks to its long boom, the modern mobile construction crane was able to carry out all of the work from just one spot. Even at its maximum radius of 45 metres, the machine – which can also be operated electrically – was still handling loads of up to 2.2 tonnes. The elevating cabin gives the crane operator the best view, ensuring superlative safety on the construction site.



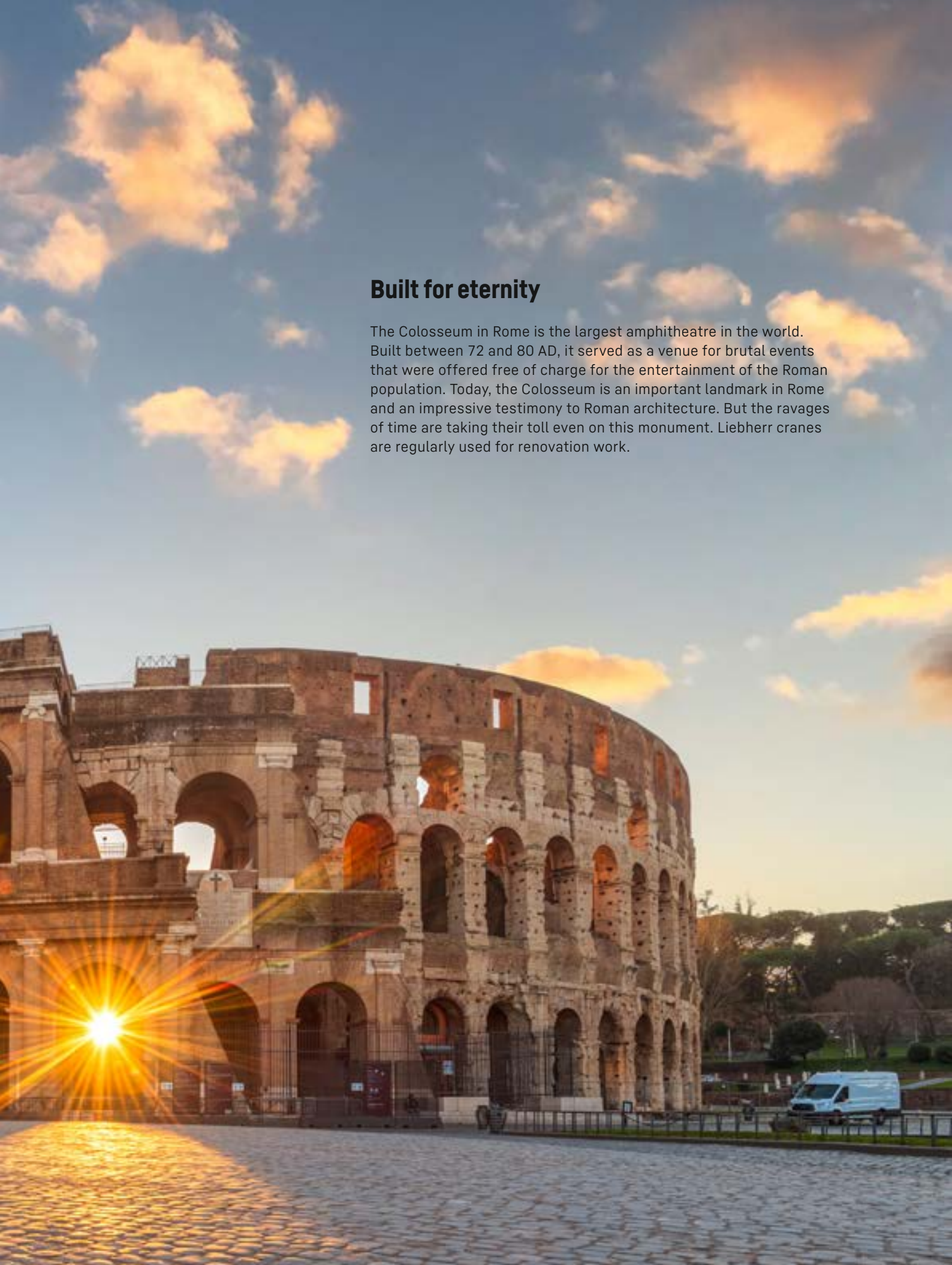
Taking stock from a high viewpoint

St. Magnus Cathedral, which is more than 800 years old, is a true landmark of the town of Kirkwall, the main town of Mainland island, the largest of the Scottish Orkneys. In order to maintain the ageing building, it must be inspected regularly so that any necessary repairs can be carried out promptly. The construction and crane company Heddle Construction Ltd. is using an LTM 1250-5.1 with work platform for the assessment by the specialists.

Graves around the buildings hamper access to the terrain, especially for heavy vehicles. The Liebherr 250-tonner with double folding jib reached the approximately 50-metre-high tower and a large part of the roof area from a single spot, so that the cathedral could remain open to visitors.

Built for eternity

The Colosseum in Rome is the largest amphitheatre in the world. Built between 72 and 80 AD, it served as a venue for brutal events that were offered free of charge for the entertainment of the Roman population. Today, the Colosseum is an important landmark in Rome and an impressive testimony to Roman architecture. But the ravages of time are taking their toll even on this monument. Liebherr cranes are regularly used for renovation work.



The Beehive

New Zealand's parliament building, known as "The Beehive", is a striking landmark in Wellington. It houses the offices of the ministers, while the meetings take place in the neighbouring historic parliament building. The building with its beehive-like architecture symbolises New Zealand's democracy and history. An old tree and a modern Liebherr crawler crane tell a different kind of story.

Ship on stilts

Installation vessels are the ideal tool for the construction of offshore wind farms. The “Aeolus” is one of these powerful installation ships. It is equipped with gigantic steel legs with which it can lift itself above the surface of the sea. This means that it can operate in a stable position even in water depths of 45 metres, regardless of the sea conditions. The “Aeolus” is equipped with a powerful crane that lifts loads of 900 tonnes at a radius of 30 metres. However, the workboat can also be used as a pure floating crane for lifting work in harbour facilities without the use of jack-up legs. Over ten years ago, the huge steel pipes were installed by a Liebherr LR 13000 crawler crane.

Made with Liebherr

Enormous legs for a ship
In the spring of 2014, the Lloyd shipyard in Bremerhaven was the arena for the European premiere of the largest conventional crawler crane in the world. The first Liebherr LR 13000 crawler crane was used on a truly exceptional project. A newly built installation vessel for the assembly of offshore wind turbines was fitted with four huge jack-up legs. The imposing steel tubes with a length of 87 metres had to be lowered into the ship's hydraulic lifting system from above. To cope with these loads of almost 1,000 tonnes gross weight, the giant crane was set up with its PowerBoom for the first time. In this configuration, the lattice boom runs parallel over a length of 48 metres in a double design. This gives the large crane a high level of stability and enables it to increase its lifting capacity by an incredible 50 per cent compared to the standard boom, up to a radius of 35 metres.

The globally operating heavy load and crane specialists from the Dutch company Mammoet had brought their almost-new LR 13000 back to Germany from its first use in the USA for this operation. Four weeks were originally planned for the assembly of the crane with the PowerBoom, but after just twelve days the crawler crane with its 65 tonne hook block was already towering into the sky and ready for use. "It can be set up like a larger LR 11350," commented crane operator Jouke Bruin on the set-up work at the time.

With concession from the Ministry of Culture – the Archaeological Park of the Colosseum. (Photo: Stefano Minguzzi)

Modern technology meets ancient splendour
The Colosseum in Rome, one of the most impressive buildings of antiquity, attracts millions of visitors every year. As the largest amphitheatre in the world, it is an icon of Roman architectural prowess.

The Colosseum is constantly being renovated to preserve its historical splendour. The Roman crane contractor Minguzzi S.r.l. is using an LTM 1090-4.2 to lift building materials for the renovation work. The powerful Liebherr mobile crane enables precise lifting operations, which are essential for the demanding work on the Colosseum. The combination of state-of-the-art technology and centuries of history makes this renovation a fascinating project. The Colosseum will not only be restored, but will also remain an important landmark of Roman culture.

Heritage oak successfully relocated: LR 1500 in action
The Liebherr LR 1500 crawler crane from Australian crane contractor Titan Cranes played a key role in the relocation of a 170-year-old oak tree, the Heritage Oak of the New Zealand parliament. Due to the construction of a new building, the listed tree had to be moved by around 30 metres. The LR 1500 was the ideal choice for this demanding project, as the tree and its root ball weighed around 120 tonnes. The planning of the relocation was complex and required the expertise of specialists to ensure that the tree was not damaged during the lifting process. Thanks to the performance of the LR 1500 with derrick and suspended ballast, the tree was lifted and moved to its new location in a single lift. This reduced the time the tree was suspended in the air and minimised the risk of damage.

Photo: Wayde Adams (Titan Cranes)

Mobile and crawler cranes

In a new guise
Another crane type with LICCON3 control system: the LTM 1120-4.1 is becoming the LTM 1120-4.2 and features the new, trend-setting crane design. In addition, the LTM 1120-4.2 is equipped with the oil-cooled TraXon DynamicPerform start-up clutch and new driver assistance systems to increase driving safety on the road.


LTM 1120-4.2
LTM 1120-4.2


Ulferts & Wiedrocks

Floating one last time

Suspension ferry from the imperial period becomes snack lounge

In 1913, near the northern German town of Rendsburg, a giant iron railway bridge was put into service over the North Sea Canal with a suspension ferry hanging underneath it. One night in January 2016, the ferry collided with a cargo ship. This severely damaged the transport gondola, putting it out of operation and ultimately leading to it being dismantled. A rebuilt suspension ferry was reinstalled under the bridge a few years later using two Liebherr mobile cranes. Now, the once damaged gondola is being picked up on the crane hooks again. The historic metal housing is to be restored and in future serve as a fish snack bar and music stage on the banks of the Rendsburg Canal. The arrival of the old suspension ferry at its new location was met with great celebrations. We went along to see how the unusual method of transport got on.

For nine years, it lay in the dockyard of the Waterways and Shipping Office and was actually already earmarked for scrapping. Now, the original gondola of the Rendsburg suspension ferry has been given a new life. To do this, 15 men from the Kiel branch of the Ulferts & Wittrock crane company – including operations manager Michael Kulbe – travelled to Rendsburg with transport vehicles and mobile cranes. “Three months of planning,” says Kulbe, “preceded this operation. Due to the requirement to carry out the entire move on a low-loader and ship with the necessary four crane lifts within just nine hours, we came to Rendsburg with sufficient crew.”

The Kiel team brought two Liebherr cranes with them too. The first of the two LTM 1250-5.1 cranes – which had already been assembled ready for use the day before – kicked off the big gondola relocation at the shipyard. At sunrise, the old suspension ferry was placed on a 6-axle low-loader and carefully travelled the first stage to the shipyard’s harbour basin. The second mobile crane then took over and placed the steel structure on a single large pontoon for water transport.

← Off we go
The tug convoy passes the old site of the gondola and crosses the Rendsburg high bridge. This extraordinary monument to the art of engineering is one of the longest railway bridges in Germany.

In the harbour basin...
...operated by the canal administration authority, the old ferry housing was placed on a pontoon. An LTM 1250-5.1 holds the 40-tonne metal construction on its hook.

Fish rolls instead of passengers

This piece of industrial culture owes its rescue from the welding torch and scrap yard to Martin Sick. The entrepreneur had the idea of preserving the gondola and using the unique historical piece as a local attraction and business model on the banks of the Kiel Canal in Rendsburg. A venue with stunning views over the canal is being created here for visitors and locals alike. Fish rolls and sometimes even a few musical treats will be on offer here in future.

There was no need to wait for the fish rolls, however. They were served up for the numerous helpers, sponsors and local celebrities shortly before the tug and barge pushed off. Around 30 people on board set off together in the gondola on the two-kilometre waterway from the canal administration harbour to the destination. The short trip also took them under the high bridge, past the new ferry and thus past the former site of the old gondola. It had been in service here for more than 100 years, suspended from long steel cables. It had carried cars, cyclists and pedestrians across the 120-metre-wide waterway. The seemingly adventurous mode of transport was also a welcome change on the daily journey to school for many children.

Once at the Rendsburg district harbour, the ferry "floated" for what was probably the last time. Due to the required boom radius, the historic piece weighing around 40 tonnes was lifted from the pontoon with a tandem lift and then placed in its future position by one of the two cranes to the accompaniment of music and the gaze of numerous guests and onlookers. On the banks of the canal, the gondola will serve as both a technical monument and a lounge for visitors and locals alike. A tourism hotspot rather than scrap metal with a view of the high bridge and the passing ships and container giants on their way between the North and Baltic Seas.

Almost there
One of the two 250-tonne cranes takes over the final piece of the mission and places the old ferry gondola in its future location on the canal bank.

Powerhouse in continuous operation

JENNISKENS
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JENNISKENS
JENNISKENS

The LTM 1450-8.1 at Jenniskens: powerful, reliable, indispensable

Almost eight years ago, we shipped the first of our LTM 1450-8.1 models. Now, there are some 250 of them in use around the world – and no fewer of 15 of them are rolling through the Netherlands. The Dutch company Jenniskens purchased one of the first mobile cranes of this type back in 2018. Since then, the 450-tonner has been the company's flagship crane of its almost 30-strong crane fleet, taking care of heavy lifts. We paid a visit to the crane on one of its typical construction sites.

The LTM 1450-8.1 has been an indispensable tool for the crane and transport services provider Jenniskens. The Dutch family-run company operates out of Wijchen, not far from the border with Germany. "The mobile crane remains our most powerful machine and we're beyond happy with our 450-tonner." These are the words of Jeroen Jenniskens, one of the three brothers in charge of the company and who took over from their father three years ago.

"The LTM 1450-8.1 has proven itself to be exceptionally reliable and powerful in the field," says Jeroen, "and the superstructure has notched up an impressive 6,500 hours of operation so far. We mainly use it for building construction projects, but also quite a lot for infrastructure projects such as bridges or viaducts. The crane also regularly works on a major barrier construction on a North Sea dyke. We were only there again in May and we swapped several 90-tonne cylinders," reports Jeroen. "In addition to its lifting power and 85-metre-long telescopic boom – with this length also often saving us having to build up the lattice jib – we love the crane most of all because of its superb flexibility. The adjustable ballast in combination with VarioBase® is absolutely fantastic. It means we're able to use the LTM 1450-8.1 even on narrow construction sites."

Over 100 suction dredger assemblies
Jack Heldens and Evan Geurts are also happy with their machine. Jack has been sitting in the Liebherr crane's cabin since the very first day. Evan has been working with it for four years. We meet the two friendly crane operators at sunrise by the banks of a large quarry pond close to the Ijsselmeer. The evening before, they had parked their mobile crane on the sandy ground and made it ready to pull. A suction dredger – dismantled the day before at another location – was to be put back together again on the water. A routine job for the pair. Jack has already done this sort of work well over 100 times. "Each year, we dismantle around 20 of these machines and put them back together again at their next mission location," he says, getting straight to it. There isn't much time to sit around and chat, as the assembly team is already waiting.

Six huge individual components, each weighing up to 35 tonnes, are put together create the "zandzuiger", as it's called in Dutch. The work progresses quickly. Jack, Evan and the assembly team with their life jackets are a well-practised team. One component after another is quickly hanging on the crane hook. Once all the pontoons have been safely positioned on the water and joined up, the team continues with the giant dredger's superstructure. "It certainly takes 50 lifts for a floating dredger to be fully assembled," explains Jack.

"LTM 1450-8.1 is very stable in operation"
In addition to crane operations, Jenniskens also offers specialist transport and industrial relocations. Around 40 staff look after customers' needs as well as the numerous transport vehicles and cranes in the company's fleet. "A large proportion of our mobile cranes comes from Liebherr, including two MK 73-3.1 mobile construction cranes," explains Jeroen Jenniskens. "All in all, our Liebherr equipment is incredibly reliable," he says, satisfied. "Our LTM 1450-8.1 is very stable in operation too. It has only broken down twice in seven years, and each time the Liebherr service team was able to quickly fix the problem."

