

# PASSION

PALFINGER CRANE MAGAZINE

# 21



# MORE FLEXIBILITY WITH eDRIVE

## #REACHANYTHING

With the intelligent eDRIVE system, absolute flexibility in operating a loader crane is ensured: Via the Li-ion battery pack, a power grid or via the integrated generator which operates from the vehicle engine, and regenerates the Li-ion battery pack.



# EDITORIAL

STEFAN OBERLEITNER

## DEAR PARTNERS AND FRIENDS OF PALFINGER,

This issue of CRANE PASSION focuses on PALFINGER's unique pioneering spirit and you, the people who work with our products and solutions. PALFINGER's success story is only possible thanks to your trust in our services. With our Vision & Strategy 2030 and the two strategic pillars "Go for Solutions" and "Go Digital," we have formulated the answers to global changes and for future business success. We are looking forward to continue growing together with you — our partners and customers.

Our innovations, such as the new TEC generation cranes, successfully overcome every challenge and enable even safer, smarter and more efficient work. That is the result of your specific requirements and expectations flowing into our smart solutions. Like the new, convenient assistant systems, PALFINGER's innovative control electronics are based on the experience of our customers. We tell you more about this on pages 20-23.

The time for a sustainable future is now. PALFINGER is taking advantage of the rapidly growing capabilities of E-mobility and, on pages 10 to 13, presents eco-efficient solutions using alternative drive systems for PALFINGER loader cranes. This clearly demonstrates the extent to which E-mobility has fundamentally changed operating conditions. That is because the energy source that drives the truck also powers its lifting solution. Get a feel for the experiences of skilled crane operators in Sweden and Norway and the way they work with the PALFINGER eDRIVE system.



PALFINGER is motivated to proactively use all possibilities in offering its customers and partners future-driven product solutions. So that we can continue providing you with the best service in the industry, we are extending our offering. Starting on page 26 you can find out more about our complete service packages that make the best possible use of the potential of digitalization, and there is an overview of how we can maximize the uptime of your PALFINGER lifting solutions.

We hope you enjoy reading this issue!

**Stefan Oberleitner**

Product Line Leader Loader Cranes

**TOGETHER  
WE CAN  
REACH ANYTHING**



## 20

### TEC AT ITS BEST

The New TEC Premium Cranes  
Lift Crane Work to a New Level

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#### IMPRINT

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# PALFINGER LOADER CRANES: INNOVATION WITH TRADITION



The world is more fast-paced than ever.

We need to know the needs of tomorrow today so we can handle the challenges of the future. Throughout the company's history and right up to the present day, PALFINGER has been developing the latest technical innovations together with its customers and partners. From the core product loader crane to smart logistics software, they write the history and tell the story of the future together.

With the company's Vision & Strategy 2030, PALFINGER provides answers to the pressing challenges of sustainability, social change and digitalization. From smart functions on loader cranes, such as Smart Control and

Memory Position, to smart services, such as Fleet and Operator Monitor, to innovative products, such as the new TEC loader crane range, PALFINGER reinforces its claim to offer the best solutions. #reachanything

No one would have thought 90 years ago that PALFINGER would one day become a globally active company and, even more so, the innovation and technology leader in its

industry worldwide. Back in 1932, Richard Palfinger founded a workshop for the repair and maintenance of the latest agricultural machinery. You could say that PALFINGER always had an eye on the future.

The company gained its current reputation in the early 1960s when PALFINGER launched the first hydraulic loader crane. In all modesty, it was a world sensation. PALFINGER, however, is not resting on its laurels. After all, success is the impetus to drive innovation forward in a targeted manner, to listen carefully to customers, and to turn their challenges into their own. As much as PALFINGER grows in the following decades, it remains true to its regional roots and customer proximity.



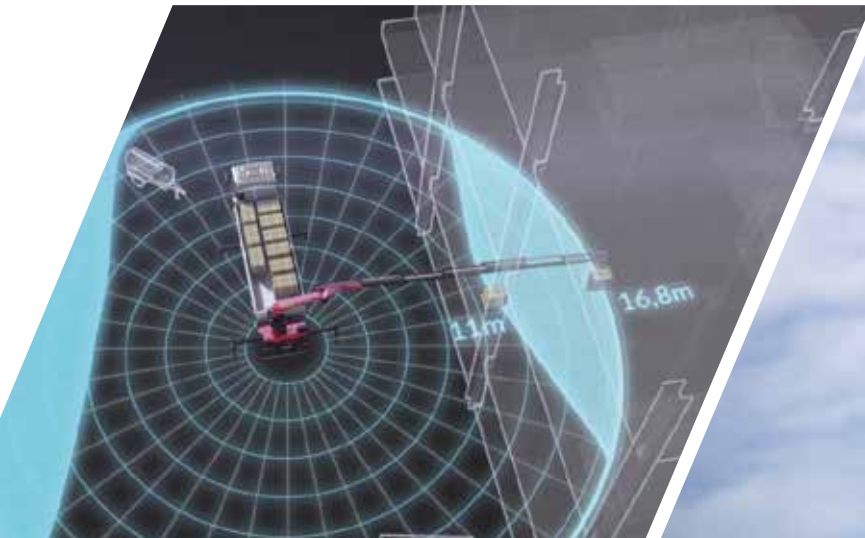
# 2021

With its intelligent crane tip control, PALFINGER is once again innovation leader: Smart Control makes working with the crane even more efficient by intuitively controlling the crane tip. The intelligent system gives crane operators more freedom for more complex lifting operations.



