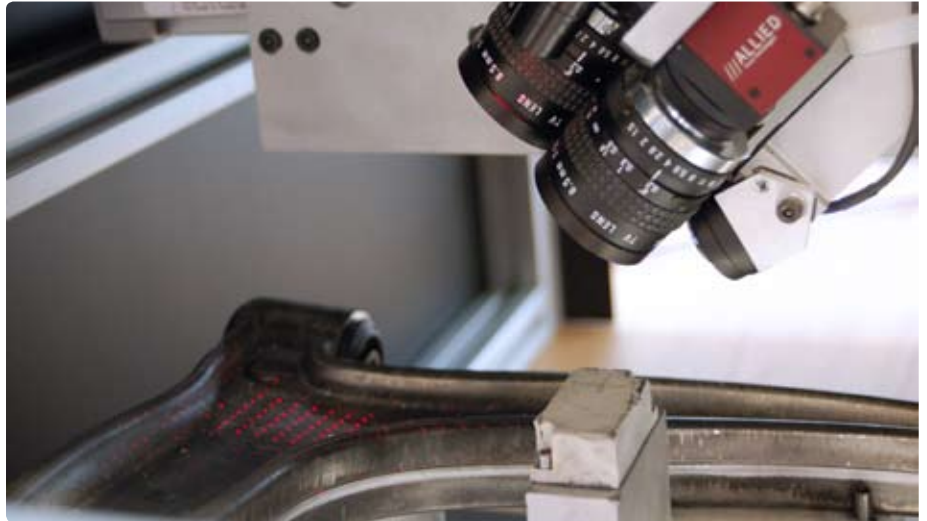**SCORPION**
VISION SOFTWARE®

3D Robot Inspection

Inline Measurement - 100% Inspection - Zero Defects

Scorpion Vision Software® is a powerful, flexible and extremely expeditious system software tool for industrial vision.

The most advanced 2D and 3D solutions are made without programming.

*3D angle and distance measurements on an automotive part*

Inline 3D measurements for the automotive industry

- Scorpion 3D Camera with three cameras, laser and grid mounted on a robot
- 2D & 3D measurements
- 3D modelling
- Measurement volume up to 2500 x 2500 x 500 mm
- High precision angle and distance measurement
- Typical resolution 0.1 mm and 0.2 degrees

Flexible automation means robots, automation and vision working together. This reduces cost and increases the flexibility and possibility to produce several product variants in one production line at the same time - 24 hours a day - with profits. Scorpion Vision Software® has been used in robot vision and inspection system for many years.
The vision system's ability to locate and identify objects are critical elements in making these systems.
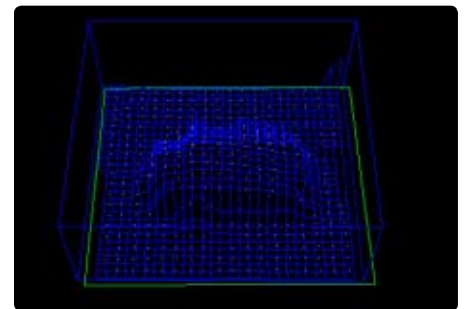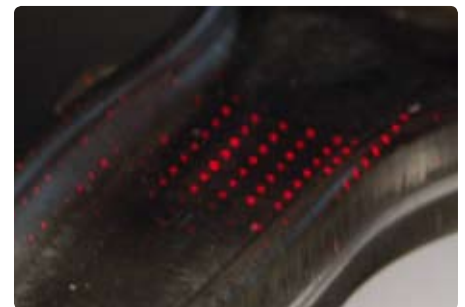

3D model visualised by Scorpion

Scorpion has a complete toolbox of robust and fast 2D and 3D image processing tools. Included are high accuracy and subpixel object location tools making it a perfect companion to world class 3D robot systems. 3D points are located with subpixel resolution.
A 3D space of 1.0 m³ will have a resolution of 1 mm in x,y and z.

Robust 3D measurement machines are built cost-effectively using standard components.

Scorpion interfaces to six-axis robots and linear axis and desktop robots.