Jack Heldens
He has been sitting at the controls in the crane cabin since the LTM 1450-8.1 was first supplied to Jenniskens.

"Zandzuiger"...
...is the Dutch name for the suction dredger assembled from numerous floating bodies. Sand is primarily required for coastal defences and for land recovery.

Less weight for heavy lifting: The LTM 1055-3.3 sets new standards

Liebherr presented the lightest 3-axle all-terrain crane on the market at Bauma. Several jobs a day, fast and flexible, without expensive and time-consuming driving permits – the new LTM 1055-3.3 sets completely new standards in terms of mobility on public roads.

With its high load capacities, the new LICCON3 control system, low axle loads and a wide range of possible driving modes, the new 55-tonne crane ensures greater flexibility and efficiency in daily use. The LTM 1055-3.3 can carry up to nine tonnes of ballast with a 12-tonne axle load. “This is an above-average amount for this crane class and means that additional ballast transport isn’t needed for most applications,” explains Product Manager Florian Brunner.

By simply removing the ballast – which the crane does in self-assembly mode – axle loads of around nine tonnes and a total weight of around 26 tonnes can be achieved. “This has never been seen before in a 3-axle all-terrain crane and represents a key advantage for many markets,” says Brunner. This means, for example, that a nationwide long-term driving permit is possible in Germany without any restrictions or driving requirements. This also applies when travelling with a trailer, on which the entire eleven tonnes of ballast can be transported and then lifted onto the crane on the construction site in just one lift.

The LTM 1055-3.3 was very well received at Bauma – many customers were surprised by its high lifting capacity at medium and large radii and thought it was brilliant. We sold over 20 cranes at the trade fair alone.

Enormous lifting capacity
The LTM 1055-3.3 offers high lifting capacities, particularly for medium and large working radii: “The low weight of its telescopic boom in combination with its relatively large support base enables it to lift extremely heavy loads within the crane’s stability range,” explains Brunner. With twelve tonnes of axle load, the LTM 1055-3.3 outperforms other 3-axle models from a radius of around eight metres. From a radius of 20 metres, it is even on a par with 4-axle mobile cranes.

The new mobile crane becomes even stronger with the standard VarioBase® Plus variable supporting base, especially in the working areas above the rear outriggers. The support base is wider here than at the front, as the rear sliding beams have a 2-stage design.

With its 40-metre telescopic boom and 15-metre double folding jib, the 55-tonne crane can reach lifting heights of up to 54 metres and radii of up to 46 metres. A 1.9-metre assembly jib has been newly developed, which can be angled at up to 50°. It is ideal for assembly work in industrial halls where space is limited.

Greater economy, convenience and safety
“The Blind Spot Information System (BSIS) and the Moving Off Information System (MOIS) support the driver and increase protection for road users such as pedestrians and cyclists,” explains Brunner. In addition, the LTM 1055-3.3 will be ready for the use of RemoteDrive as standard. This wireless remote control allows the crane to be manoeuvred from outside the cab – an enormous advantage on confined construction sites. An optional central lubrication system for the chassis and a digital tyre pressure indicator ensure optimum maintenance and availability for the crane.

“A minimum axle load of nine tonnes and, depending on the country, a nationwide long-term driving permit – that’s never been seen before on a 3-axle crane!”

Florian Brunner
Product Manager


LTM 1150-5.4

Zero emissions, full power

World premiere for mobile crane twins

LTM 1150-5.4E – one crane, two drives

It was without doubt one of the highlights of Bauma 2025: the Liebherr LTM 1150-5.4E. Sporting the characteristic white-and-blue paintwork of electrically powered Liebherr machinery, it stood opposite its conventionally powered twin the LTM 1150-5.4. Both world premieres. Both filled with HVO at the Liebherr Plant in Ehingen. Both with the new driver assistance systems for increased safety on the road. But only one with an electric engine and battery pack.

With battery pack: The LTM 1150-5.4E celebrated its world premiere at Bauma.

Product Manager Julian Rapp was usually also found on and in the LTM 1150-5.4E – deep in conversation with crane operators from all over the world. “On construction sites, there are more and more regulations relating to ‘local zero emissions’ and the issue of noise reduction is also gaining importance. So the interest in our electric 150-tonne crane was tremendous. We’ve had really positive feedback about our concept and even sold some cranes directly at the trade show.”

Electric drive offers flexible use

Both on and off road, a 400 kW (544 HP) combustion engine with exhaust gas level 5 delivers powerful propulsion. The engine is fully compatible with hydrogenated vegetable oil (HVO) and, compared to operation with diesel fuel, cuts CO_2 emissions by up to 90 %.

“The concept of our electric-powered LTM 1150-5.4E impresses with its superlative flexibility.”

Julian Rapp
Product Manager, Mobile Cranes

In crane operation, the choice between the combustion engine or the 111 kW electric motor allows flexible use. The newly developed drive guarantees unrestricted crane operation with virtually the same performance as the 6-cylinder combustion engine.

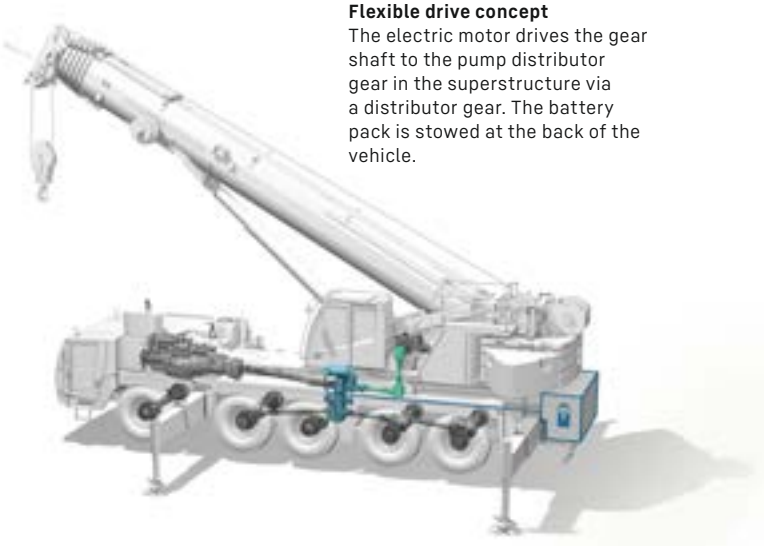
The electric motor uses the existing gear shafts to transfer the power to the consumers in the crane superstructure. “The electric motor’s distributor gear is integrated between the chassis distributor gear and the gear shafts to the superstructure. This clever yet simple solution enables the operator to switch flexibly between diesel-hydraulic power and electro-hydraulic power,” explains Julian Rapp. “If the high voltage system fails, we can operate the superstructure via the mechanical shaft at the press of a button, just as with a standard crane. With other concepts on the market, the crane can only operate if the electricity is working.”

Mobile crane with battery pack

The drive concept for the LTM 1150-5.4E builds on the proven technology of the Liebherr LTC 1050-3.1E compact crane, albeit with a crucial upgrade – an integrated battery pack. “This concept brings with it two key advantages. Firstly, with its integrated battery, the crane can operate autonomously for up to around four hours without a power connection. Secondly, a small connected load, some 16 respectively 32 Amps, is enough to allow the crane’s full power to be unleashed – since the battery serves as an efficient buffer. The crane draws high currents for peaks in performance from the battery, which is permanently recharged by the on-site electricity supply,” explains Rapp.

“We decided to position the 98 kWh battery pack on the back of the chassis so that all of the components can be stowed away securely in a box.” Rapp explains why this is an advantage with regard to the crane’s “second life”: “If electric propulsion isn’t in demand on the used crane market, or if the battery is no longer economically renewable at some point, then the battery pack can be removed and the machine operates just like the standard LTM 1150-5.4 crane”.

The tremendous flexibility around charging the battery also impressed our customers at Bauma: whether with alternating current from a CEE high-power socket with 64 Amps and 44 kW of power, whether with a standard Schuko socket, or with direct current via a modern CCS plug for fast charging with up to 80 kW. This offers significantly more versatility than our competitors.



Flexible drive concept
The electric motor drives the gear shaft to the pump distributor gear in the superstructure via a distributor gear. The battery pack is stowed at the back of the vehicle.

Liebherr mobile construction cranes – the perfect symbiosis of two crane systems

In a world where speed, efficiency and adaptability determine success on the construction site, the mobile construction cranes from Liebherr are setting the standard. They combine the mobility of a mobile crane with the functional advantages of a tower crane – a unique combination that makes them real all-rounders in everyday construction. Whether as a specialist in urban spaces or on difficult terrain, our mobile construction cranes excel in operation even under extreme conditions.

Fold up and get going

Time is money – and on construction sites, this metaphor has never been more true. Construction companies nowadays need to be able to respond with flexibility to changing requirements, switch sites quickly and lose as little time as possible due to conversions or logistics. And it is precisely here that Liebherr comes in with its mobile construction cranes: the MKs are designed as taxi cranes, enabling them to be ready for use in the shortest possible time. Setup and operation can be carried out by just one person without any additional transport requirements.

Whether it be a prefabricated building in the morning or a city centre project in the afternoon – with an MK from

Liebherr, one or even several location changes during the course of a day are no problem. Thanks to their high working speeds and tremendous handling performance, our mobile construction cranes allow efficient day-to-day scheduling and maximum utilisation.

The king of the projecting edge
If you work in an urban space, you'll be familiar with the challenges: narrow access roads, minuscule parking facilities and numerous projecting edges on surrounding buildings. Our MKs are made precisely for such conditions. The vertical tower allows work to be carried out directly on the structure itself – delivering wide working radii and tremendous performance capacity on a minimal footprint. The asymmetrical support and small set-up area make MK cranes the ideal partners when it comes to jobs in city centres or on narrow construction sites.

One particular highlight is the lift cabin, which ensures the crane operator always has the best view of the construction site and load. Operators are supported by modern assistance systems that ensure safety and precision – even in the most difficult of conditions.

Forward-looking and emissions-free
Our mobile construction cranes also impress in terms of sustainability. In times of growing environmental regulations and rising environmental awareness, Liebherr is offering a future-proof solution with its electric models – as indicated by the "E" in our mobile construction cranes' type designation. The low-noise, emission-free and cost-efficient operation of our cranes is the result of a clear concept that we have pursued from the outset: fully electrified crane operation. By installing powerful electric motors for all crane drives, an MK can be operated highly flexibly without energy conversion, i.e. with optimum efficiency, either with an integrated power generator or with site power or even – independently of the mains – battery-based. The separate Liebherr Liduro Power Port (LPO) energy storage system is ideal for this.

The benefits of this are quite obvious: less noise, no exhaust gases and significantly lower operating costs – without any decrease in performance. When working at night especially or when working in sensitive city-centre areas, low-noise electrical operation is a major plus point. With the MK 120-5.1E and the optional permanently installed battery pack, fully autonomous operation is possible for up to two days – without any external power source whatsoever. Further MK models are also planned with this equipment in the future.

A crane for every occasion
Liebherr's mobile construction cranes are real game-changers in the crane industry. They close the gap between static construction cranes and classic mobile cranes, delivering an unbeatable combination of efficiency, flexibility and sustainability. For construction companies and crane operators, this means more construction sites, lower costs, maximum opportunities for operation – and all with just one crane.

"Our MK is a real master of projecting edges."

Martin Assfalg
Head of MK Development

25 years of MK: a milestone in mobile construction crane history

We're celebrating a special anniversary: 25 years of Liebherr mobile construction cranes! A quarter of a century of innovation, progress and pioneering spirit. Reason enough to look back over an impressive success story that began in 2000 with a completely new crane concept from Liebherr.

2000 – the dawn of a new era
Although Liebherr already had its first mobile construction cranes in its portfolio back in the 1980s and 90s, the story of the new MK generation began with the MK 80: instead of using a standard truck chassis, Liebherr built its own 4-axle mobile crane chassis tailored for crane operation.

Also revolutionary: program-controlled setup and dismantling. A process that had previously been laborious and time-consuming could now be carried out efficiently and in an automated manner. This solution created the basis for greater performance, more flexibility and improved driving characteristics, laying the foundations for the new generation of mobile cranes.

Step by step to the MK family
The feedback on the MK 80 was overwhelming – and Liebherr used this tailwind to continuously expand its MK series – always with the clear intention of addressing the ever-growing demands on construction sites. The cranes had to be more agile, more powerful, have fewer emissions and be even more intuitive to operate – and so they were.

Today, 25 years later, the MK family comprises four models – from the compact MK 73-3.1E entry-level crane to the MK 140-5.1E for maximum reach and height. Liebherr has been using electric drives for the MK series from the very start and is therefore the only supplier to have a purely electric folding crane on the market. All models have the "E" in their type designation – clearly indicating that they represent the construction industry's electric future: low-noise, emissions-free and economical.

Together towards the future
Since their market launch, MK cranes have proven their abilities all over the world. They are now an absolute essential for any modern crane fleet and are synonymous with innovation, quality and reliability. 25 years of MK are not just a reason to celebrate, but also an opportunity to look forward. The success story of MK cranes will continue to be written with new technologies, intelligent assistance systems and a clear focus on sustainability.

The MK 80:
A legendary crane that set new standards 25 years ago.

The MK 88-4.1E today:
25 years later – state-of-the-art technology for the highest demands.

Foggy mission

18 Liebherr mobile cranes reinforce power line

Last autumn, seven large Liebherr mobile cranes completed a remarkable mission in Southern Germany. The cranes – all of them LTM 1650-8.1 models – simultaneously raised four giant masts supporting an existing high-voltage power line. The lattice towers had to be equipped with large intermediate sections at the bottom or rebuilt in order to increase the live cables' distance off the ground and the power line's capacity. There were numerous smaller LTM mobile cranes on standby around the construction sites to help with these assembly operations on the overhead line masts. Due to the electricity switch-off required, the work started at all four sites simultaneously. A total of 18 Liebherr cranes took part in this event, which spanned several days and was completed successfully. We accompanied this spectacular job to bring you the insights.

A logistical challenge of the first order: that was exactly what had to be dealt with in addition to heavy loads during this operation north east of Munich. This was a challange that Sven Bauer, Managing Director of AKM Autokran-vermietung in the Munich area, had to overcome. "The synchronous lifts represented the final moments of a major project during which we enlarged a total of 15 masts on this power line," explains Bauer who, with his cranes, has been working on the high-voltage supply line repeatedly for months. "Today, I have to be at all four of the construction sites to ensure that everything is running smoothly." This is no mean feat for Bauer, since "the biggest distance between two sites is just under 50 kilometres."

In order to provide enough crane power for the orchestrated lifting of the four tower-height masts during the project finale, Sven Bauer called in strong reinforcements. Six large LTM 1650-8.1 mobile cranes from Liebherr travelled from Austria, Baden-Württemberg and even Northern Germany to support Bauer's large AKM crane with the same specifications. Prangl, Felbermayr, Thömen, Hüffermann, MSG and Wiesbauer were also involved in the Bavarian project. On three sites, the 700-tonne cranes were deployed in pairs in order to deliver the lifting capacity required. Nevertheless, the job involved lifting loads of up to 95 tonnes from the power masts and the attached high-voltage cables to hook heights of up to 104 metres and holding them there securely. And in some cases for days on end.

Left: Only the LTM 1650-8.1 from AKM had to lift "its" power mast all on its own. On the other three construction sites, the large cranes tackled the project with a tandem lift. Here, smaller Liebherr mobile cranes erect a completely new base for the high-voltage mast.

Around 20,000 plates...
... were put down on the muddy fields in order to create site access roads and secure parking spaces for the cranes.

Two nights on the hook

The two cranes from Wiesbauer and MSG had to keep their shared load on the hook blocks for the longest amount of time. The mast and its cables hung from the cranes' crossbeam for two whole nights. Around 35 metres of the grid tower were built entirely from scratch below. In the large cranes, the crane operators switched cabs since the suspended power masts could of course not be left unattended overnight. For safety reasons, the 40 or so industrial climbers only carried out their installation work during daylight hours and once the usually thick ground fog had dissipated. At all four sites, large, pre-assembled mast components weighing up to 30 tonnes were installed under the suspended masts by the smaller cranes – all of them Liebherr cranes with load capacities from 90 to 250 tonnes. "Here, we often had to telescope at a fairly flat angle with an attached load in order to move the components below the raised power masts," explains Sven Bauer.

