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(From left) Catalyst Motors co-founder Anthony Parks, NUS engineer Kenneth Neo Kang Wei, Catalyst Motors design engineer Lim Chin Khiong, and NUS engineers Hozefa Husainee and Lim Hong Wee with the rolling chassis that the firm will use for its prototype – a classic-style two-door sports car. Catalyst Motors was started in 2014 by Singaporean Lionel Lau and Mr Parks, an American. ST PHOTO: SHINTARO TAY

Made-in-S'pore sports car set to hit the road in 2023

Local firm Catalyst Motors in final stages of building rolling chassis for prototype vehicle

Adrian Lim
Transport Correspondent

The prototype of a Singapore-made car could hit the roads here as early as 2023, with start-up Catalyst Motors looking to break into the automotive manufacturing industry.

The local firm is in the final stages of building a rolling chassis which will be used for its prototype – a classic-style two-door sports car.

The driveable chassis – without the body shell – is expected to be completed in three to four months, the firm told The Straits Times recently.

The chassis is the modular platform on which Catalyst Motors plans to build two other car types – a crossover sport utility vehicle and a supercar.

Modular platforms help carmakers reduce engineering and manufacturing costs, and deliver to the market a wide range of vehicles. Examples include Volkswagen Group's Modular Transverse Matrix platform, which cars like the Audi A3 and VW Golf are built on.

Catalyst Motors was started in 2014 by Singaporean Lionel Lau, 45, who has worked in private equity, and American entrepreneur Anthony Parks, in his 40s. The two automotive lovers have known each other for 15 years.

The company now has 30 staff, including consultants based in Italy, Britain and China.

The first car that it wants to sell will come with a two- to three-litre engine, with a look and style reminiscent of sports cars from the 1960s. To get the prototype off the ground, the firm will use "donor car" components such as an engine and airbags from a popular Japanese make, which it is not disclosing for now.

The frame of the chassis was assembled by hand, using aircraft- and automotive-grade aluminium parts that the company had custom-fabricated to its specifications.

Rather than commission an automotive firm to build their car, Mr Lau and Mr Parks opted to do it from scratch.

Mr Parks explained: "We understand the process of putting the chassis together, and know it inside out, so when we go into further production, or when we build multiple models of this variant, it can happen relatively quickly."

Mr Lau said: "This is our intellectual property. The modular platform also allows different powertrains to be installed, including an electric one, which we are currently developing."

To design their modular platform, Catalyst Motors enlisted the expertise of three National University of Singapore (NUS) engineers – Mr Lim Hong Wee, 37, Mr Hozefa Husainee, 32, and Mr Kenneth Neo Kang Wei, 32 – under a memorandum of understanding signed between NUS and Catalyst.

The trio are instructors from the NUS engineering faculty's Engineering Design and Innovation Centre and have experience in designing race cars. They are involved in NUS' Formula Society of Automotive Engineers (SAE) race car project, which builds a Formula-style race car for the annual Formula SAE Michigan competition.

Mr Lim said: "In Formula SAE, we design a race vehicle from the ground up every year... competing with top universities from all over the world. We have to present our car design to judges from Ford, General Motors, Tesla, Bosch, and (others). It is through these presentations and feedback from the judges that our team grows in knowledge to design better vehicles."

But Mr Lim said that in designing a commercial roadworthy vehicle, they had to also factor in durability, manufacturability and ease of assembly for this project.

Catalyst Motors is bootstrapped by Mr Lau and Mr Parks, who have together invested a few million in the venture so far, but the firm will look for suitable partners as it scales up.

Mr Lau is the son of the late Malaysian tycoon and philanthropist Lau Gek Poh, founder of the Hap Seng conglomerate, which has businesses in credit financing, property, plantations and automotive retail. Catalyst Motors, however, is fully independent from the family business, said Mr Lau.

After the rolling chassis is completed, it will be sent to Britain to be certified and validated for roadworthiness. The bodywork will then be fitted on in Singapore and then the vehicle will be sent to Britain for homologation, or the granting of approval. Mr Lau expects Catalyst Motors to be officially launched in 2023, when public orders will also be taken.

Mr Parks said details such as where the car will be made and the prices and specifications of the models will be announced later.

Vanda Electrics is another local firm venturing into carmaking, teaming up with Britain's Williams Advanced Engineering to build an electric supercar.

Earlier this year, home appliance maker Dyson announced as well that it will build an electric car at a manufacturing plant here.

Adjunct Associate Professor Zafar Momin of Nanyang Technological University's Nanyang Business School said the automotive manufacturing industry has several significant barriers to entry for new firms.

In the sector, established players have the reputation and have capital to develop and roll out new models on a regular basis.

They can guarantee their component suppliers large volumes and also have a distribution channel with after-sales service. "Whatever a new player wants to bring to market, it's not impossible, but you have to have a really good value proposition," said Prof Momin.

When asked about this, Mr Lau said: "We are aware of the challenges in this endeavour, but we are confident in delivering speciality cars that are attractive to car lovers around the world who want something different."

adrianl@sph.com.sg

SPECIALITY CARS

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MR LIONEL LAU, Catalyst Motors co-founder, on the company's product plan.