# 2011

The new stability safety system HPSC (= High Performance Stability Control) offers a maximum level of convenience and safety for truck-mounted crane operation. It is the most intelligent system on the market.



**“The loader crane was our first innovation and set an important milestone for PALFINGER as a pioneer. At the same time, we have continued to evolve over the company’s many years of history. We have used our innovative strength to make our solutions ready for the challenges of tomorrow,”**

says PALFINGER CEO Andreas Klauser.



# 2012

PALFINGER introduces the P-profile. A light weight and more rigid boom system.

# 2020

PALFINGER  
Connected – Fleet Monitor, Operator  
Monitor and Service Cockpit make  
PALFINGER's customers'  
lives easier.



#### Recipe for Success:

##### Together we can #reachanything

Customer proximity is the core value of PALFINGER and until today it is still the driving force behind the company. "I think the recipe for success in our work together is that we act as a unit. That we, as partners, operate on the market together. We can rely on each other and achieve anything as a result," says Ruedi Sutter, General Manager of Walser Schweiz AG, about their long-standing cooperation with PALFINGER.

Promoting customer proximity results in tangible technical innovations. The patents relating to the loader crane ensured the company's worldwide success over the 1960s and 70s. The loader crane became a core product — the heart of the PALFINGER product range. And its success story is far from over. Hardly any other product can better describe competence in mechanical engineering and technological innovations.

#### The Loader Crane as a Flagship

Today, PALFINGER is the world market leader in this segment with incredible 100 different models of loader crane. The company supplies customers in the construction industry, transport logistics, waste management and many other international industries. PALFINGER knuckle boom cranes are particularly impressive due to their user-friendliness and high cost-effectiveness. Additional equipment such as winches, rotators, grappels and crane forks significantly expand the range of applications. In particular, the PALFINGER performance crane series launched in 2001, is regarded as a boost in innovation: Thanks to its functional design, enhanced safety and the best ergonomics, it secures PALFINGER's position as the world market leader in the truck loader crane market.

#### Dialog as an Everlasting Driver

Numerous innovations from PALFINGER's almost 58 years of loader crane history make virtually any lifting task possible today. The HPSC (High Performance Stability Control) intelligent stabiliser system, for example, allows completely variable stabiliser positioning. The system enables the permissible safe working reach to be calculated and optimally deployed in any stabiliser situation. Smart Control also reflects the company's innovative strength: With just one lever movement, the crane operator can easily control the crane tip horizontally, vertically and even diagonally.

The driving force behind PALFINGER's innovations continues to be close cooperation with its customers and partners, as confirmed by Natasa & Andrej Rustja, owners of PK d.o.o., the general importer in Croatia: "Over the years, we have successfully brought numerous products onto the market together. Seeing how we enable our customers to do great work with custom-built crane solutions — that's what drives us forward!"

#### So What's Next?

With more than 12,600 employees, around 5,000 service and sales centers and more than 30 manufacturing sites, PALFINGER not only operates on the global market, but is also familiar with global challenges, gathers information and in-field experience worldwide, and as a result also provides input for new innovations. That's because PALFINGER doesn't want to rest on its laurels. With its Vision & Strategy 2030, PALFINGER is opening the next chapter in the company's history. In doing so, PALFINGER reacts not only to the megatrends mentioned above, but also creates the conditions for supporting customers and partners even more holistically and efficiently in the future with its strategic pillars "Go for Solutions" and "Go Digital."





# INTO THE FUTURE ECOLOGICALLY, EFFICIENTLY AND INTELLIGENTLY

In the last 100 years, the combustion engine has not only driven cars, trucks and tractors, it has also been an important driver for the economy. Technology has evolved, however, and the environment is polluted — climate change and shortage of resources require new solutions. The future belongs to those who use resources conscientiously.

## **Always one step ahead.**

PALFINGER recognized the need for alternatives early on. Hybrid and electric drive solutions have been part of the PALFINGER product range for a long time. From energy-saving hydraulic pumps to hybrid and fully electro-hydraulic models, PALFINGER offers future-oriented, intelligent and ecologically efficient solutions for every requirement, as will also be demonstrated at bauma 2022 using various solutions, such as the PK 250 TEC crane on an eVolvo truck.