20,000 steel and aluminium plates ensure solid foundations

A huge number impressively underpins the complex logistics mentioned earlier: 20,000. This is how many aluminium and steel plates were needed to make the field sites accessible and usable for the cranes. "Because of the recent rain, we had very muddy soils and therefore it took an enormous amount of effort to create safe routes and parking areas for the cranes," explains Sven Bauer. "In some cases, 25 square metres of load distribution plates were needed for a single crane outrigger. We also had sloping terrain in some places, so we needed to shore up the outriggers significantly there."

A back-breaking job
The installation work on the individual masts took up to three days. Maximum concentration was required from the crane operators and the 40 or so people working at height in their climbing harnesses.

Parallel down to the last detail
From the ballast and the Y-guying to the telescopic extension and the mighty luffing jib, the two cranes from the Austrian companies Felbermayr and Prangl had virtually identical specifications. Two yellow LTM cranes from the AKM partner Klema took care of the setup work on the large cranes and the assembly work on the power mast.

Liebherr service was guaranteed

When the last of the four power masts was set down on the third day, Sven Bauer was visibly relieved: “The meticulous planning paid off. It’s also thanks to the excellent service from Liebherr hat we’ve been able to complete this major mission on time. This was important so that the power could be restored to the cables within the planned deadline. This is why our customer also had clear requirements in terms of the cranes used: only cranes that guaranteed fast and reliable service were to be deployed. This is why we worked exclusively with Liebherr mobile cranes on this project, and not with cranes from other manufacturers, of which we only own a few anyway. In fact, we experienced a fault with a hydraulic hose. Liebherr’s service engineer was on site in no time and fixed the problem quickly.”

Project manager
AKM Managing Director Sven Bauer planned and took responsibility for the logistically challenging crane mission involving 18 Liebherr cranes.

Midnight idyll
The picture on the right shows the two cranes from MSG Krandienst and Wiesbauer. They are supporting the 85-tonne load while ground fog rises during the evening.

In focus

RemoteDrive flying high
A real eye-catcher at Bauma 2025: as if moved by magic, an LTC 1050-3.1 drove over a 5-metre-high and 36-metre-long bridge. In keeping with Liebherr's motto of "Hands on the Future," visitors were able to lend a hand themselves and manoeuvre the crane with radio remote control.


LTC 1050-3.1
LTM 1055-3.3

In operation with HVO

“We want to set a good example”

Schwarze goes green: Nina Schwarze is pursuing a comprehensive sustainability strategy for her company.

Since September 2021, all new mobile and crawler cranes at Liebherr in Ehingen have been fuelled exclusively with pure HVO, for test drives and crane acceptances, as well as for the very first tank of fuel before delivery. This makes us pioneers of the mobile crane industry. HVO fuel, made from hydrotreated vegetable oils, makes a valuable contribution to limiting global emissions of greenhouse gases. During operation, it enables CO_2 emissions to be reduced by up to 90%.

Nina Schwarze is also a pioneer. She is the Managing Director of Schwarze ASC GmbH and has also switched her company to HVO. We asked her about her motivation and strategy.

Mrs Schwarze, your company operates in the crane and heavy lifting industry – a sector that is often associated with a lot of emissions. Yet you are very firmly focused on sustainability. How did you get here?

Nina Schwarze: For us, sustainability is not a short-lived trend, but rather a definitive tenet of our corporate philosophy. We want to show that ecologically responsible business is possible in our industry too. We have been working for years on optimising processes, reducing emissions and raising awareness among our workforce around the issue.

Since March 2025, your entire business has run on HVO. What prompted you to take this step?

Nina Schwarze: I first became aware of HVO at Liebherr's customer days – and the subject immediately inspired me. What really motivated me was the fact that, with HVO, we can operate our existing machinery virtually CO_2-neutrally, without any conversions whatsoever or indeed any premature scrappage of perfectly functioning technology. For me, this is real sustainability – pragmatic, effective and immediately available to implement.

What specific impact has the changeover had?

Nina Schwarze: The complete change to HVO means we are saving around 850 tonnes of CO_2 a year. This corresponds to the CO_2 emissions of 100 to 120 German households – or the absorption capacity of around 68,000 trees.

Have there been any challenges during the changeover?

Nina Schwarze: Yes – first and foremost the lack of political support. There were no funding programmes nor any tax breaks, but there were plenty of higher costs. HVO alone creates additional costs of around Euro 35,000 a year for us, a cost that we are currently covering ourselves. However one thing was clear to us: we're going to stick with it. The decision came from the courage of our convictions – not because it's currently on trend.

Beyond this, what other elements of your sustainability strategy are there?

Nina Schwarze: We use a range of measures, both small and large: LED lighting, rainwater collection, an on-site photovoltaics plant with charging pillars, a virtually fully electrified fleet – and we even have a bee club with its own company beekeeper. For us, sustainability begins with training: our student drivers learn about resource-sparing driving right from the start.

How are your customers responding to this green revolution?

Nina Schwarze: Very positively. More and more customers are valuing sustainable solutions – especially for public or sensitive construction projects. Our switch to HVO also sends a signal to the market: where there's a will, there's a way.

What are you hoping for in the future?

Nina Schwarze: A stable HVO market, more political support – and most of all that sustainability becomes second nature in our industry. We're taking responsibility for our region, our workforce and future generations. And we're delighted that Liebherr is joining us on this journey.

What is HVO?

Fuel made from Hydrogenated Vegetable Oils

Raw materials: Vegetable oils and fats from the food industry (ideally waste such as used cooking oil and fat residues). No palm oil for Liebherr in Ehingen.
Difference to diesel: lower density and fewer exhaust emissions
Addition: in pure form (100 % HVO) or in any ratio with diesel
Norm: EN 15940 (synthetic fuel)

The advantages

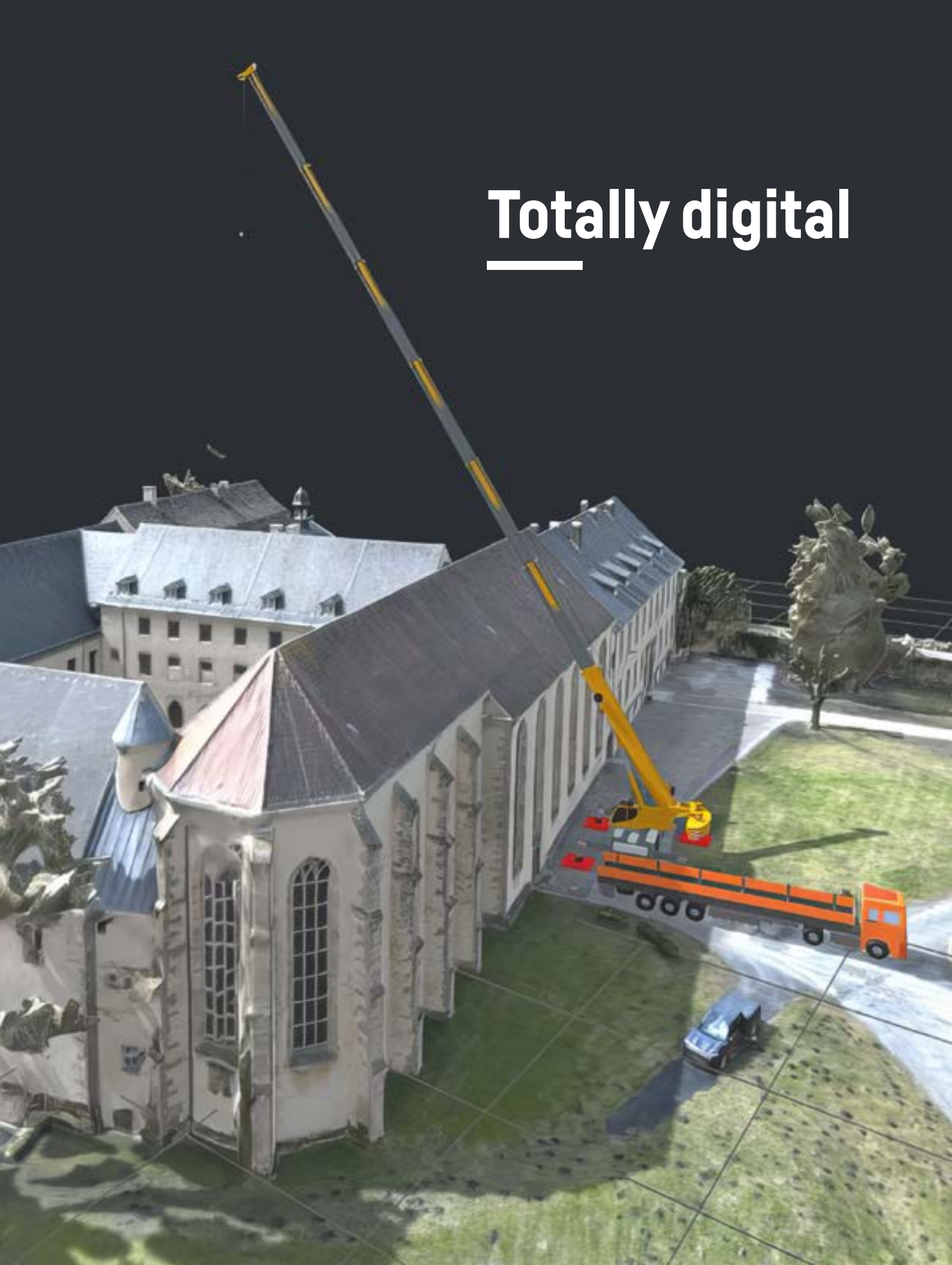
For a 5-axle mobile crane, CO_2 emissions are reduced by 74 %* compared to diesel fuel if pure HVO is used on a permanent basis, assuming that the entire life of the crane, including its production, is taken into account – i.e. "cradle to grave".

- No modifications are required
- Good compatibility with all engine components
- HVO can be mixed with fossil diesel in any ratio for use in conventional internal combustion engines
- This means that even older Liebherr machines in global fleets can be operated on an essentially climate-neutral basis using HVO
- Very good low-temperature resistance (down to at least -20 °C)
- Reduced use of Adblue (around -10 %)
- Lower emissions of nitrogen oxides (around -11 %)
- Fewer soot particulate emissions, especially in vehicles without diesel particle filters

* To achieve the maximum possible CO_2 reduction, the crane must be powered permanently using pure HVO. The CO_2 reductions fall accordingly if lower quantities of HVO are added to the fuel mix.

HVO at Liebherr
HVO fuel for mobile and crawler cranes – Liebherr
https://go.liebherr.com/tje732

Totally digital



Fantastic tool: 3D planning from drone images in Crane Planner 2.0

Planning a heavy lifting operation is often a complex task. And even supposedly simple jobs for mobile and crawler cranes can turn out to be more complex on site than initially envisaged. With Crane Planner 2.0, we're helping our customers with professional lifting operation planning. This tool enables operations to be prepared efficiently, lifting alternatives to be evaluated and the work subsequently carried out safely and sustainably on the construction site. The often laborious process of entering the exact local conditions into the planning program will become much easier in future: with 3D models of construction sites obtained from hundreds of drone images, planning will be faster and more precise than ever before.

Burkhardt Hartinger is convinced of this. Together with his father and brother, he runs the eponymous crane company based in Warburg near Kassel. Hartinger uses Crane Planner 2.0 pretty intensively. And this gave him the idea of maximising the tools' advantages with 3D models of the construction sites that he had previously photographed with his drone. Just like recently, when Hartinger was commissioned to lift a small crane in the inner courtyard of a monastery. "Of course, I could have spent hours measuring the monastery building with laser scanners and a theodolite in order to determine the projecting edges and the height of the building. But then I still wouldn't have put the data into the planning program," explains Hartinger. "Instead, I sent my programmed drone to carry out 20 circuits at various heights to capture the entire layout. It took about quarter of an hour. I then sent the 800 or so images to my service provider, got a 3D model in OBJ format back and then imported this into Crane Planner."

It fits!
The 3D model from photogrammetry also provided the dimensions for the entrance gate to the Dalheim monastery. Early in the morning, the LTM 1120-4.1 glides through the gate.

Impressive...
...precision and detail of the images from the imported 3D data in Crane Planner 2.0. Even the smaller trees in the monastery courtyard that cannot be accessed are included in the data. The transfer of the images from the camera under the pulley head also supports the crane operator when setting down the load.

Totally **digital**

Forgotten key – drone unpacked
Hartinger reveals that he has been using the advantages of photogrammetry with the aid of aerial images for two years. “The process is naturally a great help if measurement on site is difficult or complicated.” Sometimes, however, it’s simply more practical to have this construction site planning option to hand: “One weekend recently, I drove to a planned site to check out the location. Unfortunately I’d left the key for the locked site in the office. So I unpacked my drone and photographed the site from above.” Hartinger smiles, admitting: “Sometimes I’m just simply a bit too lazy to do all the measuring myself.”

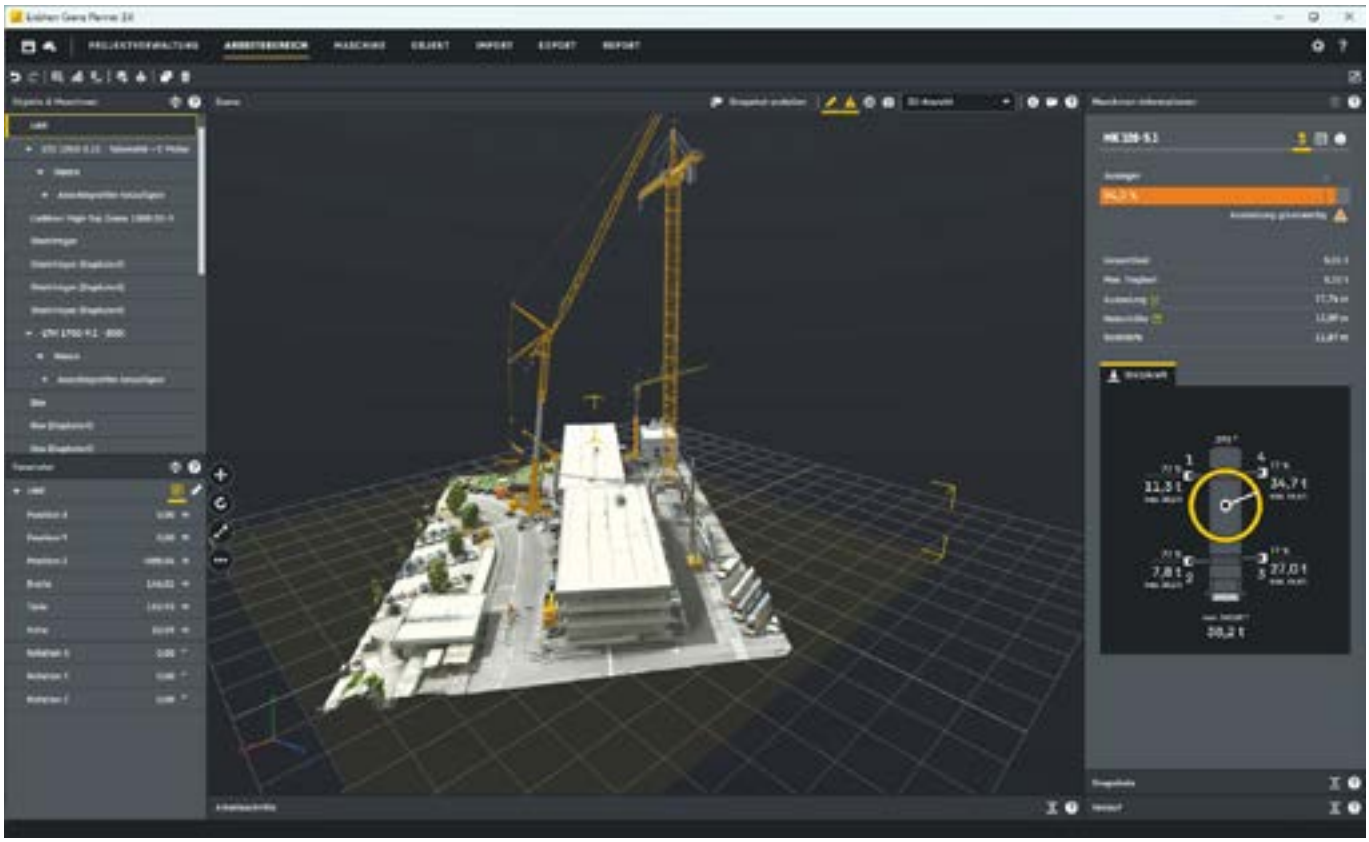
Crane Planner 2.0 with its 3D data makes it easier for Burkhard Hartinger to send his crane operators perfectly equipped to the job. “Ideally, my crew will find load charts, wind calculations and even support loads in the job planning,” he says. However the best route across the site to the setup area can also be stored there. Or precise instructions for the crane’s support points. Clearance heights and widths for gates can also be determined using the photogrammetric method. It offers many advantages.

