

NEWS RELEASE

**Teijin and Applied EV Develop
Autonomous Vehicle Platform for LS-EV**

Tokyo, Japan, February 2, 2021 --- [Teijin Limited](#) announced today that the company and its joint development partner Applied Electric Vehicles ([Applied EV](#)) have achieved a major milestone toward their shared vision for zero-emission future mobility.

By utilizing Teijin's lightweight, highly efficient material technology and expertise in composites manufacturing, Teijin and Applied EV have delivered a production-ready one-piece structural shell for Applied EV's zero-emission robotic vehicle platform, the [Blanc Robot](#). The shell is a key component and enables AEV to significantly reduce the weight and manufacturing complexity of the vehicle, enabling AEV to achieve low mass, high energy efficiency and excellent structural performance.

The *Blanc Robot* is a programmable, autonomous electric vehicle (EV) platform, designed and engineered by Applied EV. It can integrate with many autonomous systems, carry a range of vehicle bodies and serve many purposes, including industrial, delivery and surveillance applications.

Teijin and Applied EV are continuing to work together to further utilize Teijin lightweight material technologies for a range of other components, including structural elements, glazing and exterior body panels for use in production EV's in the latter half of 2022.



[Blanc Robot](#) click left for the video link

The field of mobility is undergoing a significant transformation based on new concepts, including connected, autonomous, shared and electric (CASE) vehicles and 'Mobility as a Service' (MaaS). Electrification and autonomous technologies are rapidly being developed for next-generation automobiles, allowing a range of practical solutions that reduce environmental impact and address the changing needs of society, including the transportation needs in aging societies.

The move to electric mobility is also raising awareness of the benefit in taking a 'well-to-wheel' approach that considers the total energy efficiency of vehicles, including how electricity is sourced as well as how it is used in driving. Teijin and AEV launched their

joint development initiative in 2019, to establish a technological foundation for supporting multipurpose zero-emission vehicles for a future society.

Applied EV has unique foundations in both automotive and robotics, allowing them to bring a fresh offering to the new mobility market. With a focus on efficiency and sustainability, they are lowering the cost and environmental impact of transportation. The *Blanc Robot* “skateboard” designed and engineered by Applied EV is the basis for many autonomous use cases. Built around a core of electronics and mechatronics, running purely on software, the *Blanc Robot* is designed specifically for autonomous operation.

The *Blanc Robot*'s shell, or top cover, is the largest single component on the vehicle, measuring about four square meters in total. It is made from light weight, high-strength and highly-rigid GF-SMC and molding technology provided by [Continental Structural Plastics Holdings Corporation](#) (CSP), the Teijin Group's core automotive-composites business. CSP's proprietary GF-SMC enables the *Blanc Robot*'s shell to weigh some 20% less than an aluminium equivalent component and significantly simplify the manufacturing process.



The Blanc Robot upper shell, manufactured using Teijin materials and technology

CSP's molding technology enables the integral molding of a sheet in thin, complicated shapes that are difficult to achieve using metal. Moreover, molding requires around three minutes. The GF-SMC shell allows the *Blanc Robot* to achieve excellent structural performance to protect crucial equipment inside from damage and the shell achieves excellent fire resistance, dimensional stability and corrosion resistance.

Applied EV unveiled the *Blanc Robot* at CES, one of the largest global trade shows to showcase new products and technologies in the consumer electronics industry. Updates of ongoing developments will also be posted on [Teijin Mobility Online](#) an exhibition website introducing Teijin's mobility-related technologies and products.

“Our joint development with Teijin is driving product innovation for mobility markets,” said Julian Broadbent, CEO of Applied EV. “Teijin's materials and technology allow us to achieve mass, energy efficiency and cost results that cannot be achieved using more

traditional methods. Using GF-SMC for this critical component provided a great deal of design and engineering freedom, which fundamentally changed our manufacturing method and capital cost, allowing us to be more competitive. It also creates a more energy-efficient and sustainable transport solution.”

“We expect our collaboration with Applied EV to help meet important needs in society by offering new solutions for automotive applications based on advanced materials and structural design required in next-generation EVs,” said Toshiaki Hotaka, General Manager, Mobility Division of Teijin Limited. “Aiming to become a company that supports the society of the future, we have designated environmental value solutions as one of Teijin’s priority fields for contributing to circular economies and sustainability.”

About the Teijin Group

Teijin (TSE: 3401) is a technology-driven global group offering advanced solutions in the fields of environmental value; safety, security and disaster mitigation; and demographic change and increased health consciousness. Originally established as Japan's first rayon manufacturer in 1918, Teijin has evolved into a unique enterprise encompassing three core business domains: high-performance materials including aramid, carbon fibers and composites, and also resin and plastic processing, films, polyester fibers and products converting; healthcare including pharmaceuticals and home healthcare equipment for bone/joint, respiratory and cardiovascular/metabolic diseases, nursing care and pre-symptomatic healthcare; and IT including B2B solutions for medical, corporate and public systems as well as packaged software and B2C online services for digital entertainment. Deeply committed to its stakeholders, as expressed in the brand statement “Human Chemistry, Human Solutions,” Teijin aims to be a company that supports the society of the future. The group comprises more than 170 companies and employs some 20,000 people across 20 countries worldwide. Teijin posted consolidated sales of JPY 853.7 billion (USD 8.0 billion) and total assets of JPY 1,004.2 billion (USD 9.4 billion) in the fiscal year that ended on March 31, 2020.

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