

## Volkswagen dramatically improve process monitoring. Axis network cameras prevent costly delays to passat production.



Organization:  
Shanghai-Volkswagen

Location:  
Shanghai, China

Industry segment:  
Industrial

Application:  
Visual verification

Axis partners:  
SeeTec and  
ICS Industrielle  
Automatisierungs-  
systeme GmbH

### Mission

To ease work and prevent delays in their production process, Shanghai-Volkswagen searched for a reliable verification system to their existing scanner control system. The production of every single car should be controlled and monitored by a system that matches the existing scanner system.

### Solution

Axis network cameras were installed as part of a system created by SeeTec and ICS Industrielle Automatisierungssysteme. The camera monitors any errors and sends the image of the scanner to an Emergency Data Entry PC. To ensure that all components of the security system work properly, a flexible video management software was integrated.

### Result

Employees save time by not having to physically go to the car to re-read the barcode. Volkswagen's just-in-time production process was considerably improved. The visual verification system is tailor-made for the existing technical configuration and increases the value of the Network at Volkswagen.

## Scanner system controls manufacturing process

Since mid May 2000, Shanghai-Volkswagen is manufacturing the business-version of its "Passat" in a newly built factory in Anting, about 50 km out of Shanghai. After initial manual material-flow controlling they implemented a control system for their production. This system also handles the orders for just-in-time suppliers. The control system is connected to local PC-systems supplied by ICS Industrielle Automatisierungssysteme GmbH in Germany.

Volkswagen controls the production process of every single car via a barcode label that is attached to each vehicle. These barcodes are read by scanners that are installed at certain points along the assembly line. Data is transmitted via the intranet into the control system. An error read by a scanner meant that an employee had to re-read the barcode directly at the respective car and he had to enter the data into a PC.

## Visualize the error and act remotely

To ease work and prevent delays in the manufacturing progress, SeeTec Industry Monitoring GmbH and ICS Industrielle Automatisierungssysteme GmbH developed a visual verification system with an Axis network camera as a key element. Once the scanner has read an error, the reading system "Data Collection Point" (DCP) sends a signal to the camera which then automatically forwards a picture of the barcode label to the Emergency Data Entry PC (EDE) via the intranet. The Axis network camera was equipped with a high focal lens to ensure the complete label is viewed. The implemented Viewpoint software from SeeTec opens a window on the screen and views the label. An employee

then copies the numbers into a second window from where data is directly transmitted to the control system. In case of inadequate light sources for the camera at night, the DCP system automatically turns on light via the Interbus S I/O.

## Reliable system with video management software

In order to be able to provide a fully redundant solution, a self-test routine was incorporated into the system: The Viewpoint software recognizes spelling errors and rejects them. Only after the correct entry the barcode will be forwarded. Furthermore, a protocol converter was installed to allow the transfer of pictures from the camera to the Data Collection Point.

Finally there was one vital question left that needed answering: How to make sure that all components of the system will work reliably? A signal circle was created. In short intervals, the Data Collection Point sends out a signal which travels between all components of the system. Should the signal not be registered and answered by any of the components within a determined time frame, this is considered as a warning. The warning either appears as an acoustic message or on the screen.

The installed system is a smart combination of software and technology. It does not only use existing network capabilities and thereby saves money for the implementation of new ones but also saves a considerable amount of time for the employees involved in the production process. Thereby it is an important contribution to the just-in-time production process at Volkswagen.