“The biggest advantage, however,” says Hartinger, “comes when the construction site is narrow and the crane has to work with VarioBase®, for instance. And planning the crane support on slopes is significantly easier.” Also, duct and shaft covers, bollards, tree or even kerbs are precisely documented in the 3D data. “This saves my crane operators from so many unpleasant surprises on site.”

Burkhardt Hartinger...
...along with his father Karl and his brother Felix, is joint Managing Director of Karl Hartinger Kranbetrieb GmbH + Co. KG. The company offers its customers far more than just crane and transport services. The portfolio also includes engineering, assembly and façade cleaning. Alongside mobile, crawler cranes and heavy transporters, the extensive fleet also includes SPMTs, working platforms and forklift trucks.

Construction sites go digital

How drone shots are integrated seamlessly into Liebherr Crane Planner 2.0



Impressive results
The 3D view of Liebherr's administration building was created from 700 drone images. The fly-over for this took just ten minutes.

Liebherr's Crane Planner 2.0 is taking crane planning to a whole new digital level. Even more realistic, even more precise – especially when real site images are integrated as 3D models, as the example from the mission on the previous pages impressively demonstrates. But how does the real world get into the digital planning tool in the first place? The answer lies in the air – or rather, in drones. Such as the ones from Airclip.

We wanted to take a really close look at this subject. So we invited Marc Hüfken, Sales Manager at Airclip, to come and see us in Ehingen. He knows the company's history right from the start. Airclip was founded around 15 years ago – originally as a manufacturer of drones. "At the time, the market for drone measurement was virtually non-existent," Hüfken recalls. "Our background is classical metrology and we came up with the idea early on of offering all-in-one solutions involving drones and photogrammetry software."

As drone technology became more widespread, our focus shifted: today, Airclip is no longer a manufacturer, but rather a service provider and systems supplier. The company, based in Germany, offers everything from a single source – from the right drone to training and processing of the drone data. Its portfolio also includes drone pilots' licences and service packages for drone maintenance and repair. For customers from the construction and crane industry, this is a welcome development since it makes moving into the digital 3D world significantly easier.

Demonstration in Ehingen
Marc Hüfken (4th from left) and Marc Angst (HeavyGoods.net) explain to our Product Managers Wolfgang Boos (1st from left) and Andreas Ruf (2nd from left) how a "construction site" can be flown over using a drone to produce usable 3D files.

Complex technology, simple implementation
So how exactly does digital construction site measurement work? First, the area to be flown over is marked out on Google Maps directly on the drone's remote control. The drone then flies over this route autonomously. "The capture of images usually takes less than 15 minutes," says Hüfken. The images – simple JPG files – are then uploaded to the Airclip cloud. And this is where the actual magic begins: the photographs are transformed using photogrammetry into a detailed 3D model.

The key advantage for Liebherr customers is that the resulting model is supplied as a ready-to-use OBJ file which has been optimised by Airclip for Liebherr Crane Planner 2.0. This means that it can be imported directly without any further processing into the Liebherr tool.

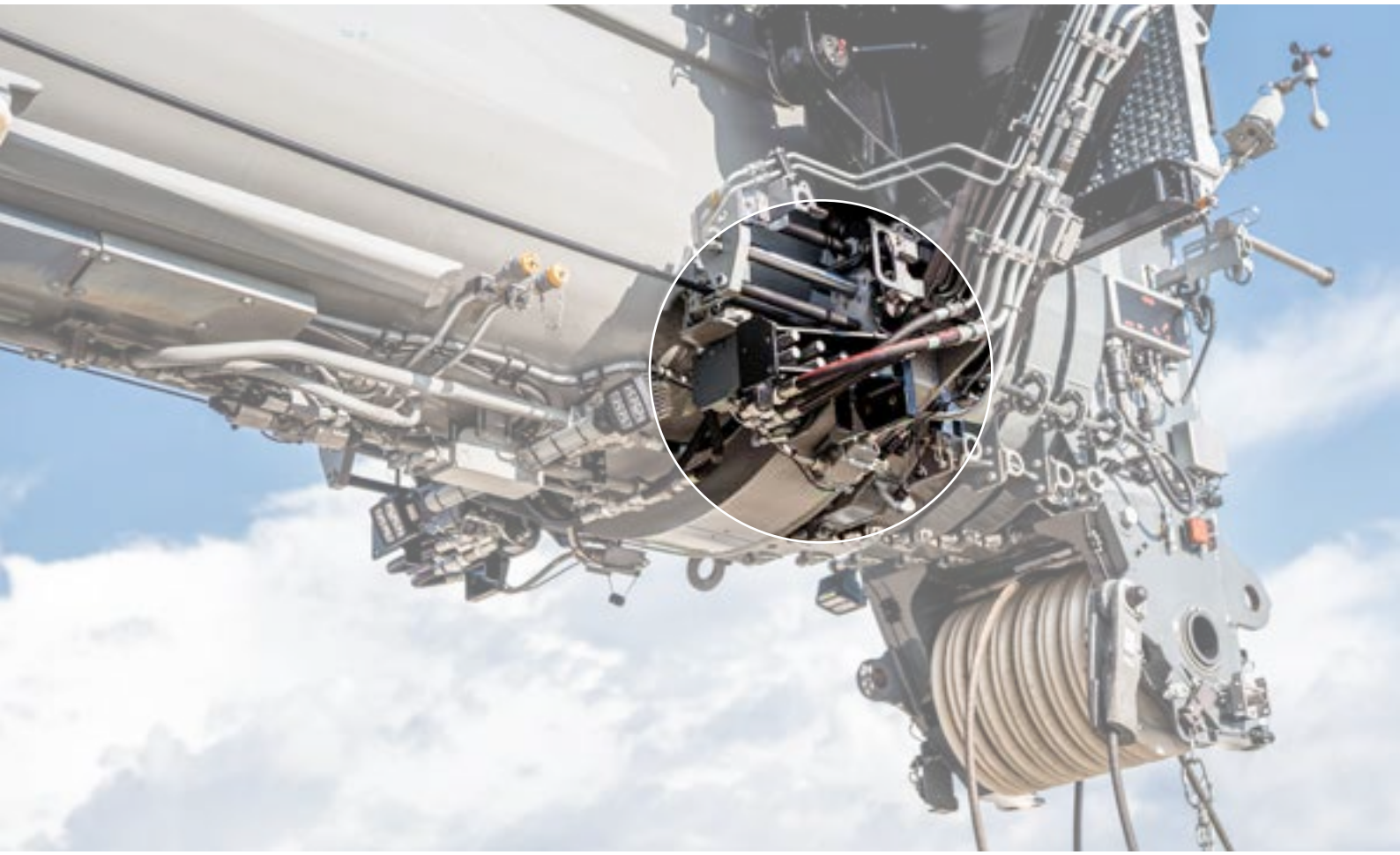
A simple mouse click
The 3D files can be integrated easily into Crane Planner 2.0 from Liebherr.

Results in 24 hours – including quality assurance
Once in the cloud, it takes no more than 24 hours until the finished model is ready. Every data set is checked manually and corrected if required – so the customer gets precisely the result they need. Anyone who registers gets an initial credit voucher worth Euro 50 which can be redeemed on their first project. A follow-on discussion offers personalised tips for future projects.

Photogrammetry instead of LiDAR: quality meets cost consciousness
The industry often uses the laser scanning technology LiDAR. Marc Hüfken has a clear opinion on this: "Nowadays, photogrammetry is a cost-effective and technologically persuasive alternative." Although LiDAR delivers very precise data with its point clouds, the technology is more expensive. LiDAR drones start at around Euro 25,000. "With photogrammetry, we are achieving accuracies down to between two and four centimetres now with drones from Euro 900," says Hüfken.

We asked to see just how easy and efficient this method is for ourselves: an Airclip drone was flown over our administration building at Liebherr and the data digitised. The result? A highly detailed 3D model for the Crane Planner – ready for digital use. We were really impressed. Product Manager Wolfgang Boos: "Of course, the customer can in principle use virtually any drone or photogrammetry software that may be available on the market. However when it comes to a full-service package – especially for beginners – then the Airclip solution is the ideal one to consider in the German-speaking region."

Setup at the press of a button with LIKUFIX



Simple setup of the Y-guying on the LTM 1400-6.1 thanks to LIKUFIX.

Be it thick steel cables, bolts weighing many kilograms, large hydraulic lines or many other objects – working with mobile cranes means moving heavy loads at some point or another. This is precisely why our engineers are endeavouring to simplify as many processes as possible and improve their ergonomics. One example of this is the LIKUFIX hydraulic coupling system. Moritz Schick explains how it works. He has worked in the design and development of telescopic booms since 2021.

LIKUFIX is a technology taken from the world of Liebherr excavators. With the fully automatic LIKUFIX quick coupler, both mechanical and hydraulic attachments can be swapped quickly, easily and safely directly from the driver's cab.

The Liebherr plant in Ehingen first used LIKUFIX in an LTM 1750-9.1. During the installation of the counterweight frame, the hydraulic connection is completed with LIKUFIX. This dispenses with the crane operator's need to move lots of heavy hoses manually. The automatic hydraulic coupling system works at the press of a button and is both ergonomical and safe. Since the system has proven its prowess

Simply **explained**

Moritz Schick
Design and development
telescopic boom

in practice and won significant positive feedback, we have decided to also install LIKUFIX on the LTM 1400-6.1.

We were able to optimise the setup of the Y-guying on the new 6-axle model thanks to this intelligent technology. The LTM 1400-6.1 positions itself on the construction site, supports itself and then luffs the boom up. With automatic setup, the LTM 1400-6.1 picks up the Y-guying from a flatbed trailer and places it on the chassis. Here, too, all it takes to complete the hydraulic connections is the press of a button: with the BTT, the crane operators luffs the boom down, causing the hydraulic LIKUFIX quick coupling to connect automatically. The crane operator then simply has to establish the electrical connection via a plug and pin the Y-guying to the crane boom by extending the hydraulically actuated pin pulling cylinder. Easy, ergonomical, fast.

LIKUFIX comprises two parts: the lower part is secured to the Y-guying while the upper part is attached securely to the pivot section. Luffing down the boom initiates the connection mechanism – the two halves of the coupling align themselves first via the centring pin before the hydraulics are connected. Since the lower coupling block is mounted on spring bearings, any positioning inaccuracies are compensated for.

The automatic hydraulic coupling system LIKUFIX is taken from the world of Liebherr excavators

The “cranosaurus” from Hambach

The Hambach open-cast mine harbours a cranosaurus: a very old creature that, with almost 30 years of hard work behind it, puts many things in the shade. It comes from the Cretaceous period of crane development, a surviving relic of bygone days. It seems indefatigable though, with the wear and tear of time seeming to pass it by unharmed. This antique appears to have supernatural powers, still moving its powerful yet nimble frame to this day.

A third crane life

We're sure you know what we're talking about already – yes, it's the LTL 1160. A rough-terrain crane that Liebherr built only once and which has been the most powerful tyre-mounted rough-terrain crane in the world for 30 years. "The LTL 1160 is an incredible machine and we're immensely proud of the tremendous service it has performed for us up to this day," says Matthias Wasel, Managing Director of Wasel GmbH.

Of course, this length of service would be impossible without good and attentive care – especially on the part of the owner, but also in cooperation with ourselves as the crane's developer and manufacturer. In 2024, the LTL 1160 spent a few months at our plant branch in Oberhausen having surpassed 26,000 hours of chassis operation and 40,000 hours of superstructure operation. "For the second time, we carried out a general overhaul of the LTL 1160 at our plant. It was a huge challenge, one that ensured great collaboration on this unusual project," reports Walter Rutenberg, Head of Workshop Administration at the Liebherr plant branch in Oberhausen. The rough-terrain crane's first general overhaul was carried out in 2011. Both times, the crane was completely dismantled. Components such as motors, cylinders and gears were refurbished and repaired, electrical cables and hoses were replaced and finally the giant crane was returned to Wasel with a brand new coat

At its maiden delivery in 1997, Rheinbraun, a subsidiary of RWE AG, took over the LTL 1160 rough-terrain crane from Liebherr. Since this time, the unique crane has been in constant use.

“Despite technical advances, the LTL 1160 remains at the top of its game when it comes to all-terrain mobility and load capacity.”

Matthias Wasel
Managing Director of Wasel GmbH

of paint. Matthias Wasel explains: “The LTL 1160 carries out really important work for us in our open-cast mining operations and you can’t compare it with a standard crane. We’re grateful that the second general overhaul of this special crane was possible and that this unique creature can continue to deliver faithful service.”

The LTL 1160 was developed as the largest model in the Liebherr LTL rough-terrain crane series at that time. Its development involved close cooperation between Rheinbraun as the operator of the open-cast mining project, Wasel as the crane owners and Liebherr. The LTL 1160 was first sold to Rheinbraun in 1997. Wasel finally took over the second-hand crane in 2004. Matthias Wasel recalls the development processes involved: “The close cooperation produced a crane that was able to handle the specific requirements and loads of open-cast mining. The lifting capacity parameters in some cases match those of a crane from the 250-tonne class. It crosses terrain with its full balance and, despite the rough conditions, handles open-cast mining incredibly well. This really demonstrates the crane’s superb quality.”

Gerd Spankowski, head of the Liebherr plant branch in Oberhausen, who has known the crane for many years, confirms this: “In open-cast mining, the working environment is generally dirty and wet – so it’s no easy place to work. The LTL 1160 moves around in this environment with a full ballast and a total weight of 121 tonnes. The machine regularly has to travel from the top to the very bottom layer, crossing countless metres of altitude in the process. This really demonstrates in particular the robustness of the motor and its gears. And it’s precisely this robustness, the powerful performance and most importantly its reliability that make this crane unbeatable overall.”

Handover of the newly refurbished LTL 1160 (from left to right): Arber Haxhija (Wasel), Gerd Spankowski (Liebherr), Matthias Wasel, Christopher Neuhaus and Jan Tuckermann (Wasel) at the symbolic handover of the keys at the Hambach open-cast mining project.

Dismantled down to the skeleton: the specialists from Liebherr completely dismantled the all-terrain crane for the general overhaul.

Clean as a whistle: every detail of the LTL 1160 is finely scrubbed.

Final assembly: the final assembly of the LTL 1160 after its general overhaul in 2024 took place on site at the Hambach open-cast mine.

Once upon a time, 40 years ago ...

In the spring of 1984, the town of Bad Wimpfen in Baden-Württemberg was shaken by a catastrophic fire. A lightning strike destroyed the entire roof of the Blue Tower, which had stood since around 1170 as the western keep of the royal palace. A year later, specialists were hard at work installing a new roof on the spa town's famous landmark. A Liebherr LTM 1160 from the company Wiesbauer played a key role in this operation.

