

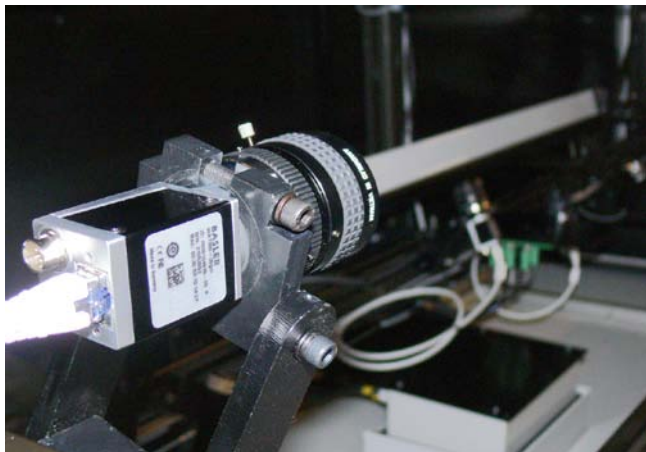
Basler ace GigE Cameras Bring Mapvision's Multi-Camera System into the Digital Realm

Customer

Mapvision is a private Finnish company that develops and markets state-of-the-art measurement systems for industrial quality control. Mapvision's expertise combines three technologies: machine vision, image measurement, and 3D design.

Application

Since 2004, Mapvision has developed their multi-camera "Quality Gate" inspection systems that create and analyze data for 3D quality control of the inspected objects. The Quality Gate system includes an imaging environment and



Detail of the Camera Integration in the System

software. Mapvision's software analyzes the images, checks the objects' dimensions, and makes sure that all the necessary components are in place. In the spring of 2011, a digital version of the Quality Gate system that includes compact Basler ace GigE cameras was introduced.

The inspection environment consists of a black room or a cabinet where the walls, floor, and ceiling are equipped with dozens (up to 100) of cameras and lights. The inspected object, a BMW front frame for example, is taken from the production line to the cabinet. There the cameras image the object from every side using the optimally designed lighting in the cabinet. Because each camera and each segment of the LED lighting array performs its task according to a precisely specified cycle, imaging takes only a few short seconds. The software acts as the "brain" of the system, controlling the imaging and performing the 3D image modeling, analysis, and storage.

Solution and Benefits

The functionality of the Quality Gate system was improved by replacing the existing analog cameras with very precise Basler GigE digital cameras. According to Sami Lehtonen, an account manager for Orbis Machine Vision, the company that sold the cameras to Mapvision: "Basler's ace series has been a hit product from the start. It includes all the capabilities Mapvision could hope for."

The ace cameras are extremely compact and include a Power over Ethernet interface, which reduces the number of required cables and facilitates maintenance and installation. Ethernet transmission allows control of several dozen cameras via a single piece of software. Rapid electronic shutter times, programmable within a fraction of a second, allow effective imaging applications on a fast-moving production line.



Quality Gate Multi-Camera System

The cameras and the lights are fixed in the cabinet, but they can be programmed to measure new component variants or products at any time. Adjustments can be made over the Internet, which saves travel costs and time. The system also enables a shorter time-to-market for new models, an important competitive advantage in today's market.

The ace series is particularly attractive due to its affordable price, a feature completely in tune with Mapvision's design philosophy. Antti Knuuttila, CEO of Mapvision, refers to the Quality Gate system as a RAIC™ (Redundant Array of Inexpensive Cameras): "If one of the cameras fails, the system will still be operational. And because the object is imaged from so many angles, the precision will be only slightly reduced."

The Quality Gate system is very flexible - now even more so thanks to Basler ace GigE digital cameras.

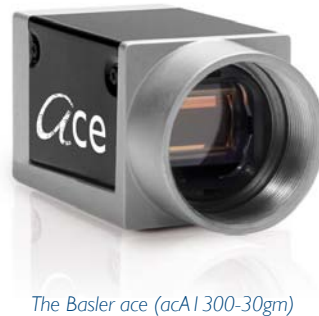
Technologies Used

- Basler ace GigE cameras (acA1300-30gm)
- Mapvision software

More Information

Customer: <http://www.mapvision.fi>

Basler distributor in Finland: <http://www.orbis.eu>



The Basler ace (acA1300-30gm)



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