



Your partner for extreme,
large-scale glass mounting projects worldwide



Mounting extra-large glass panes up to 24 m long

Job at the Port of Montreal, Quebec

Canadian subsidiary places panes at the Grand Quay tower



Heavydrive glass installation at the Grand Quay tower in Montreal, Quebec (Canada).

The first project of the newly established Heavydrive subsidiary in Canada was glazing the Grand Quay tower at the Port of Montreal, Quebec. Some 16 panes measuring 2.7 metres x 7.2 metres were installed at a height of 60 metres for the observation tower.

The former Alexandra Pier was completely refurbished based on a design by architecture practice Provencher Roy. The building meets the demands of the shipping lines and has public areas at the port itself. The last element, the observation tower, was completed in 2022.

Challenges at 60 m high

The size of the glass elements and the pane weight of over 2,000 kilos presented a real challenge for the assembly operation. The observation tower stands out and protrudes over the port. For the tower to remain balanced, a proforma weight had to be lifted out first, and this was then replaced by the corresponding pane. In Canada, there was no equipment for this operation. Heavydrive found the ideal solution. The VSG 3000 KMH vacuum suction system was rigidly connected to the VSG 2000 Konter counterweight beam. Heavydrive systems are remote controlled, which allowed the 16 panes to be placed at a height of 60 metres above the water safely and on time. Some of the equipment was air-freighted from the German headquarters to the site, the rest was delivered by the US subsidiary in Atlanta, GA.



Heavydrive Canada focuses on customer proximity

This assignment was the first project for the newly established Heavydrive subsidiary in Montreal QC, Canada.

Heavydrive Canada was founded to meet the increasing demand for assembly solutions involving extremely large panes overseas.

The company thus offers personal proximity to its Canadian customers, as well as services and facilities directly on site. "The new subsidiary means we can act even faster and more flexibly in Canada and make our systems available for construction projects of all kinds", explains Managing Director Guenter Uebelacker.

The Heavydrive website, catalogue, product brochure and, since August 2022, the Heavydrive app, are also available in French. As early as 2018, Heavydrive opened a subsidiary in Atlanta, GA (USA) to handle the large-scale projects in this and neighbouring states without incurring any delays.

Assembly at a height of 60 metres using a VSG 3000 KMH and VSG 2000 Konter



The challenge:

16 mega-panes measuring 2.7 metres x 7.2 metres and weighing more than 2,000 kg each had to be installed on the observation deck at a height of 60 metres.

This stands out and protrudes over the port.

The solution:

To stabilise the observation deck, proforma weights were lifted out and replaced by the panes.

Since conventional systems cannot achieve this, Heavydrive developed the optimal solution:

The VSG 3000 KMH vacuum suction system was rigidly connected to the VSG 2000 Konter counterweight beam and operated with millimetre accuracy by remote control.

Heavydrive simulates various installation situations for large construction site at Frankfurt Airport

Large-scale test for construction project at Terminal 3



Heavydrive test run with MRK 86.0 and the VSGU 800 K overhead manipulator

Terminal 3, one of Europe's largest infrastructure projects, is taking shape in the south part of Frankfurt Airport.

The assembly experts from Heavydrive and their special equipment are involved in the construction of Terminal 3. To guarantee a trouble-free and efficient job, the Bavarian company organised a four-day test run in Klagenfurt.

The MRK 86.0 assembly crane was used in combination with the VSGU 800 K overhead manipulator as a mock-up. The manipulator is controlled remotely by radio and sets panes in any position with millimetre accuracy.

Simulation of three construction site situations:

First, glazing below a projection in a confined space. For this scenario, the operator set an 800-kilo pane with a 5° external tilt in the overhead position.

The 7-axis forklift manipulator was then used to test the installation of 6 x 2 metre panes on the main façade, the 800-kilo glass pieces being tilted outwards and placed beneath the canopy.

Finally, the installation engineers simulated the installation of panes with a 9.5° internal tilt followed by a 5° external tilt for two areas.



Glass assembly device GMG 1000



The GMG 1000 glass assembly device was used to transport the 800-kilo glass pieces. This equipment allows panes weighing up to 1000 kilos to be safely transported indoors and outdoors by just one installation engineer, even in confined spaces or through narrow passageways.

Overhead manipulator VSGU 800 K



"Precise planning in advance is essential, especially for large-scale projects, because accidents lead to delays for the entire construction project and incur additional costs", explains Guenter Uebelacker, Managing Director of Heavydrive. The proposed Heavydrive installation solution proved its worth in the complex test setup for the construction project at Terminal 3 in Frankfurt am Main. The panes were precisely set, and the systems were guided by just one operator via remote control.

The challenge:

To make sure the installation work was completed on schedule without incident, three different construction situations were simulated:

- Glazing below a protrusion in a confined space
- Installation of 6 x 2 m glass pieces weighing 800 kg at an incline beneath a canopy
- Installation of undulating panes with a 9.5° internal tilt followed by an external tilt of 5°.