Rising 58 metres above the historic centre of Bad Wimpfen, the Blue Tower presented a challenging work-site, with narrow access roads and confined spaces. Fortunately, the LTM 1160 was both compact and manoeuvrable. Once the six-axle machine – the most powerful all-terrain crane on the market at that time – was positioned, the crane operator and crew began the setup process. The sliding beams and support cylinders were extended individually or in unison. The operation demanded both experience and a meticulous approach to ensure the safety of personnel, crane and load at all times. It took around 45 minutes to get the six-axle machine ready for use.

Once the new 16-tonne roof structure was prepared for lifting, the crane's slewing platform was rotated into position, and the telescopic boom – already fitted with a lattice jib – was extended to a lifting height of 50 metres. On the LTM 1160, the individual sections of the telescopic boom were locked together via a pneumatic-mechanical system, providing exceptional structural stability and torsional rigidity.

The crane driver guided the hoist gear upwards with precision. Throughout the process, the electronic load moment limiter monitored every phase of the lift. Digital displays provided real-time information on the actual load weight, working radius and boom length.

In 1985, a crane assembly operation of this complexity was anything but routine, and many local residents gathered to witness the spectacle, capturing it on film and camera. Mayor Klaus Czernuska commented: "Last year, we initiated all the preparations for the reconstruction. And today, on 8 May, we're finally able to complete the entire roof installation. The spire is being lifted at the same time – it's a very important day for our town, because the Blue Tower is the symbol of Bad Wimpfen."

Thanks to the crane's clear instrumentation and ergonomic armrest controls, the operator was able to focus entirely on the task at hand. As the roof structure moved out of view, he received precise radio instructions from the assembly supervisor, allowing the load to be slewed into position with millimetre accuracy.

The new roof was already the third in the tower's long history. Following a Gothic construction and a Baroque dome, the town had opted for a faithful reconstruction of the original Romanesque-style roof truss. The carpenters' craftsmanship played a decisive role in ensuring that the structure was a perfect fit. After withstanding the lift without any distortion, the timber framework was guided precisely into its anchoring points via radio.

The previous year's fire had also severely damaged the roofs of the four corner turrets, which now had to be replaced. To install the 3.3-tonne pointed roofs, the crane was fitted with a 20-metre folding jib attached to its 44-metre telescopic boom. Modern crane technology significantly eased the job for the specialists – the mobile crane's electrohydraulic control system enabled smooth, finely tuned movements throughout the operation.

The bell tower, with its slate-covered spire and 800-kilogram bell, weighed over seven tonnes. It, too, was lifted into place at a height of 64 metres. On the night of the fire, the bell broke free as its mountings gave way in the heat, causing damage as it crashed down inside the tower.

Thanks to cutting-edge crane technology – and above all to the outstanding teamwork between crane operator and carpenters – the complex tower installation was completed in just one day. "At last, we have our Blue Tower back – and now everyone in Wimpfen can sleep soundly again," said a delighted Mayor Klaus Czernuska.

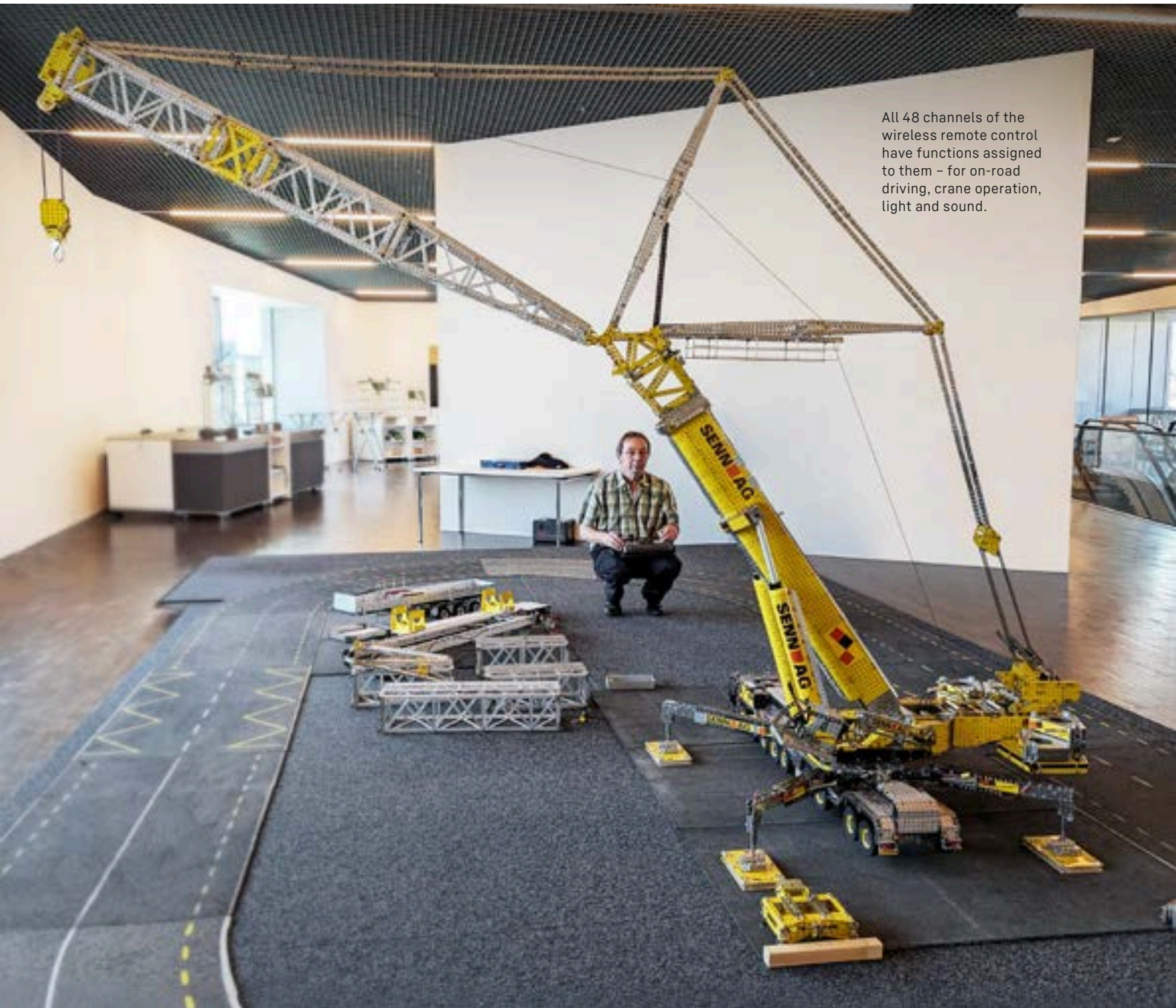
1985

"Construction sites keep getting more challenging and complex," one of the carpenters said. "Especially when working on old buildings or large structures, we increasingly rely on technical equipment. We've been working with Liebherr cranes for years. They lift our timber structures into place with millimetre precision. We've always been satisfied and never had any issues."

A giant in a (not so) small format

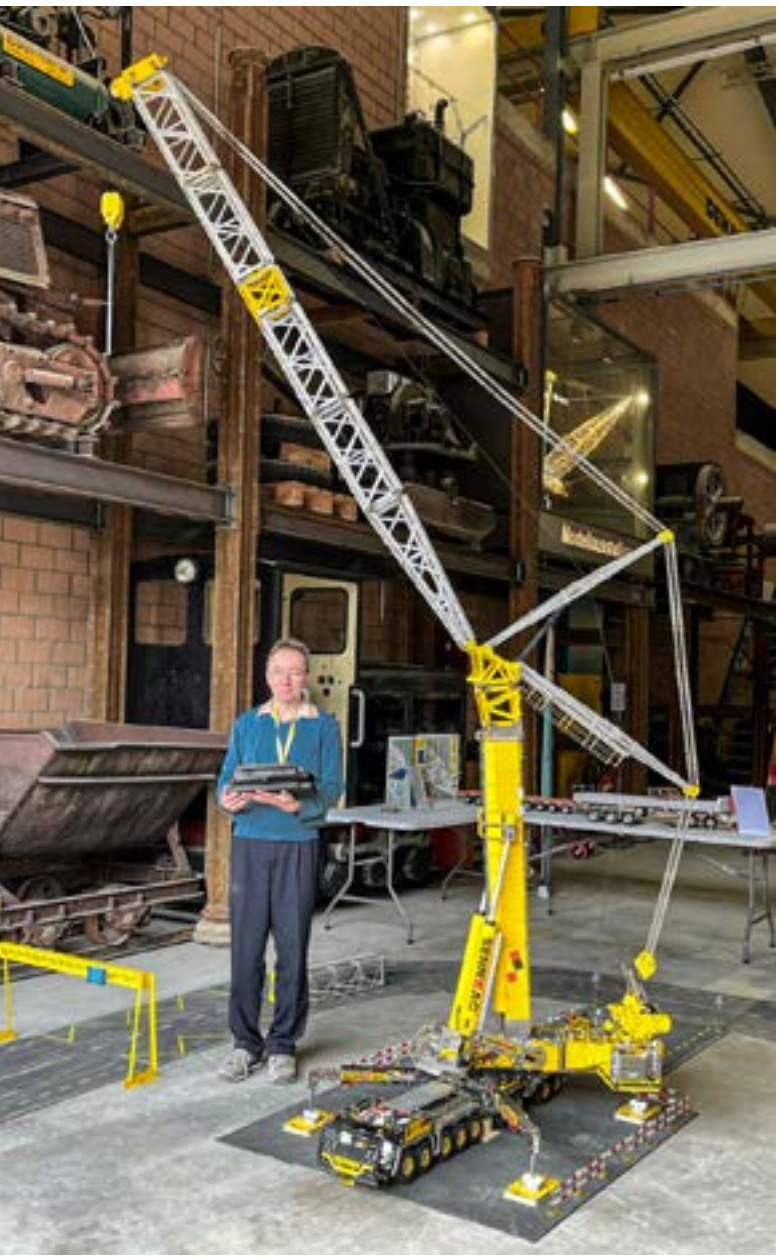
When a Liebherr LTM 11200-9.1 raised its mighty boom in 2025 at the Swiss Museum of Transport in Lucerne, a murmur rippled around the four-metre-high hall. After months of painstaking work, Peter Howald is bringing his technical masterpiece to life. What for many is "just" an impressive exhibit, for the Swiss model builder represents passion, technical inspiration and a piece of a childhood memory.

From his parents' construction yard to the modelling table
Even as a small boy, Peter Howald would accompany his dad, who owned a construction company in the Bernese Oberland, to construction sites. He was especially fascinated by the giant mobile cranes, usually from Liebherr, that were used in the construction of prefabricated houses.



All 48 channels of the wireless remote control have functions assigned to them – for on-road driving, crane operation, light and sound.

Howald's professional career, however, did not take him into his parents' business, but rather into mechanical engineering. Today, the mechanical engineer builds plants for the automotive, pharmaceutical and food industries. However his technical heart still continues to yearn for heavy-duty equipment – and especially for the LTM 11200.9-1. So when an article appeared in a trade journal in 2018 about that same crane, Howald seized the moment.



Two years in the planning, 30,000 parts

What followed was a major technical project on a small scale. The planning phase took two years. Using YouTube videos and data sheets from liebherr.com, the designer created a detailed 3D map on a 1:14.5 scale. The construction materials consist of classical elements from the Meccano metal construction kit. Since the toy manufacturer was no longer producing many of the original parts, compatible components from other manufacturers, such as Stokys, were used too. The process of procuring the parts from all over the world took over a year, until one day a package weighing 150 kg was delivered. On seven workbenches in the basement, 30,000 parts were constructed over 4.5 years to create a model crane weighing 120 kilograms that is astonishingly identical to the original in terms of its technical complexity.

Technology like on the original

Nine steering axles, four of them powered, a steplessly telescoping boom with three pull-outs (T3 version), a functioning Y-guying system and a luffing jib that allows a hook height of up to seven metres. The supports can be telescoped, just like on the original, and can be individually controlled. The crane lifts itself up completely from the wheels and stands stable on its supports.

From the light and sound module to telescoping functions and onwards to crane cab movement, the model is controlled via a 48-channel wireless remote control. Even crab steering is possible. The counterweight – 200 tonnes on the original – is simulated with a weight appropriate to the model at 50 kilograms. "The kinematics are incredibly instructive," says the designer. "Whether it be on the original or the model – there are enormous forces at play. The two cylinders that lift the boom, for example, each deliver a force of 1,000 Newtons."

When the LTM 11200-9.1 model is fully extended with its telescopic boom and luffing jib, the crane reaches a hook height of seven metres.

Presentation and feedback
Howald unveiled the model to the public for the first time this year in Lucerne. The Swiss firm Senn AG – once itself an owner of a real LTM 11200-9.1 – sponsored the model's journey to the Museum of Transport. Today, the steel construction and crane company's logo graces Howald's model. Setup on site took many hours, and the model builder was ably assisted by his wife. "Model building isn't really her thing," says Howald, adding with a smile: "Even though I couldn't convince her to spend months working in the basement, she was fully on board with the setup."

The finished model crane weighs 120 kilograms and supports itself just like its larger counterpart.

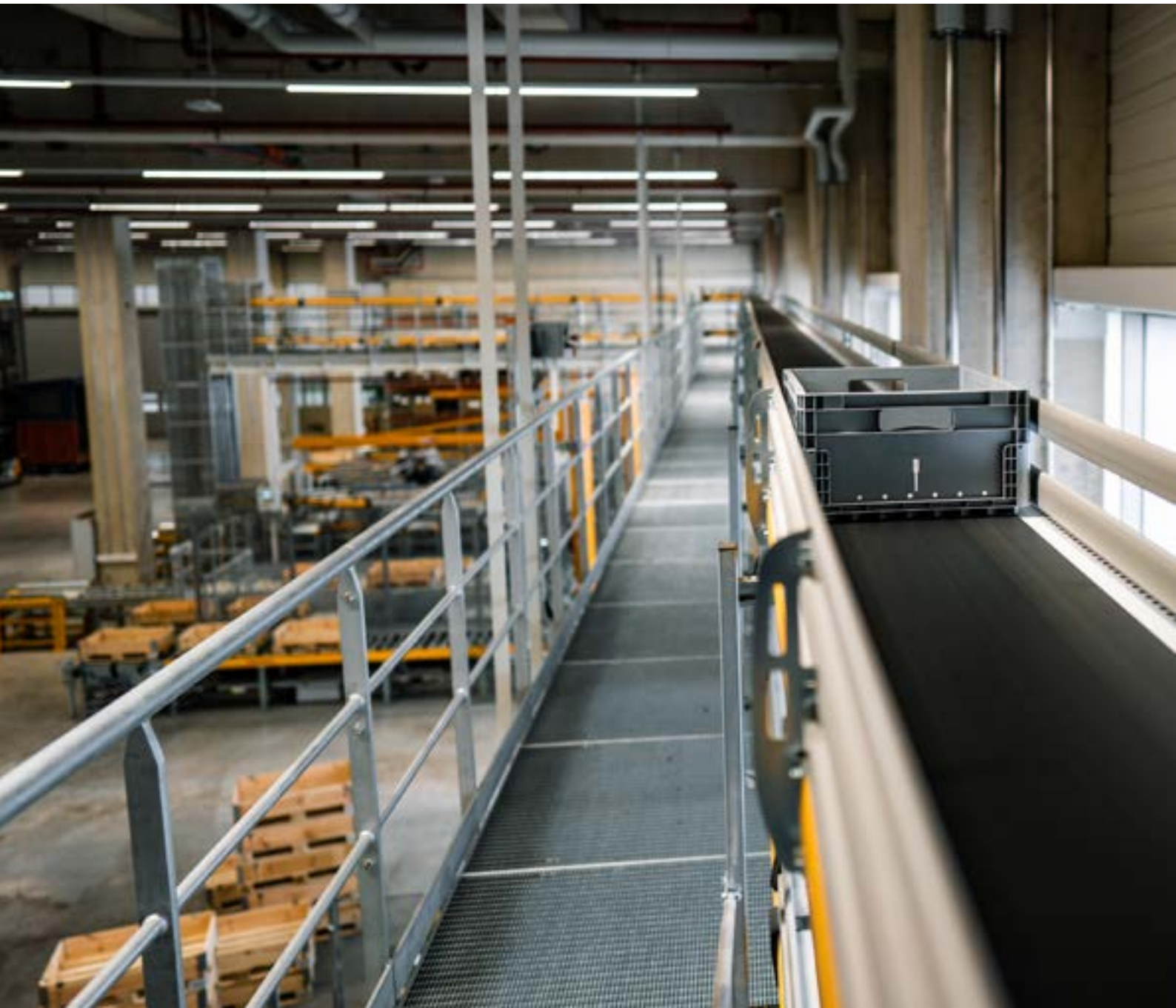
Before construction can begin, a CAD plan is needed. This is true for both the LTM 11200-9.1 and the associated truck fleet.