“To match the specific requirements of customers, PALFINGER offers a wide range of complete solutions. Some have regular trucks in operation and want to work with hybrid, low-noise

**In times of climate change and steadily rising costs for resources, innovation and pioneering spirit are in demand. PALFINGER took up this issue at an early stage and is constantly developing product solutions that help customers achieve their goals.**

crane solutions. Others already have an electric-powered truck and are looking for a fully electric-powered solution. At PALFINGER, we offer something for

every setting and as a result enable our customers to work efficiently and more sustainably,” says Andreas Hille, Senior Vice President Global Product Line Management & Engineering at PALFINGER.

## **Load-sensing pump: Saving money has never been easier.**

PALFINGER is proactively using this wide range of solutions in all areas. It starts with hydraulic oil and fuel consumption: Instead of constantly pumping oil through the system, PALFINGER can integrate a variable displacement pump to ensure that only as much oil is pumped as is currently needed. The effect is measurable: Fuel consumption is reduced by up to 20 percent and wear to the components used to make up the complete solution — crane — body — vehicle — hydraulics — is reduced. Energy loss in the form of heat is also reduced. It is an investment that pays off in a very short period of time.



#### Hybrid solutions as reliable technology for the future.

The switch to pure e-mobility will take some time. As a driver of innovation, however, PALFINGER has been offering hybrid drive solutions since 2012 — both as fixed and removable variants. There is a hybrid solution for almost every scenario — even up to our largest crane, the PK 200002 L SH. The rapid switch between engine and electrohydraulic drive at the control cabinet enables flexible use of both energy resources. Compared to conventional drives, operating costs are reduced by up to 80 percent. Especially for customers who stay on a construction site for a longer period of time, this solution quickly pays off. Numerous such emission-free solutions from PALFINGER can already be seen all over the world — the first customers to use hybrid solutions were in the DACH region and Scandinavia.

“Although hybrid drives have been on the market for a long time, they are often still the best solution for many projects. That is because the combination allows longer and more flexible working hours — even away from a power grid — than purely electric-powered devices, and it is possible to switch flexibly to noise-free and emission-free, sustainable power. This gives our customers a wide range of capabilities on site,” explains Johannes Mayrhuber, product manager at PALFINGER.

#### eDRIVE - the sustainable solution with loads of flexibility.

With the PALFINGER eDRIVE system for the loader crane, various drive options can be selected flexibly at the touch of a button — from the Li-Ion battery pack to mains power. This allows the most useful energy source to be selected depending on the requirements. The eDRIVE ensures economical, energy-efficient, and emission-free operation with near-silent movements in sensitive areas, regardless of whether outdoors

or indoors, day or night. The eDRIVE system is available for crane models of up to 40 tons. In addition, the batteries can be conveniently charged by the optional integrated generator while driving from one job site to another. These are just a few of the many reasons why the PALFINGER eDRIVE took home third place in the 2022 VAK Innovation Award in the “vehicle/device” sector during the IFAT.

#### Firstmover for e-truck solutions

Together with ZF Friedrichshafen, Mercedes-Benz Trucks and PALFINGER, the ZF eWorX module offers customers an innovative solution for e-trucks with lifting solutions. The installation is handled centrally by Mercedes-Benz to guarantee professional installation.

With the innovative system, every PALFINGER product can be set up and used on a high-voltage truck, because eWorX instantly converts the electrical energy of the truck into mechanical energy and ensures communication between the lifting solution and the vehicle. The traction battery on the electric truck provides electrical energy to the lifting solution through an interface. The perfect combination for sustainable lifting work.

PALFINGER's sustainability agenda does not end here, however, but continues to drive innovation forward. David Fuchs-huber, Program Manager Turnkey Solutions at PALFINGER, looks to the future with curiosity and confidence; “We are constantly bringing even more sustainable and flexible loader crane solutions to the market for all truck models and manufacturers. When you consider how much innovative strength we have already demonstrated at PALFINGER over the past 90 years, you can only guess what innovation will follow during the next 90 years.” We can **#reachanything**.

ELECTRIC



# THE TRANSITION FROM DIESEL-POWERED TRUCKS TO ZERO-EMISSION SOLUTIONS POSES A CHALLENGE FOR MANY BUSINESSES. PALFINGER OFFERS THE eDRIVE SYSTEM FOR CRANE WORK.”

Jan Erik Bjørnstad, Sales Manager at PALFINGER Norway





<https://youtu.be/-lQaUGcCQQQ>

# PALFINGER eDRIVE

## IMPRESSES IN NORWAY

Early in the morning in the port of Oslo: Crane operator Thomas Klomsæt is in his element. He places heavy boulders as a barrier

between the mainland and the sea. And before he carefully and precisely positions a water tank weighing around a ton at a restaurant, he positions reinforced concrete barriers to protect pedestrians. So Thomas Klomsæt has got his work cut out. Using the eDRIVE system from PALFINGER, all these tasks are easy to complete; emission-free and quieter than ever before.