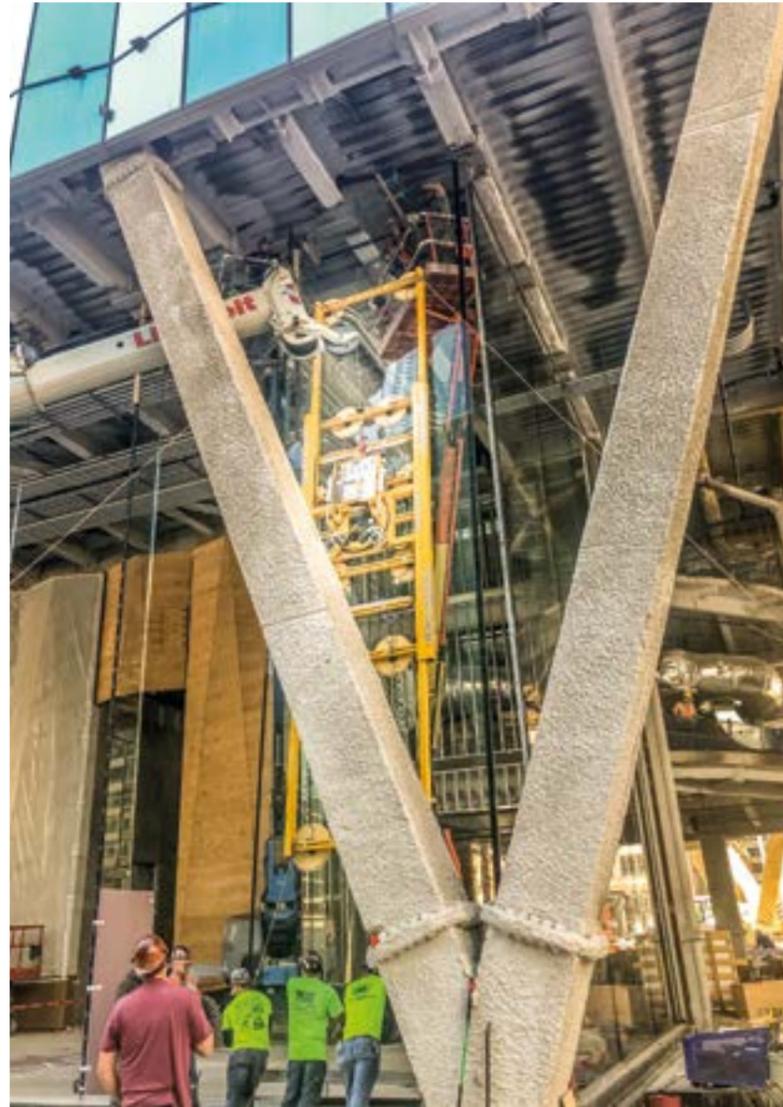
The solution:

The VSGU 800 K overhead manipulator in combination with the MRK 86.0 assembly crane as well as the 7-axis forklift manipulator and the GMG 1000 glass assembly device were used for the job.

All devices are optimally matched and work precisely, hand in hand.

Complex job on 320 South Canal Street Tower in Chicago

Pane installation below an overhang and behind columns



Chicago is getting a new, modern office tower that stands over 200 metres high. Heavydrive developed a solution tailored specifically for the complex task of installing the panes in the basement of the 320 South Canal Street Tower.

The panes, weighing up to 3,175 kilograms, had to be placed behind columns below a deep protrusion. The centre of the panes was behind each of the V-shaped columns. A challenge that was too much for the equipment generally available on the international market.

With long-standing experience of handling large weights beneath overhangs, Heavydrive modified an existing glass installation system for the VSGB 3500 K MH. With a load capacity of 3,500 kilograms, this newly developed system was able to place all glass elements behind the columns without any problems. In addition, special suction cups were used to prevent indentations after the specially coated panes were suctioned.

Additional glass fins had to be arranged behind the main façade to give the windows stability against the strong Chicago winds. These glass pieces, 12 metres tall, 56 centimetres wide and weighing 1,200 kilograms, were installed using the VSG 1200 KL 9 MH. The Heavydrive system has a suction length of 9.2 metres and a load capacity of 1,200 kilograms.

The two suction systems are operated by remote control. This allows the installation team to safely rotate the pane 360° from a distance and place it at an angle of up to 90°. Even detaching the system from the pane after installation is very simple via radio control. This means that additional equipment such as scaffolding or lifting platforms is not necessary. Because the tested 4-circuit system offers the installation engineers

The pane is lifted behind the column with modified glass installation equipment



the highest level of safety, the load does not have to be secured with additional tensioning straps.

The 320 South Canal Street Tower was developed by architecture firm Goettsch Partners. The 47-storey tower will offer around 140,000 square metres of office space, 400 parking spaces and a 1.5 acre park designed by Wolff Landscape Architecture. Heavydrive's customer was the New York real estate company Related Companies.

"We are thrilled to have been engaged again for such a prestigious project in 2019, following our collaboration on the multi-billion-dollar New York Hudson Yard Tower project in Manhattan", says Guenter Uebelacker, Managing Director of Heavydrive. "We always try to find a workable solution for our customers to make glass installation as quick and easy as possible."

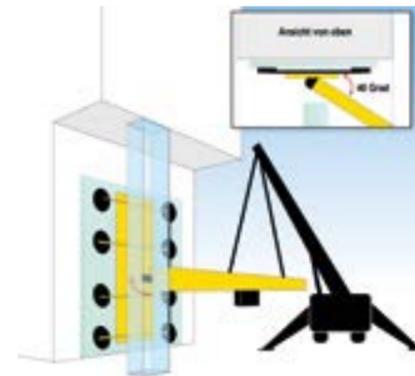
In New York too, the job involved installing extremely heavy panes with a special anti-reflective coating.

The challenge:

These panes, weighing more than 3,000 kilograms, had to be placed behind V-shaped columns beneath a deep projection. As the centre of the panes was directly behind the columns, standard equipment was not enough to meet the challenge.

The solution:

A glass installation systems modified by Heavydrive based on the VSGB 3500 K MH. This newly developed system with a load capacity of 3,500 kilos was able to move the pane behind the column at an angle and set it with precision.



Detailed work of art made up of different size panes

Heavydrive supports Montec with the installation of glass art in the Craiova Art Museum



Pane installation by VSG 4000 KM H at the Brancusi Pavilion, Craiova Art Museum (Romania) Image rights: montec-gmbh.de



In the Craiova Art Museum (Romania), renowned Romanian architect Dorin Ștefan presents his latest work, the Brancusi Pavilion. The work of art consists of large glass panes in various special arrangements, mounted horizontally and vertically. The beholder rides in a circular glass lift from the ground floor up into the work of art above. As the glass elements were unable to be installed using conventional equipment, Heavydrive developed a special suction system.

Montec GmbH, a company based in the Bavarian-Swabian town of Asbach-Bäumenheim, provided the entire assembly planning for this very special project and also carried out the entire assembly of the earthquake-proof steel substructure and the highly sensitive glass façade.

We are thrilled to have been able to assist Montec GmbH with this challenge using suitable glass installation equipment.

For the glass pavilion, six panes from Finnglass measuring 2.4 by 12.5 metres and weighing 2.8 tonnes had to be set vertically into grooves.

Plus, the pieces have wavy edges and are narrower at the bottom than at the top. The panes have crossbars to support the horizontal glass pieces.

