

## Laser production of 'blanks' without retooling

[Laserfact](#), an industrial laser specialist based in Aachen, Germany, has developed a novel "combi-head" solution that allows laser-based cutting and welding - without the need to retool.

Sheet metal products such as automotive components are fabricated by sequential cutting and welding operations. These different processes have traditionally required different machines, but Laserfact's new "combi-head" allows cutting and welding to be performed with a single machine. Integrating the process chain in this way not only saves times and reduces production costs, but also allows products to be manufactured more flexibly.

The dual function of the beam tool is enabled by a so-called "autonomous nozzle", developed and patented by the [Aachen Fraunhofer Institute for Laser Technology](#) (ILT). Laserfact has commercialized the design, which will make its debut at LASER 2007 on Booth B3-131. Fraunhofer ILT and Laserfact anticipate that there will be "enormous development and market potential for new processes and products in all sectors of metal working industry".

The combi-head allows for rapid, automatic switching between cutting and welding, with no need to change machining heads. Laserfact estimates that the combi-head can yield cost savings - in terms of investment, floorspace, operation and logistics - of more than 50% when compared to conventional laser technologies. Above all, such integrated laser processing improves product quality because it offers greater accuracy and because problems associated with process changeover are eliminated.

The combi-head is equipped with a fast response z-axis for automatic height control, a newly designed multiple crossjet format for effective optics protection, and a sealed optics module with quick-change features for the cover slide and focusing device. The combi-head can also be used to transform industrial robots, enabling them to serve as universal 3D cutting and welding systems.

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