### New drive systems in Norway

According to government guidelines, diesel-powered trucks should no longer be on the road in Norway's cities by 2025. "A change that poses challenges for many companies," says Jan Erik Bjørnstad, Sales Manager at PALFINGER Norway. PALFINGER offers a solution for crane work: the eDRIVE system. Innovative loader cranes that shift up to 40 tonnes quietly and emission-free.

In place of diesel-powered trucks, gas-powered trucks can be used instead as carrier vehicles. The engine's intelligent automatic start-stop system maximizes its operating time. The energy is only consumed while the crane is working. When the batteries are fully charged, continuous and emission-free crane operation is possible for around three hours. Because the crane can be used without starting an engine, eDRIVE is also a practical solution for working in residential areas - especially in the morning and evening.

The transition to lower carbon transport options is making great progress in Norway — trucks and loader cranes with innovative drives are also in demand. The PALFINGER eDRIVE system is a pioneering solution for operating loader cranes handling up to 40 tonnes emission-free. The company Kran & Transport in Oslo tested it for a few weeks.

### Flexibility and performance - through innovation

The loader crane can be operated using a range of energy sources:

the Li-Ion battery pack, the power grid, or the integrated generator - with the help of the vehicle engine. When operating or charging the battery system using the power grid, you also save up to 80 percent of operating costs. In addition, powering the crane with eDRIVE reduces the time the vehicle's engine is running. The eDRIVE is charged either directly from the power grid (230 V or 400 V, 16 A) or by the generator - even while driving the truck. This means that the batteries can be charged while driving from one location to another.

### eDRIVE put to the test

After working in the port, Thomas Klomsæt, crane operator at Kran & Transport AS in Oslo, moves to a job site in a residential area. He uses the HPX grab on the PALFINGER crane for earthworks for landscaping. "It is particularly useful in the early morning and evening to be able to operate the crane without the engine running. And the cool thing about it is, when you run out of power after a couple of hours, you can just start the engine up and run it as a normal crane," says Thomas Klomsæt. Regardless of whether the weather is cold, or there are summer temperatures, and regardless of what kind of task is involved, the eDRIVE system ensures reliable and emission-free crane operation.



[https://youtu.be/T08\\_Hz\\_bzYU](https://youtu.be/T08_Hz_bzYU)



**PALFINGER eDRIVE:  
SILENT AND  
ELECTRIC IN  
SWEDISH  
FORESTS**



Crane driver Dennis Sudqvist values the smallest possible CO<sub>2</sub> footprint.

E-mobility is here to stay — including for cranes.  
With the eDRIVE system, PALFINGER delivers  
a sustainable and efficient solution featuring  
benefits that are particularly appreciated in  
environmentally conscious Sweden.

Nature is important to the Swedes. This is clear from the 29 national parks and over 3,200 nature reserves. More than half of the country is covered by forest. However, accelerating climate change is also having an impact on Sweden's countryside. Now is the time to protect this delicate ecosystem. For crane operation, this means that every job must leave the smallest possible carbon footprint. Including the one that crane operator Dennis Sundqvist is on his way to do. Right on the shore of a lake and surrounded by coniferous forest stands a picture-perfect Swedish wooden house, for which Dennis is delivering a consignment of wood weighing tons. Quiet and emission-free — thanks to the eDRIVE system from PALFINGER.

#### Electric at the Touch of a Button

"Electric crane operation has two clear advantages for me as a crane operator," says Dennis, a crane operator at the Swedish transport company Vivaldi AB. "Firstly, I am no longer engulfed in exhaust fumes during loading and secondly, I can communicate with others because operation is as quiet as a whisper. That wasn't possible before." He adds: "I have to say

I haven't found a single disadvantage." The intelligent eDRIVE system ensures absolute

flexibility in crane operation. Drive options can be selected at the touch of a button — the Li-ion battery pack, the mains supply, or the integrated generator that is connected to the vehicle engine. This ensures economical, energy-efficient, and emission-free operation with near-silent movements in sensitive areas, regardless of whether outdoors or indoors, day or night.

#### Sustainable Upgrade

When fully charged, the PALFINGER loader crane can ultimately operate for two hours at a time. That equates to around 15 jobs of ten minutes each. It is also possible to charge the batteries using the generator as the crane travels from one job to the next. But if the job takes longer or more power is required, it is very easy to switch to conventional mode, or charge the batteries during operation. Vivaldi AB's fleet operator Dick Rollfelt is clear about one thing: "We want to be at the forefront when it comes to sustainability. Progress with the PALFINGER eDRIVE system has been so positive that we will consider it in all future vehicle purchases." Sweden's countryside and climate will be grateful.



