Globally unique production solution from AP&T paving the way to lighter, safer and more energy-efficient cars

AP&T has produced an entirely new manufacturing method for car body parts made of high-strength aluminum. The method could become an important contribution to the development of lighter, safer and more energy-efficient cars that have a lower climate and environmental impact.

“Our research and development of new materials and production processes helps our customers produce increasingly lighter, safer and more energy-efficient products. This is an important aspect of the transition towards sustainability that is currently underway in the car industry,” says AP&T CEO and Managing Director Magnus Baarman.

AP&T’s solution allows structural parts that have previously been manufactured from sheet steel or cold-formed aluminum to instead be produced from hot-formed high-strength aluminum. This means material thickness can be reduced and component weight can be lowered by between 30 and 50 percent, at the same time that the strength of the material and impact safety are improved.

“Our process technology considerably increases the material’s formability, which means we can also use high-strength aluminum for complex-shaped parts and integrate more functions and properties into one single component,” says AP&T CTO, Technology Development Christian Koroschetz.

Among other things, this means that components that are currently manufactured from several joined parts can now be produced in far fewer steps, and a more rational process also results in cost advantages.

“Fewer parts, fewer manufacturing steps and fewer required tools, combined with more efficient handling, logistics and assembly result in a decidedly lower production cost than the current level — despite higher costs for production equipment and materials,” says Christian Koroschetz.

AP&T’s solution recently won the prestigious 2017 Altair Enlighten Award competition in the Enabling Technology category. The competition recognizes important innovations that can contribute to lighter and more energy-efficient cars. Among the 29 finalists, FCA, Toyota and Faurecia were also named winners in other categories.

A complete production line based on AP&T’s process technology was unveiled for customers and other stakeholders in Ulricehamn, Sweden on October 4 and 5.

Facts:

- AP&T’s newly developed production line can be used for hot forming (hot forming, w-tempering and warm forming) of high-strength aluminum (6000 and 7000 series).

- Among other things, the production line includes AP&T’s most recent press, which offers a quick, stable and energy-efficient process as well as AP&T’s Multi Layer Furnace and automation.

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BBQ_Line_Final1_View_02_CC.jpg

AP&T's new production line for hot forming of high-strength aluminum enables the weight of car body parts to be reduced up to 50 percent.

Ledning_Christian_Koroschetz_Färg.jpg

"Fewer parts, fewer manufacturing steps and fewer required tools, combined with more efficient handling, logistics and assembly result in a decidedly lower production cost than the current level," says AP&T CTO, Technology Development Christian Koroschetz.

AP&T develops, manufactures and markets production solutions for metal forming, including automation, presses, tooling and related aftermarket services. The company has approximately 450 employees, its own facilities in Sweden and Italy and a global sales and service organization. The company's headquarters are located in Ulricehamn, Sweden.