



WORLD CLASS MACHINE VISION PLAY OUR GAME



TORDIVEL

Scorpion Vision Products

Scorpion Vision OEM

Scorpion Vision Integration

Scorpion Vision Framework



<< eliminates your weakest link



TORDIVEL

Tordivel is machine vision company and a partner for minor and major companies providing cutting-edge Scorpion Vision Products and Scorpion Vision OEM Solutions. Tordivel has built up an extensive network of partners and distributors around the world with a head office in Oslo, Norway.

In 1996 a team of vision and image processing specialists was established to provide state-of-the-art vision solutions. From 1997 to 2000 Tordivel developed and deployed a large number of inline advanced vision systems for mobile telephone inspection in Norway and Sweden. In 2000 we created the unique Scorpion Vision Software®. The Scorpion Vision Framework has since been the basis for thousands of machine vision systems and Scorpion Vision OEM solutions. In 2006 we decided to develop the best easy-to-use 3D vision framework.

From 2006 to 2011 we participated in a series of large R&D projects within 3D Machine Vision.

The company has highly skilled employees and works within the following business areas:

Scorpion Vision Framework - Global distribution, training and support of Scorpion Vision Software.

Scorpion Vision Integration - Turn-key vision systems in Norway, Sweden and United Kingdom.

Scorpion Vision OEM - Custom 2D and 3D vision algorithms and solutions.

Scorpion Vision Products - Complete products for end-user with Fish Industry, Aluminium and Manufacturing Industries.

Scorpion Vision Apps - We provide the finest apps for SmartCams, Scorpion 3D Stinger and Scorpion Mono Stinger cameras.

Our business strategy is to provide the machine vision industry with cutting edge solutions and systems based on our open Scorpion Vision Framework.



Scorpion Vision Software® is an independent and open software tool and framework for 2D and 3D machine vision. It is the best choice for companies wanting to make the best and most reliable machine vision. It save costs, automates and secures 100% quality.

Scorpion Vision Software is used in a vast variety of industries; automotive, aluminium, furniture manufacturing, food and drugs, fish industry, robotics, packaging, energy and more.

Scorpion Vision Software solves tasks within robot vision, label and surface inspection, assembly verification, color identification and high precision gauging.

The system is founded on top of a standard Windows 7/ XP and XPembedded platform - thus a flexible alternative to proprietary vision sensors or custom vision systems.

It is cost effective benefitting from the processing power of the multi-core processors, low cost and high quality firewire cameras and the possibility of connecting multiple cameras to one PC.

Scorpion Vision Software is packed with features and details making it easy to develop and maintain robust industrial vision systems. **Every single feature is specified**, implemented, tested and verified based on experience obtained on the factory floor.

Scorpion Vision Software offers large reduction in the development time, deployment cost and maintenance cost for machine vision systems.

Sony is one of our industrial partners.

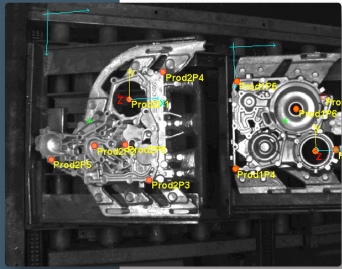
Pascal Wojciechowski, Division Director, Sony ISS said: "Customer satisfaction is our prime focus. We will only team up with partners that provide the highest caliber solutions to match our camera's performance and capabilities."

Our goal is to provide the best **3D Stereo Vision**.



<< measurements in 3D

Scorpion 3D Stinger never fails!



Robot Vision is a primary focus for Scorpion Vision Software. Scorpion Vision gives the robot the ability to see - locate and identify in 3D.

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 3D Stinger for Robot Vision is the ultimate solution for 3D Robot Vision targeting 3D Picking, Depalletizing and 3D Bin Picking. Scorpion 3D Stinger™ identifies and locates any part in 3D with sub-pixel accuracy.

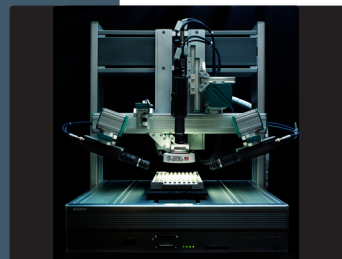
The parts are described with the simplest 3D model consisting of 4 to 8 selected 3D features.

The system uses the best 3D stereo vision to make the most accurate and reliable system that never fails!

Scorpion can combine inspection and robot vision in a single system to save cost.

Scorpion Robot Inspection is an area where Scorpion excels using a robot to move 2D or 3D cameras to capture multiple high resolution and high quality images of parts.

The solution is in use within major Automotive and Pharmaceutical companies. They are adaptable to other industries with requirement for 100 % inspection and traceability.



The Automotive Industry is a good application area for Scorpion Vision Software. Our System Integrators have provided the finest **2D and 3D machine vision and assembly verification systems** for the last 10 years.

Important features are reliable image processing, color identification, 2D and 3D measurement, efficient variant handling and the fastest configuration and maintenance. There are major references within 3D Robot Vision, seat, cockpit and door inspection.

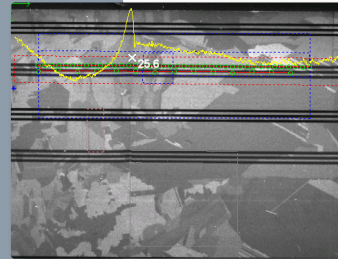
Scorpion Vision OEM solution for Wafer Inspection.