[www.youtube.com/watch?v=iYnWqwNFycU](https://www.youtube.com/watch?v=iYnWqwNFycU)

# PALFINGER PK 165.002 TEC 7: AIMING HIGH FOR THE FUTURE

Innovation needs room to grow. Croatian electric hypercar manufacturer Rimac Automobili is expanding its production and research capacity with a modern steel-built complex. Two PK 165.002 TEC 7 F cranes with PJ 300 fly jib and PJM020 (MFA-jib) were deployed to the construction site to successfully complete the job with their incredible outreach and lifting capacity.

Seen from the approach to Zagreb, the capital city of Croatia, the buildings rise into the sky on the horizon above the idyllic landscape, while the sun casts long shadows. Numerous cranes and aerial

work platforms are busily loading steel struts and building materials, but two red cranes stand out with their height and flexibility: two PALFINGER PK 165.002 TEC 7 cranes. They extend to a staggering height of 45 meters above the 95,000 square meter site, the location for the innovative future of electromobility in Croatia.

## Managing challenges

„With our fly jibs, we have a longer outreach and a higher load capacity. Without them, we would not have managed today because we have loaded about 25 metric tons at an average height of 36 meters,“ explain crane operators Vladimir Šimunić and Ivan Gerić from the company M.I. Hršak. With 24 years of experience in producing and installing steel roofs, the company from Krapina in Croatia has been employed to install the roof profiles at the new production and R&D facilities of Rimac Automobili.

The assignment was to mount 4,500 kg of steel structure and over 75,000 square meters of steel roof. Installation was fast

and easy because of the two PALFINGER PK 165.002 TEC 7 F cranes with PJ 300 fly jib and PJM020 mechanical fly jib on MAN TGS 41.420 8x4 BB trucks, quality is guaranteed. This demanding truck

upgrades are constructed and produced in Croatia from PALFINGER general importer PK d.o.o.

## When maximum flexibility is key

On construction sites, space is usually tight, and the on-site conditions provide the greatest challenges. Vladimir and Ivan used the rope winch to quickly secure and lift the steel panels. The winch has a 95-meter cable and is capable of lifting a payload of 4,500 kg. The AOS (Active Oscillation Suppression) and HPSC (High Performance Stability Control) options were used during the installation of steel structure and roof sections. On the other hand, the P-Fold assistant function in combination with the rope tension control (RTC) was used primarily when the truck needed to change location quickly to cover a new area of the roof. With only one lever movement can the crane be folded or unfolded, without having to remove the rope in the meantime. “For demanding circumstances, flexibility is the key” Vladimir and Ivan add with a big smile. The innovative cranes proved to be a perfect match for the innovative space under construction.



# A PIONEER IN ESTONIA: THE FIRST TEC LOADER CRANE

A year ago, the PK 58.002 TEC 7 loader crane toured the Baltic States on demo - and was met with enthusiastic interest. More than that, the Estonian transport company Sintravella OÜ quickly recognized the strengths of the PALFINGER TEC range and ordered its first PK 135.002 TEC 7 loader crane. On July 19, the general agent in Estonia, VTA Tehnika AS, was able to hand over the first large TEC crane to Marek Aljand and Allan Kiviselg, the owners of Sintravella OÜ and the expectant crane operator, Vahur Himma. As part of a detailed training session, the numerous features of the crane were discussed and tried out. "We are proud to now have the first large TEC crane on the road in Estonia and wish them every success with their tasks," says Thomas Schwaiger, Senior Director Sales & Marketing for loader cranes.

complemented by the Power Link winch, which combines the advantages of the automatic RTC rope tension control with the SRC synchronized rope control. While the RTC (Rope Tension Control) automatically adjusts the rope length during crane movements, eliminating the need for manual adjustment

When it comes to highly complex tasks, it's time for the TEC range from PALFINGER. These extremely powerful cranes can also handle unusual challenges thanks to their range of innovative features. In Estonia, for example. The first TEC crane - a PK 135.002 TEC 7 - is in action here.

of the rope, the SRC (Synchronized Rope Control) ensures that the rope runs by itself while maintaining a constant distance between the pulley head and the lower block.

## Performance through innovative functions

Another feature of the TEC range is HPSC-Plus, the extended stability system, consisting of LOAD - for more reach due to load detection, GEOM - for more lifting power thanks to length measurement, and FSTAB - for more performance through stabiliser force detection. Various sensors detect the stabiliser situation, the angle of inclination, the crane boom position and the stabiliser force to determine the maximum working reach, adapted to the situation at the job site. This allows the crane's reach and safe working load to be optimally exploited. The AOS vibration damping system also ensures an optimal working environment. It compensates for vibrations and jolts that can occur during rapid movements. It prevents swaying, which means a significant safety enhancement while operating the crane. Crane operator Vahur Himma, who will operate the brand-new PK 135.002 TEC 7 for Sintravella OÜ, can therefore open up a much wider field of activity. True to the tagline: "reachanything."

