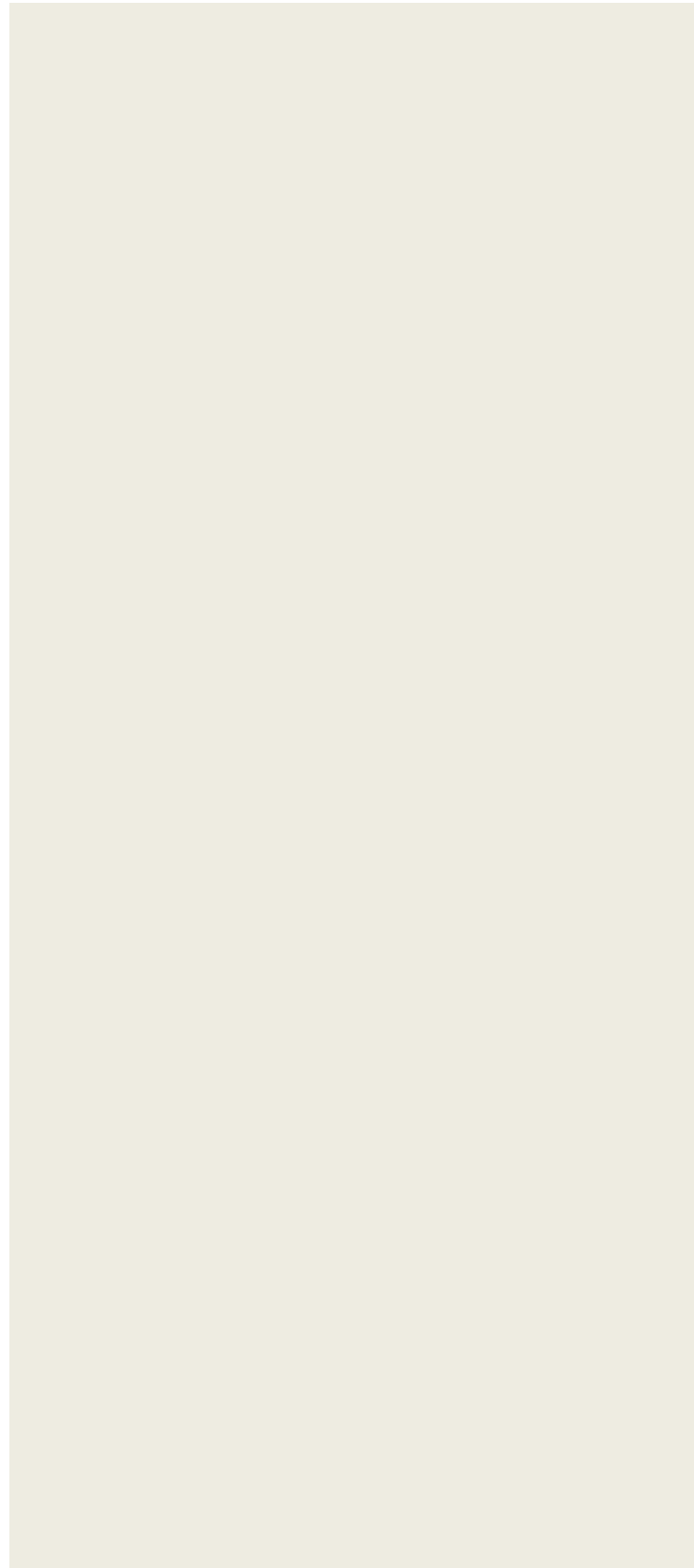

Williams Advanced Engineering debuts ultra-high performance EVR platform

The latest ultra-high performance electric vehicle (EV) platform from Williams Advanced Engineering (WAE) was unveiled last week at the Low Carbon Vehicle (LCV) Show at Millbrook Proving Ground in Bedford, UK.

The company's concept EVR platform has been developed to accelerate the ambitions of hypercar manufacturers, ranging from startups to well-established OEMs, and combines WAE's extensive knowledge of vehicle and powertrain engineering.