3D modelling using laser grids

SCORPION
VISION SOFTWARE®

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Storgata 20, N-0184 Oslo, Norway
www.scorpionvision.com
TORDIVEL

Seamless Robot Integration

Robots and linear axis is seamlessly integrated with Scorpion Vision Software. The Scorpion Control Module removes the need for robot programming. The module includes a robot program making it easy to move and position the robot from Scorpion. Scorpion connects to the robot over RS-232.

Every aspects of Start, Stop, Home Position, Emergency Stop, IO, Program Selection and 3D movement are controlled from the Scorpion system.

Digital Cameras ensure superior image quality

Using high quality firewire, smart or GigE cameras, the image quality is ensured even when mounting the camera on the robot. Using GigE camera wireless image transmission is supported.

In complex applications where two or more cameras are needed, the cameras are synchronized using hardware triggering.

Prosilica GigE camera

Smart and Expeditious Image Processing

Image Processing is robust, fast and flexible in a non-programming point & click environment with more than 150 powerful 2D and 3D vision tools.

Application Specific Configuration Interface

Data Input and custom .Net pages make it fast and easy to implement application specific configuration tailored to each application.

User Interface

Scorpion has a feature rich, functional and configurable Man Machine Interface with image display, data input pages, web pages, ActiveX containment, result panels, image history list, real time trends, logging, event log and quality alarms.

Flexible Interfacing and Fuzzy Logic with Python Scripting

Scorpion's integrated Python Scription Kernel is ideal to implement classification logic, interface SQL databases and to interface other devices over rs-232, tcp/ip or OPC.

Optimal object location with PolygonMatch™

PolygonMatch™ is an optimal way to locate objects with subpixel accuracy. Multiple polygons define the shape or model of the object. When using the model the same shapes are extracted from the images and fitted to the original model with the highest possible accuracy.

High precision gauging with robust LineFinder™ tool

Combining 6th order lens calibration with the robust LineFinder™ tool is a quick way to implement gauging systems with resolution better than 1/10th of a pixel.

Easy to use color classification with ColorMatcher™

ColorMatcher™ detects reliably the smallest color differences based on reference images. Multiple references improves sensitivity and are easily added by clicking in the area of the images where the actual color is located.

Traceability with optional Data and Image Logging

By logging measured values and images tagged with process data, invaluable information is stored helping the production engineer documenting the condition of every single manufactured product.

Hardware

Scorpion Vision Software® can run on hardware platforms from Sony SmartCam to Industrial PCs with MultiCore technology.

Sony SmartCam running Scorpion Vision Software®

2D Robot Inspection Example

Below Scorpion is inspecting a tray of 180 pressure sensors in less than 5 minutes helping the customer to zero defects and to avoid the cost of the alternative manual microscope inspection. The Sony desktop robot is equipped with four high quality digital colour cameras.
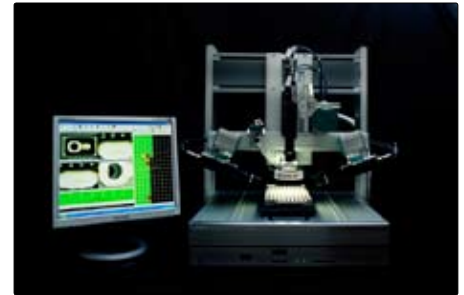
Tray of 180 pressure sensors. They are 100% inspected for position, missing parts, orientation, glue coverage and more.
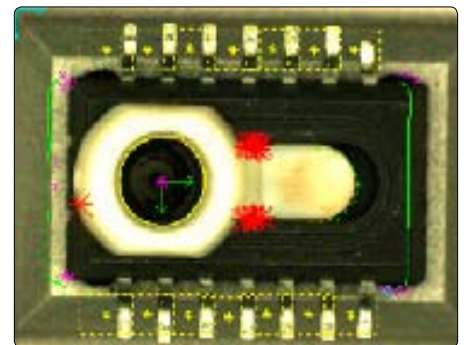
Sensor out of position, visualised by Scorpion Vision Software.

For more information:

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