The fleet at a glance

Forklift management for intralogistics at Lufthansa Cargo

Which device is where in what condition. Lufthansa Cargo got to the bottom of this question by using a fleet management system. This not only excluded the unauthorised use of the forklifts and thus increased the safety of employees. The costs incurred as a result of impact damage have also been reduced by 50%.

Cargo City North occupies 51 hectares of land at Frankfurt Airport. The largest company on site is Lufthansa Cargo AG. The fleet of 18 own aircraft is stationed here and from here most of the almost eight billion ton kilometres per year are handled. In addition to their own aircraft, 350 so-called Belly aircraft, i.e. passenger aircraft from Lufthansa and other airlines, fly to 361 destinations worldwide.

Variety of cargo is received or send in areas such as "Cool", " Safe" or "Live". Some things reach their destination in Frankfurt. Most of it, however, is unpacked from specially developed containers or pallets, recombined, packaged and transported to the next destination. Behind so much logistics is also a lot of intra logistics, for which Lufthansa Cargo has 120 forklifts and tugs from Mulag, Hyster, Still, Kalmar and Rofan in use.

Together for greater safety and efficiency

Thomas Müller has been working in the system landscape of conveyor technology at the Frankfurt site for more than twenty years. The collaboration with Volker Quirin, the developer of the manufacturer-independent

fleet management system "Mobile Easykey", for which Thomas Müller had practically provided the idea, has been going on for almost as long: We have conveyed the employees in training how much money we spend in a year on impact damage to forklifts, tugboats, shelves and so on. But that didn't help. As soon as an accident was caused, the colleagues simply abandoned the device." Kurt Böcher, the coordinator for occupational safety, adds: "Colleagues should know that we know who caused the accident. This was the beginning of a significantly improved work safety." In the beginning, "Mobile Easykey" was not a closed system, but a variety of individual components that were attached to the forklift. Thomas Müller recalls: "I told Volker Quirin to put it all in a box. It was too confusing for me." A few weeks later, the first "Mobile-Easykey" module was ready for testing on two forklifts - where the impact damage was reduced by 50 % during the test phase.

The latest generation of "Mobile Easykey", "modular plus", convinces with a display and intuitive menu navigation. The development focused on the requirements of fleet customers who want to interact with the operator, such as an app, to document damage and a departure control with the display.

Access via RFID transponder immediately ensured greater care by the employees. The software was now used to determine who had driven the forklift where and when. Just leaving it, was no longer an option. The next stages of "Mobile Easykey" were also planned in close cooperation with Lufthansa Cargo. Thomas Müller: " If they have an accident, they must stop". This desire led to the "Crash Sensor", a dual system of body sound microphone and motion sensor. Thomas Müller: " The reading out of the modules after an accident was only permitted in the presence of a member of the works council. That was and is part of the enterprise agreement. Today I would go as far as to say, that without the new data protection concept, with the double works council password and the individual operating rights, Mobile Easykey would no longer exist here. " At peak times, the fleet even comprised 149 units, all equipped with "Mobile Easykey". The trend of the test phase was confirmed: the costs incurred by impact damage halved. In addition, the auto shutdown was later added. This led to lower costs due to lower energy consumption.

The development of the system continued

For 20 years, Thomas Müller had the modules converted to new forklifts when the old ones were replaced. However, the development of the system continued. Some of this could be upgraded, as for example, data transmission via mobile phone.

Until then, Thomas Müller had to regularly ride through the halls on a converted cargo bike and manually read the modules using a notebook and cable. At some point, the first modules quit their service. The fact that the software, "Mobile Easykey Manager", was no longer compatible with the old hardware, led to the decision in 2019 to update all vehicles to the current " modular crash+remote" with WLAN data transmission. The implementation took just six month. Dr. Ralf Hölper, Team Leader of Technical Repair at Lufthansa Cargo: " It just worked the way you want it to be. Everything worked out perfectly. And this during ongoing operation. " The vehicles were recorded in the old software of 2005. The data could be migrated to the current version. After installation, the digital crash sensors were "learning". After all, the sensors of the first generations were only able to be adjusted directly on the device based on experience values.

Today it is possible to collect data on floor conditions and individual use over any period of time. These values lead to sensible limits for each individual device, where a crash is triggered and the vehicle is shut down or, in the event of less severe vibrations, only one entry is made in the logbook of the software.

The new focus is on the data

After the conversion to the latest module generation, a lot has changed. Once "Mobile Easykey" was perceived as reliable hardware, today the focus is on the data obtained "Now we start with real fleet management. We work on topics such as indoor location and utilisation analysis for scheduling. For this we get valuable data from the "Mobile Easykey software," says Dr. Ralf Hölper.

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