During the installation process, there is very little stability — only the finished work of art is stable. The panes could not be suctioned on directly because of the crossbars and special shapes.



Special design of the suction system

To resolve the situation, Heavydrive developed special spacers on the suction cups to bridge the distances to the crossbars over the width of the glass pane. This allowed the adapted VSG 4000 KM H vacuum suction system to install the panes safely and without incident, despite the strong wind. The six designer panes were produced by sedak, a glass manufacturer from Gersthofen in Germany.

For the second construction phase, Heavydrive supplied the equipment for glazing the outer façade and encapsulating the work of art. Twelve glass panes measuring 3 by 12.5 metres and weighing 3.4 tonnes, three roof panes measuring 3 by 9 metres and several 4-tonne glass panes measuring 2.5 by 11 metres were set in place using the VSG 4000 KM H vacuum suction lifter. Heavydrive brought the project to a successful conclusion together with the industrial installation company Montec GmbH.

Individual installation solutions for complex building projects

“This project presented immense challenges,” explains Guenter Uebelacker, Managing Director of Heavydrive. *“We are all the more thrilled to have been able to complete the installation on schedule and without any problems using our custom-built system.”*

As early as the planning phase, Heavydrive works with the customer to develop an ideal solution, adapted to the construction site situation concerned, that takes account of all factors such as weather, uneven ground and so on. The experts produce customised solutions for complex installation work in the company’s own workshop.



The Heavydrive system transports 12.5 metre high designer pane with wavy edges. Image rights: montec-gmbh.de

The challenge:

Due to the differently shaped waves, it was not possible to suction on the panes directly.

During installation, stability was critical. The crossbars had to be taken into consideration, and a strong wind was blowing

The solution:

Heavydrive developed special spacers on the suction cups for optimal suctioning and placement of the wavy panes.

Special preparations for work on the Royal Clock Tower in Mecca



View of Mecca from the dome (at approx. 560 m)

The equipment is packaged for transportation

Workman's basket
with suction system



The dome of the Royal Clock Tower in Mecca



For the construction of the second highest building in the world at the time, the Royal Clock Tower in Mecca, Saudi Arabia, the company developed seven different MRK cranes.



The challenge:

Glazing the dome from outside of the building with panes weighing 1,800 kg at a height of about 560 m.

The solution:

Development of seven different MRK cranes
Heavydrive's own construction:
a 3-axle manipulator walk-in basket attached to a truck-mounted crane

Successful assignment in Salt Lake City



The Heavydrive systems were being used for an entire year in Salt Lake City, Utah (USA). Extreme conditions (see box below) made fitting façade pieces impossible with conventional systems. With the help of Heavydrive's special systems, the massive project was able to be completed successfully.

Intensive pre-planning with the client

One year before work commenced, the project manager of the Mormons' new headquarters got in touch with the Heavydrive managing director. The architecture of the approx. 80 metre high building included a façade with glass panes of 3 metres wide and 10.7 metres high and weighing 3.2 tonnes, as well as fitting 10.7 metre high and 60 cm wide glass fins.

Heavydrive GmbH developed a custom solution for this.

To see the Heavydrive team's professionalism and the quality of the systems for himself, the client personally travelled to Germany in May 2015.

Fig. on the left: Mounting the panes on site
Fig. below: Field test at Heavydrive



"With intensive planning beforehand and detailed talks with the construction management, we were able to put together an ideal glass mounting solution that met all of the project's demands", said managing director Guenter Uebelacker.

The systems were also impressive on site

As planned, and to the customer's complete satisfaction, the three systems supplied by Heavydrive completed their operation in Salt Lake City in November 2016. After that, the equipment was being used on other projects in the USA.

The challenge:

Large and heavy panes, mounting under a 3-m overhang and in temperatures as low as -20°C.

The solution:

The VSG 3500 K suction system in combination with the VSG 5000 counterweight beam

The VSG 1000 KL 9 vacuum suction system for the extremely tall and narrow glass fins

Winter proof suction cups for temperatures as low as -20°C

Heavydrive equipment defies wind and sea



Transportation of pane over 40 m across the port

Mounting the 4-tonne pane



The company installs panes weighing 4 tonnes under extreme conditions

An Italian façade builder has spectacular construction plans for the old port at the Piazza Venezia in Trieste: the complete restoration of a historic building. The future visitor awaits a magnificent view of the port of Trieste. For this, a pane weighing 4 tonnes and two panes weighing 2.5 tonnes had to be installed at the side of the sea.

An assignment under enormous time pressure — the weather forecasts were for increasingly strong gusts of wind from noon onwards, set to increase to gale force by late afternoon.

At first, the largest of the three panes weighing almost 4 tonnes was installed. Via remote control, the Heavydrive technician steered the pane over the sea directly to the façade. The system inserted the 9.6 metre long and 3.2 metre high pane exactly to the millimetre under the eaves.

To install the two smaller, 2.5-tonne panes, a smaller suction system was used.

Thanks to the quick-change system SWS, the switching of the vacuum suction system was done in only 15 minutes and the installation could be carried out without delay.

The challenge:

The façade is offset into the building by 800 mm with a surrounding gap of just 10 mm.

The façade is right next to the sea. With no possibility to store the panes in the port, they had to be transported over a distance of 40 metres.

Gusts of wind becoming stronger and stronger, eventually leading to a storm

The solution:

The VSG 6000 K vacuum suction system with an SWS quick-change system and the adapted counterweight beam (capacity of up to 7 tonnes).

The system installs panes of up to 18 m long and 3.4 m tall. With the counterweight beam, the suction system can safely move into any recess horizontally or under the eaves of a building up to 3 m deep.

Fitting panes in a tight space in Basel

In Basel, Switzerland, a total of 50 panes should be installed on the St. Jakobshalle arena under extreme conditions. That would have been a difficult and time-consuming task for traditional solutions.

Heavydrive GmbH faced the challenge successfully with their special equipment (see box on the right) and a specialised crane operator with many years of experience on tricky glass mounting projects.

He could easily transport the glass panes underneath the overhang and turn and tilt them within the tight space. The extra-large panes were inserted into the mullion-transom system to the millimetre. Within just one day, the team had replaced the temporary glazing with the new façade pieces.

