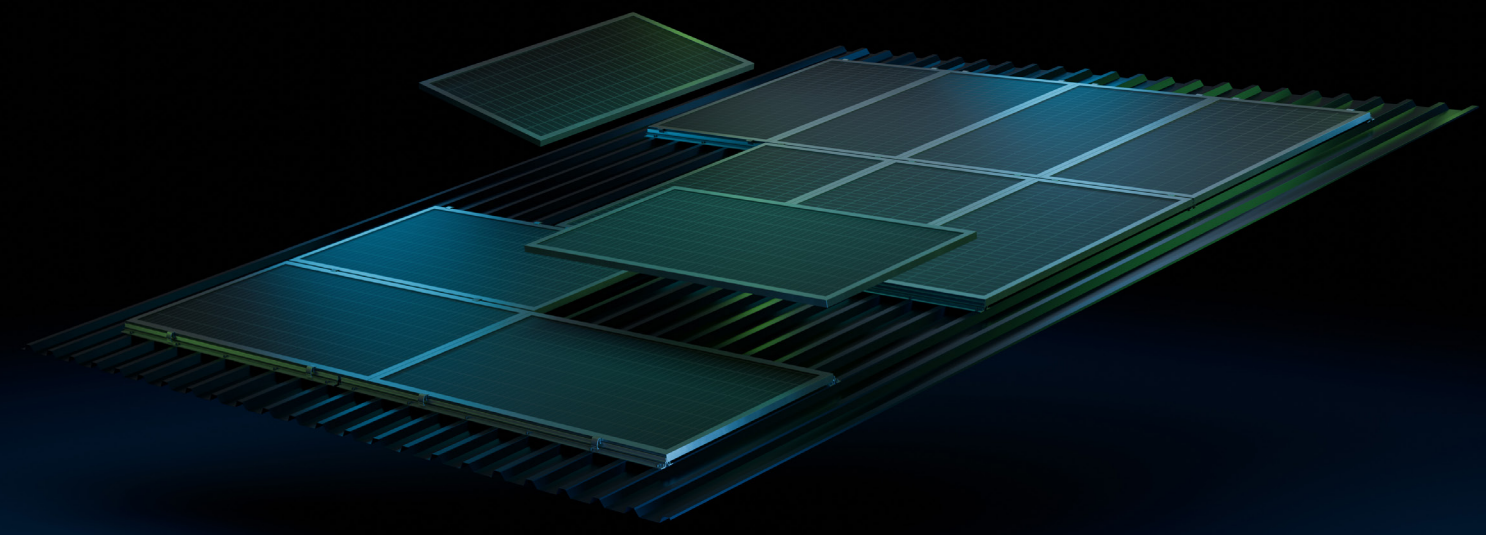
Innovative, efficient and almost invisible



Only three components, record breaking assembly times, and an almost invisible design: PMT GHOST revolutionises photovoltaic installation on roofs with an inclination angle of up to 75°. This innovation from Premium Mounting Technologies (PMT) enables flexible and continuous systems of any size.

Premium Mounting Technologies is ushering in a new era of PV mounting systems with its cutting edge development. PMT GHOST adapts individually to trapezoidal roofs, can be used flexibly and disappears almost invisibly under the modules. Once again, the company from Stadtsteinach proves that its ideas are helping to shape and drive progress in the photovoltaic industry.

PMT builds aerodynamic and lightly ballasted mounting systems for flat and pitched roofs. Companies throughout Europe rely on the German manufacturer's solutions. Its strengths: efficient use of resources, extreme reliability, and a commitment to innovation as an integral part of the corporate culture.

In line with this commitment, the business is constantly expanding its internal possibilities for rapid and progressive development. Required components can be crafted in the in house prototype building. In this way, the loops and tests required to meet the company's product standards can be carried out more efficiently. The perfect conditions for creative minds to transform revolutionary ideas into unique solutions.

Simply ingenious with three components

PMT GHOST is one of these ideas, in technical and logistical terms. The system was developed for trapezoidal roofs such as lean to, shed, barrel, and butterfly roofs with an inclination angle of up to 75°. It can be mounted both transversely and vertically. Kai Heineke, the Product Development and Project Manager, is convinced: 'PMT GHOST is the key to quick and safe assembly on trapezoidal roofs, combined with a well thought out logistical concept that minimises costs and effort.'

The key is its simplicity. PMT GHOST is a three component system. The rail, snap-on cover, and self forming screw are all you need. This minimalist design allows roofs of all sizes to be equipped for solar energy generation without system interruptions.

The system solves the industry's biggest challenges, including rail installation. Conventional systems rely on short rails. The rail segments must be aligned and positioned individually. The segments usually only overlap a maximum of two high beads, which reduces the stability of the entire system.

The stable, invisible base

The development team is changing this. PMT GHOST uses long rails. The first rail is the only one that needs to be aligned, and that is at the roof ridge. Unlike the eaves, the ridge of a roof is level, and free of unevenness. The first rail thus provides the perfect basis for all subsequent rails. These are installed row by row using the supplied spacers. There's no need to separate the system, so only the last rails in a row need to be cut to size on site. These advantages make installation incredibly quick and easy.