## Built from the best ideas

The crane models in the PALFINGER TEC range are high-end solutions through and through, not only due to the extremely light and stiff P-Profile. The ergonomic design of the PALcom P7 radio remote control guarantees fatigue-free work. And thanks to its large color display as well as acoustic and haptic signals, it ensures that the crane operator always maintains an overview of the big picture and, with the WEIGH function, also knows how much load he has on the hook.

The innovative P-Fold assistance system, for example, is also convenient, ensuring that the crane is brought into a predefined work position with just one lever movement. This shortens the set-up time and prevents damage. P-Fold is





# TEC AT ITS BEST: THE NEW TEC PREMIUM CRANES LIFT CRANE WORK TO A NEW LEVEL

The wait is over. Based on decades of research and development expertise, know-how and customer dialog, PALFINGER is launching the completely new TEC crane generation with innovative PALTRONIC 180 control electronics, revolutionizing the entire industry with nine new models that will already be in action in 2023.

## Turning Complex into Simple

The premium range combines state-of-the-art features with the latest design and simple and smooth control. Built from the best ideas, the innovative teardrop-shaped, polygonal P-Profile on TEC cranes makes the arm system lighter and at the same time more bend-proof. This makes it easy to carry out complex special operations, because regardless of whether it involves challenges in the city center, lifting activities that require a long reach, or the installation of heavy equipment — with a new-generation TEC crane, the crane operator is able to handle every special assignment and can solve complex tasks precisely, safely and

With the new generation of TEC cranes, PALFINGER makes even highly complex lifting tasks quick and smart — from 25 to 100 meter tons. State-of-the-art features combined with enormous power enable even easier and, above all, more efficient crane operation. That is how to handle even the most complex application quickly and precisely.

efficiently — also thanks to its innovative functions.

Thanks to Smart Control, the crane tip can be controlled both horizontally and vertically with just one lever movement — and if there is a heavy load on the hook, Smart Control immediately compensates for the deflection of the crane. Using the new Memory Position, up to four crane positions defined by the crane operator can be saved and re-approached. It is also

possible to save the four positions quickly and easily so that you can continue working effectively at the next job site.

All sections of the crane - main boom, knuckle boom and fly jib - can be controlled simultaneously using the Memory Position function. With linear lever control, the crane tip can reach a saved crane position within a very short time with just two lever movements; with a joystick only one lever is required. Depending on the situation, the crane operator decides



whether to move everything at the same time or swivel first and then bring the other sections into the target position with just one lever. The entire crane geometry is memorized — and the Palcom P7 can display both direction and distance if required. If a section cannot be reached, the display on the PALcom P7 radio remote control makes it easy to understand why.

The combination of Smart Control and Memory Position functions guarantees efficiency. With them, even the most difficult tasks can be solved easily and efficiently. The Leveling Assistant system simplifies the overall leveling process by optimally leveling the crane and additional stabilisers. The process itself is carried out by circular, pulsing movements of the stabiliser cylinders. This can save time by up to 80 percent.

Before the Leveling Assistant function can be started, the crane operator must extend the outriggers according to the on-site conditions, tilt stabilizers into the working position and lock them. In addition, the necessary sub plates need to be positioned. There is no need to pay attention to minimum stabiliser widths, although stabilisers have to be provided on both sides with the new assistance system.

There are two ways of achieving the best vehicle inclination using Leveling Assistant. Depending on which application is to be carried out, you select the required stabiliser profile — “Steep” or “HPSC” — and the stabilizers are then leveled at the same time with just one lever movement. In “HPSC” mode, the vehicle is leveled to the inclination of the entire vehicle calibrated in the HPSC setting.

After the crane and additional stabilisers have been leveled, the lifting position of the vehicle can be adjusted with a further lever movement until the optimum lifting position is reached. The degree of inclination of the vehicle is displayed on the PALcom P7 remote control panel.

Once the required lifting position has been reached, any additional remote controlled front and frame supports can be extended to increase 360° stability, especially for large cranes, including ahead, in front of the cab.

The first models of the new TEC generation had been presented at the IAA and bauma 2022:



#### PK 1050 TEC

- Max. lifting moment 95,0 mt
- Max. hydraulic outreach 22,3 m
- Max. outreach (with fly jib) 37,0 m
- Slewing angle Continuous
- Dead weight (standard) 7755 kg

#### Strong, Stronger, Strongest — The PK 1050 TEC

The new reference in the 100 meter ton class with a lifting moment of 95 meter tons and an unprecedented outreach of 37 meters are just the beginning. The completely new crane is also extremely fast and very sensitive in operation. It is also a premiere for Smart Control: The PK 1050 TEC sees it integrated into a 100-meter-ton crane for the first time and, together with the Memory Position and the Leveling Assistant functions, makes the crane operator's work even smarter and, above all, easier. The Dual Power System Continuous (DPS-C) ensures that maximum lifting capacity is available in fly jib mode right up to the final move. This is perfect for applications that require a long reach, such as roofing work, but also when lifting heavy loads.



