

Success Story

Full Speed Ahead idealworks' Use Case at **DRÄXLMAIER Group**



Cutting-edge improvements in technology have been the driving force when it comes to autonomization and how it has been reshaping the way we work. In the robotics space, there are a plethora of solutions to perform almost any task there is. However, autonomous mobile robots (AMRs), such as the iw.hub, distinctly stand out from other options in intralogistics: Due to their ability to understand both the context and the environment they are working in, they can safely move through productive environments, accurately performing tasks and assisting human workers. Hence, AMRs have become valuable assets in all kinds of businesses.

Back in fall 2020, in the early stages of the foundation of the BMW Group subsidiary, idealworks performed their very first pilot runs outside of the Group, with DRÄXLMAIER Group being one of their first customers. Headquartered in the Lower Bavarian city of Vilsbiburg, Germany, DRÄXLMAIER is a globally operating automotive supplier with more than 60 years of experience. The company specializes in the production of complex wiring harness systems, electrical and electronic components, exclusive interiors as well as battery systems for premium vehicles — a spectrum so broad it makes DRÄXLMAIER unique in the industry.

To further improve the logistics workflow processes for their employees and to optimize their intralogistics processes, DRÄXLMAIER tried and tested autonomization through AMR support at their plant in Landau, Bavaria. For three weeks, the iw.hub was working day after day. Right from the beginning it was clear: DRÄXLMAIER was going to keep the crew of robots if the pilot turns out successful. Fast forward a couple of weeks, the enterprise decided to extend the pilot until July 2021 — ensuring that the iw.hubs are continuously in action. In defiance of skill shortage, to ensure competitiveness, and to live up to their reputation as innovator, the family-owned company reinforces its position by trusting in idealworks' product portfolio as a new deep-tech company leveraging years of BMW expertise in German engineering.

In March 2021, almost a handful of iw.hubs completed more than 2,800 missions, covering a distance of 480 meters each during a three-shift operation, every single day. In total, these missions add up to a whopping 1,300 kilometers. At plant Landau, the AMRs were used for the exchange of full loads and empty loads, a pick-up and drop-off process that was previously carried out by tugger trains. Since DRÄXLMAIER was using dollies that have also been in use at the BMW Group, idealworks was given the option of using equipment the robots were already trained for — a win-win situation for both parties.

Being one of idealworks' first customers, the use case at DRÄXLMAIER turned out to be outstanding. Although the environment was challenging and extremely dynamic with intense traffic, calling for an accurate map in order to ensure a safe, successful deployment of the AMRs and a specific approach in regard to the configuration of the different zones and areas, all kinds of requirements concerning the layout or path widths were met without any problems.

Using NVIDIA GPU-enabled edge devices in conjunction with NVIDIA's navigation stack allows for unprecedented computational speed on-edge for planning and environment representation. The tech giant's navigation stack offers native support for different zone types, ensuring that the iw.hub has a semantic understanding of a very wide range of traffic rules.

Due to the stack's native support for multi-sensor navigation, multiple LiDAR sensors can represent the dynamic environment around the AMR: The 360-degree view of the environment is very accurate, providing a high refresh rate due to GPU computing, which allows for smooth and almost human-like obstacle avoidance while respecting industrial safety limits. DRÄXLMAIER benefits from this industrial grade performance. This summer, the company decided to purchase a fair amount of iw.hubs. Ever since, they have been in use in Landau together with idealworks' fleet management software AnyFleet.

Even though the additional deployment of such hardware and software in intralogistics might seem minor, it positively affects the workforce's task allocation due to its speed and autonomy, and greatly contributes to the economic success of the business. In the recent past, tugger operators had to manage the day-to-day loading and unloading of freight throughout the warehouse — a once repetitive task that is now automated, supporting employees to make their everyday work easier, freeing them from mechanical, heavy, and potentially dangerous tasks.

For the future, DRÄXLMAIER plans to autonomize additional use cases, while idealworks has set itself to increasingly optimize their intralogistics processes. In the meantime, other national and international sites of the Group have also shown interest in idealworks' logistics solutions, which are currently testing their technical feasibility.

"We are more than convinced of our close collaboration with idealworks, the availability of their support team, and their products. We particularly like the fact that even spontaneous rescheduling and minor optimizations can be carried out quickly and easily by our staff thanks to their very user-friendly platform."

– Stefan Degel, Head of Logistics, DRÄXLMAIER Group plant in Landau.

Location

Landau a.d. Isar

Founded

1958

Employee count

72,000

Pilot phase

Landau a.d. Isar 2021

Implementation

**Landau a.d. Isar/Germany 2021;
Solihull/Great Britain 2022;
Jelena Góra/Poland 2023;
Satu Mare/Romania 2023**