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E-motorbike ES-11 goes further than before

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KUALA LUMPUR: NanoMalaysia Berhad (NMB) and Eclimo Sdn Bhd's electric motorbike with a Nano-Structured Battery Monitoring System (BMS), the new ES-11, hopes to address the core concerns that comes with owning an electric vehicle (EV) especially for the commercial sector.

Jointly produced by both companies, while the ES-11 model itself isn't new it is now upgraded for greater range and weight capacity. It has a 3-pin plug socket charging system to engage the problem that frequently accompanies EVs - the lack of infrastructure and charging stations.

Its 50kg nano-based lithium-ion battery cell has a life cycle of 1,000 charges and each charge will enable a travel distance of 100 km - saving up to 7kg of carbon dioxide emissions each 100km distance.

Charging voltage is 110V or 240V depending. Max power is at 6,000W, 5,000W continuous power, and a torque of 110Nm.

The 155kg bike with the battery have said to undergone rigorous commercial scale testing to ensure it is equipped to handle delivery of food, frozen food, groceries, medicinal and pharmaceutical products, and eCommerce parcels on top of being used as a mode of transport.

Bike's standard specifications is 1945 x 720 x 1140mm with 130 / 60-13 inch tyres, front and rear hydraulic disc brakes and suspension, a wheelbase of 1410mm, ground clearance of 150mm, and a max payload of 212kg.

Its BMS can monitor battery health, send out alerts when the battery voltage drops, and comes with a tracking and geo – fencing system that can be controlled via a mobile app.

NMB chief executive officer Dr Rezal Khairi Ahmad said two-wheeled EVs set up the opportunity for wider personal ownership acceptance in the local market at a shorter time span because its charging utility is simpler and easier to use, uses 90 per cent less power (17kWh/100km per vehicle) compared to four-wheel EVs which translates to 33 per cent less greenhouse gas (GHG) according to EV standards, and a higher affordability potential.

"The application of nanotechnology in the transportation sector has become a reality with the development of the ES-11 as a use case and a promising first in Malaysia."

"The two-wheeler market has enormous potential as it offers greater electric mobility inclusivity amongst the citizen demographics via significant affordability. It was crucial that we developed a use case successfully in Malaysia first as a platform for regional and global expansion.

"This would allow us to showcase the benefits that come with using nanotechnology, in this case, the Internet of Nano Things and Nano Structured Battery to develop the electric transport and mobility industry to investors – giving us opportunities to expand in the future. It is interesting to note that the energy storage system here is transferrable to other vehicular modes thus providing new lateral commercial deployments potential."

Rezal expands on the matter by saying the ES-11, being wholly made in Malaysia and through a clear electric mobility goal, is an advantage that will create a high value local supply chain other than an effort to compete in other EV markets that are growing such as Indonesia.

"Our neighbouring country has a high demand for two-wheelers and are looking for the opportunity to use electric motorcycles at a very fast rate. Sales of two wheel vehicles in Indonesia is expected to hit 6.4 million units by 2030 with 1.9 million units made of electric motorcycles.

"Thus, Malaysia needs to retain its advantage in technology and innovation at least within the Asean region and own a niche market advantage in high value EV components elevated by nanotechnology.

Speaking at the launch, Minister of Science, Technology and Innovation (MOSTI) Datuk Sri Dr Adham Baba said the launch of the ES-11 is a demonstration of MOSTI's commitment to fulfiling Malaysia's Carbon Neutrality 2050, High-Tech Nation and High-Income Nation aspirations whilst aligning to our Low Carbon Mobility Blueprint 2021 – 2030. It also intensifies the country's efforts in participating in the multi-billion-dollar EV industry, where there are vast opportunities to help our economy recover post-pandemic.

"The tabling of Budget 2022 is pivotal in the advancement of the EV industry and is timely for our launch today. The government is committed in supporting the EV industry with the proposal that EVs be completely exempt from import duty, excise duty and sales tax. EVs will also benefit from a road tax exemption of up to 100 per cent under the proposal, while an income tax relief of up to RM2,500 will be provided on the cost of purchasing and installing, renting or taking up hire purchase facilities, as well as subscription payments of EV charging facilities.

"These support policies are critical for greater adoption of EVs by consumers, further progress the green and low-carbon technologies infrastructure as well as generate high-skilled green jobs in Malaysia. The government sees the potential of EVs as an effort to mitigate vehicle smoke pollution to support the implementation of the Low Carbon Mobility Blueprint and intensify Malaysia's role in addressing climate goals."

Dr Adham said that the global electric vehicle market size was USD246.7 billion in 2020 and it is expected to increase up to USD1,318.22 billion by 2028. Meanwhile, the Asia-Pacific (APAC) low-speed electric vehicle market size is forecasted to reach 71.8 million units by 2025.

The International Energy Agency (IEA) 's Sustainable Development Scenario expects to put 230 million EVs on the world's roads by 2030.

He added that the Covid-19 pandemic had also spurred a local growth in bike ownership as Malaysians looked towards rider related services as a source of income. This he said was reflected by the Motorcycle and Scooter Assemblers and Distributors Association of Malaysia's (MASAAM) report that the total output of motorcycles in the country for 2020 was 516,868 units.

An estimated 74 per cent of it was cub based and another 20 was scooter. The rest were of various categories including high powered bikes.

Currently 58 units of ES-11 have been built and 41 units have been rented out to partners in the industry.

"The e-Motorbike market is witnessing a growth trend globally and we want to ride on that wave. This has revitalised our focus and commitment to green technology innovation and reducing carbon footprint," said Eclimo executive director Datuk Dennis Chuah.

"As policymakers here are encouraging the adoption of EVs, we believe that the ES-11 with its appealing features such as the ease of charging and energy saving performance will hit a sweet spot and lead to a shift in mindset among consumers and businesses alike to transition to e-mobility vehicles.

"To date, the ES-11 has generated sales value of more than RM18 million. In addition, every unit of an electric 2-wheeler creates an average of three new jobs. Our company also has footprints in Thailand, and we are leveraging on that to expand the ES-11's market regionally."

The price for the ES-11 is RM14,000 and it is currently operating on a leasing business model as well as subscription basis in the Klang Valley, Penang and Johor.

There are also ongoing negotiations with e-hailing services and plans to expand into the city e-mobility space, allowing people to rent the e-Motorbike as a means of transport around the city through apps such as Beam and Tryke.

Previously the bike have been eased to KFC Holdings Malaysia Bhd and the Royal Malaysian Police.

Those looking to buy a unit of the ES-11 fo personal use will have to get in touch with Eclimo - price starts from RM9,999 with ready stock available with 4 weeks waiting perior for those who opt to customise their ES-11's performance.