The challenge:

Ground-level mounting of 50 panes, nine of which weighed 1.5 tonnes with some measuring up to 1.2 m x 3.1 m and 2.8 m x 6.5 m under 8-16 m deep overhangs.

The panes had to be rotated by 90° after being unloaded and within a very small, tight space.

The solution:

The MRK 195 mini crawler crane with an 3-axle manipulator attachment

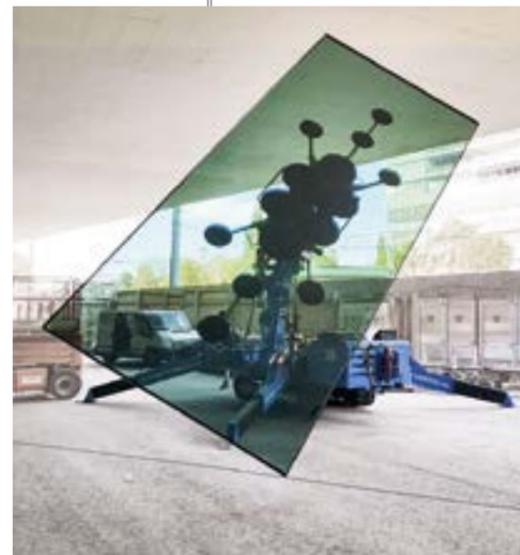
The VSGU 1500 KMH and VSG 1500 KS vacuum suction systems

Highly experienced device operator



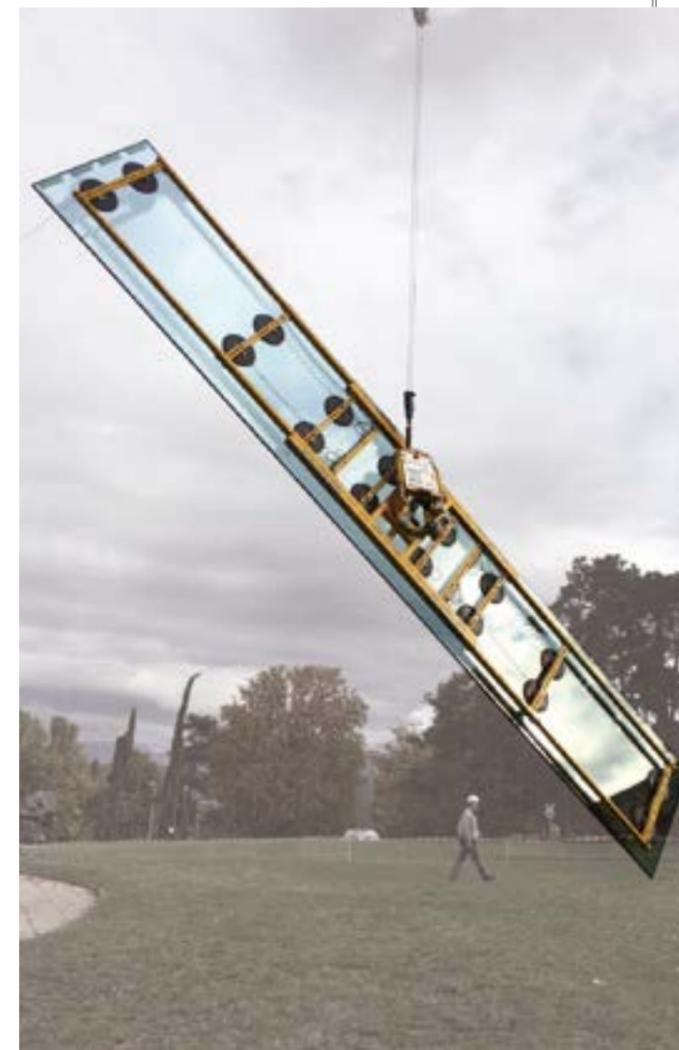
St. Jakobshalle Arena at night

Glass mounting under an overhang with the VSGU 1500 KMH



Heavydrive heavy-duty use in Geneva, Switzerland

A 12 m reach for extra-large panes – the VSG 3500 KMH



The challenge:

Replacement of five panes (measuring 2.2 m x 13.1 m and weighing 1.5 tonnes).

The building is at risk of seismic disturbances, so intensive safety precautions were necessary.

The solution:

The VSG 3500 KMH (capacity of up to 3.5 tonnes, a 4-circuit system and battery-powered)

The MRK 195 mini crawler crane with a reach of up to 22.7 m

Patented Heavydrive extension arm

We were on a job in Geneva for an international organisation.

With our specialised mounting solution (see box above) the team had no problem fitting all five panes in two days.

It wasn't just in transport and mounting that Heavydrive GmbH proved its competence in Switzerland. Even in the planning phase, the experts were there to offer advice and support.

Mounting heavy stone façade pieces

This construction project in London's Wood Wharf district involved installing various sized stone corner façade pieces and façade insulation weighing up to a tonne.

To firmly place the various pieces, the Polish façade manufacturer developed a special steel auxiliary structure.

Following extensive discussion with the Heavydrive experts, the decision was made to use Heavydrive's VSG 2000 Konter counterweight beam in conjunction with the SWS quick-change head for mounting the façade pieces. Lifting points were welded to the auxiliary structure so the SWS could be attached.

Safe, quick and competent glass mounting

Following intensive tests, it was straight to the construction site in the British metropolis. At the same time all of the auxiliary constructions were prepared for adaptation to the Heavydrive quick-change head. Using the SWS and in just a few steps, the operator could replace the elements.

In order to meet all of the requirements and guarantee the best operation of the Heavydrive equipment, the experienced Heavydrive mounting manager travelled to the construction site in London to train the on-site team and hand out the necessary certificates. At that point, the system could be handed over to the customer.

Special corner frames are placed under an overhang



The challenge:

Mounting various sized stone corner façade pieces and façade insulation weighing up to a tonne under a 1.5-m deep overhang. The glass mounting device needed to be controlled remotely.

