

**PRESS RELEASE**

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**Integrative forklift project realized together**

*Employer, employers' liability insurance association (raw materials & chemicals) and PARAVAN GmbH make a new job possible for Torsten Krohn, thanks to a forklift truck that has been converted for disabled access.*



Pfronstetten-Aichelau: Torsten Krohn's joy was evident when he was able to take a look at his new work tool - a Linde E 25 forklift truck - for the first time. It was a long road for the 49-year-old from Saxony, who lost his right arm in a motorcycle accident on his way to work 28 years ago, to get to this moment in the mobility park of the PARAVAN company in Aichelau, Swabia.

Since 2013, Torsten Krohn has been working as a sweeper driver at the company Maja Möbelwerk GmbH in Wittichenau. A job that the passionate hobby tinkerer really enjoys. In 2020, however, his job will be outsourced due to restructuring at the company. Krohn is threatened with unemployment. But the employer and the employers' liability insurance association are working to find Torsten Krohn a new job as a forklift operator in the company. But how is Krohn supposed to operate a complex forklift truck with just one arm? After all, in addition to the vehicle controls with gas, brake and steering, the fork and fork arm must also be operated. A real challenge with only one arm.

The search for a suitable conversion partner begins and initially remains unsuccessful. The solution comes via his regional advisor at the employers' liability insurance association, Thorsten Junkers. "I might know someone who can help us with the project," says the BG consultant, who contacts Dietmar Bendinger, branch manager of PARAVAN GmbH in Heidelberg, and describes the case. Bendinger gets in his car and drives directly to Wittichenau to see the case for himself. At a joint meeting with all those involved, the solution comes within reach: "We have to compensate technically for the function of the

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missing right arm by compensating for the steering of the truck via the Space Drive joystick steering system," quickly becomes clear to the experienced PARAVAN mobility tinkerer. "In addition, we have to convert all the operating functions of the fork from right to left."

The next steps are initiated: A suitable Linde forklift truck is ordered, a conversion offer from PARAVAN GmbH is prepared and approved by the employers' liability insurance association. But the project is delayed again because the desired forklift is not available in a timely manner due to the Corona pandemic. Further months pass until the forklift finally arrives at the conversion experts at PARAVAN GmbH in Pfronstetten-Aichelau in June 2021.

The conversion can begin: The conventional steering of the truck is removed, and the Space Drive steer-by-wire system is installed. Instead of a steering wheel, the truck is now steered using a specially adapted joystick. In cooperation with the manufacturer Linde, all operating functions of the fork are moved from the right side of the truck to the left. In addition, a 360-degree camera system with monitor is installed in the driver's cab so that Krohn always has an optimum view of its surroundings.

After almost a year and a half of project work, the moment has come and Torsten Krohn can take a seat on his customized work truck for the first time. But the initial joy is quickly dampened: due to phantom limb pain in his amputated right arm, the planned operation of the joystick with this shoulder is not possible. "Physically, I can't do that for six hours a day at work," Krohn explains to the technicians.

Together with technician Norbert Hain and Dietmar Bendinger, a solution is found. Instead of using the right shoulder, Torsten Krohn suggests that the Space Drive steering system could be controlled with the left thigh using left-right movements. The joystick is relocated, repositioned underneath the seat and fitted with a suitable mounting bracket. It works!

In the next step, Krohn learns to drive and operate the forklift safely. Pallets are stacked on top of each other, cones are circled and wire mesh boxes are placed in the high-bay warehouse. The driving instructor is impressed by Krohn's driving skills: "Torsten is really doing very well. A real natural on the forklift, and that despite the new and unfamiliar steering," says Ralf Buhmann, head of the PARAVAN driving school at the Aichelau site. After a week of training, the driving instructor can present his protégé with the coveted "yellow" forklift license. Exam successfully passed!

"I'm just happy. What the guys here at PARAVAN have made possible is totally impressive. Everything was adapted exactly to me and my needs, and the Space Drive System implements what I'm thinking in my head. A perfect symbiosis. Now I can get going again in my company," says Krohn happily.

For the final tests with the converted truck, all those involved in the project meet again in Aichelau. Dietmar Bendinger, the representative of the Employer's Liability Insurance Association for Raw Materials and Chemical Industry (BGRCl) Tobias Meurer and Thomas Euchner, Safety Officer of Maja Möbelwerk GmbH, inspect the conversion and are satisfied with the project. "It took a while, but the result shows what is possible when it comes to inclusion. But when the company, the cost unit and the conversion professional work together closely and with a focus on results. We are proud to have enabled successful reintegration into our company with this conversion project," says Thomas Euchner.

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*In addition to the fitting, Torsten Krohn also came to Pfronstetten Aichelau to take his forklift license with PARAVAN driving instructor Ralph Buhmann. Photo: PARAVAN*



*The new cockpit of torsten Krohn's forklift no longer has a steering wheel. Instead, it has a joystick that he operates with his left thigh. The forklift controls have also been moved to the left side. Photo: PARAVAN*



*Torsten Krohn will steer his Stabler with this joystick, not with his arm, but by making right-left movements with his left thigh. Photo PARAVAN*



*Skill was required at the forklift driving school in the yard of the Aichelau Mobility Park. In addition to stacking pallets in racks, Torsten Krohn also had to be able to drive around the pylons. Photo: PARAVAN*

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### **About Paravan GmbH:**

Paravan GmbH is the world market leader for highly customized vehicle solutions for the disabled. Around 180 employees develop and produce individually adapted automobile conversions, power wheelchairs. Paravan pursues a holistic approach with the "all-in-one concept". The technological highlight is Space Drive, an intelligent digital control system based on the drive-by-wire principle. Thanks to the active redundancy of the servo motors, it is completely fail-safe and the first in the world to be approved for road use. With the help of this innovation, severely disabled people, some without arms or legs, can drive independently and safely. It is not possible for these drivers to simply intervene in the steering wheel. Worldwide, Space Drive has proven itself on over one billion road kilometers in the last 18 years and is used by numerous industrial customers for test vehicles in the field of autonomous driving. The system is available as a retrofit kit with an open interface for all known vehicle types.  
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