

MAE.

Safely on Track



MAE technician during calibration of a wheelset press

In Europe, Asia, Africa and very soon also in New York – worldwide, MAE group is increasing the momentum of the transport revolution with its know-how.

The GESCO subsidiary's machines put wheels, brake discs and transmission components for trains on to the shafts. The technology ensures that trains can realise their full potential and reach their destination safely at top speed.

High-speed trains travel at more than 300 kilometres per hour. Gigantic forces are at work here. Inside the carriage, however, little of this can be felt, so quietly and elegantly does it lie in its tracks. Many people

therefore use the train as a mobile office, working in a concentrated manner – while the train rapidly approaches its destination. And in a climate-neutral way. This is exactly what makes trains an elementary component of the mobility of the future. Rail passengers in Germany, Europe and worldwide can rely on one thing: if the wheelset presses from MAE are used on trains, the trains bring their maximum potential to the rails and offer the highest level of safety.

Enormous Pressing Force Required

But how do the wheels get on to the axles? They cannot be welded or bolted, because neither method would withstand the high stresses of everyday life with

millions of kilometres travelled. That is why hydraulic presses are used, like the ones MAE develops and builds at its headquarters in Erkrath. With a pressing force of up to 150 tonnes, these systems press the wheels on to the shafts. The wheels then sit so firmly on the axle that only the machine itself can press them off again.

MAE is the market leader for wheelset presses for rail transport. 95 percent of all trams and underground trains as well as almost all express trains in Germany benefit from MAE's mechanical engineering know-how. The latest commuter trains in Perth and Shanghai as well as railways in Egypt and India also roll on wheels pressed on to shafts by equipment from Erkrath. In addition, the company is currently implementing a major order from New York.

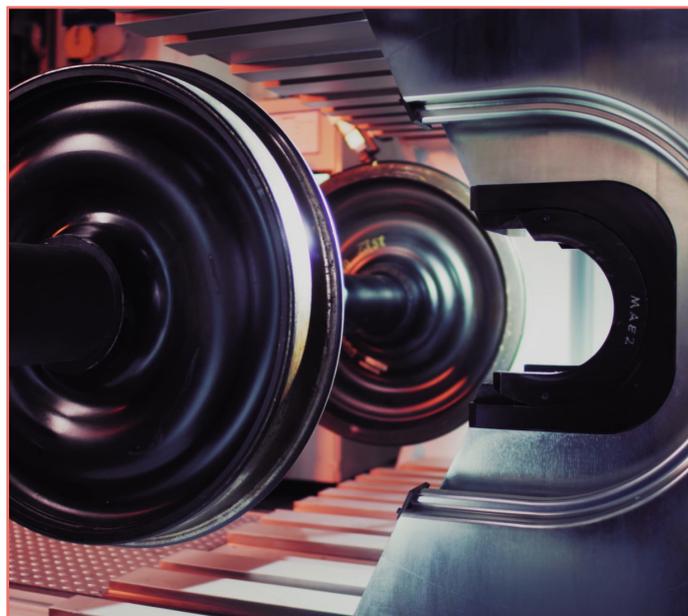
MAE Advances the Mobility Transition

The fast-growing business field of railway technology has become an important second pillar for MAE. The other is straightening: for the automotive industry and mechanical engineering, the company develops and supplies machines with which steering parts and drive shafts for electric motors are straightened. Today, the company generates a good 70 percent of its sales in the business fields of rail and electromobility, and the trend is growing. MAE is thus an agile contributor to the transport revolution. *"We have excellent opportunities to grow further in the field of climate-neutral mobility,"* says MAE Managing Director Claas Jorde.

No More Energy Consumption Than a Kettle

Watching an MAE wheelset press in action, it is surprising how quietly and elegantly it works. The two press cylinders are driven by a digitally controlled hydraulic patented system, which not only presses the wheels on to the axles amazingly quietly, but also highly efficiently. *"Thanks to the intelligent software, the system controls itself so that the maximum pressing force only occurs when needed,"* explains Technical Manager Oliver Kaiser.

This precise use of energy saves hydraulic oil and electricity. The previous generations of MAE wheelset presses already consumed less energy than competitor machines. The new machines have more than halved their energy requirements: MAE's wheelset presses



Wheelset clamped in wheelset press

consume on average no more electricity for a pressing process than a kettle. *"The careful use of resources is more important today than ever,"* says Christian Busch, General Sales Manager at MAE. This efficiency of the machines helps the climate, but also the customer: *"Our machines reduce costs, which is why the investments pay off after just a few years."*

More Transport Companies Are Acquiring Their Own Wheelset Presses

The fact that many transport companies, in addition to train manufacturers, also purchase wheelset presses from MAE is due in part to their convenience in daily use. *"Train maintenance has to be fast so that trains are back on the rails as soon as possible,"* says Christian Busch. *"If you have to take the trains to an external facility to have the wheels pressed off, renewed and pressed on, you lose time and money."*

The environment and climate also benefit from the short maintenance times: rail transport is a key to CO₂-neutral mobility. If the mobility transition is to succeed, trains must be on the rails, not in depots, which is why more and more transport companies are showing immense interest in MAE's wheelset presses. *"Our machines make a decisive contribution to the railways being used all over the world,"* says Technical Manager Oliver Kaiser.

Conquering the US from Erkrath

Managing Director Claas Jorde has just returned from a business trip to the US, where MAE landed the order in question together with its US subsidiary MAE-Eitel: starting in 2024, an MAE machine will bring the wheels of all NYC's underground trains on to the shafts. Rail transport in the US was overshadowed by the car for a long time, but a rethink is now taking place: the United States will also make its mobility more climate-friendly, and rail transport plays a key role in this. Accordingly, railway companies are investing in efficient technologies on a grand scale – like New York City Transit in wheelset presses from Erkrath.

“The order is highly exciting for us,” says Christian Busch. *“One of the most important metropolises in the world relies on our machines – that has a huge appeal.”* The MAE sales manager confirms that the order from New York has already resulted in many new enquiries:

“Since a lot of infrastructure projects will be realised in the USA in the near future, we are optimistic that we will be able to sell many more machines to the United States.” The prospects for growth are excellent.

The example of the order from New York shows MAE's customer focus. *“All our machines are designed individually and in close consultation with the customer,”* explains Technical Manager Oliver Kaiser. In New York, the machine is set up directly in the depot of

New York City Transit, which is why it has to adapt to the local conditions there. *“We are therefore frequently at the customer's site to plan the installation.”* The deal: MAE designs and develops the machine to fit exactly. Once the preliminary planning is complete, the GESCO subsidiary gives permission to proceed and has exactly six weeks from then on to install the new system, set the parameters and finally put the machine into operation. *“Six weeks – and not a day longer,”* says Managing Director Claas Jorde. *“Otherwise, the customer's maintenance will stall, and New York will be short of underground trains.”*

Isn't that a lot of pressure for him and his team? *“No,”* says Claas Jorde and smiles. *“We would feel pressure if we were unsure whether our machines perform what they promise.”* But this is not the case, he says: *“We know how to combine know-how with the will to innovate.”*

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MAE wheelset press with automated loading system