Ideas for the future
A giant like this 9-axle model doesn't get to the construction site all on its own. Not even as a model. So Howald is currently working on a fleet that will later comprise seven trucks, designed to transport the crane parts. The first transporter with a steered 9-axle trailer is already finished and is being used for the entire telescopic boom. If everything goes smoothly, the crane and its fleet should be exhibited at an excavator museum in the Zürich region in April 2026.

There, Howald is keen to inspire younger visitors with the possibilities of technical model building too. The "Swiss Amateur Metal Model Builders" (AMS) association, to which Howald belongs, is struggling to recruit new members. His hope: "If you show what you can technically achieve with metal construction kits such as Meccano and Stokys, maybe the fascination will return."

Spare part? Delivered!

The phone rings in the customer service department: a customer urgently needs a sealing ring and a seal. The order is entered into the system and the logistics process begins. Previously, spare parts were dispatched from an outdated warehouse – limited space, repairs to the building and outdated dispatch processes are now a thing of the past. The new, highly automated spare parts warehouse at the Ehingen site ensures more efficient and faster processing. We talk to Mario Allesch, Head of Spare Parts Logistics and Shipping, about the challenges and solutions.



Background

In the packing centre: Mario Allesch, Head of Spare Parts Logistics and Shipping, in front of the paper padding machines that produce crumpled paper that serves as filling material for parcels.

A dedicated team and streamlined processes are the basis for the best possible service. We have taken a huge step forward with our new spare parts warehouse. We are now working on increasing the availability of spare parts and ensuring improved performance across all process steps in the future. In order to achieve this goal, we opened a 32-metre-high building in Ehingen in April, which offers 18,000 spaces for palletised goods and storage space for 40,000 small parts containers over an area of 10,000 m².

Dynamic logistics process
As soon as the service department generates a spare parts requirement, the warehouse management system (WMS) automatically accesses the relevant storage locations. Orders are put together quickly and error-free using conveyor technology and picking workstations equipped with pick-by-light. Speed is crucial, especially for urgent service requests.

Transparency and high degree of automation
The connection of the WMS to our ERP software ensures consistent transparency from goods receipt to goods issue. The system can prioritise orders in real time and ensures that 600 to 700 consignments leave our plant every day.

The new system brings major benefits. The container warehouse went live smoothly – the pallet warehouse will go live next. Now we need to build up expertise, as the spare parts warehouse is characterised by a high degree of automation and is based on completely new technology.

Pick-by-Light...

...is a paperless picking method based on visual signals. Instead of using picking lists, lights and digital displays are installed at the storage location to show the picker which items are to be picked and in what quantity.

Award-winning safety

Liebherr wins ESTA Award for innovative driver assistance systems

When heavy machinery ensures greater safety on the road: Liebherr-Werk Ehingen GmbH has walked away from this year's ESTA Awards of Excellence with the prize in the "Safety" category. This prize was awarded for the introduction of driver assistance systems in mobile cranes – a new development in the industry.

The official announcement was made on 10 April 2025: at the awards ceremony in Munich, organised by the European industry association ESTA, the "Safety" prize was awarded to Liebherr. This award recognises the driver assistance systems that make road travel safer – especially for particularly vulnerable road users such as pedestrians and cyclists. "It's fantastic to win an award in the Safety category," says Julian Rapp, Product Manager at Liebherr in Ehingen. "For us, safety has always been our top priority when it comes to crane development. So winning an award in this category sends a powerful signal to the industry."

Safety in the blind spot
A central element of the award-winning concept is the Blind Spot Information System (BSIS). When driving in cities or on tight construction sites, the driver's all-round vision is often restricted, despite large mirrors. The system uses two digital cameras that are installed on a "camera wing" on the side of the crane. It detects moving objects such as cyclists or pedestrians in the blind spot, sending the operator a visual and audible warning.

Better visibility when moving off
A further assistance system ensures more safety when moving off: the Moving Off Information System (MOIS) uses cameras on the left and right of the front window to monitor the area directly in front of the driver's cab. Small children or low obstacles in particular are hard to spot there – due also in part to the massive hook block which is located immediately in front of the cab. The system emits warning signals as soon as anyone is detected in the danger zone.

Responsible technology
With the introduction of the assistance systems, Liebherr is taking a pioneering role in the mobile crane industry. These systems represent a major step in the development of road safety – and illustrate how modern technology can save lives. The fact that this development has now won an award at European level highlights just how important the topic is.

Product Manager Julian Rapp (left) accepts the award in the "Safety" category on behalf of Liebherr.

Our journey to the smart factory …

Networked, data-driven processes and intelligent systems are increasingly shaping the industrial world – and at the heart of it is the smart factory, a highly automated production environment organized according to lean principles, combining modern automation technologies with digital tools. As the core element of Industry 4.0, it boosts companies' competitiveness and ability to respond.

Modern robotics has a central role to play in this: cobots now take care of both monotonous and highly complex tasks and work hand in hand with humans. In assembly, logistics or quality assurance, they boost efficiency, improve safety in the workplace and increase the flexibility of production processes. AI-based applications are expanding these possibilities by analysing large volumes of data, recognising patterns, forecasting machine failure and optimising workflows. However, automation is always context-dependent, as Johannes Mall, Head of Industrial Engineering at Liebherr in Ehingen, knows: "Whereas standardised, highly automated processes are the norm in large-series production, for example at a car manufacturer's, the production processes for a construction equipment manufacturer involve smaller volumes and the wide variety of products requires more flexible systems."

Classic mechanical engineering meets automation
"The smart factory is the future and we're on board with it. Our strategy focuses on integrated modern robotics and AI technologies into our processes in order to improve efficiency and quality over the long term," says Mall. While we've already made good progress in some areas towards a highly automated production environment, in other areas we're still only just beginning. "We're gradually developing innovative solutions ourselves and we'll later be able to scale these to various areas," explains Mall, adding: "Having this expertise in-house is good for future certainty and at the same time makes us independent."

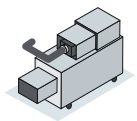
"The smart factory is the future and we're on board with it."

Johannes Mall
Head of Industrial Engineering

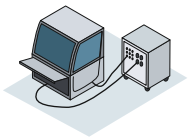
Production fit for the future – more than just process optimisation
Intelligent systems help to protect resources, lower energy consumption and reduce emissions. One example at the Ehingen site is the energy management system that continuously monitors and optimises key energy consumption. The integration of state-of-the-art building management technology and the use of renewable energies such as wind power and photovoltaics means that we have not only been able to reduce our CO_2 footprint, but we've also been able to significantly increase the energy efficiency of our production processes. By efficiently analysing data on heating and lighting control, as well as the use of compressed air, we're able to make continuous improvements to achieve sustainable and resources-sparing production.

… Robotics, AI and automation in our production facilities

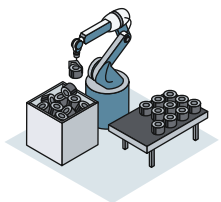
AI and digitalisation



Hose production
In an automated process, hoses are cut with digital precision. The digital data comparison ensures high quality and guarantees the products' fit and durability. Despite small batch sizes, production allows customer-specific adaptation. The digital processing of orders is cleverly integrated into the overall production process.



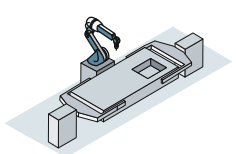
Quality management tool
For us, the QMT is a standard part of the production process: we have developed the software, including the testing station, in-house, enabling us to test the wiring of crane components and carry out a complete electrical function check. In LICCON3 drivers' cabs, the system can test 320 pins fully automatically in ten minutes. In some cases, it can also test hydraulic components. Each check is documented for statistical analysis and used to continuously develop the QMT in order to adapt it to future component requirements.



Pick & place system
In hose and pipe assembly, an industrial robot takes care of the placement of union units and cutting rings. To do this, our engineers have developed an innovative solution that combines classic image processing with powerful AI technologies. Using camera snapshots, the parts are identified, the gripper coordinates are calculated and the perfect placement angle is determined.

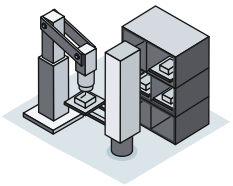
Digital worker tools
The significant variations in our production processes means that they need to be reliable yet also flexible. One of the milestones in our journey towards the smart factory is therefore the digital preparation of information with deep integration of digital tools and electronic helpers for our employees.

Robotics

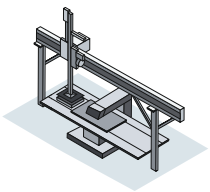


Welding robots
With a twin burner, our robots now weld two coordinated welding seams at the same time, achieving welding speeds of 120 cm / min. The finished seams reach minimum yield strengths of up to 1,100 N / mm². Thanks to offline programming, there are virtually no downtimes in production. Since the expertise of our highly qualified professionals goes hand in hand with technological progress, we are driving AI-assisted collaboration between humans and machines forward in this sector too.

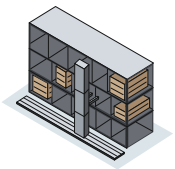
Automation



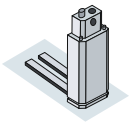
Automated milling centre and pallet handling system
Material transporters bring raw and finished parts into the system on up to 240 Euro pallets at a time, taking them as required to set-up stations where they are prepared for milling in clamping equipment. Determined by a customer-specific algorithm, which calculates the system's capacity, the parts clamped to the fixture pallets are forwarded to the pallet changer and then milled in one of the three processing centres. Outside shift times, the system processes clamped parts in an unmanned operation on up to 140 different fixture pallets. The entire system is characterised by the interplay of its high degree of automation and sophisticated logistics concept with a digital database.



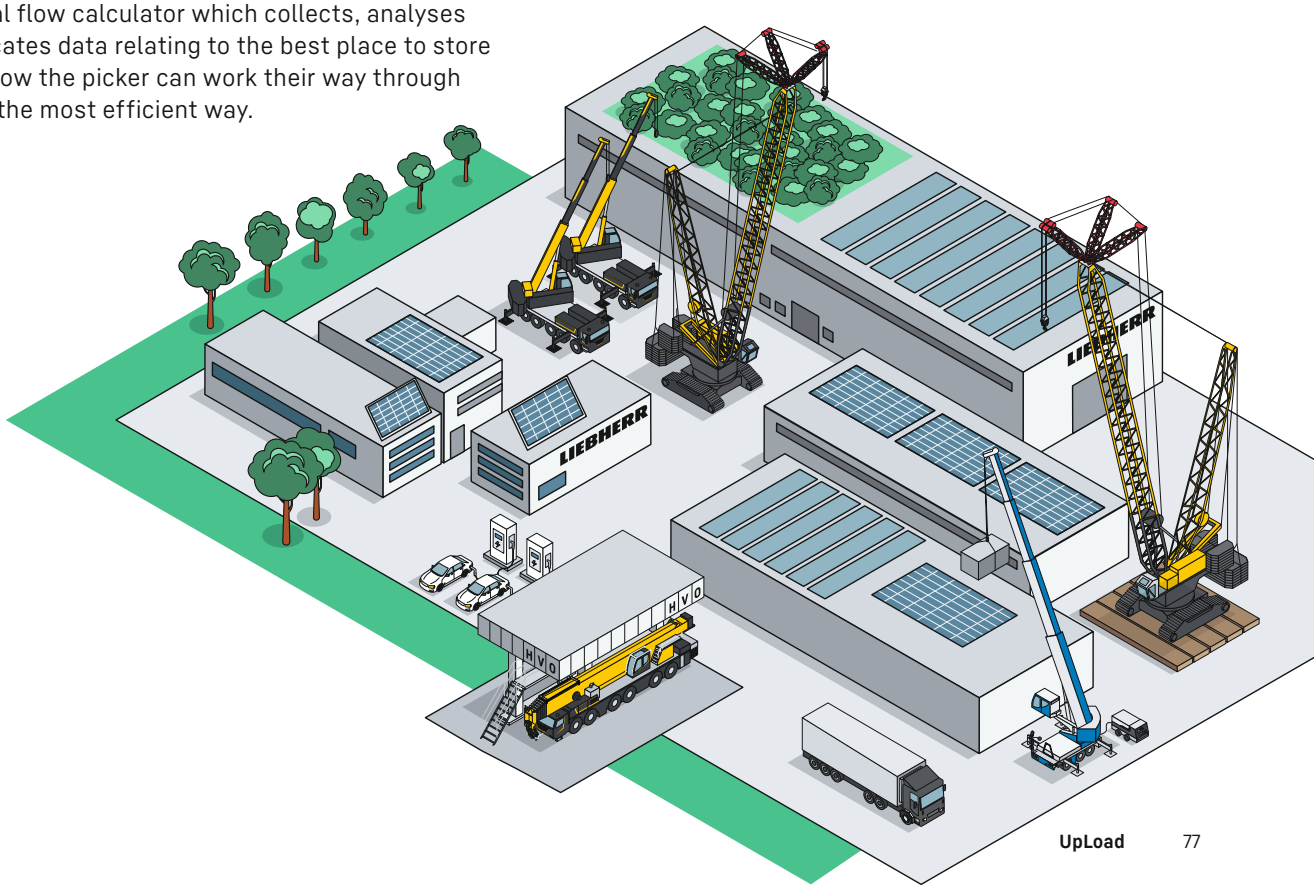
Sheet metal processing
For the automated production of sheet metal parts, the punch laser machine automatically changes up to 90 tools from the Toolmaster. This allows complex jobs involving a lot of tool changes for various stages such as punching, bending, thread cutting or crimping to be carried out quickly and in an automated manner. Automatic loading and unloading is ensured by suckers that pick up sheets or blanks, bring them to the machine table and place the finished parts on unloading stations. The GripMaster removes scrap skeletons and strips and stacks them on a scissor lift table – without any intervention from the operator.

