TTControl
HYDAC INTERNATIONAL

Vision 3

The new rugged operator interface generation

www.ttcontrol.com
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Operator interfaces in the changing mobile machinery market

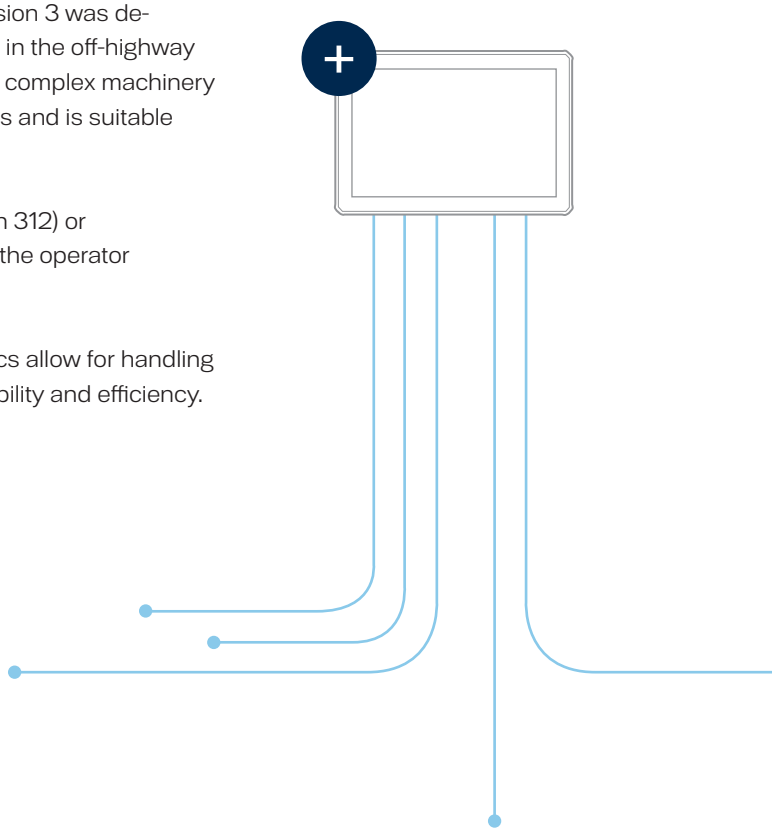
The off-highway industry currently shifts towards higher levels of automation for mobile machinery. Machines smartly assist the operator rather than being operated as simple tools. In order to complement the operator, machines need a better understanding of their working environment and must facilitate user interaction. Therefore, modern mobile machinery requires increasing numbers of cameras and sensors and their electronic components need higher bandwidths and more processing power.

Get ready for automation with Vision 3

TTControl's third rugged operator interface generation Vision 3 was developed to meet the upcoming challenging requirements in the off-highway vehicle market. Vision 3 is designed to be the center of a complex machinery system architecture offering an extensive set of interfaces and is suitable for a multitude of use cases.

The 12.1 inch display is available with a single core (Vision 312) or with a quad-core processor (Vision 312Plus) and assists the operator with optimized user experience and data visualization.

Intuitive user interaction and high-performance electronics allow for handling complex machinery tasks, while enabling maximum flexibility and efficiency.



Find out more
www.ttcontrol.com/vision3

Vision 3 at the center of vehicle architecture

Enhance human machine interaction:

- High computational and graphical multimedia processing power
- Advanced cooling concept for high CPU performance
- Linux platform for C/C++ (e.g. Qt) or CODESYS® 3.x programming
- Customizability, optimized readability and clear data visualization for advanced usability
- Extensive set of interfaces necessary for the automation of mobile machinery
- Excellent sunlight readability due to optical bonding and high brightness
- Fast boot-up time and sleep mode
- Slim and flexible design suitable for modern operator cabins
- Built for harsh environments

Optimized human machine interaction

CPU performance and memory:

- Single or QuadPlus Core CPU
- Up to 2 GB DDR3 RAM
- Up to 8 GB eMMC Flash

Extensive set of interfaces:

- Up to 4x CAN (one ISOBUS compliant)
- RS-232
- Ethernet (100BASE-T1 or 100BASE-TX)
- Up to 2x USB 2.0 (1x OTG, 1x host)

Cooling fins:

- Advanced cooling concept
- Designed for high CPU performance
- Constant performance during operation without losses in performance

Multimedia:

- Integrated loudspeaker

Best USB and Ethernet signal quality:

- HSD connectors plugged and sealed
- No crimping needed

Display mounting:

- Panel or arm
- Landscape or portrait
- Perfect fit for a multitude of cabin designs

Off-highway robustness:

- Robust aluminum housing
- IP65 housing protection

Powerful, feature-rich functionality

CODESYS CAN Qt BroadR-Reach®

Optimized dimensions:

- 306 mm x 212 mm
- Ideal screen-to-body ratio

Slim design:

- Only 34 mm wide
- 46 mm incl. connector

Sunlight readability and outdoor capability:

- 1280 x 800 pixel resolution
- 24-bit color depth
- Up to 1000 cd/m² brightness
- 1000:1 contrast ratio
- 178° (H/V) ultra-wide viewing angle

Intuitive user interaction:

- Capacitive touchscreen
- Multi-touch functionality
- Glove-operable display

Display surface:

- Plane and robust
- Easy to clean

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Covering a wide range of application fields

Agriculture

Agricultural machines in the field often work in parallel with and in close proximity to each other. By enabling up to four simultaneous camera streams, Vision 3 helps to extend the operator's view substantially, increasing safety and efficiency in the working process. In addition, the ISOBUS interface and vehicle data retrieval from CAN bus (e.g. J1939 engine data), Ethernet, USB, RS-232, and analog camera interfaces makes the Vision 312Plus the perfect choice for manufacturers of agricultural vehicles and implements.

Construction

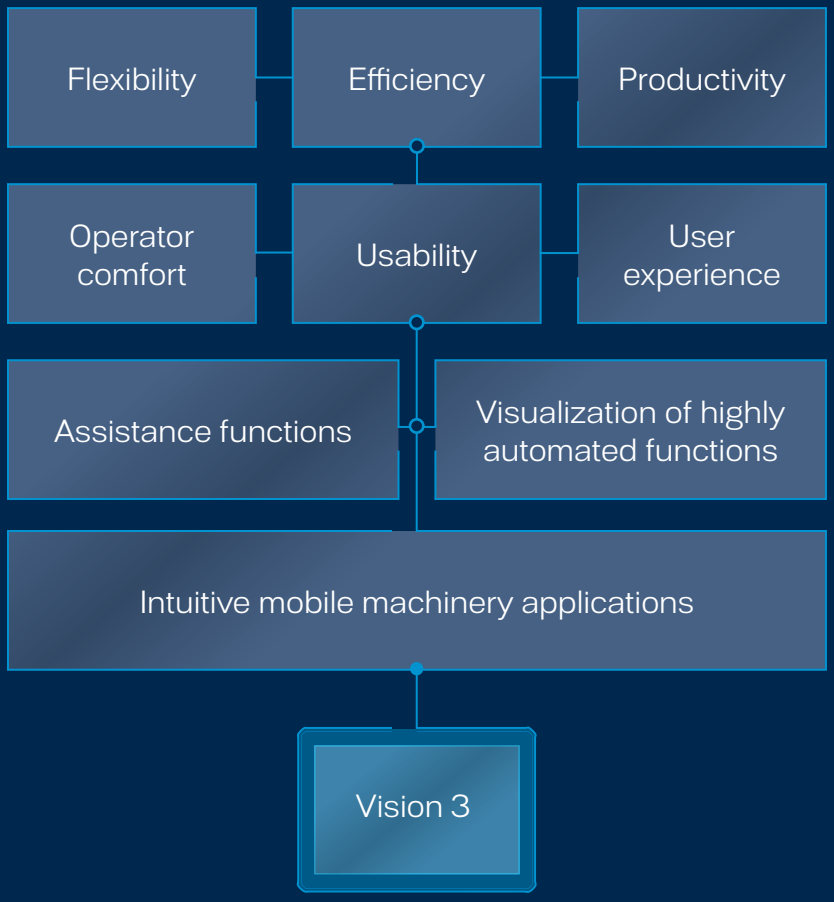
The Vision 3 generation is best suited for equipping mobile machinery with construction assistance systems. With the Vision 312 display, the operator of an excavator, for example, is supported by accurate visualization of the exact positioning of excavator arms and buckets. Vision 3 supports up to four simultaneous camera streams and thus ensures reliable monitoring of the machinery's surroundings. The rugged operator interface withstands vibrations in the working process, high temperatures during asphalting or mud on the construction site.

Municipal

Vision 3 allows the operator to monitor or manage a variety of vehicle functions. By using the camera stream functionality, the operator of a garbage truck can monitor the loading and unloading process of garbage cans. The operator of a firefighting truck can check information on the status of water tanks or the operation of valves and pumps on the display and he can also monitor and steer the exact position of the headlights.

Material Handling

In material handling, operators move in three dimensions and have to master challenging tasks. Material handling machinery, such as aerial platforms, scissor lifts and mobile cranes today often offer a multitude of functionalities and configurations. A large number of machine parameters and the machine's surroundings are captured by sensors. Thanks to their intuitive visualization, Vision 3 supports balancing and lifting of platform and cargo.



Take the next step towards automation with Vision 3

- Allows for programming intuitive mobile machinery applications
- Suits a multitude of assistance functions
- Enhances user interaction by maximizing operator comfort and usability
- Increases flexibility, efficiency and productivity
- Enables the visualization of highly automated functions in mobile machinery

The global network of TTControl

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