The solution:

The VSG 2000 Konter counterweight beam with the SWS quick-change head

Suitable lifting points for the auxiliary frame construction

Heavydrive counterweight beams for every construction site

Several months previously, Heavydrive GmbH was involved in a similar mounting situation for another building in London's Wood Wharf district. On that occasion, conditions were even trickier due to the 3.5-m roof overhang and the corner angles and steel auxiliary structure projecting out by 2.9 m. Together, the auxiliary frames and corner elements reached a lifting load of 1,850 kg, so the Heavydrive VSG 4000 Konter counterweight beam — with a capacity of up to 4 tonnes — was used in this glass mounting project.



Heavydrive innovation to be implemented in London

Tapfheim based company installs extremely tall glass fins in the London Underground



Tottenham Court Road Underground Station in London has been given a new, all-glass exit in the form of glass fins. The glass fins have to support the heavy glass roof construction.

Glass fins are the latest challenge for the glass mounting sector. These narrow, very tall bonded glass plates are increasingly being used to replace steel and concrete supports thanks to their stability.

For these special mounting jobs, we offer special systems such as the VSG 2500 KL 12 vacuum suction system.

This system was the largest and most powerful available on the market at that time.

The challenge:

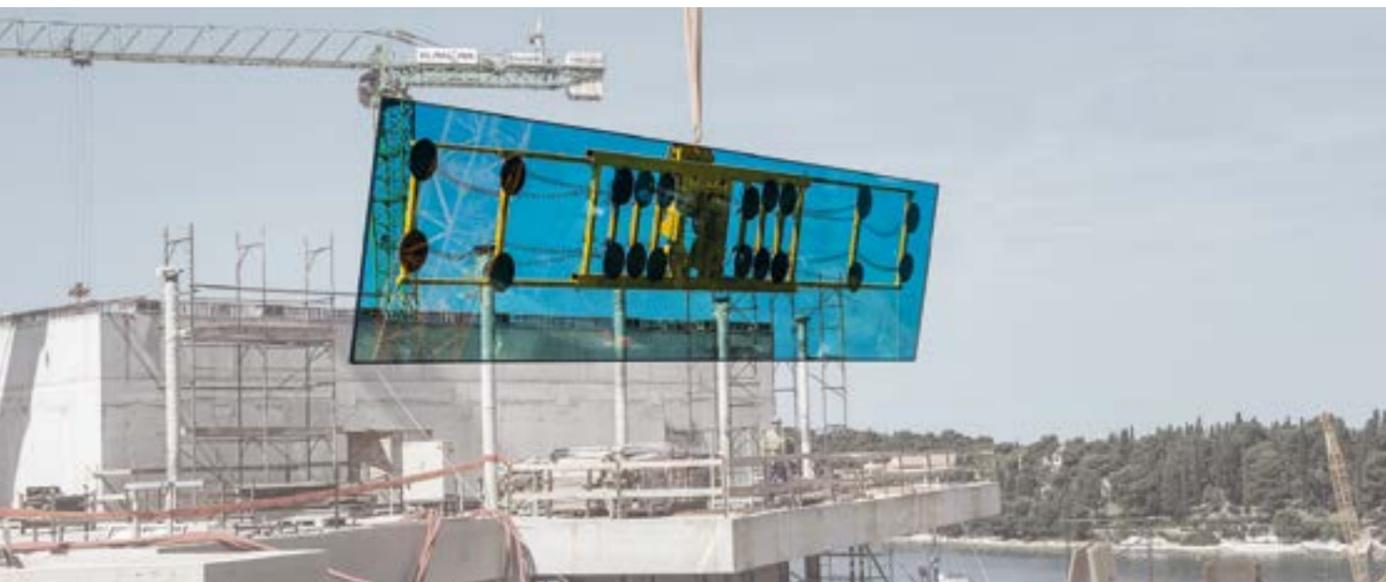
Mounting glass fins up to 14 m tall and 450 mm wide. The glass fins had to be hydraulically and continuously rotated by 270° and tilted by 90°.

The solution:

The VSG 2500 KL 12 suction system with a capacity of up to 2.5 tonnes and a suction length of 6.25 m. (with the right attachment arm, the system's suction length can be extended to 12 m).

Heavydrive fits huge façade for luxury hotel

Breath-taking installation of a 15-metre long pane in Croatia



One of the highlights of Grand Park, a new 5-star luxury hotel being constructed in the picturesque fishing port of Rovinj, is a huge glass façade overlooking the ocean. Heavydrive's specialists had to install the 15-metre-long and 3.2-metre-tall pane weighing 5.2 tonnes.

Planning from the very start

Managing Director Guenter Uebelacker had already started developing the optimal installation solution one year before. "I visited the site so I could see the mounting situation we would be dealing with for myself. My team and I were then able to play out various different scenarios and ultimately come up with the optimum solution," explains Mr. Uebelacker.

Intense cooperation with the customer as early as in the planning stage and the development of dedicated solutions are part and parcel of the service Heavydrive delivers. In this way, the team is prepared for any situation that might arise, and the work is carried out quickly, efficiently and smoothly.

The Heavydrive team opted for the VSG 6000 KMH vacuum suction system, one of the biggest systems on the market.

At the site in Rovinj, the system was attached to a mobile crane, facilitating transport of the façade piece over the building to the façade opening, where it was placed directly into the transport rack. Installation of the huge façade piece was complete within just a few hours.

Vacuum suction system VSG 6000 KMH with 15-m-long pane



The challenge:

Fitting the pane at the waterfront at a height of 19 m, a long distance from the crane base.

The façade opening was not directly accessible, meaning the glass pane had to be moved over the top of the building.

The solution:

The VSG 6000 KMH suction system — one of the largest systems on the market. The VSG 6000 KMH is lightweight and flexible, and it is quick and easy to rig up. The 20 suction cups can hold up to 6 tonnes, at 24 m long and 3.2 m wide.



Mounting and replacement of extra-large panes in Dubai

In Dubai (United Arab Emirates), Heavydrive GmbH has impressed time and time again with its equipment and know-how.

In the Dubai Mall — a huge shopping centre with more than 1,200 shops — a highly experienced Heavydrive device operator installed 14-m-tall, 3-m-wide curved panes over the main entrance. The glass panes weighed 4 tonnes and had to be fitted under a 5.8-m-deep overhang. With the VSG 4000 KR vacuum suction system and the VSG 6000 Konter counterweight beam, the installation went off without a hitch.