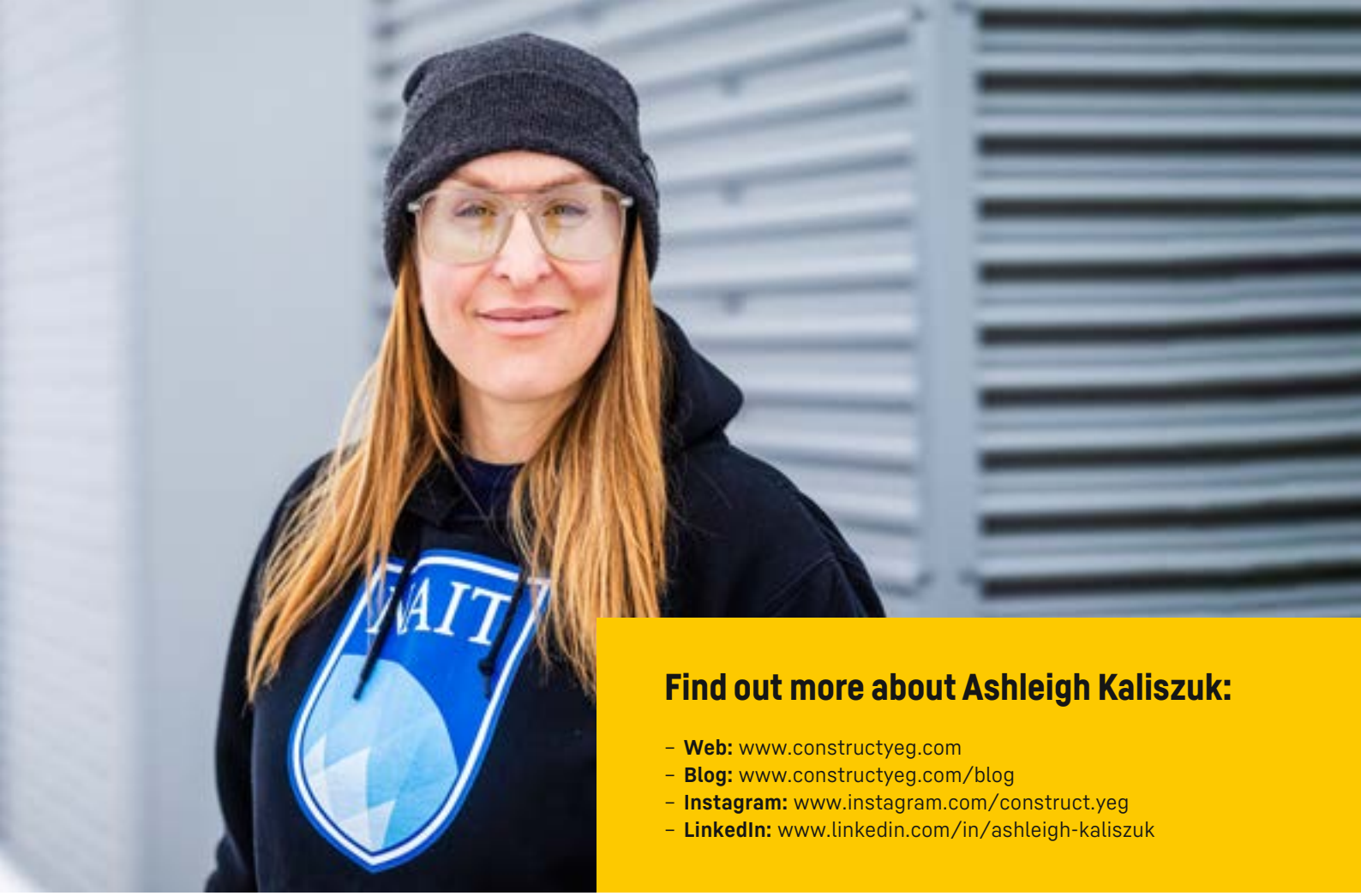


Spare parts store
18,000 depots for palleted goods, six aisles, 40,000 small parts containers – in our automated warehouse, we manage the spare parts for our customers and branches. The large components are transported with a forklift truck, while the smaller ones are transported using modern conveyor technology. All of it is managed via a warehouse management system. This uses a material flow calculator which collects, analyses and communicates data relating to the best place to store material and how the picker can work their way through the system in the most efficient way.



Parts of logistics
Since April, the autonomous "PAOLO" forklift truck has been transporting goods on pallets and in pallet cages through the plant and supporting the logistics processes in mobile crane assembly. Whether it be axial discs, sheet metal or catalytic converters, the forklift brings them from the incoming goods area to the 'supermarket' as it's known and returns empty pallets. Before it was commissioned, the human-machine interaction was tested extensively and optimised.





Find out more about Ashleigh Kaliszuk:

- **Web:** www.constructyeg.com
- **Blog:** www.constructyeg.com/blog
- **Instagram:** www.instagram.com/construct.yeg
- **LinkedIn:** www.linkedin.com/in/ashleigh-kaliszuk

A passion for training: Ashleigh Kaliszuk shares her knowledge with trainee crane operators.

The circle closes – from apprentice to trainer

For a few years now, we've been following the impressive career of Ashleigh Kaliszuk, a career that has been shaped by large machinery. Or to be more accurate, by the Canadian's fascination with mobile cranes. Whether as a crane operator, photographer or blogger, Ashleigh pursues every one of her roles with unflagging passion. Now, the multi-talented Canadian is focusing on a new, exciting task: as a trainer for crane operators, she is passing on her extensive knowledge to new generations.

The circle closes at precisely the place where it all began – at the Northern Alberta Institute of Technology (NAIT) in Edmonton (Canada). Between 2011 and 2013, this is where Ashleigh completed her training to become a crane operator. With a decade of experience under her belt, she has returned to her old stomping grounds to train the next generation of mobile crane operators. With dedication, experience and expertise, Ashleigh is impressing talented newcomers and experienced professionals in equal measure. She is not only a skilled crane operator, but she's also an inspirational mentor who is helping to shape the future of the industry.

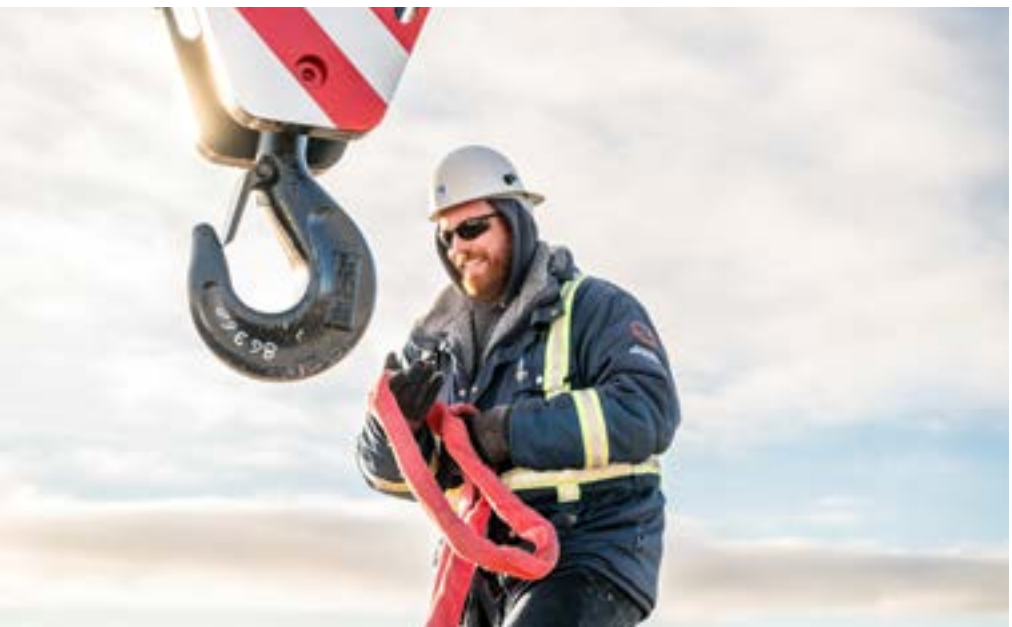
About NAIT

The Northern Alberta Institute of Technology is a technical and applied sciences polytechnic in Edmonton (Canada). Four locations offer a range of courses, including bachelor's degree programmes, training programmes and professional development courses. The polytechnic offers a broad range of academic disciplines, including economics, natural sciences, technology and health sciences. As one of the leading educational institutions in Canada, NAIT also represents one of the country's largest training facilities.

State of the art: the Liebherr LTM 1070-4.2 is the centrepiece of crane operator training at the Northern Alberta Institute of Technology.

Ashleigh completed her three-year training and numerous hours of practical experience on a three-axle LTM 1045. This model has now been retired and replaced with a new Liebherr crane: thanks to a generous donation from the Canadian government, NAIT received a state-of-the-art LTM 1070-4.2 in September 2024. Equipped with the latest Liebherr technology, the 70-tonne model forms the centrepiece of the training programme at NAIT and offers trainees a learning experience of the very highest standard. The Liebherr mobile crane reflects the industry's high standards and prepares future crane operators perfectly for life in the cab. It's no wonder that the graduates of the training programme are in great demand on the jobs market, since the Northern Alberta Institute of Technology boasts a leading reputation when it comes to training highly skilled professionals, thanks to its state-of-the-art facilities and equipment.

For Ashleigh Kaliszuk, Liebherr is the standard bearer when it comes to crane technology. She appreciates the ability to carry out the training programme on the ultra-modern 4-axle mobile crane. However, for all the impressive technology, the Canadian has a small model of the LTM 1045 in her office as a nostalgic reminder and symbol of her beginnings and the most remarkable path that her career has taken her along so far.



Practice makes perfect: from supporting the crane to securely fastening loads, the trainee crane operators learn how to safely control and operate the mobile crane as part of the practical module of their crane training.

To the story "A catalyst for positive change" (UpLoad 01/2021): go.liebherr.com/8mr377

The world with Liebherr

Hands on the Future
From the 7 to the 13 of April 2025, Munich became the centre of the construction machinery world: at Bauma, Liebherr showcased its products and services under the motto “Hands on the Future”. The company exhibited more than 70 items on over 14,000 square metres – from earthmoving machines to mobile and crawler cranes. The focus was on technologies for better climate protection, efficiency and cost-effectiveness. Themed pavilions and innovation labs offered insights into current developments. Liebherr showed how it works with customers to design solutions for the challenges of tomorrow.


LIEBHERR

Interview with the family shareholders

Jan Liebherr, president of the administrative board for Liebherr-International AG, is joined by Philipp Liebherr, member of the administrative board, to look back on 2024, sharing their highlights of the 75th anniversary and offering insights into future developments, innovations and strategy.

In 2024, Liebherr marked its 75th anniversary with numerous celebrations enjoyed by employees around the world. You have attended many of these events yourselves. What are your favourite memories?

Jan Liebherr: The celebrations surrounding the 75th anniversary all exuded a unique atmosphere of togetherness. The pride and enthusiasm of our employees was plain to see. One highlight was the historical film which we had produced ourselves – a compelling retrospective looking at our company over the decades. The friendly atmosphere, musical performances by talented individuals from within our ranks, and lots of face-to-face chats made the anniversary a truly unforgettable experience for me.

Philipp Liebherr: The thing I'll remember most is the strong sense of team spirit, which was palpable at the events all over the world. The variety of the festivities and the deep connection between our employees and the company made a lasting impression on me. The conversations with our teams have proven the level of passion and dedication that sustains our Group.

What were your other highlights from the 2024 business year?

Jan Liebherr: 2024 was an eventful year with lots of milestones. As well as marking the 75th anniversary of the Group, we had the chance to celebrate 50 years of Liebherr in Canada and Brazil. The return of the customer days in Ehingen (Germany) was a very joyful affair. These events are always a valuable opportunity to speak face-to-face with our customers from all over the world. We also exemplified our innovative prowess at various exhibitions, including Intermat in Paris (France), MINExpo in Las Vegas (USA) and IFA in Berlin (Germany).

Another major success was, of course, the record-breaking order from Fortescue, a truly historic event for the company.

Philipp Liebherr: The events and exhibitions this past year were real highlights for me, too. These occasions once again proved just how essential direct customer contact is for our business, even now. An important milestone for me was the work that began on expanding production capacities in Campsas (France). This represents an important investment in the future of our aerospace segment. I'd also like to mention the contract to develop the flight control computer for Airbus. And, in another successful move, we sold far more than 100,000 refrigerators in India.

You just mentioned the major contract with Fortescue, the global technology, energy and metal group. What significance does this contract have for Liebherr?

Jan Liebherr: This contract is a really significant milestone for us in many respects. Firstly, it cements our long-term partnership; secondly, it shines a light on our innovative prowess and our commitment to a sustainable future for the mining industry.

The mining industry is on the brink of a profound transformation; in Fortescue, we have a partner by our side who is undoubtedly driving this transformation forward. The target of running net-zero operations by 2030 is ambitious – and it calls for groundbreaking technological advancements. This is where Liebherr comes into play: we are not just talking about decarbonisation of the industry, but actually taking action by developing concrete solutions and putting them into practice.

The collaboration spans several of our product segments and presents us with new technological and operational challenges. At the same time, it offers us a unique opportunity to put our innovative strength to the test and to show that Liebherr is ready to help shape the future of the mining industry. The contract reinforces our aspiration to blaze a technological trail by developing sustainable solutions for the entire sector.

What is your assessment of the Group's business figures?

Jan Liebherr: We are really satisfied with the business figures. Overall, we are registering positive revenue development and a solid operating result for 2024, and that's in spite of the challenging market environment. This year, we have continued to grow steadily and have bolstered our stability as a Group. That's what matters to us.

Philipp Liebherr: Our diversified positioning has proven its worth yet again: 2024 was largely shaped by strong incoming orders, though there were marked differences between the product segments.

Let's take a closer look at the individual product segments: how have they developed?

Jan Liebherr: In some product segments, we registered strong growth in the past year, whereas others faced real difficulties. In the mining product segment, for instance, growth was especially dynamic. That can be attributed to the major contract with Fortescue. In mobile and crawler cranes, we also saw a clear increase in revenue. In some segments, the market positioning proved very challenging, especially in light of the situation in the housing construction sector. This primarily affects the segments of concrete technology, tower cranes, and refrigerators and freezers. The earthmoving product segment also saw a downward trend.

Philipp Liebherr: Within aerospace and transportation systems, we witnessed growth once again. Demand was persistently high, leading to capacity bottlenecks, especially owing to large-scale orders from Airbus and other partners. This is an indication of our strong market position and the trust our customers have in us. In the components product segment, too, we benefitted from some significant orders. Despite the mixed results, we are pleased with the overall developments in the business.

Were there any notable developments in individual sales markets?

Jan Liebherr: Germany, the USA, Australia, France and the United Kingdom remain some of our most important sales markets. While economic growth in Germany stagnated, the USA and Australia held strong. Political uncertainties could have an impact on the market position, however.

We face intense global competition from manufacturers operating under unequal conditions. High location costs, rising energy prices and bureaucratic hurdles are increasingly challenging the competitiveness of German industry. Our business model is built on innovative strength and quality, and we are committed to maintaining this in the future.

Where have you invested in 2024 and what impact have your decisions had on strategic considerations?

Philipp Liebherr: It's important to us that we are constantly improving and expanding our production sites as well as our sales, service and logistics networks. Only then can we offer our customers the very best quality. One milestone in December 2024 was the start of construction works on a new logistics centre in Tupelo (MS / USA), which is due to commence operations in 2027.

Jan Liebherr: The site in Campsas (France) is being expanded to manufacture key components for aeroplane air-conditioning systems. There are also plans for a new production site in Nambsheim (France), while a plot of land has been acquired in Wildon (Austria) to increase the production capacities of Liebherr-Werk Bischofshofen GmbH.

Over the course of a year, you regularly speak with customers of the Group. What challenges are customers facing? And how does Liebherr support them through these?

Jan Liebherr: Our customers' challenges vary depending on their sector and their geographical location: skills shortages, increasing environmental requirements, growing price pressure and the advance of digitalisation are just some of them. Added to this are geopolitical uncertainties and the ever-changing political backdrop.

Philipp Liebherr: We want to be a partner that our customers can depend on and we want to support them with the right solutions for their specific requirements. And we're able to do precisely that through personal contact and our physical presence in so many regions. This is the only way to truly understand the challenges our customers face in their markets. Another aspect of this is also to offer a wide variety of products and solutions, which we are constantly developing in our customers' best interests. It's very important to us that our solutions balance sustainability with economic efficiency. That's why we have been working on alternative drive technologies for years, for instance, as well as driving ahead with digital innovations.

There's no doubt that artificial intelligence (AI) is a hot topic lately. Where does Liebherr stand on this? What opportunities does it present for Liebherr and what risks does the company need to be aware of?

Jan Liebherr: Liebherr has been engaged with the topic of AI for many years, and AI is already an integral part of its products and services today. The rapid growth, especially in the field of generative AI, presents additional chances and opportunities to optimise our products and internal processes.

Philipp Liebherr: To align the Group's use of AI, we established an AI competence centre in 2024. It's a platform for creating synergies and provides the technological basis for future applications. The potential it harnesses for us and our customers is enormous: from advanced machine operation to predictive maintenance and on to more efficient decision-making processes. At the same time, we are addressing challenges such as data security and transparency, as well as the reliability of our AI models.

Companies are subject to more and more requirements in terms of corporate responsibility (CR). Where does Liebherr stand on the matter at present?

Philipp Liebherr: We have already channelled a lot of our attention into this area, starting over three years ago. In autumn 2023, we introduced our first sustainability strategy.

