

# Volvo Trucks Slashes Manufacturing Tool Production Time by More Than 94% While Increasing Plant Efficiency With Stratasys 3D Printing

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Turnaround time of certain assembly line manufacturing tools reduced from 36 days to two days, using a Stratasys Fortus 3D Production System

Truck engine production plant achieves tooling cost reductions, while improving versatility and reactivity

<u>Stratasys Ltd</u>. (Nasdaq:SSYS), a global leader of 3D printing and additive manufacturing solutions, has announced that Volvo Trucks is dramatically decreasing turnaround times of assembly line manufacturing tools by more than 94% since incorporating Stratasys additive manufacturing technology at its engine production facility in Lyon, France.

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(Photo: http://photos.prnewswire.com/prnh/20150318/735559-b)

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According to Pierre Jenny, manufacturing director at Volvo Trucks, the company has reduced the time taken to design and manufacture certain tools traditionally produced in metal, from 36 days to just *two* days in thermoplastic ABS*plus* using its Stratasys Fortus 3D Production System. These significant gains in time are also improving the production plant's overall efficiency and flexibility; delivery times are upheld and the use of additive manufacturing has saved costs by reducing wastage.

From a financial perspective, Jenny estimates that, where **customized** or **small quantities** of **tools** are required, the all-in cost of 3D printing ABS thermoplastic items is - in some cases - **as little as 1€cm**<sup>[3]</sup>, **compared to up to 100€cm**<sup>[3]</sup> **if making the same item from metal**\*.

"Stratasys 3D printing has made an incredible impact to the way we work," he explains. "The capability to produce a virtually unlimited range of functional tools in such a short timeframe is unprecedented and enables us to be more experimental and inventive to improve production workflow."

Volvo Trucks purchased its Fortus 3D Production System from Stratasys' reseller CADvision and within a three month period - had already **3D printed more than 30 different production tools** to facilitate the way its production line operators worked. These include a range of different durable yet lightweight clamps, jigs, supports and even ergonomically-designed tool holders that ensure a more organized working environment for operators.

"We're working in the heavy-industry sector, so reliability is naturally critical. So far every piece that we have 3D printed has proved to be **100% fit-for-purpose**," adds Jean-Marc Robin, Technical Manager, Volvo Trucks. "This is crucial from a practical aspect, but also instils trust among operators and quashes any traditional notion that everything has to be made from metal in order to function properly," he adds.

According to Robin, developing production tools **using additive manufacturing** also enables the equipment design team to be **far more responsive**, while **avoiding possible wastage** in the event of last minute design changes before tools are made.

"The fast and cost-effective nature of additive manufacturing means that **we are far less restricted** than we were even six months ago, allowing us to constantly improve our processes," he continues. "We now have operators approaching our 3D print team with individual requests to develop a custom clamp or support tool to assist with a specific production-line issue they might be having. From a time and cost perspective, this is unimaginable with traditional techniques.

"Additionally, in the rare case that the design specifications of a traditionally-manufactured metal tool were inaccurate, the lengthy and costly design and manufacturing process had to begin again. With a 3D printed part, we can simply alter the design specifications and re-3D print the piece in a few hours," he adds.

"More and more of our customers are adopting additive manufacturing as the first phase to produce jigs and fixtures," says Andy Middleton, Senior VP and General Manager, Stratasys EMEA.

"As exemplified at Volvo Trucks, using additive manufacturing for tooling and work-holding devices is a reliable solution for increasing efficiency in manufacturing processes. In many cases it is also the only feasible solutions as production by traditional method is limited due to cost- or design-constraints," concludes Middleton.

Volvo Trucks' Lyon engine plant produces various engine types and sizes for the Volvo Group, including Renault Trucks, which the Group bought in 2001.

\*1 $\in$ /cm<sup>[3]</sup> equivalent to \$1.13 per 0.06 cubic inches; 100 $\in$ /cm<sup>[3]</sup> equivalent to \$113 per 0.06 cubic inches.

Stratasys Ltd. (Nasdaq:SSYS), headquartered in Minneapolis, Minnesota and Rehovot, Israel, is a leading global provider of 3D printing and additive manufacturing solutions. The company's patented FDM<sup>®</sup>, PolyJet™, and WDM™ 3D Printing technologies produce prototypes and manufactured goods directly from 3D CAD files or other 3D content. Systems include 3D printers for idea development, prototyping and direct digital manufacturing. Stratasys subsidiaries include MakerBot and Solidscape, and the company operates the digital parts manufacturing service, Stratasys Direct Manufacturing. Stratasys has more than 2,800 employees, holds over 600 granted or pending additive manufacturing patents globally, and has received more than 25 awards for its technology and leadership. Online at: <a href="http://www.stratasys.com">http://www.stratasys.com</a> or <a href="http://www.stratasys.com">http://blog.stratasys.com</a>.

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