Urgent job in record time: Heavydrive replaces a damaged pane in the Dubai Mall within one week

It's every builder's nightmare. Shortly before the completion of a new megastore in the famous Dubai Mall, the huge glass pane in the entrance door broke. Within one week, we had managed to replace the curved glass piece using our expert team and equipment.

Based on our long-standing international experience, we have developed a professional logistics system that makes it possible for devices to be delivered within 12 hours to Germany and within 24 hours to Europe.

We offer a one-stop service that takes care of all the necessary administrative formalities and approvals.

Heavydrive mounting devices in front of the Burj Khalifa



The challenge:

To fit curved panes measuring 14 m tall and 3 m wide and weighing 4 tonnes under a 5.8-m-deep overhang

The solution:

The VSG 4000 KR suction system with the VSG 6000 Konter counterweight beam

Lifting panes to heights of more than 30 m

In Poing, Munich, the community now has an unusual church. The 900-m², 30-m-tall building is based on a spectacular architectural design concept with eight extra-large panes.

Fifteen thousand white, three-dimensional tiles adorn the façade, allowing the church to shine as it reflects the sunlight. At first glance, the modern church appears almost windowless.

But the building has three large window openings that flood the inner space with light from every side. The large panes on three parts of the building were a vision of the impressive design concept by Munich architecture firm, Meck.

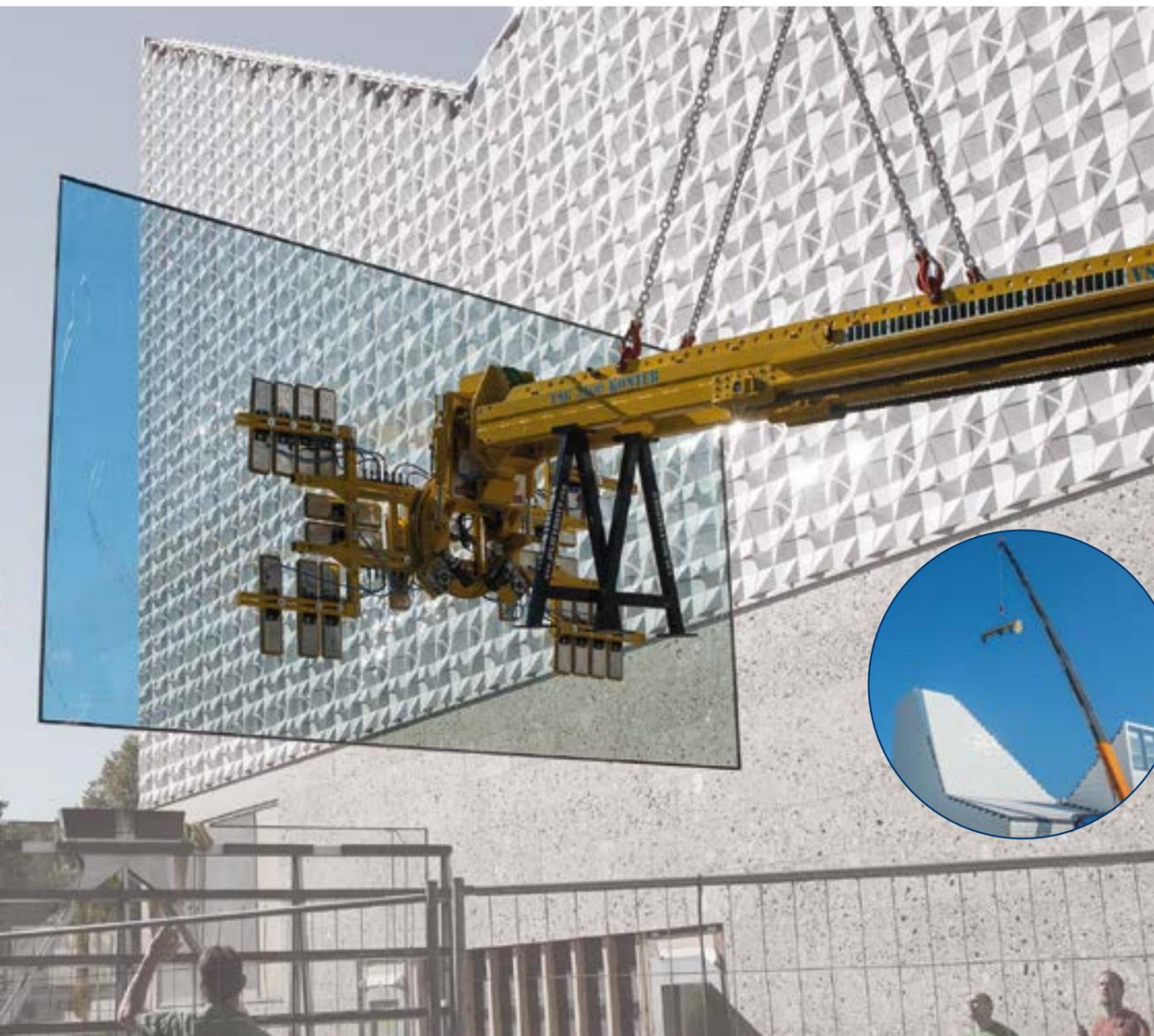
The panes had a unique glass crack structure, so the suction system was fitted with special suction cups. The system was ready for use within a few minutes.

It could then be attached directly to the truck-mounted crane and used right away. With instructions from the Heavydrive expert, the crane operator steered the system over the 30-m-tall and wide church with absolute precision. Within three hours, the damaged pane had been replaced.

Pane mounting in record time

In total, Heavydrive GmbH installed eight panes in the new church. Every single pane posed a challenge for the team. The panes had to be lifted under overhangs up to 3 m deep and at ground level.

In just one day, all of the panes were safely and precisely installed thanks to Heavydrive technology.



The challenge:

There is a park connected to the north-west side of the building that is closed off to vehicles, so the 1,200-kg glass piece measuring 5.7 m x 3.2 m could not be moved directly to the building. Instead, the pane was lifted over the church, 30 m in the air, by a crane.