Right now, we are working hard at the Group level to set targets and fine tune measures for this strategy. In addition, we are preparing a Group-wide sustainability report in line with the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS). Establishing and introducing the associated processes and tools affects various levels and departments within the Group.

The number of employees in the Group has grown once again, with the workforce totalling some 54,000 people by the end of 2024. How does Liebherr make sure it remains an attractive employer? What initiatives or programmes are there for developing and retaining talented individuals in the long term?

Jan Liebherr: We offer our employees ambitious and varied tasks, give them responsibilities, and nurture entrepreneurial spirit. This establishes a motivating work environment and encourages lasting identification with the company.

Philipp Liebherr: Our employees also have the opportunity to develop themselves. Our talent management programme features a comprehensive range of options – from trainee programmes to targeted leadership development schemes. This ensures we can still attract highly qualified experts and that we retain the talent we already have for a long time.

How is Liebherr's corporate culture nurtured? Which values are especially important to you and how are these upheld in day-to-day business?

Philipp Liebherr: Our corporate culture is based on six core values that have always been behind everything we do: independence, trustworthiness, innovation, responsibility, employee orientation and quality. These values underpin our identity and are the key to our enduring success.

Jan Liebherr: It is vital that these values are not merely enshrined in guiding principles, but actively embodied by us, by managers and by all employees. This is achieved by means of open dialogue within the organisation and a culture that promotes autonomy and entrepreneurial thinking.

This is how we establish a working environment that views stability and innovation on an equal footing, and that gives our employees the chance to grow, both personally and professionally.

Lastly, let's take a quick look at the current business year: what are your predictions for 2025?

Jan Liebherr: For the first half of 2025, we are expecting market development to continue on the same trajectory it is on currently, whereas the second half of the year may present a slight upturn. Our principles remain unchanged: we are committed to innovation, quality and strong partnerships.

Philipp Liebherr: Our goal is to keep growing. Despite a challenging market environment, we are optimistic for the business year ahead. Our broad diversification and future-oriented approach have proven invaluable and remain the basis for our ongoing success.

Thank you for sharing your thoughts.

This interview was conducted in March 2025.

Working together for a zero-emissions future

Pioneering work in the quarry: Liebherr and STRABAG are trialling the L 566 H hydrogen wheel loader in Styria (Austria). The pilot project may be a key to further reducing CO_2 emissions on construction sites.

The construction and building sector is one of the largest sources of emissions. According to the United Nations Global Status Report for Buildings and Construction, this sector accounted for around 38 per cent of greenhouse gas emissions worldwide in 2020. A large proportion of these emissions in construction are caused by the use of fossil fuels in construction machinery. Zero-emissions technologies are therefore crucial to achieving the industry's climate targets.

Liebherr und STRABAG, one of Europe's leading technology groups for construction services, are setting a striking example with a pilot project. At the Kanzelsteinbruch quarry in Gratkorn (Austria), the L 566 H, the world's first large wheel loader with hydrogen drive, is being put to use.

The use of zero emissions drives in everyday work is a challenge, especially with large construction machinery. While battery-electric drives have already proven their practicality for smaller machines in countless hours of operation, they reach their limits more quickly in vehicles with high energy requirements. Hydrogen engines that use green hydrogen obtained from renewable energies such as wind, hydropower or solar energy offer significant advantages beyond climate protection.

Advantages at a glance

- **Longer operating times:** hydrogen drives allow for continuous operation without long charging times.
- **High performance:** large construction machinery such as wheel loaders require enormous amounts of energy during operation, which hydrogen can provide efficiently.
- **Easy to refuel:** with a hydrogen refuelling station located directly on the construction site or with mobile refuelling solutions, refuelling is quick and easy.

Though the technology is advanced, the big challenge remains: green hydrogen is a very scarce resource. Still, research into the production of technical hydrogen from renewable energies is being conducted at full speed worldwide. Nevertheless, the corresponding refuelling station network in Europe, as elsewhere in the world, is still largely in its infancy. This is largely due to a clear imbalance between the current limited supply and the constantly growing demand. "Hydrogen engines make it possible to operate even large vehicles – which are difficult to electrify due to their high energy requirements – extremely efficiently and, above all, CO_2-free," says Dr-Ing Herbert Pfab, chief technical officer of Liebherr-Werk Bischofshofen GmbH, gets to the heart of the possibilities. The concept is aimed at both economic and ecological sustainability.

Consistently reducing emissions

This is in line with STRABAG's goal of becoming climate-neutral by 2040. The way to achieve this is primarily through a consistent reduction in emissions, which also includes the operation of construction machinery. Liebherr-Werk Bischofshofen not only supports STRABAG with innovative technology, but also ensures that solutions are tailored directly to specific requirements through proximity and flexibility. "The hydrogen wheel loader project shows how manufacturers and users can join forces to accelerate technological progress," emphasises Dr-Ing Pfab.

The result has not only the experts fascinated. The prototype of the L 566 H hydrogen wheel loader that is used in Styria (Austria), is equipped with a hydrogen engine that was specially developed by Liebherr – a technological highlight. The green hydrogen for the drive is supplied by Energie Steiermark. This provides Dr-Ing Herbert Pfab with an ideal test environment for the prototype: "In Gratkorn, we can test the wheel loader under real conditions and continuously collect valuable practical data for further development."

This also includes the fact that Liebherr-Werk Bischofshofen has put its own hydrogen refuelling station into operation as part of the development of the hydrogen wheel loader – the first of its kind in the province of Salzburg. One important strategic partner for Liebherr here is the filling station developer "Maximator Hydrogen." Together, they are researching mobile refuelling options so that construction machinery can subsequently be refuelled with hydrogen without leaving the construction site. This is particularly important for remote construction sites and machines that are not very manoeuvrable.

"The two-year test run is aimed at jointly delivering decisive findings to bring the hydrogen wheel loader to series production readiness. Our strength lies in working together with our customers to develop solutions that precisely fulfil their requirements and are convincing in practice," emphasises Dr-Ing Pfab. "Once again, it's been proven that innovations are born from pooling all strengths. We must continue to utilise this. In pioneering pilot projects like the one in Styria and beyond. We at Liebherr are ready for this."

MyLiebherr: a continuously developing and future-oriented platform

The MyLiebherr online portal has established itself as a key contact and access point, helping Liebherr's customers and service partners in their daily work – across all the Group's product segments.

The intuitive and clearly structured interface allows users to quickly and easily access a wide range of digital applications, services and functions. Registering is worthwhile, as it provides access to functions and services which greatly simplify everyday work and are mostly free of charge. MyLiebherr serves as a central hub for all the important information and services. Users can view and download various documents such as machine and spare part documentation, manuals and operating instructions whenever they need them. The portal also enables customers to easily contact service partners and provides the option of checking the availability of spare parts. Frequently required applications and products can be quickly found using the simple navigation. Users can also easily manage their customer data in MyLiebherr, while always keeping track of the status of their orders.

Another advantage of MyLiebherr is the ability to purchase various types of licences in the 'Licenses' section. This allows users to directly increase the scope of functions of Liebherr applications and machines. Since 2022, users have been able to map their entire machinery and vehicle fleet. With MyLiebherr, you can keep track of every device, whether it's a hammer drill, a van or a mini excavator.

At a glance: 5 advantages of MyLiebherr

1 **Intuitive user interface:** MyLiebherr has a user-friendly and clearly structured interface that allows users to quickly and efficiently access all functions and information.

2 **Up-to-date information all in one place:** the portal brings together all the relevant information in a single place, including technical documentation, manuals and product details. The constant availability of this information allows users to access the data they need at any time, regardless of business hours.

3 **Enhanced functions and services:** by registering with MyLiebherr, customers gain access to a variety of digital services and functions, many of which are free. This includes the ability to purchase licences to enhance the functionality and performance of their machines.

4 **Efficient communication with service partners:** MyLiebherr makes it easier for customers to contact service partners and Liebherr staff so that questions and concerns can be resolved more quickly.

5 **Optimised order and procurement processes:** customers can find spare parts at a single place, request prices, check availability and easily monitor orders and their status. These features optimise the procurement process and ensure smooth maintenance and management of the machinery fleet.

Makers in demand: dare to take action!

75 years of Liebherr celebrates a history of technological and innovative prowess. This brings together the history of some notable individuals, their pioneering spirit and their creative energy as a whole. Four employees from the present day and recent history discuss how the unique Liebherr spirit keeps reshaping the future – yesterday, today and tomorrow.

For this pair, it feels a bit like coming home. When Josef Gropper and Wolfgang Remlinger walk into the foyer of the Liebherr-International AG company headquarters in the Swiss village of Nussbaumen, they are immediately greeted by distinctive elements of their own life works: to the right, the monumental main landing gear of an E-Jet E1; rising up next to it is the bright yellow 112 EC-H model crane with its boom extending right across the large open space.

Josef Gropper was managing director of production for Liebherr-Aerospace Lindenberg GmbH up until 2019, while Wolfgang Remlinger was commercial director for Liebherr-EMtec GmbH until his retirement in 2022. Their arrival here in Nussbaumen is eagerly anticipated. They are welcomed by two current members of the Liebherr Group executive board, Steffen Günther, who heads up the finance department, and Stephen Albrecht, who is responsible for all things technology and digitalisation. It is a meeting of minds between recent history and present day.

From left to right: Josef Gropper and Stephen Albrecht

Do you remember ...?
It doesn't take long for conversation to start flowing. "Do you remember when we first met?" Josef Gropper asks Stephen Albrecht, who replied without any hesitation. "It was 20 years ago in Lindenberg." Josef Gropper added, "Willi Liebherr had said to me, 'There's a young man here who wants to get to know the company. Could you show him around a bit?' And the rest, as they say, is history!" The "young man" in question can't help but smile at the memory.

Stephen Albrecht studied mechanical engineering in Australia and completed an internship with Liebherr in Germany in 2003. All he set out to do was to get some work experience with a well-known machine manufacturer and to whip his German language skills into shape. "More than 20 years later and I'm still here," he says with a smile.

Continuity and thinking for the long term are two deeply ingrained aspects of the Liebherr DNA. They are also two aspects that shaped Josef Gropper's career. "After I finished school, I thought to myself, 'first, I need to learn something smart: toolmaker'." So, he completed his studies in production engineering. "After that, I spent 43 years at Liebherr, stationed in three different places: in Biberach, I was head of department for drive technology for many years, before moving to Nenzing to take up a managing director post in 1995, and then, last but not least, I came to Lindenberg." This career progression wouldn't have been possible without the knowledge that short-term success alone is not enough. "At Liebherr, there is a fundamental self-belief in its own ability to develop, in terms of both production and service. And there is a sense of perseverance to guide products and services to success. It makes all the difference. We have the great fortune to do all this alongside people who are deeply rooted in the company."

From left to right: Stephen Albrecht, Member of the Board of Directors of the Liebherr Group, Josef Gropper, former Managing Director of Liebherr-Aerospace Lindenberg GmbH, Steffen Günther, Member of the Board of Directors of the Liebherr Group and Wolfgang Remlinger, former Managing Director of Liebherr-EMtec GmbH

“After 75 years, the second and third generations embody that same faith in the future first kindled by Hans Liebherr and have integrated themselves as team players.”

Wolfgang Remlinger
Commercial Managing Director of Liebherr-EMtec GmbH until 2022

Building on tradition and creating the new
For Stephen Albrecht, in these particularly challenging times of great transformation, Liebherr’s many experienced employees are a major asset to the company: “We need both people with experience and new people with fresh perspectives in order to keep delivering the best possible quality in our products and our services, while also being able to embrace and tackle the latest hot topics, such as digitalisation and decarbonisation.” He explained this further with the example of the hydrogen combustion engine, being developed as a drive of the future. “Having amassed perfect knowledge of diesel engines over the decades, we now have the opportunity to launch a high-performance form of drive based on green hydrogen. It is this willingness to embrace new technology that enables us to align construction site requirements with upcoming climate targets.”

For Wolfgang Remlinger, the courage to innovate and the close proximity to customers and the markets were – and still are – the most notable values in Liebherr’s ethos. When the business graduate first joined this family-run company in 1987, he could never have dreamt that he would tread this path all the way to his retirement in 2022. As a passionate motorcyclist, one particular thing gave him a real inner drive: “At Liebherr, you always had more freedom than elsewhere. Doers with a ‘hands-on’ mentality can achieve so much. Of course, that especially appeals to young people who want to make change happen.” Across all divisions, he explains, and throughout its history, the company has fully understood the importance of tailoring different products and product groups for different markets.

From a supplier market to a demand market
“The foundation for long-lasting success lies in the concept of diversifying and decentralising product lines, while simultaneously centralising technology. In this way, we were able to develop and integrate electronics and components across products. This creates synergies and cost efficiency, while also speeding up the rate of development and increasing service quality,” explains Wolfgang Remlinger. “Throughout all this, we have always oriented our products to the customers and their requirements, not the other way round. There was a shift in the paradigm from supplier market to a demand market. These days, you’d call it ‘customer centricity’.”

Steffen Günther and Wolfgang Remlinger recall the first time they met some 20 or more years ago in Nenzing (Austria). At the time, Remlinger was on the board of directors at Liebherr-Werk Nenzing GmbH, and Günther worked in the auditing department of Liebherr-International Deutschland GmbH in Biberach (Germany). “You came along and presented a fantastic annual report. I was full of praise for you,” recalls Günther. This raises a smile from Wolfgang Remlinger.

When Steffen Günther, now CFO, looks back at how the company has evolved and grown in the years since that first meeting, he is struck by how important diversification at a product level and the ongoing internationalisation have been to the company’s success. Add to this, the philosophy of reinvesting profits back into the Group. This creates growth that is healthy, sustainable and organic. All of which gives the whole Group a high level of flexibility and agility, not to mention extraordinary resilience. “Diversification means stability,” emphasises Günther.

With feet firmly on the ground and faith in a bright future
The former directors, Josef Gropper and Wolfgang Remlinger, attribute this healthy and organic growth to the innate and intrinsic strength of the company being family-run. “After 75 years in business, Liebherr is now in its second and third generation, who still embody that same faith in the future first kindled by Hans Liebherr and have thereby integrated themselves as team players. This down-to-earth nature of the family and the success of the company are proof that this approach is effective,” says Wolfgang Remlinger. Josef Gropper can testify to this: “What the company has achieved is nothing short of sensational. And what is particularly important for me, personally, is that it is the people that make it all possible. Liebherr can be hugely proud of them.”

For Steffen Günther, another key factor in the company’s success is the trusty commercial guidelines of the family-run company. “These should enable future Liebherr generations to continue the company’s commercial success,” he stresses. He explains that the stable equity ratio and the greatest possible financial independence allow the company to think and plan in the long term as a global player. “That is an extremely strong foundation on which to build fantastic, custom-fit solutions for our customers. It comes with the clear message: ‘You can count on Liebherr’.”

Always putting your best foot forward
How does Liebherr connect its past and future in this way? Our four guests in Nussbaumen are in total agreement, being a leader in innovation and technology is just as important to commercial success as the people, who devote their knowledge and their passion day in, day out. Former managing director of Aerospace Josef Gropper puts it neatly, when he says “the principle back then was the same as it is today: the best people for the best products in the best quality. The focus is and always will be on what’s ahead. Especially in times of great transformation.”

For Stephen Albrecht, this future-oriented perspective gives rise to a corporate strategy that is characterised by a technology-neutral approach: “These days, change is inevitable. Right now, nobody knows exactly where technology will go next. That’s why we, as a company, must keep up with all the latest issues affecting all divisions and do our utmost to find innovations.” For Steffen Günther, one thing is for certain: “The future won’t be without its challenges. But I have every confidence that we – together with our employees, our expertise and our corporate culture – are in the best possible position to continue the company’s long-term success well into the future.” On that note, Josef Gropper has a tip for current and future employees, that has always proven invaluable at Liebherr: “Have faith in yourself! Be a doer! Be a creator! Liebherr is always looking for doers – it is as true today and tomorrow as it was then.”

“I have every confidence that we – together with our employees, our expertise and our corporate culture – are in the best position to continue the company's success well into the future.”

Steffen Günther
Member of the Group Management Board

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