NANOMALAYSIA LAUNCHES TECHNOLOGY AND MARKET VALIDATION PROGRAMME TO ACCELERATE DEVELOPMENT AND DEPLOYMENT OF LOCAL ELECTRIC VEHICLE TECHNOLOGIES

JOHOR BAHRU, 1ST OF JULY 2022 – The Minister of Science, Technology and Innovation (MOSTI), Yang Berhormat Dato' Sri Dr Adham bin Baba today officiated the launch of Campuses for Local Electric Vehicle Expeditious Roll-out (CLEVER) at EDUCity Iskandar Johor. It is a technology and market validation programme, ideated and spearheaded by NanoMalaysia Berhad (NMB)—Malaysia's leading agency in nanotechnology and advanced solutions commercialisation—to deploy electric vehicle (EV) technologies at selected university campus grounds—participating campuses include EduCity Iskandar (an entity under Khazanah Nasional Berhad), Universiti Tun Hussein Onn Malaysia, Universiti Teknologi Malaysia, and Universiti Tenaga Nasional.

CLEVER will act as both an innovation and regulatory sandbox—allowing start-ups and other innovators to conduct live experiments in a controlled environment. There will be 2-wheeler electric rides, battery swapping stations, development of converted internal combustion Engine-to-EV, autonomous system deployment, and off-grid charging using renewable energy implemented on the campuses. Through this, NMB will facilitate technological developments, set up regulations and amend insurance coverage by collecting user, performance and safety acceptance data before a mass scale investment and deployment to the Malaysian market.

Partnerships with relevant authorities and agencies are already in place—with the handover of several MoUs between NMB, Nano Commerce and Universiti Teknologi Malaysia (UTM); NMB and Universiti Tun Hussein Onn Malaysia (UTHM); and NMB and Universiti Tenaga Nasional (UNITEN) at the launch. There was also a handover of a Collaboration Agreement between NMB and Iskandar Education Enterprise Sdn Bhd.

YB Dato' Sri Dr Adham bin Baba said: "The launch of CLEVER today is in line with MOSTI's focus on scaling up the development and deployment of local EV solutions supporting the National Automotive Policy 2020's target of establishing approximately 5,000 EV charging stations to fortify infrastructure support. This will nudge people towards EV ownership and utilisation. The government is committed to solving challenges that hinder the growth of our nation's EV industry."

In 2021, the global EV market size was approximately USD185 billion, and it is forecasted to increase to USD980 billion by 2028. Meanwhile, the ASEAN EV market was valued at USD498.93 million in 2021 and is projected to reach USD2.6 billion by 2027—which is why it

is imperative Malaysia accelerates its EV technological advancements now so that it can jump on the EV market growth curve.

CLEVER is a comprehensive EV technology framework that will see the use of ThamLEV Mobility Sdn Bhd and Beno Technologies Sdn Bhd electric two-wheelers with a Battery Monitoring System (BMS) used by students on campus—with designated parking spaces for EVs. They will also supply Battery Swapping Stations (BSS), which consists of removable battery slots and intelligent battery management.

Renewable energy charging stations for EVs using solar panels are also in the works that will help alleviate the burden on the national grid system while encouraging the use of sustainable electric transportation on campuses. CLEVER also takes into account radiated emissions produced by charging stations as Electromagnetic Compatibility (EMC) and Electromagnetic Immunity (EMI) testing is done extensively. This ensures there are no health risks and no disruption of signals for EVs.

Beyond that, the programme is also pushing for mass adoption of the converted vehicle industry by developing a conversion kit that will enable Internal Combustion Engine (ICE) vehicles to be turned into EVs. This will present a cheaper alternative to buying a new EV—therefore, encouraging the transition to green mobility in the long run and more importantly, further democratising EV ownership.

NanoMalaysia has been pushing the EV agenda under Aspirasi Keluarga Malaysia 2021—launching NanoMalaysia Energy Storage Technology Initiative (NESTI); Hydrogen-Paired Electric Race Car (HyPER); NanoMalaysia Autonomous Vehicle (NAVi); and an MOA signing with Korean-based automotive companies that positioned Malaysia as an exporter of EV components.

NMB Chief Executive Officer, Dr Rezal Khairi Ahmad added, “CLEVER tackles all the issues Malaysia has faced thus far when it comes to EV adoption such as vehicle ownership affordability, homegrown EV technologies, local skilled talent and technical support and the lack of infrastructure leading to range anxiety through a very clever approach for Malaysia to achieve technology sovereignty and commercial equity in the EV sector—locally and regionally.

We are grateful that the government has initiated the EV agenda by way of subsidies and tax incentives as a first measure to expedite vehicle ownership in the country, but for it to be sustainable and scaled up, we need local technological advancements that will serve as long-term solutions—which is what this programme will bring to the table by 2025. This will put Malaysia at the forefront of the ASEAN Electric Vehicles and Renewable Energy markets by playing a different game compared to our neighbours. The spill-over effect will also position

the nation as a major force in the Fourth Industrial Revolution through our connected digital system for the EV industry."

Complementing Dr Rezal's statement, EduCity Iskandar Malaysia Sdn Bhd Managing Director, Mr Wan Ahmad Saifuddin Wan Ahmad Radzi said, "As a CLEVER Initiative programme partner, we are very proud to be chosen as the location to introduce the EV Zone including battery change stations and access for 2-wheeler drivers such as electric scooters to improve EduCity's infra and shared facilities.

As an education city for local and international educational institutions, this collaborative effort with NanoMalaysia will bring two benefits, namely supporting the initiative of EduCity Iskandar as a Research Living Lab where 305 acres will be dedicated as a testing ground for start-ups and innovators. Secondly, the CLEVER initiative is able to position EduCity Iskandar as an education city that supports green technology initiatives and to make this a new benchmark for other international education hubs."

About NanoMalaysia Berhad Group of Companies

NanoMalaysia Berhad was incorporated in 2011 as a company limited by guarantee (CLBG) under the Ministry of Science, Technology and Innovation (MOSTI) to act as a business entity entrusted with nanotechnology commercialisation and industrialisation activities through a venture builder model. Nanotechnology continues to provide efficient and enhanced solutions to various applications in smart living, smart manufacturing, agriculture, electronic devices, and energy and environment. NanoMalaysia believes that the "Internet of Nano-Things" or IoNT, will be the core driver of the 4th Industrial Revolution, catalysing revolutionary changes in the industry, business and society.

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