The solution:

The VSGS 2000 K MH vacuum suction system with the VSG 2000 Konter counterweight beam

The MRK 86.0 S1 mini crawler crane with the VSG 1200 KH vacuum suction system

This Heavydrive system had to be lifted 30 m high over the church building

Precise mounting of the extra-large panes



These panes are only accessible from the park side



Flight chambers in the Jochen Schweizer Arena and at FlyStation Munich

If you've ever dreamt of flying, indoor skydiving could be the thing for you! In a vertical wind tunnel known as a flight chamber, you can experience the thrill of freefall — just like in real skydiving.

Heavydrive was recently on site at one of these high-tech indoor skydiving facilities in Neufahrn and in the Jochen Schweizer Arena in Taufkirchen near Munich.

For Heavydrive this was the 8th flight chamber where its equipment and skilled operators were used.

Jochen Schweizer was there in person to see Heavydrive's unique crane and suction systems in action.



Mounting of curved panes
in a tight space

The challenge:

To install the substructure, steel beams measuring 5.7 m long and weighing 500 kg had to be hoisted up into the room. For the heart of the chamber, six curved panes, each measuring 5.5 m tall and around 1.8 m wide and weighing some 860 kg, had to be installed inside the arena.

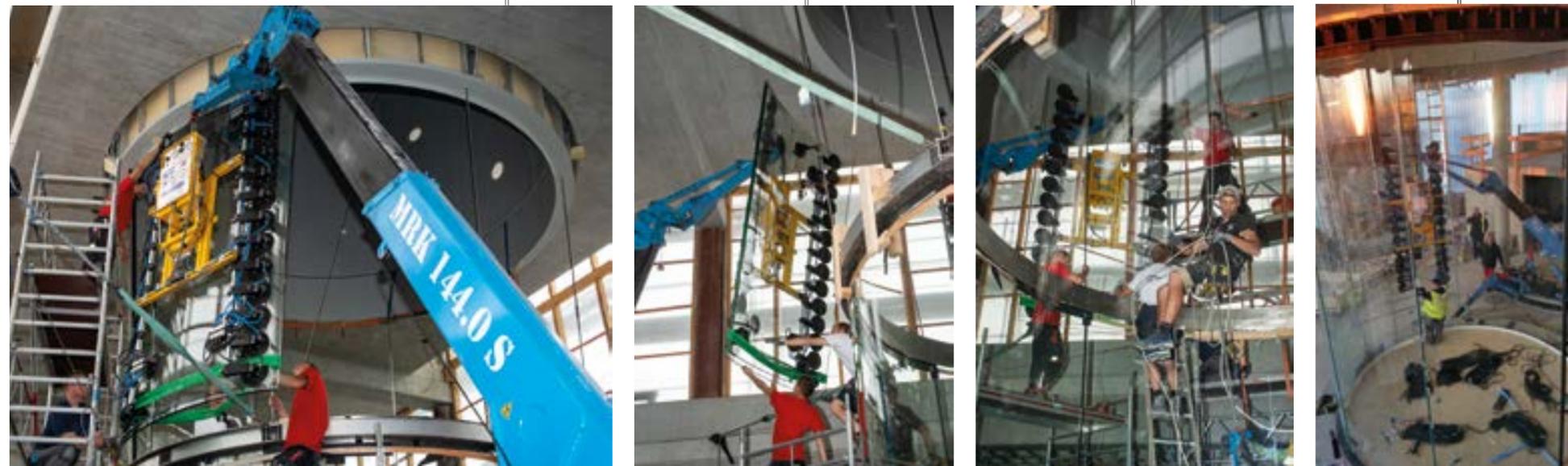
The limited space and low ceiling capacity posed further challenges.

The solution:

The MRK 86.0 assembly crane, suitable for indoor use, along with the VSG 1000 KR vacuum suction system and the VSG 450 K vacuum lifting device

The assemblies were carried out by an experienced equipment operator from Heavydrive.

The MRK 144.0 S mounting crane and the VSG 1000 KR vacuum suction system used to glaze the flight chamber



Lakhta Tower, St. Petersburg

The Lakhta Tower in St. Petersburg is one of Europe's most prestigious architectural feats, and at a height of 462 m, it will be the tallest building on the continent.

Like most futuristic constructions, it pushes standard glass mounting solutions to their limits. It was a job for the experts.

The façade construction company, the Lindner Group KG, called in support from lifting and transportation specialists Heavydrive GmbH to plan, develop and implement the project.

The Tapfheim-based company, along with Josef Gartner GmbH from Gundelfingen and Waagner Biro AG from Vienna, became the main suppliers for the construction project.

The Lakhta Tower in the second-largest Russian city is an unparalleled build — with 83 floors, a record-breaking continuous concrete pour into the foundation, and 400,000 m² of usable floor space.

The customer visited the Heavydrive factory site in Tapfheim to see the glass mounting solutions for themselves. The team carried out a field test that simulated the construction site conditions and demonstrated the system's functions. The results were very convincing.

From then on, the Lindner Group GmbH benefited from Heavydrive's one-stop service. The experts organised everything from making sure the system was safely packaged for transportation to the customs paperwork.



The Lakhta Center conference building in St. Petersburg in front of the Lakhta Tower



The challenge:

The demands on the glass mounting equipment for this mega project were immense. The systems needed to be extremely light while also having a high load carrying capacity. In addition, the equipment had to be remote controlled and needed to function at temperatures as low as -20°C.

The next challenge: The suction system frames had to be highly flexible yet also able to lift curved panes.

The solution:

Development and production of four VSG 600 K MH vacuum suction systems. (a 2-circuit system with a hydraulic pivot mechanism and motorised swivel function, remote controllable and suitable for use in extreme sub-zero temperatures)

Development of two counterweight beams that could be connected to the VSG 600 K MH with a quick-change head

On-site instruction: the VSG 1500 KH vacuum suction system



The specially developed counterweight beams in use



Difficult glass mounting at the Elbe Philharmonic Hall

Heavydrive fits huge panoramic panes for Hamburg's newest landmark



With its spectacular architecture and unparalleled acoustics, the Elbe Philharmonic Hall in Hamburg has been a magnet for visitors from all over the world since its opening on 11 January 2017.

Our devices were used to fit the extremely large panoramic panes and wave-like glass pieces on the sea-facing side of the building.

