

CONTROL | IDENTIFICATION | HANDLING



ROBOCam^{GigE}

THE FLEXIBLE OPTICAL
INSPECTION SYSTEM



- Power over Ethernet
- 24 white LEDs for perfect Contrast
- HD-GigE-Camera 30x optical zoom
- Compact and robust Design



VisionTools
Bildanalyse Systeme GmbH



INSPECTION ROBOTICS:

Quality control in automotive production

Conventional inspection methods of components with stationary cameras or pan-tilt camera technology are increasingly being replaced by optical inspection systems with robots.

Quality control with camera systems is a reliable appliance for fault detection. Complex assemblies such as the engine, front and rear axle or the complete drive train can be reliably tested in any number of variations before the "marriage" (the joining of engine and body). Assembly inspections like completeness check, type and version control, control of position or presence of various mounting parts can be monitored in one inspection cycle.

The higher-level machine control transmits the specified type to the camera system and starts the image analysis software. The inspection robots move to one inspection po-

sition after the other defined by the inspection station and evaluate the characteristics. The control of the inspection positions is done entirely by the image analysis software Vision Tools V60.

The list of characteristics to be verified in the example of the final engine assembly is long. Here, it is mainly to check the correct position of the connectors and proper locking of the CPA-plug, but also the position and location of hose and clamp connections. The documentation of component variants by identifying Datamatrix code, barcode or other characteristics plays a significant role.

An inspection of larger objects such as complete drive trains with motor-gear unit and

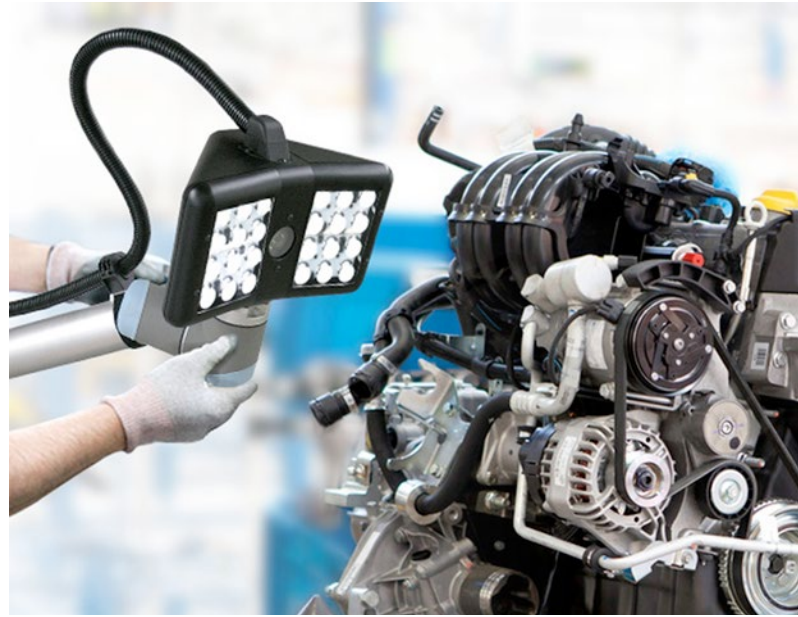


ROBOCam - the flexible inspection system for quality control by VisionTools

axle body before the "marriage" with the vehicle body, no problem on the basis of the robot available range.

CONSEQUENCE

The combination of optical, camera based inspection systems with modern robotics is universal and has a very flexible usability. The guiding principle of "Industry 4.0" as resource efficiency, versatility, ergonomics and integration of all involved in the value creation process - in the sense of intelligent factory are the driving force for the development of optical inspection robotic solutions of VisionTools.

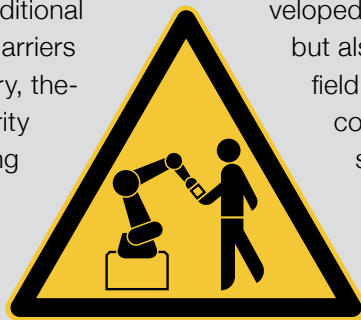


Flexible: To set up the inspection positions the robot is switched weightless. So the ROBOCam can be moved to the desired position manually.

By mouse-click the position is taken over by the image analysis software into the inspection plan without the need to set up robot control.

COLLABORATING INSPECTION SYSTEMS

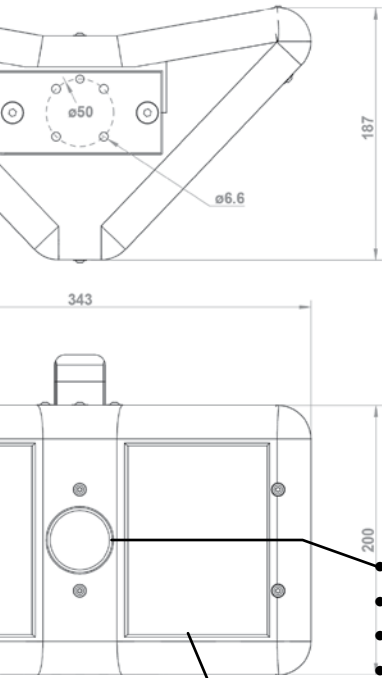
Collaborating robots are intended to cooperate directly with the people. Under certain conditions, they do not require traditional protective devices, such as light barriers or fences. To avoid the risk of injury, these robots must have certain security features. For example, when having contact with people, the robots have to be able to restrict the speed, the force or the clamping pressure of the robot.



VisionTools not only has specially developed inspection robotics systems, but also extensive know-how in the field of consulting, assembling, commissioning and service for systems which already meet all standard requirements of ISO TS 15066 and DIN EN ISO 10218 for safe human-robot collaboration.

30 YEARS OF COMPETENCE

VisionTools is one of the leading system suppliers for industrial image analysing systems - since 1986. The powerful and efficient image analysing software V60 works perfectly together with systems of all branches of industrial product engineering.



ROBOCam GigE



Camera

- **Sensor:** 1/2,8" Rolling Shutter CMOS
- **Resolution:** HD 1920 x 1080
- **Zoom:** 360x (30x optical; 12x digital)
- **Focal length:** 4,6 - 138 mm
- **Operating range:** 10 mm (wide-angle); 1200 mm (telephoto)
- **Data transfer:** Gigabit Ethernet
- **Power supply:** Power over Ethernet

Lighting

- **Lighting:** 24 LEDs/ Diffuser lens 10°
- **Light colour:** White 5500 K
- **Operating voltage:** Min. 22 V, typ. 24 V, max. 30 V
- **Operating current:** Min. 0,88 A, typ. 1,08 A, max. 1,16 A
- **Power consumption:** Typ. 26 W
- **Connection:** M12 / 4 pin sensor plug

General

- **Weight:** ca. 3,2 kg
- **Operating temperature:** 0 – 50 °C



VisionTools
Bildanalyse Systeme GmbH

Heinrich-Hertz-Str. 7 • 68753 Waghäusel • Deutschland • www.vision-tools.com
info@vision-tools.com • Tel. +49 72 54-93 51-0 • Fax +49 72 54-93 51-200