The long rails are available in lengths of 2.2 metres, 3.3 metres, and 4.4 metres. They run over several high beads and therefore offer the option of using further high ribs as fastening points. This is particularly important for roofs in critical wind zones and increases safety. Additional stability is achieved because the rails are continuously lined up. This allows the system to be extended as desired. The clamping points can be freely selected and even optional clamping points can be kept open.

To avoid mechanical stresses that could damage the solar modules, the modules are fixed with the variable snap-on cover. Screws and snap-on covers securely anchor the system to the roof, armed against wind and weather.

A mounting solution that masters all challenges, offers maximum flexibility to customers and guarantees unparalleled reliability.

Flexible and future proof

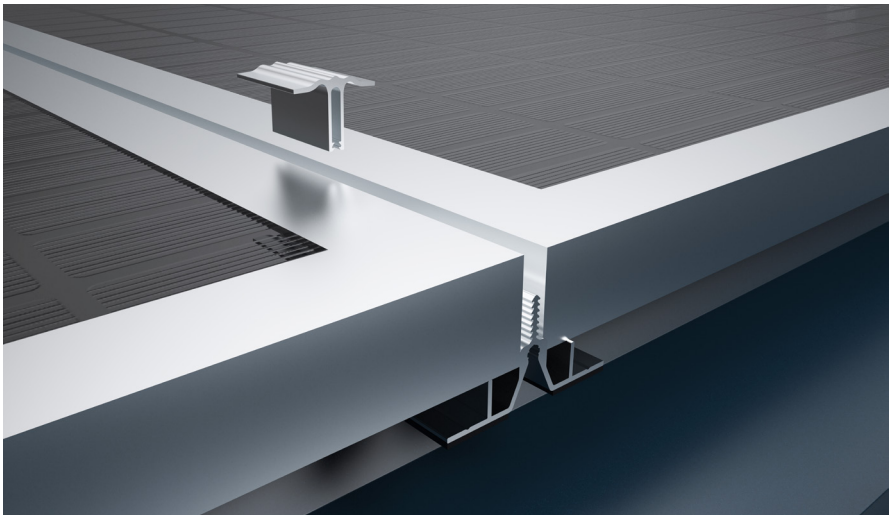
This flexibility makes PMT GHOST particularly sustainable. After all, as technical progress is made in module development, module dimensions generally change too. Ever larger modules and increasingly flat module frames are dominating the market. Customers accept mechanically weaker products to save material.

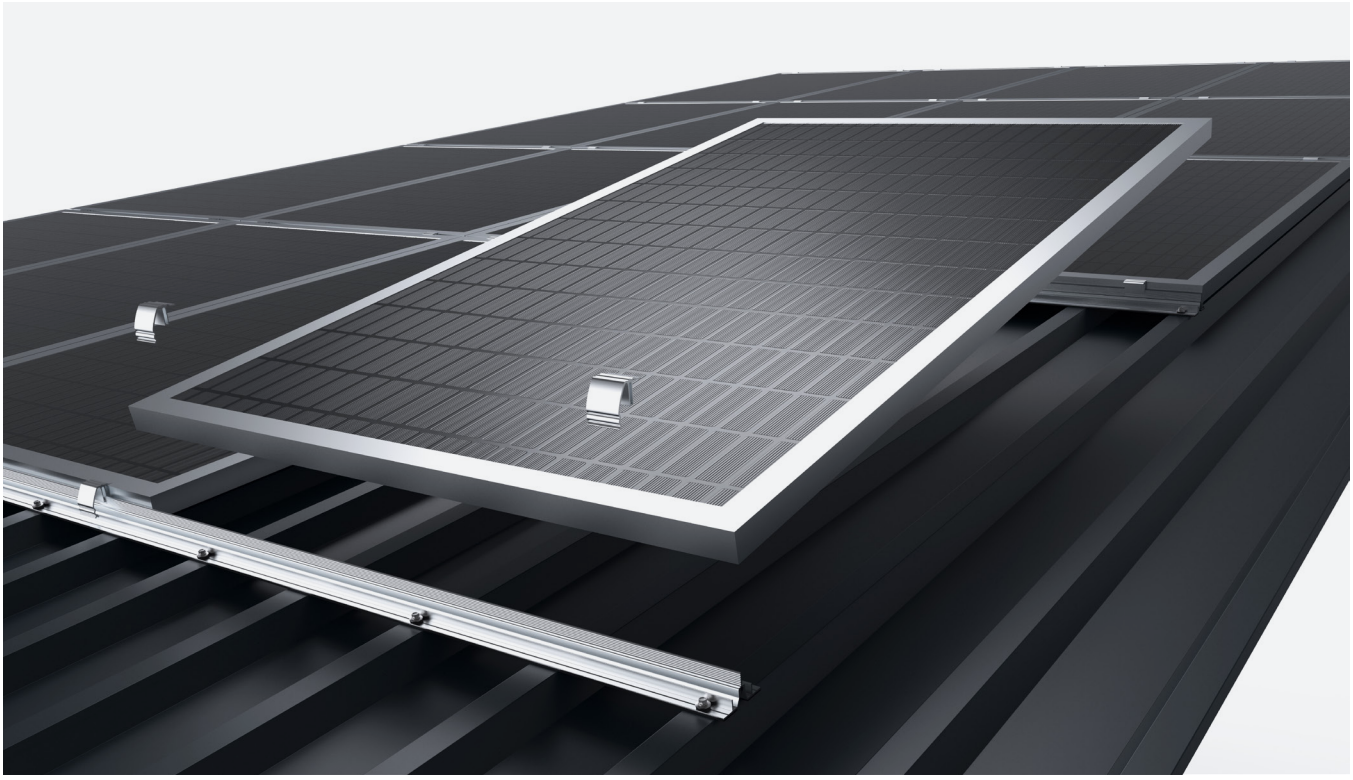
The rail structure of the Stadtsteinach solution, arranged in rows, provides the basis for modules that are inserted in sequence. They sit stably and securely between the rails and form a composite that is non slip on the roof.

