

IDEC Solutions for Addressing Social Challenges

Reducing workload in material handling process

Challenges

At manufacturing sites, materials are still often transported between processes by workers using carts. In many cases, operators handle loads weighing several hundred kilograms, placing a significant physical burden on them.

IDEC Solution

By introducing a solution that utilizes the Assist Wheel Drive (AWD), which can be easily attached to existing carts to provide electric power assistance, customers can significantly reduce operator workload at a low cost and with minimal implementation effort, thereby contributing to improved worker well-being.

In addition, deceleration and stopping can be controlled via a hand-operated switch, ensuring a high level of safety.



Assist Wheel Drive System



Improving safety and convenience in parking lots

Challenges

In mechanical parking facilities, there is a risk of serious accidents if the system operates while a person remains inside the equipment.

IDEC Solution

As a safety measure, by introducing a solution that integrate a wide range of products—such as emergency-stop switches, pilot lights, sensors, and controllers—we help reduce the risk of accidents. These include incidents such as entrapment caused by operational errors or insufficient checks, as well as incidents involving crushing or falls.



Pilot light



Emergency-stop switch



RFID reader



Safety controller



mmWave radar sensor

Reducing development costs and engineering hours for material handling automation

Challenges

While the need to automate material handling processes continues to grow, developing AGVs/AMRs that are well suited to a company's specific processes and operational challenges requires substantial investment and development effort.

IDEC Solution

The "SWD Build KIT," a development kit for AGVs and AMRs that incorporates the Safety Wheel Drive (SWD) and software—packages a variety of IDEC HMI and safety-related products, can be flexibly customized to meet customers' specific applications. This significantly reduces development costs and engineering effort.

In addition, we offer "ez-Way," navigation and control software that comprehensively supports the movement, localization, and task management of automated transport robots equipped with SWD. As it enables the monitoring and management of products from different manufacturers, the software contributes to system-wide integration and improved operational efficiency.



The SWD Build KIT enables the construction of AGVs/AMRs by combining seven modules.



ez-Way



Panel Solutions: co-designed interfaces for demanding applications

Challenges

In the construction, material handling, defense ground equipment and e-Transportation markets, every vehicle has unique operational, environmental, and ergonomic requirements that cannot be met by a one-size-fits-all solution.

IDEC Solution

APEM develops panel solutions through a close co-design and co-engineering approach with OEMs, creating control panels and remote controls tailored to each machine’s technical, functional, and cost objectives. By combining our expertise in HMI design, electronics, mechanical integration, and ruggedization, we deliver complete plug-and-play solutions that simplify integration while ensuring long-term reliability in harsh operating environments.

While the majority of our projects are fully customized, we also continue to expand our portfolio of standard and semi-custom solutions. The PK keypad range provides a flexible platform suitable for a wide variety of vehicle applications, while the HC series addresses the growing demand for ruggedized gamepad-style controllers for demanding environments.



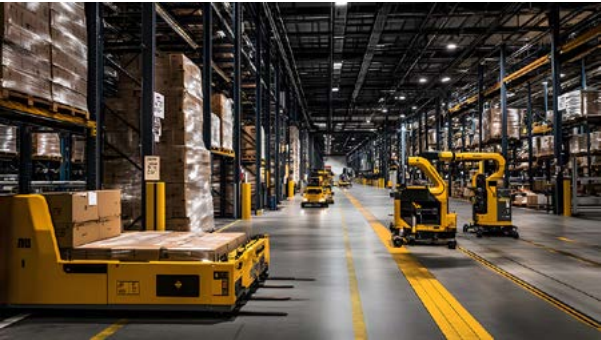
Customer-focused solution portfolio

Safety solutions supporting automation in factories and logistics centers

Challenges

As the use of Automated Guided Forklifts (AGFs) continues to expand in factories and logistics facilities, the need for enhanced safety measures is increasing.

IDEC Solution



mmWave radar sensor

Emergency-stop assist system

As a safety measure, we provide a solution that combines mmWave radar sensors from IDEC ALPS Technologies CORPORATION—a joint venture with ALPS ALPINE CO., LTD.—with IDEC’s emergency-stop assist system and fusion cameras.

By leveraging mmWave radar sensors that provide excellent environmental resistance, the solution enables stable detection of people and obstacles without being affected by weather conditions or other environmental factors. In addition, even in unexpected situations, equipment can be remotely operated and stopped using the emergency-stop assist system, thereby ensuring a high level of safety while achieving both productivity and efficiency.

Control panel design, manufacturing, and consulting services for global markets

Challenges

When machinery and equipment manufacturers expand their operations globally, they are required to comply with standards and regulations in each country. However, in some cases, a lack of specialized expertise makes ensuring such compliance challenging.

IDEC Solution

IDEC FACTORY SOLUTIONS CORPORATION (IFS) is registered as a UL 508A-certified manufacturer in the United States, enabling it to support compliance with control panel standards, which represent one of the key barriers to entry in the North American market.

Acting as a system integrator, IFS provides end-to-end support to customers through a comprehensive framework that encompasses pre-design risk assessments, design, manufacturing, and shipment. Leveraging its extensive expertise in electrical design, IFS also offers consulting services on machinery safety in accordance with electrical standards established by the American National Standards Institute (ANSI), specifically ANSI/NFPA 79.

