

**Firm:** Volvo Cars  
**Department:**  
**Application:** Press Line Simulation  
**Area:**  
**Technology:**

**Faro Product:**  
 - 3D Laser Scanner LS  
**FARO:** User Story

**FARO**  
 EUROPE

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## Press Line Simulation based on LS 3D scanning

### Application:

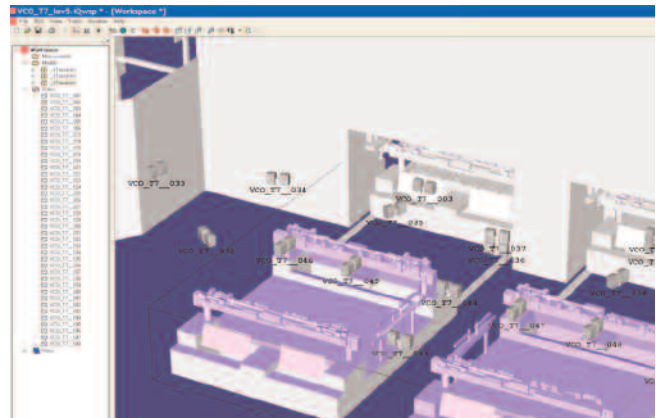
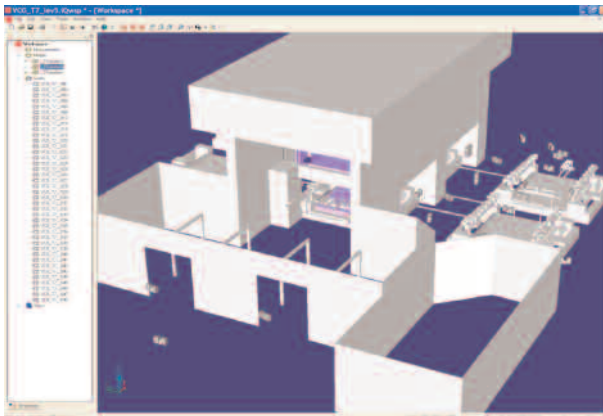
Volvo Cars has together with ATS AB, the Swedish distributor for the FARO Laser Scanner LS, performed a pilot project to improve productivity in three of the press-lines at the large press-shop in Olofström, Sweden.

The goal was to make detailed computer models based on 3D scans taken by the LS Scanner, which will be used in the planning and simulation process, to reduce downtime in the press-shop. The validation and Press Line Simulations are made in eM-Press, a program from UGS/Tecnomatix.

Many of the press lines lack good 3D-data. They have also been modernised and modified over the years. Through careful positioning of the LS Scanner inside and along the press-line the recorded data can be used to create high quality models.



*Scan data of detail in transfer press*



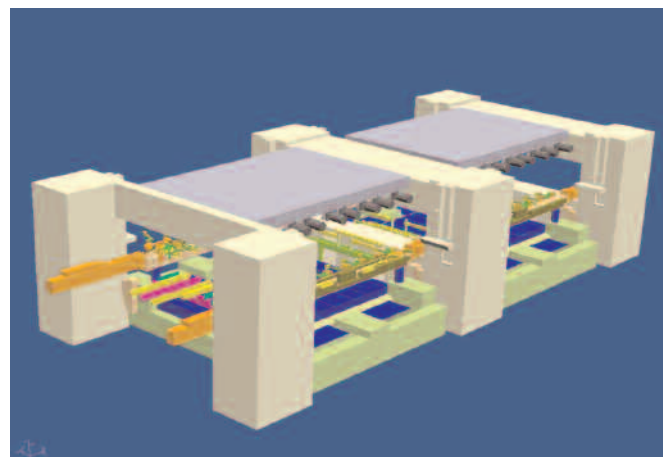
*Images in FaroScene of 3D model and scan positions in transfer press*

"The accuracy of the models are much better than with conventional methods of manual measurement. It also gives a good general picture and is a complement when converting 2D drawings to 3D models" says Nima K Nia at VCIT, leader of the simulation project.

Press lines are normally running 24 hours a day during the week leaving no time for anything except production. Together with Volvo Cars, ATS has developed a methodology to efficiently scan complete press-lines in just 20 hours during the weekend halt in production.

"We had to further develop the methodology we normally use when scanning plants capturing data for 3D layouts", says Rolf Berlin, ATS AB. The demands for accuracy are 5 times higher in the press lines compared to traditional plant-level scanning.

Typically 70-100 scans were made in strategic positions to collect the data needed for mapping the complex geometries.



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eM-Press provides a virtual 3D environment for interactive design and optimization of dies and press lines. Powerful simulation of the entire press line - including its dies, part flow, mechanization, grippers, suction cups and robots - enables you to verify and deliver error-free designs to the shop floor. With correct 3D models these tools can significantly enhance the productivity in the press lines.

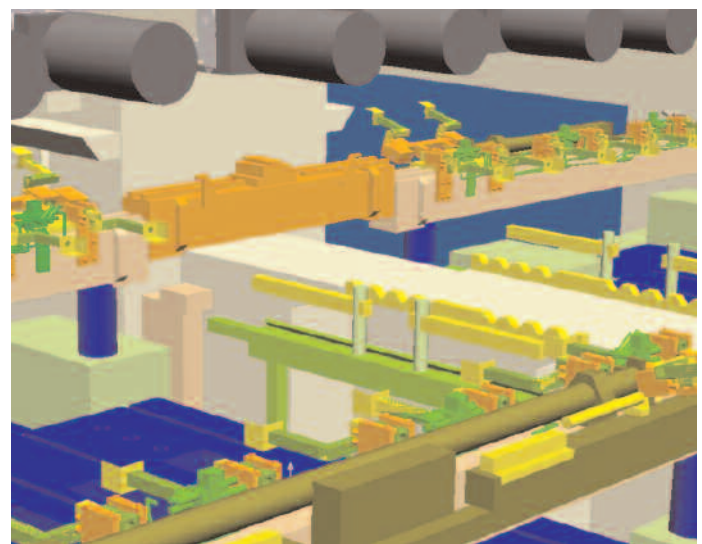
"This new technology with 3D scanning of production lines has many applications", says Nima K Nia at VCIT, "it will also be used for factory models and 3D layouts, as well as simulation of robot cells.



*Nima K Nia: leader of the simulation project*



*Scan data of detail inside transfer press*



*Detail of final 3D model with kinematics in eM-Press*



*Scanner in position for overview scan*

**About FARO**

With more than 7,500 installations and approximately 3,800 customers globally, FARO Technologies, Inc. (NASDAQ: FARO) and its international subsidiaries design, develop, and market software and portable, computerized measurement devices. The Company's products allow manufacturers to perform 3-D inspections of parts and assemblies on the shop floor. This helps eliminate manufacturing errors, and thereby increases productivity and profitability for a variety of industries in FARO's worldwide customer base. Principal products include the FARO Laser ScanArm; FARO Laser Scanner LS; FARO Gage and Gage-PLUS; Platinum, Digital Template, Titanium, Advantage FaroArms; the FARO Laser Tracker X and Xi; and the CAM2 family of advanced CAD-based measurement and reporting software. FARO Technologies is ISO 9001 certified and ISO-17025 laboratory registered. Learn more at [www.faro.com](http://www.faro.com).