PK 580 TEC

#### Big performance has never been so small: the PK 250 TEC

With a reach of 28 meters and a lifting moment of 23,5 mt, the smallest P-Profile crane so far shows how compact high performance can be. Despite its compactness, the PK 250 TEC offers all the advantages of the previous TEC range, such as the optional HPSC-Plus stability module: GEOM calculates the focal points of the extension system and load and increases the crane's performance, especially when stabiliser widths are tight. When there are very small stabiliser widths and very high loads, FSTAB provides enhanced performance thanks to stabiliser force detection. LOAD reacts to the load condition of the truck and automatically adjusts the maximum load limit.

In addition, for extended reach applications, the PK 250 TEC can be equipped with fly jibs, such as the innovative, hexagonal PJ 045. As a result, the PK 250 TEC can be placed even closer to buildings to avoid all possible points of contact. This makes it easier to lift loads onto roofs or to access low openings, such as windows or doors, with building materials.

##### PK 250 TEC

- Max. lifting moment 23,5 mt
- Max. hydraulic outreach 19,8 m
- Max. outreach (with fly jib) 28,0 m
- Slewing angle Continuous
- Dead weight (standard) 2525 kg

#### Large crane with loads of precision: The PK 580 TEC

This is one of the new precision experts in the heavy-duty crane segment. The TEC crane, like all of that new range, plays both downward, as upwards, in a league above the crane designation. It also stands out, like all new TEC models, with its noble, new, but above all functional design. The integrated, as well as optional, comfort and assistance systems of the new TEC range give it extraordinary capabilities, for the most comfortable and sensitive operation ever.

##### PK 580 TEC

- Max. lifting moment 55,5 mt
- Max. hydraulic outreach 21,2 m
- Max. outreach (with fly jib) 33,7 m
- Slewing angle Continuous
- Dead weight (standard) 4670 kg

**POWERHOUSE PCC 57.002**

# **CRAWLER CRANE IN THE TAUERNMOOS HYDRO POWER PLANT**



<https://youtu.be/DTXRQpQyyGA>



Compact and agile, strong and stable - the PALFINGER PCC 57,002 crawler crane lifts even the heaviest construction components on site with ease and precision. The environment and the construction workers inside the cavern benefit from the emission-free and silent operation of the compact crane.

The heart of the new Tauernmoos pumped storage power plant owned by ÖBB-Infrastruktur AG is located in Upper Pinzgau, deep inside the mountains near Uttendorf in Salzburg/Austria. The cavern extends over a length of 73 meters, a width of 25 meters and a height of 40 meters - that's equivalent to a twelve-floor building. Bit by bit, stage by stage, the infrastructure of the future underground hydro power plant is being built here.

#### Maximum lifting capacity in compact form

15,000 m<sup>3</sup> of structural concrete and 2,000 tons of reinforcing steel, along with formwork panels and machines must be lifted and installed within the cavern in a very confined space and on a tight schedule. There is not much space for parking machines, and moving them is often associated with a lot of effort. Regular cranes cannot possibly handle the project's special lifting operations. With a size of 5.8 by 1.9 meters, a lifting capacity of 450 kilograms and a working radius of almost 30 meters - or 3,700 kilograms at a height of 18 meters and a radius of 8 meters - the extremely compact PCC 57.002 is the perfect crane solution for this complex project. Due to its unique shifting function and 360° geometry monitoring, it can also increase lifting force and reach. The software calculates all centers of gravity of the machine simultaneously to achieve optimum stability. The additional equipment with an articulated knuckle boom (14°) and fly jib (25°) is essential for successful work operations. It means the PCC can be even closer to the scene of action without taking up space there, and can cleverly avoid objects and protruding edges.

#### Across the cavern with ease, but without emissions

As a special challenge, the crawler crane must complete his tasks on the various levels, the "floors". These tasks are special in terms of maneuvering in confined spaces, which is easier than ever with the PCC 57.002: Within a very short time, the crane unit can separate from the crawler module and be transported to the next level in two compact parts. Deep inside the mountain, the crane also features impressive

sensitivity and minimal reaction movements. While it can be operated either by diesel or electric drive, inside the cavern for the pumped storage power plant it is electric powered for completely CO<sub>2</sub> neutral operation. With no exhaust fumes, reduced noise and vibrations and zero CO<sub>2</sub> pollution to the surrounding area, the all-rounder in the cavern ensures the best working conditions for construction workers.

Construction group Swietelsky AG is carrying out the work on the ÖBB-Infrastruktur AG power plant project. Civil engineer Arnold Künnert, project manager at Swietelsky AG's civil engineering team, is responsible on site for the construction of the concrete power plant cavern: "In addition to the technical advantages, PALFINGER's strong service network and customer-oriented support were decisive for us. Our crane operators received four days of training right before the start of the project, where they got to know all the functions of the crane model and practiced health and safety procedures. This enabled them to work efficiently right from the start of the project. The PALFINGER service center in Zell am See also guarantees rapid availability of spare parts."

