

Focusing on sustainability: TGW Smart Energy Strategy

The warehouse automation systems integrator has consolidated its energy-saving initiatives for systems, modules and products into the TGW Smart Energy Strategy.

GRAND RAPIDS, MICHIGAN, UNITED STATES, March 27, 2023 /EINPresswire.com/ -- Ecological, economic, and social sustainability are central factors in future-oriented materials handling. For TGW, being environmentally friendly manner is vital to its corporate responsibility.

Reducing resource consumption is not only a matter of corporate responsibility but also yields concrete economic advantages, especially when raw material prices are high.

INTELLIGENT SOFTWARE ADAPTS POWER AS NEEDED

Warehouse automation systems are designed for maximum throughput and capacity. With TGW, if the system's maximum performance is temporarily not required, due to order structure or capacity utilization, the output of storage and retrieval machines, shuttles, and sorters can automatically adapt. In the case of KingDrive® conveyors, reducing the speed from 1.2 m/s to 0.8 m/s lowers the energy consumption 15 percent. This smart kinematics function also decreases the wear of mechanical parts so they can last longer.

Automatically switching off system parts or entire systems and then restarting them in a controlled manner also enables significant energy savings. The interplay of all these measures leads to lower operating costs over the fulfillment center's lifetime, i.e. a lower total cost of ownership (TCO).

"As a company with over 50 years of experience in warehouse automation, conscientious use of resources is a central guiding principle for TGW, whether it be during the development of new systems, modules, and products or the revision of existing ones. Energy efficiency is an essential criteria for a growing number of our customers as well," points out Thomas Gruber-Blanka, Director of Product Management at TGW. "Using energy-efficient components such as IE3 drives or brushless DC motors with gearless rollers is standard practice in our portfolio."

POTENTIAL SAVINGS OF UP TO 17 PERCENT

The KingDrive® conveyor system for cartons, totes, trays, and polybags, named after TGW co-

founder Heinz König, makes use of maintenance-free, gearless motorized rollers, as well as an integrated 48-volt power supply. The innovative technology uses the braking energy of the rollers to power other rollers in the network. Consequently, the energy stays within the system and is reused on the same site. As a result, KingDrive® uses up to ten percent less energy than classic conveyor technology.

The storage and retrieval machines in the Mustang family are equipped with powerful mechanical components, sophisticated controls software, and intelligent drive technology. With this setup, braking energy can be recovered along the horizontal or vertical travel axis and used for travel on the respective other axis. This enables a reduction of up to 17 percent on the overall current demand.

SHUTTLE WITH RECUPERATION FUNCTION

Shuttles accelerate and decelerate several hundred times per day; the potential for saving energy is therefore especially high in this area. Their braking energy is stored in power capacitors and can then be used by all vehicles on the same level for acceleration. Moreover, all shuttle and tote lifts are equipped with a standard recuperation function, allowing unused energy to be fed back into the power network.

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