

Sense. Reason. Act.

Following the concept of "Sense. Reason. Act.", Roboception was founded in 2015 with the ambition to enable the robotic users to equip each of their robots with a solution that allows them to reliably perceive their environment.



With its award-winning rc_visard stereo sensor and its highly sophisticated rc_reason software suite, the team now delivers innovative 3D perception solutions that close the robotic perception-action loop.

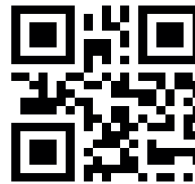
Munich-based Roboception GmbH is a spin-off of the German Aerospace Center (DLR) Institute of Robotics and Mechatronics.

"We want to make sure that all cobots, all industrial robots have the new functionality to perceive the environment."

"Our slogan is SENSE. REASON. ACT. and we want to go from pixel to action using perception."

Dr. Michael Suppa
Co-Founder and CEO

Sense. Reason. Act.






reddot award 2019
winner

Roboception GmbH

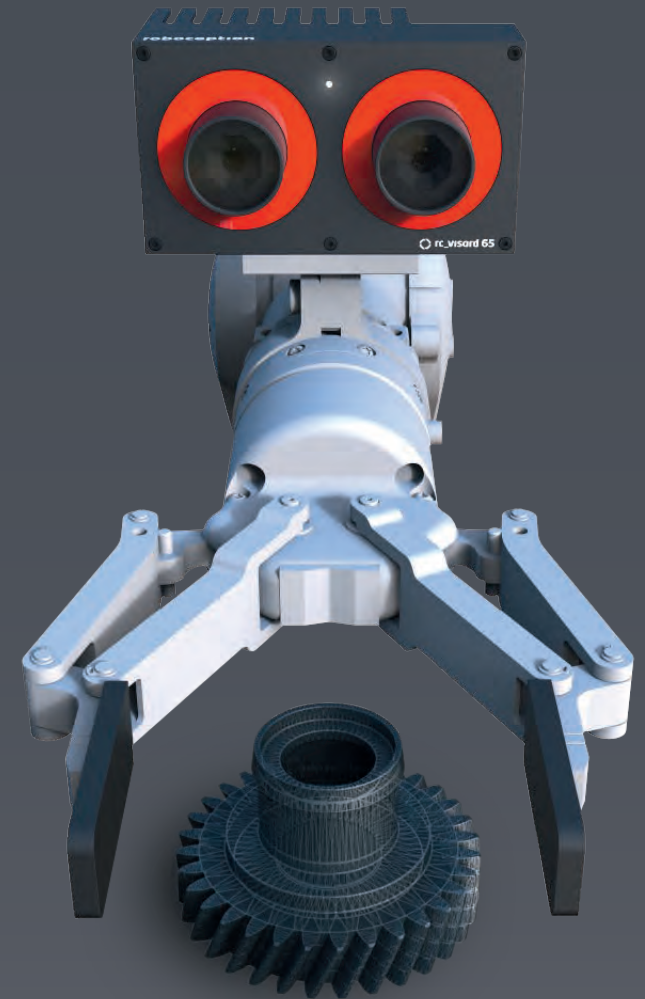
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3D Vision: rc_visard Sensor

Roboception's innovative and high-performance 3D sensor rc_visard provides all the data needed to close the perception-action-loop. With its on-board processing capabilities, it can be integrated directly into any robotic application, with no need for external hardware.



The rc_visard enables robots to generate and process time and location-related data in real time. The sensors support a variety of robot applications, ranging from bin-picking to navigation. The four versions of the rc_visard feature two different baselines (65 mm, 160 mm) and a color or monochrome acquisition capacity.

Using ego-motion estimations (VINS), the rc_visards determine their position and orientation with millimetric precision and very low latencies. The passive stereo sensor works in natural and artificial light. Precise ego-motion data is generated reliably, even in case of vibrations.

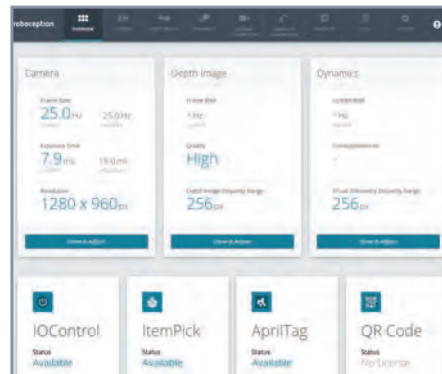
An intuitive web interface enables an easy set-up and configuration. Last but not least, multiple sensors can easily operate without interference in the same work space.

3D Perception: rc_reason Software

All rc_visards come pre-loaded with the same comprehensive on-board software package: the robust fusion of 3D and inertial data on-board of the rc_visard. This allows an efficient and reliable object recognition, indoor navigation, grasp planning and world modelling.

In order to optimize sensor performance for specific application scenarios, this can be further enhanced by optional modules from the rc_reason software suite.

rc_reason comprises a number of modular software components such as SLAM, TagDetect or ItemPick. They can be easily activated on-board any rc_visard, and intuitively operated through the sensor's standard user interface.



The rc_reason software suite is constantly growing: Roboception's experts are continuously developing additional modules in order to match the application-specific requirements of the robotic community.

From Pixel to Action: Applications

The rc_visard/ rc_reason perception solutions are used in a variety of robotic domains, e.g. logistics, industrial automation, health care, agriculture and service robotics.



Users appreciate the versatile applicability of the sensor, the intuitive interfaces, the application-orientation of both hardware and software, the fair pricing and – last but not least – the simple ordering process via a webshop.

Roboception works closely with its customers to ensure an efficient and effective use of its products in the customer's individual applications. The company's 3D vision experts are available to develop tailored solutions when use cases are highly individual.



In addition, Roboception is involved in a number of national and international research and innovation programmes, supporting the robotic community's path towards reliable robotic operations in partially structured environments.