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Bertrandt and voestalpine launch project cooperation Scalable Battery Platform with Steel Housing for Easy and Efficient Adaptation to Different Model Ranges

Ehningen, 29 July 2021 – The development service provider Bertrandt and voestalpine Stahl GmbH, a subsidiary of the Steel Division of voestalpine AG, have combined their expertise in the virtual development of a battery platform and jointly developed a scalable battery platform with steel housing. The Bertrandt Scalable Battery Platform powered by voestalpine features a steel housing and can be easily and efficiently adapted to different battery sizes.

As a key element of the battery system, the steel housing performs a variety of functions such as crash resistance and fire safety to protect the battery cells, as well as providing weight optimisation through the appropriate selection of steel grades and cost-effectiveness packaged in an optimum design concept. This solution is now available for car makers and system suppliers.

Experts from the Electronics and Product Engineering business units at Bertrandt have developed a scalable battery platform. The new platform makes it possible to integrate different module variants and electric and electronic components, while at the same time implementing a large number of project-specific solutions. The Bertrandt engineers decided to use steel as the material for the battery housing. And this is where the technology company voestalpine Stahl GmbH came into its own. “With voestalpine, we have found the ideal partner to put our idea into practice,” said Matthias Medger, Head of Technical Sales and Solutions eMobility. Since autumn 2020, the project has been implemented by a joint team of experts from Bertrandt and voestalpine Stahl. The use of steel has numerous advantages compared to aluminum: a steel construction can be made much more compact while still offering the same level of stiffness and strength. It therefore makes more efficient use of the installation space and increases the energy density of the battery system. What is more, steel can be recycled many times without any loss of quality. When designing the concept, the engineers paid particular attention to ensuring that the battery

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housing is fully sealed, and they achieved this by reducing the number of interfaces between the individual components. This was made possible by the use of roll-formed sections in the housing. As a result, the steel housing has only one weld seam, thus reducing the risks of insufficient sealing. In addition, manufacturing the housing in this way is less expensive than using other production processes.

“Bertrandt’s development expertise and our materials competence ensured excellent cooperation in this joint project,” said Andrea Tuksa, Technical Customer Service at voestalpine Stahl. The use of dual-phase steels (e.g. CR330Y590T-DP) for the lid, complex-phase steels (e.g. CR900Y1180T-CP) in the crash structure, mild steels for the cooling plates, and a high-ductility complex-phase steel (e.g. CR780Y980T-CH) for the C channels shows the bandwidth of application possibilities in the steel housing. The use of steel, which is a sustainable material, also takes environmental considerations into account, as voestalpine’s materials are benchmarks in the area of sustainability and cause around one-eighth of the CO₂ emissions of aluminum during production. The Bertrandt Scalable Battery Platform powered by voestalpine complies with the ECE-R100 standard and is designed for high-volume vehicle segments, while at the same time taking sustainability into account.

About Bertrandt

The Bertrandt Group is your leading solution partner for all technology trends. Our clear objective is to help shape the future of digital and electronic technology. In the automotive sector, we have combined our expertise across our different sites into four business units: Electronics, Product Engineering, Physical, and Production & After Sales. In addition, we provide support for customers in numerous other industries with our comprehensive know-how: from the energy and aerospace sectors to mechanical and plant engineering and medical technology. Around 12,000 employees at more than 50 sites are involved every day in successfully implementing our customers’ projects. Further information is available at www.bertrandt.com.

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