

O3R Perception platform

Uniting all senses.

The new O3R camera and sensor platform.



Product presentation

Product description

O3R Perception platform



Mobile robots, unite your senses!

Approaching the pallet storage space while avoiding collisions with people, other AGVs or objects. Recognising the fork pockets and approaching them with precision while continuing to watch out for stationary or moving obstacles on a collision course, picking up the pallet, bringing it to the destination, avoiding collisions with foresight...

The everyday life of mobile, autonomous robots is stressful. Information from cameras and sensors must be continuously processed at lightning speed and converted into actions. The controller can either do this all alone up to a certain point – and then give up with a groan – or it can get help from the powerful and developer-friendly O3R camera and sensor platform. The video processing unit evaluates all sensory perceptions from up to six camera heads that are also available and other connected sensors in a centralised and synchronous way. It transmits the processed information to the considerably relieved control system which can translate it into actions and reactions – wide-awake and timely.

Are you ready to take robot perception to a new level?

We are – find out more at ifm.com/gb/O3R



Product advantages

O3R – for good reasons.



Central information processing

Develop powerful solutions with your own software. The video processing unit offers all capacities required for this.



360° coverage

Everything in view, everything in sync: process image information from up to six 2D/3D camera heads simultaneously.



High flexibility and modularity

Use what you need: The O3R platform offers several camera variants and a GigE interface for sensors.



Easy integration

The O3R platform talks, understands and works with Linux, Docker, CUDA & Jetpack as well as ROS1+2. Developers can find help on the **O3 Developer's Portal**.



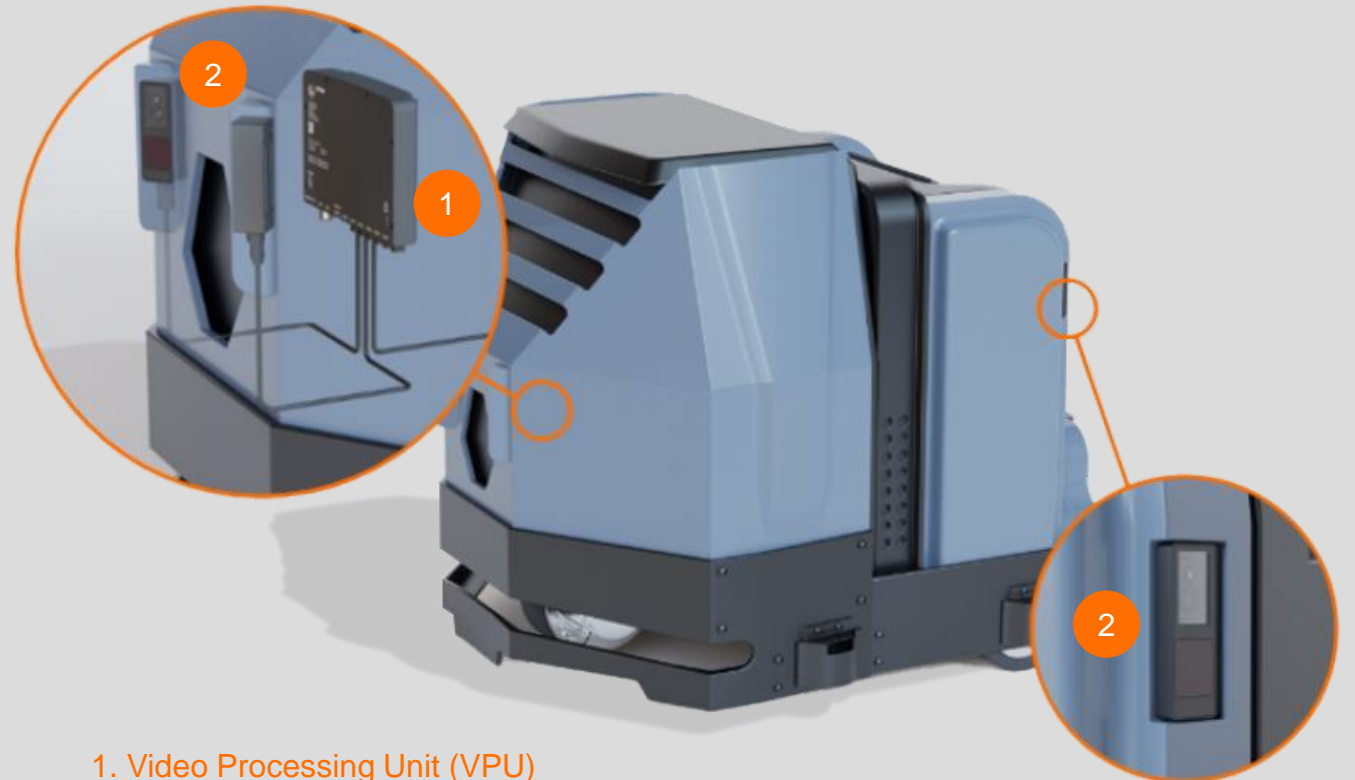
System overview

The O3R unites all senses

Powerful and open:

Up to six camera heads can be connected to the VPU. Additional sensors, e.g. for distance detection, can be connected via a Gigabit Ethernet interface.

