MOBOTIC GmbH Introduces :

MoboDrive STO - Compact and Highly-Integrated Steered Traction Units for Outdoor Mobile Robots and Machinery

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Introduced at the 2024 WORLD FIRA, the MoboDrive STO captivated the market with its performance and unmatched precision in drive systems tailored for agricultural robotics. The positive feedback affirmed the industry's need for highly integrated and efficient solutions like the MoboDrive STO, Inspired by this success and driven by market demand, we developed a new variation of the MoboDrive STO, fine-tuned to address specific applications and challenges identified by our customers.

MoboDrive STO

The Steered Traction Unit sets a new standard in mobile robotics, offering reliable performance, flexibility, and ease of integration. Designed with a compact and highly integrated form, it fits seamlessly into a variety of robotic platforms, making it ideal for applications where space is limited. Built for durability, its robust construction ensures consistent operation even in demanding outdoor environments.

The unit's plug-and-play capabilities for power, communication, and safety simplify installation, reducing downtime and improving efficiency. Integrated safety features, such as parking and emergency brakes, provide added assurance for use in challenging and regulated conditions.

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Advanced Control and Communication

The MoboDrive STO features integrated control electronics and encoder systems for precise, efficient operation, with support for CANopen, EtherCAT, and ProfiNET, ensuring compatibility with various systems and protocols.

Upcoming Innovations and Development Roadmap

The electric vehicle power control unit is undergoing advanced development to manage the entire powertrain with a high-performance microcontroller that ensures automotive-grade safety. Using a MATLAB/Simulink-based development framework, it enables faster algorithm creation, while its flexible hardware design allows for easy customization. This evolving platform is being refined to support the integration of additional functionalities, making it ideal for next-generation electric and hybrid vehicle applications.

In its current stage, development focuses on controlling up to eight actuators in a 4WD omnidirectional Agri Mobile Robot, providing seamless orchestration of the drive system and effective communication with other electronic systems. Enhanced diagnostics capabilities are also being developed to ensure reliable performance across both indoor and outdoor environments, expanding its potential for diverse applications.

Modularity and Versatility for Diverse Applications

The MoboDrive STO is highly modular, enabling it to meet the specific demands of diverse applications. It is suitable for small outdoor robots, such as robotic lawnmowers with a few kilograms of load capacity, as well as heavy-duty devices capable of transporting several tons.

This adaptability makes the MoboDrive STO ideal for industries such as agriculture, forestry, construction and mining, logistics, land management, and security and surveillance. Common applications include last-mile mobility, heavy load transportation, event-specific robotics, goods transportation, lawn mowing, mechanical weeding, and spraying.

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The unit's compatibility with standard rims and tires ensures easy integration, while its durable design excels in challenging outdoor tasks, offering a reliable and versatile solution for various operational needs.

Connect with MOBOTIC GmbH:
For more information about MOBOTIC's Compact and Highly-Integrated Steered Traction Units, please contact:

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About MOBOTIC GmbH:
Mobotic GmbH stands as a leader in mobile robotics, focusing on the design, development, and optimization of next-generation systems, advanced drive technologies, and essential components. We are at the forefront of innovation, delivering sophisticated solutions that empower autonomous platforms and electric mobility applications, from Automated Guided Vehicles (AGVs) and Autonomous Mobile Robots (AMRs) to Agrobots, Robotaxis, and Electric Vehicles (EVs).

Our approach combines engineering excellence with cutting-edge technology, producing compact and highly integrated systems that enhance performance, reliability, and safety. Each component is meticulously crafted to meet the most stringent standards, ensuring seamless operation across diverse environments and industries.

With a commitment to pushing boundaries, we transform forward-thinking concepts into high-quality, application-specific solutions. Our collaborative ethos ensures that we work closely with our clients to address unique challenges, delivering tailored innovations that set new benchmarks in mobility and autonomy.

At Mobotic, precision and innovation converge to redefine what's possible in mobile robotics and electric machinery. Our expertise in next-generation systems, drives, and components makes us a trusted partner in shaping the technologies of tomorrow.

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