Crane operator Wilfried Pirker is also impressed by the performance of the PCC: "Thanks to the PCC's shifting function in combination with its long reach, we can transport even the heaviest loads to distant locations in the cavern. This makes our work a lot easier."





# LUBRICANTS

## REDUCING CO<sub>2</sub> WITH PALFINGER LUBRICANTS

Grease well and you will go far. That is an old motorist saying in Austria. And it has proven to be true time and again. However, it is also true that no two lubricants are the same. The better an oil is matched to hydraulics and components, the better its effect. That is why PALFINGER has developed its own range of lubricants that are perfectly matched to the PALFINGER product range and its requirements. With its own lubricants portfolio, PALFINGER meets strict industry standards, including the Bosch Rexroth Fluid Rating. In the field of biodegradable hydraulic oils, PALFINGER lubricants are among the most environmentally friendly in Europe and bear the EU Ecolabel.

### Smooth operator

PALFINGER lubricants consist of high-quality hydraulic oils that prevent cavitation, enable optimal cold start behavior and generate more efficient performance through perfect force transfer. The service life of the equipment can also be significantly extended. From production to installation and servicing - all components benefit from using high-quality lubricant over the full service life of the product. Especially in severe operating conditions and in regions with harsh climates, PALFINGER hydraulic oils protect against wear and can enable performance at the highest level.

### Good for the equipment - good for the environment

Using innovative lubricants can also reduce a company's CO<sub>2</sub> footprint - by using the newly launched oil monitoring process that PALFINGER offers through its authorized workshops, for

With the tagline #reachanything, PALFINGER puts its customers at the center of all activities and constantly offers them new, holistic products and solutions. This also applies to the development of high-quality lubricants that ensure smooth operation.

example. By testing the hydraulic oil at regular intervals by means of analysis, the necessary replacement intervals can be significantly extended. An oil change is only necessary if the results of the report recommend to do so. In addition, all the information about the condition of the hydraulic system is recorded during the analysis and imminent damage resulting in expensive repair costs and downtime is avoided.

This can be demonstrated using a simple example: According to the PALFINGER service schedule, standard hydraulic oils need to be changed once a year or every 1,000 operating hours. This is not the case with PALFINGER lubricants. Let's take a closer look at this using the example of the PALFINGER PK 92002 SH loader crane, which is fitted with a 300 liter oil tank. Regular filter changes and careful monitoring can increase the service life of innovative PALFINGER lubricants to more than 5,000 operating hours. Calculated over six years, this means savings of 1,500 liters of oil or 1.95 tonnes of CO<sub>2</sub>. It also saves logistics and recycling costs for waste oil. Innovative approaches such as this, which ensure a win-win result for the environment and operating costs, are one of the things that makes PALFINGER stand out.

For more details on PALFINGER lubricants, contact your local PALFINGER partner.

# PALFINGER

## MAXIMIZE YOUR





# PALFINGER SERVICE CONTRACTS

## YOUR UPTIME: PALFINGER SERVICE CONTRACTS

### The right plan for everyone

In order to fully cover different customer requirements and their applications, PALFINGER offers four service levels with different package plans - PURE, PERFORM, PRO and PRIME. Depending on the option, the packages include legally required inspections, regular services, repair work, wear parts, as well as product care and cleaning. PALFINGER's goal is to ensure full transparency on operating costs and to maximize the service life of the lifting solutions. With the service packages, PALFINGER takes on the costs and risks of the lifting solutions so that customers can concentrate entirely on their core business. If a repair is required, only original PALFINGER spare parts are used, fitted by PALFINGER experts. Customers are offered the highest technical quality standards and financial planning security.

### PALFINGER Connected - everything at a glance

PALFINGER Connected is the future of fleet management and represents a central component of PALFINGER service contracts. In the age of digital networking, PALFINGER Connected,

PALFINGER uses the potential of digitalization at all levels - with PALFINGER Connected, you always have an eye on your fleet. In terms of lifecycle costs, PALFINGER service contracts offer a complete service package for a period of up to 6 years. No more surprises - full cost control and planning reliability

which consists of Fleet Monitor, Operator Monitor and Service Cockpit, ensures a continuous flow of information between fleet managers, company owners, service partners and the people operating PALFINGER lifting solutions. Thanks to these networked tools, the back office and the crane operator are connected to each other

at all times. This reduces downtimes, optimizes servicing and guarantees the most efficient use of all resources. PALFINGER Connected is already included in the two service contract plans PRO and PRIME, and can be added to PURE and PERFORM at any time.

The integration of PALFINGER Connected provides customers with the full range of functions of the PALFINGER telematics solutions. Digital solutions such as PALFINGER Connected make work easier for fleet managers and users by enabling predictive maintenance and maximizing uptime for the PALFINGER solution. Supported by the networked data, maintenance and service work can be scheduled much more easily and errors can be remedied much faster than before.