Manufactured using a lightweight composite structure, a high-performance battery system is then mounted in the middle of the vehicle to ensure the best center of gravity. Highly modular by design, the EVR can be used for purely track-going EVs or their roadgoing counterparts, with or without fixed roofs. The highly flexible nature of WAE's platform is down to the architecture's central tub which enables open roofs and active aerodynamics to

Our Automotive students have several projects running in the laboratory in the STEM building. One of the projects is the stripping of a Toyota 3SGE engine. All the engines parts will be brought up to better than new condition. This will enable the students to study the design and functionality of the engines components.





ZC Rubber Boosts Sustainability with Tyre Recycling

For the tyre industry, recycling end-of-life tyres is a significant task. Every year, about a billion tyres reach the end of their usable lives. Recycling is a multifaceted process that involves gathering end-of-life tyres, sorting them, and finding new uses.

ZC Rubber is China's first tyre company to start recycling, reusing, and repurposing. The company began its tyre recycling journey in 2005 when it first built its Recycling Technology and Service Center to carry out rubber recycling and reuse. In 2009, ZC Rubber formally established Zhongce Recycling Technology Co., Ltd to take tyre sustainability to new heights.

For years, ZC Rubber has been in active collaboration with domestic and international research institutions to develop a more sustainable tyre supply chain that minimises the environmental impact of tyres throughout their lifespan. It has currently built a holistic recycling industrial value chain covering tyre recycling, sorting, retreading, pyrolysis, etc.

During the past 17 years, ZC Rubber has recycled 400,000 tons of end-of-life tyres (1.7 million pieces of tyres), cutting carbon emissions by a total of 510,000 tons – the equivalent of planting 27.87 million trees.

Annual production capacity of 20,000 tons of reclaimed rubber

In collaboration with Nanjing Lvjinren Rubber & Plastic High-tech Co, ZC Rubber has built the world's first automatic reclaimed rubber production line with an annual production capacity of 20,000 tons of reclaimed rubber in 2020.

Zhongce Recycling Technology prepared reclaimed rubber with no waste water and no emissions thanks to cutting-edge machinery and an internationally recognised process. Additionally, the energy consumption per ton is reduced by more than 20% as compared to the conventional method.

In 2022, Zhongce Recycling Technology will build a production line that produces 7,500 tons of liquid recycled rubber annually. Liquid recycled rubber can replace more than 98% of the pollutant-prone processing aids, significantly improving tyre compound quality and increasing tyre life.

Circular recycling supply chain

Through the partnership with Zhejiang University, ZC Rubber is developing a circular recycling supply chain to convert end-of-life tyres into high-quality raw materials such as carbon black, pyrolysis oil, gas, or steel.

Within Zhongce Recycling Technology, pyrolysis oil can be used as a fuel oil for manufacturing carbon black production. After thorough

processing, pyrolysis carbon black can also be utilised in place of regular carbon black, and pyrolysis gas can produce electricity. All rubber-based products can be recycled internally and form a recycling ecology.

In 2022, ZC Rubber will establish the tyre pyrolysis processing line with a 5,000-ton annual capacity.

“ZC Rubber is developing innovative solutions to address economic, environmental, and social development challenges. To encourage a more sustainable future, we are making considerable investments in recycling technologies and smart production.” said ZC Rubber.

With the aim for carbon neutrality in manufacturing and to continue reducing its environmental impact, ZC Rubber will keep pushing forward sustainability in the years to come

WORD FROM THE FACULTY STAFF



Welcome to the second issue of the Automotive Newsletter. In this issue we have a list of useful websites for Automotive Students. Student resources will be a regular feature of the newsletter from now on. We also have a look at one of the projects the Automotive students are currently working on in the laboratory. The Toyota 3SGE engine.

As always your comments and suggestions are very welcome. Please address them to Rex Keen (rkeen@beds.ac.uk)

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