

Case Study

Optimize Rotterdam Port Operations with Darveen's Rugged Vehicle Mount Computers

The Port of Rotterdam is one of the busiest ports in the world, ranking among the top 10 container ports globally. In the first half of 2024, it handled 67.1 million metric tons of cargo, equivalent to 6.8 million TEUs (twenty-foot equivalent units). Its outstanding performance stems not only from its massive throughput but also from its efficient logistics management and state-of-the-art technology infrastructure.

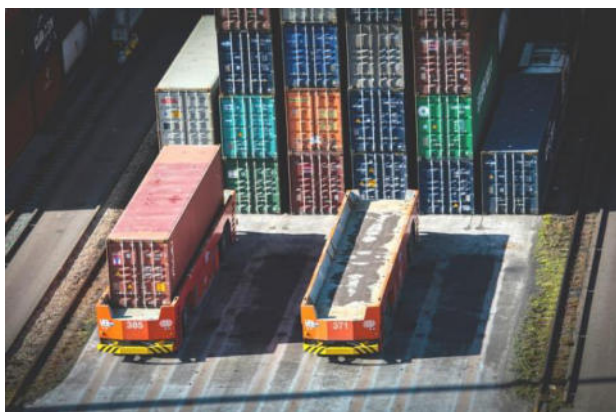
According to the CIO of the Port of Rotterdam, "We are proud of the statistics but throughput numbers are no longer enough as a measure for a port's success. We want to be the smartest port in the

world and maintaining our strong competitive position in the future means we will also have to upgrade our infrastructure and our systems with new digital resources."

To further enhance operational efficiency, the Port of Rotterdam deploys the Terminal Operating System (TOS) to optimize container management, reduce costs, and boost productivity. TOS provides comprehensive data about port and terminal operations, covering storage management, vessel and quay operations, crane allocation, container stacking, gate management, and reporting. This data is updated in real time and transmitted via wireless networks, ensuring all staff and management have access to the latest information for informed decision-making.

System Requirements

The Port, through its system integrators, seeks high-performance vehicle mount computers to support TOS deployment on container trucks and reach stackers. These devices enable smoother operations



and maintain the flow of goods within the port. The required hardware specifications include:

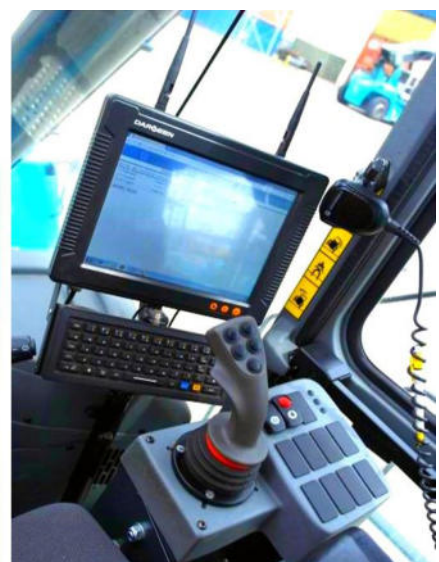
- 10-inch outdoor-readable display
- Support for external antennas to enhance signal reception
- Customizable function keys and physical keyboard
- 4G/LTE connectivity
- Windows 10 operating system
- Compatibility with TOS software applications

Rugged Vehicle Computers Designed for Maximum Efficiency and Reliability

Darveen's [Windows vehicle mount computers](#) (VT Series) are designed with exceptional wireless communication capabilities and offer diverse accessories and installation options. System integrators can deploy web-based management applications on the VT Series vehicle mount computers, enhancing operational efficiency at Rotterdam Port's container yards.

Key Advantages of Darveen Vehicle Mount Computers

- **Display Options:** Screen sizes ranging from 7" to 15".
- **Processor Flexibility:** Multiple choices of x86 platforms (Intel® Celeron®, 12th Gen Intel® Core™ i5) or ARM (RK3399).
- **Robust Design:** Engineered for port environments with IP66/65 waterproof and dustproof protection, MIL-STD-810H/G certification for shock and vibration, and a wide temperature range of -30°C to 60°C.
- **Durable Build:** Die-cast aluminum housing withstands extreme conditions, including fog, frost, storms, and saltwater exposure.
- **Advanced Connectivity:** Supports Wi-Fi 7, Wi-Fi 6E, Bluetooth v5.4, 5G, and GNSS for reliable data transmission and precise location tracking.
- **Power Versatility:** Wide voltage input (8 to 36 VDC) and ignition control.
- **User-Friendly Features:** Customizable function keys, outdoor-readable displays (up to 1,000



nits), and intuitive touchscreens for enhanced operator productivity.

- **Comprehensive Accessories:** Multiple mounting brackets, DC adapters, antennas, and waterproof keyboards are available for tailored solutions.

[Darveen vehicle mount computers](#) are built to withstand the challenges of port operations and extreme weather, ensuring seamless workflows across container yards. With robust durability and adaptability, they ensure continuous 24/7 operation, streamlining processes in the most demanding port environments.

About Darveen

Established in 2007, Darveen has been dedicated to developing rugged industrial computer solutions tailored to the unique needs of various vertical industries. Our product lines include in-vehicle computers, industrial panel PCs, rugged tablets, embedded box computers, and industrial monitors. Darveen's vehicle-mounted computer solutions have successfully helped hundreds of container terminals in streamlining their processes and operations. With nearly 20 years of experience in product design and manufacturing, Darveen's products have gained widespread acceptance in diverse markets, including container terminals, warehousing, manufacturing, industrial equipment, mining, and special vehicle fleets.