An exceptional view of Hamburg port

Constructing this futuristic building was quite an affair. The panoramic panes in the Stoertebeker Beer & Dine Restaurant give customers an exceptional view of Hamburg port.

To create this, panes measuring 2,980 mm high and 4680 mm wide were set in at an angle over two floors. For the complicated mounting of the 800-kg glass panes, Heavydrive GmbH was supported with special equipment from window and façade construction company Rommel.

Using a building crane and the VSG 900 KS vacuum suction system, the extra-large panes were first raised above the building.

The lotus effect of the panes was another challenge for the team. The glass panes have a special coating on the outside to allow water and dirt to run off. This means the panes have an extremely smooth surface and don't work with standard suction devices, so the vacuum suction system was fitted with special suction cups to ensure safe mounting. As there was nowhere on the sea-facing side of the building to stabilise the devices, the façade pieces were basically air-lifted over the building. With the MRK 86.0 mini crawler crane the operator was then able to move the panes into the structure and fit them exactly to the millimetre.

Complex mounting of wave-like panes

Assembling the curved glass panes was just as tricky. The Gundelfingen-based company Gartner rented the VSG 1200 KR vacuum suction system to install the large panes with fittings.



The challenge:

*Panoramic panes measuring 2,980 mm x 4,680 mm had to be set in at an angle over two floors.
The lotus effect of the panes required special suction cups. The façade pieces were basically air-lifted over the building.
The concave and convex curved panes had to be rotated and pivoted.*

The solution:

*The VSG 900 KS vacuum suction system with a building crane, mounting of panes with the MRK 86.0 mini crawler crane
For the curved panes: the VSG 1200 KR vacuum suction system with special suction cups*

The system has more than 48 suction cups that fit the curved panes perfectly and can grip both sides simultaneously (convex and concave) on a minimum radius of 450 mm.

The system can also rotate the suctioned panes by 360° and pivot them by 90°.

This also makes transport easier:

Using the suction feature, the glass panes are held horizontally in the transport crate, lifted out and finally pivoted into position for mounting. The vacuum suction systems for curved panes have a lifting capacity of between 250 kg and 5,000 kg and are available to hire from Heavydrive.

In the Elbe Philharmonic Hall, the VSG 1200 KR was used to move every single one of the 1,200 kg curved panes diagonally through the building. Because these panes are embellished and have a lotus effect, all of the panes were gripped from the inside and lifted into position.



Mounting panoramic panes with the MRK 86.0

Unlimited creativity in planning and construction with Heavydrive!

Project management with Heavydrive gives you extreme flexibility, even in the planning phase



Modern architecture relies heavily on glass as a building material. Futuristic design and oversized glass constructions are on trend. With us, there are no limits to your creativity!

Plan with Heavydrive®!



Start planning and managing the equipment you will need for every construction phase from the outset.

Then we can quickly put together a package that will save you time and money! It also means you can avoid nasty surprises from the get-go that can greatly increase project costs!



There are no limits to your creativity!

Even from the design and planning phase of a project, it makes sense to think about the implementation. This is becoming more and more important in the contracting phase.

Creativity in glass construction

We help you create your assembly flow plan (**method statement**) and assist you with formulating the **worst-case scenario** using optimal solutions, e.g. replacing existing glass panes.

So, you can always be on the safe side with your project planning. Heavydrive is the leading **world specialist** for these types of projects: From planning to precise implementation, you are in safe hands with us.

Heavydrive's special systems open up a world of creative opportunities that were previously inconceivable, until now!



Guenter Uebelacker, Managing Director of Heavydrive GmbH



A reliable all-round service for extreme glass mounting

Heavydrive offers everything from planning to implementation, your one-stop shop.

The sector is being faced with more and more challenges: structural elements are becoming larger and heavier, mounting is becoming more complicated and the logistics more complex.

So, Heavydrive GmbH is offering an all-round service. The experienced, professional team supports clients around the world throughout their projects in the planning, development and implementation stages.



Heavydrive GmbH has specialised as experts in mounting extremely large and heavy panes and also offers the optimal solution for difficult construction site conditions.

Customers receive a one-stop service, from planning and transport, including all customs documents and freight documents, to a professional device operator. The versatile devices and suction systems are based in the headquarters in Tapfheim and are available for hire or purchase.

Our rental fleet includes different MRK mini cranes by the manufacturers Maeda and Unic, various vacuum suction systems (VSG) with a capacity of up to 12,000 kilos and counter beam with a capacity of up to 18,000 kilos, glass fitting equipment (GMG), motor chain hoists (MKZ), glass transport wagons (HDL) as well as assembly lifts (ML) up to 7.9 metres. Heavydrive® also hires out all-terrain telescopic forklift trucks (GTS) and lifting platforms (GTB and SB).

At its headquarters in Tapfheim, the company offers professional servicing and repairs on machinery and has its own wash facilities for small and large-scale equipment.



Here, trained staff perform maintenance and repair work on company-owned and third-party equipment and guarantee 100% machine operation. A dedicated test area enables employees to check the equipment's vacuum power and adjust the vacuum suction systems for each construction site situation accordingly.

The company's central location in Tapfheim ensures quick and reliable delivery. The equipment is kept in two well-organised warehouses and is "on-call" at all times and can be shipped to Frankfurt and Cologne in 3 and 5 hours, respectively. For small equipment, Heavydrive® even offers worldwide overnight delivery, including all customs and transport documents.



For more information and equipment see our pocket-sized catalogue with more than 360 pages or visit us at www.heavydrive.com

Rental & Sales WORLDWIDE:

All-round services from individual devices to complete large-scale projects

catalog.heavydrive.com



app.heavydrive.com



Memory-free web app, so that you always have our catalogue on your smartphone

 See videos of our projects and get more information on our website www.heavydrive.com in the "News" section

See all subsidiaries and contacts at: subsidiaries.heavydrive.com



HEAVYDRIVE GmbH
Headquarter Germany

Hoeslerstrasse 9 • 86660 Tapfheim
Germany
Phone: +49 9070 96 8 96 90 - 0
Fax: +49 9070 96 8 96 90 - 9
E-mail: sales@heavydrive.com
WhatsApp: +49 171 3407406
Web: www.heavydrive.com
Video conference via Skype or Zoom

Follow our current worldwide projects on 