The installation of the the camera heads is very flexible, and the heads can be positioned in a way to ensure that all relevant areas will be reliably scanned. For example, collisions with obstacles that protrude into the travel path above the safety scanner's field of view can be prevented.



1. Video Processing Unit (VPU)

2. Camera heads and sensors



Applications

Use in driverless transport systems

Challenges in the operational environment

- Obstacle detection / collision avoidance
- Storage location recognition
- Pallet picking
- Height monitoring
- Navigation to the destination

Examples of different applications

- Fork-lift trucks
- Tugger trains
- Transport robots
- Cleaning robots
- Harvesting robots



Applications

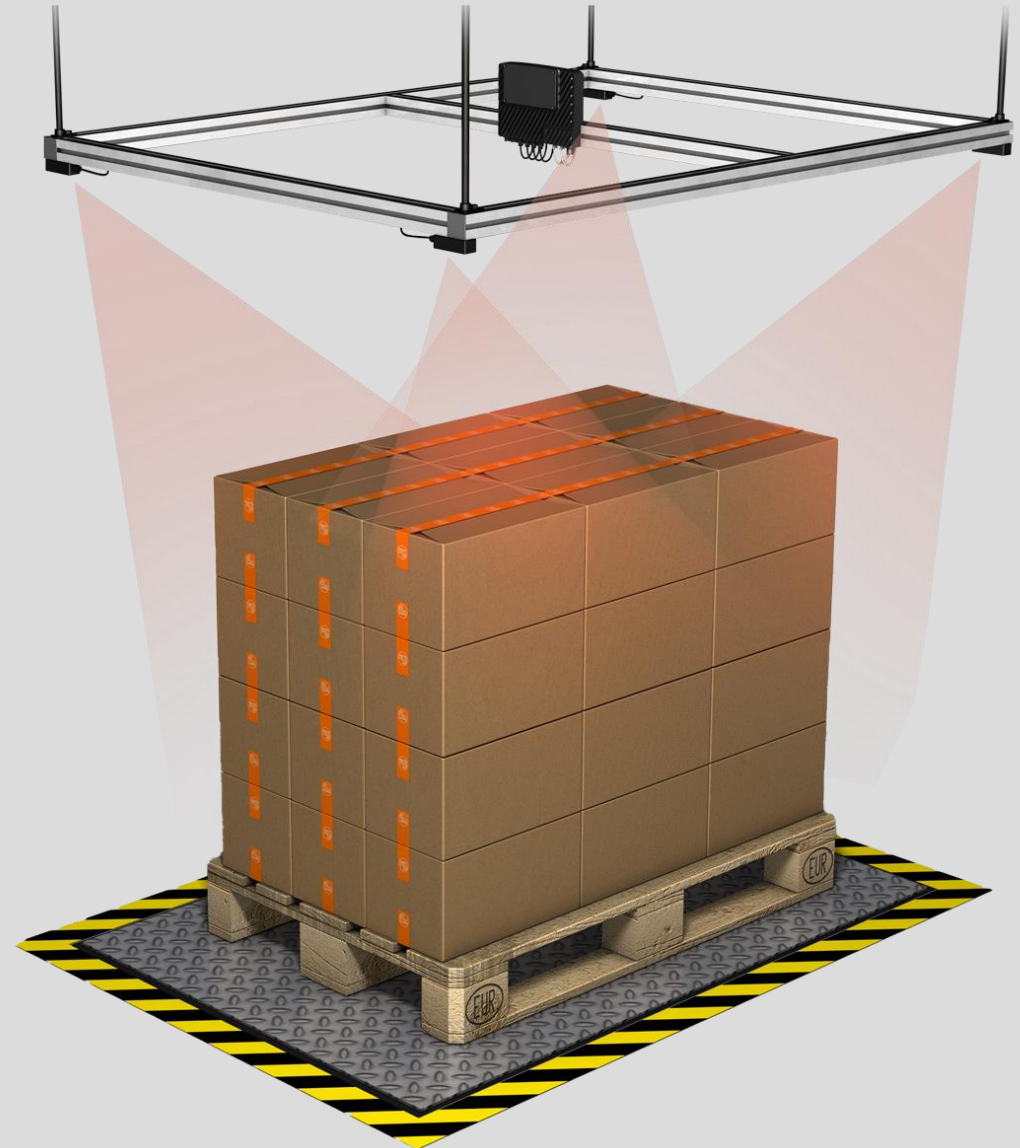
Stationary tasks

Challenges in the operational environment

- Unpalletising
- Freight dimensioning
- Dimensioning of objects
- Positioning and analysis of objects

Examples of different applications

- Pallets
- Packets
- Suitcases
- Tree trunks
- Persons



Good to know

Increase your overall efficiency



Protection of cargo and equipment

The ambient light resistant cameras with a specially developed image sensor ensure reliable object perception.