The flexible snap-on covers allow for module heights of 30 to 40 millimeters with ease. This flexibility makes planning and subsequent installation easier. To replace modules, the snap-on covers are easily removed with PMT's disassembly tool.

The mounting system disappears almost invisibly under the modules, thus living up to its name. The cables are concealed and protected from external influences and are laid directly on the system via the cable run.

The continuous support webs of the modules give the innovative system a further advantage: The system is protected against impermissible deflection, which could occur in the event of high snow loads and wind pressure, for example.





Optimised for storage and transport

The all around optimised mounting system is designed to be, particularly minimalistic and material saving. This saves storage costs but shows its full strength during transportation. Components for a photovoltaic system with a capacity of up to 15 MW fit on just one lorry. This significantly minimises the environmental impact of the entire system.

'Our vision with PMT GHOST was to develop a system that not only simplifies the assembly process but also impresses with its logistical efficiency,' states Heineke.

With the PMT GHOSTBUSTERS on the roof

The innovation team once again leverages its extensive project experience and expertise to minimize susceptibility to errors and increase ease of use. As with its solution for flat roofs, PMT X118, the team is confident that PMT GHOST will be a game changer in the industry.

Conventional systems require installers to lean over the modules during assembly to tighten the screwed clamps. If they lean on the module with their entire body weight, this will inevitably lead to microcracks in the wavers. Customers need to deal with the damage when cracks cause defects in the modules before the end of the expected service life.

Bending or kneeling over the module is also stressful and tiring for the fitters. This can be dangerous, particularly at larger angles. The company has developed its assembly tool to minimize the risk of accidents and enable fitters to adopt an ergonomically advantageous working posture: the PMT GHOSTBUSTER.

This tool ensures that the required middle and end clamps are pressed onto the modules with a constant pressing force of around 3.5 kN in an ergonomic, upright working position. It's extremely easy to operate. The fitters insert the module clamp. Next, they place the tool on the rail and position the device on the clamp to be fastened. The tool's mounting head can be rotated a full 360°. Thus, the tool allows the clamping position to be reached safely. The battery operated device will fasten the clamp and then switch off.

Safe for the roof and the workers

The tool is adjustable in length and equipped with a tried and tested carrying strap, allowing for convenient hanging and carrying. This makes handling on the roof effortless, freeing up the worker's hands and allowing them to move around safely. The PMT GHOSTBUSTER weighs three kilograms, making it easy to handle and transport. This significantly reduces the risk of errors and accidents. And you can easily install around 100 clamps with one battery charge.

'As a pioneer in the industry with over 15 years of experience, we are setting new standards in the assembly of photovoltaic systems,' asserts Jörg Weber-Schorsch, Chief Operating Officer at PMT. 'Innovation, safety, and sustainable quality are not pure words for us. They are the core of our daily work to offer our customers the best solutions.'

Intensive testing in the wind tunnel, with the help of digital simulations, and on the in house force/displacement testing machines and friction test benches with extensive scenarios are standard. Because the team is convinced of its developments, PMT gives a 15 year guarantee on its products. A conviction that customers can also rely on with PMT GHOST.

- https://pmt.solutions/en/
- https://pmt.solutions/en/produkte/pmt-ghost/

About PMT

Premium Mounting Technologies GmbH & Co. KG develops and produces aerodynamic photovoltaic substructures for all types of roofs on commercial buildings and builds industrial carport systems.

Headquartered in Stadtsteinach, Upper Franconia, PMT was founded in 2012 as a supplier of flat roof constructions for conventional solar systems.

Today, with over 80 employees, the company develops individual and tailor made solutions for flat and pitched roofs with the highest safety and quality requirements for the global market.

PMT's customer base includes a wide range of EPCs, distributors, installers, and sales partners.

With CLIP Logistics in Poland, PMT realised the largest PV system to date with EVO 2.0 in a southern orientation at the project site in Jasin in 2019.

An impressive 22,947 modules provide a total output of 7 MWP on five roofs of the logistics group, an area of over 3,000 square metres.