Tordivel patented a unique sawmarks measurement principle. The Wafer Inspection System covers all electrical and optical measurements including tracking and database logging. Scorpion Vision Software is used to measure size, edge faults, chipping, geometry and wafer contamination.

The technology is developed in cooperation with RecWafer, Norway. The system is sold and marketed by Semilab, Hungary.

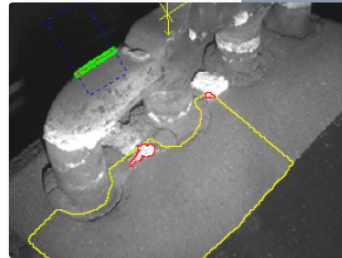
Scorpion Vision Apps turn the SmartCams from Sony into a complete vision solutions for end-users and OEMs. The following Apps are provided: Barcode Reading, Object Align, Object Locate, Image Capture and Color Identification.

Open architecture smartcams are the perfect hardware for Scorpion Vision OEM within 2D and 3D machine vision including single camera 3D.



Scorpion Vision 3D for Aluminium Industry

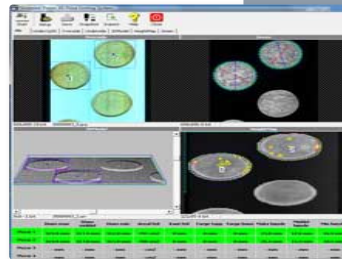
Scorpion Vision System for Rodding is a complete, cost effective and expandable platform for robust measurement, classification and tracking in Rodding Shops. The system consists of these application: Butt Measurement, Black and White Detection and Measurement, 3D Stub Alignment and Classification and Rodding Tracking System.



3D Pizza and Tortilla Inspection is used to count products and automatically reject products not meeting specifications.

The system is used to sort 120.000 pizza buns every day or 40.000 tortilla per hour. The system is mounted over a standard conveyor.

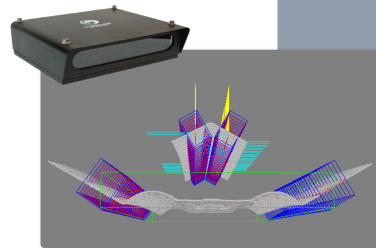
Tordivel and partners provide cutting edge turn-key solutions for bakeries globally.



The Scorpion 3D Stinger for Laser Triangulation System provides the perfect technology for OEMs that want to create unique 3D products. The Scorpion 3D Stinger Camera can create the most accurate one, two or three sided 3D-models.

The technology is used in Tordivel's products for food inspection and aluminium industry.

Scorpion Vision Software can also be used to capture and process high performance 3D images generated by the Sick Ranger 3D cameras.



Object Identification based on 1D and 2D barcodes is supported on a wide range of hardware from low cost board cameras, Scorpion Mono Stinger, SmartCams and high performance firewire and GigE cameras.

When it is impossible to add a barcode to the products we can help with the best concept. We sort based on object shape, use the texture of the surface, the color or the presence or position of selected features.

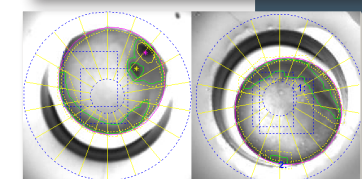
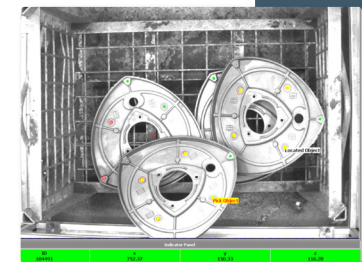
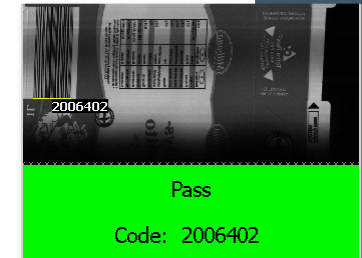
Using Scorpion 3D Stinger we can identify and locate any object in 3D based on a geometrical 3D model of the object.

Scorpion 3D Stinger for Robot Vision is developed to solve 3D Bin Picking and 3D Robot Vision in the casting industry.

The system has been developed in the AutoCast R&D project sponsored by the Norwegian Research Council and coordinated by Jøtul AS. The system picks and identifies hundreds of different parts based on a geometrical model.

Fish Farming and 3D Fish Vision - Tordivel has provided cutting edge products for the Fish Farming Industry for many years. We have provided core machine vision technology for Maskon in their Fish Egg Sorter and the automatic Fish Vaccination machine. We have made a significant R&D contribution for Feed Control in the automatic fish feed system.

We target new developments based on the Scorpion 3D Stinger technology.





SCORPION VISION SOFTWARE®

- ♠ *Scorpion Vision Products*
- ♥ *Scorpion Vision OEM*
- ♦ *Scorpion Vision Integration*
- ♣ *Scorpion Vision Framework*

Play our game!

In every suite there are 13 cards plus jokers all designed to fit your needs for performance, speed, robustness, low-cost, accuracy and more.

You can mix and match from any suite for an optimal solution to your challenge within the large and demanding field of 2D and 3D Machine Vision.

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**Tordivel provides
Scorpion Vision OEM solutions
for the PV Industry**