Cost reduction through platform use

Central and synchronous data evaluation of up to 6 cameras and other sensors.



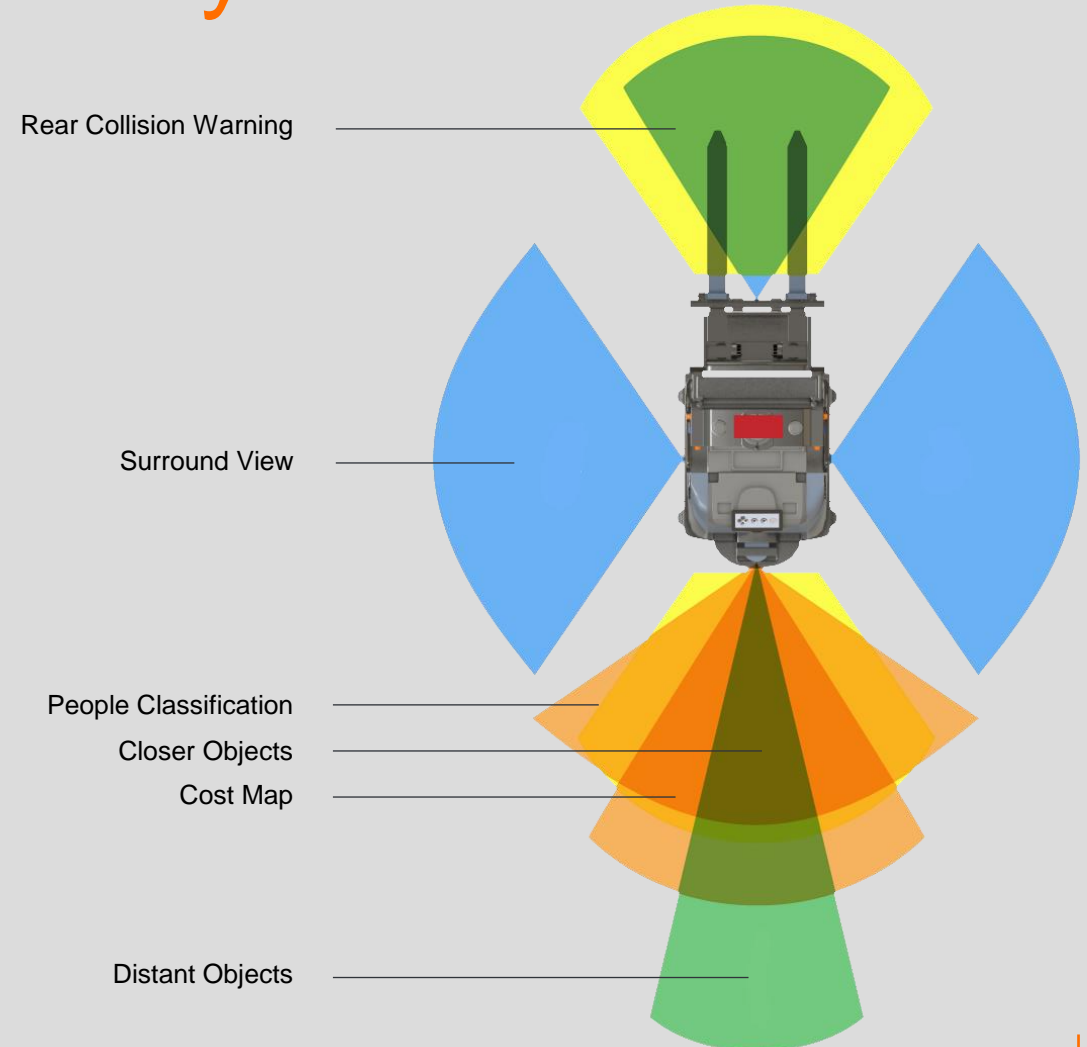
Outsourcing of computing capacities

Evaluation and analysis of the camera data on the perception platform relieves the control unit.



Quality meets flexibility

Size and cost structure of common consumer products combined with ifm-typical warranty and long spare parts availability.



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