

Bosch's Investment to entrench Penang's position in the Automotive Electronics

Bosch Automotive Electronics (Bosch AE) selects Penang for its latest investment in a manufacturing facility that focuses on the semiconductor components and sensor testing. Bosch Group, a German-headquartered company which ranks at the top 100 of the Global Fortune 500 list, generated sales of EUR77.7 billion in 2019. As a leading global supplier of technology and IoT provider, Bosch Group's operations are divided into four business sectors; Mobility Solutions, Industrial Technology, Consumer Goods and Energy and Building Technology. Bosch AE is a division within the Mobility Solutions, the largest business sector that contributed 60% of Bosch Group's revenue in 2019.

With Bosch AE joining the Penang industrial family, the State's participation in the automotive cutting-edge technologies is poised to elevate. Bosch AE's upcoming facility will be located at a plot of approximately 100,000 sqm land, at Batu Kawan Industrial Park. This plant will be focusing on the final testing of components manufactured at Bosch AE's fab in Dresden, Germany, as well as to house research and development and training facilities. The construction of the plant is scheduled to begin in 2021 and its first production to commence in 2023.

Epochal change in automotive industry unleashes long-term opportunities

In the wake of Covid-19 pandemic, global light vehicle sales are forecasted to drop 22% to 69.6 million units in 2020, according to a recent analysis from IHS Markit. Despite the near-term challenges, the global automotive industry is accelerating its electronic technology revolution and fusing with the clean energy ecosystem. With the swift advances in e-mobility, autonomous driving, connected cars and automotive electronics, these capabilities which consumers marvel today may seem basic in the near future. This megatrend signifies the semiconductor content per car is poised to rise and to fuel the long-term automotive semiconductor growth prospects.

A study by Mordor Intelligence estimated that 80% of all innovations in the automotive industry today are directly or indirectly enabled by electronics. According to P&S Intelligence, the global automotive electronics market is estimated to reach \$615 billion in 2030, from 2019's \$236 billion, representing a compound annual growth rate (CAGR) of 9.3%. In fact, the share of electronic components merely made up 5% of the total cost of automobiles in 1970 and it is estimated to reach 50% by 2030, which reflects technological advancements as well as their increasing significance in vehicles.

Penang - a preferred location for global E&E leaders

With the robust ecosystem of strong supporting industries, Penang is home to many global semiconductor leaders and many have chosen to deepen their roots in the State over the past decades. Some of the prominent semiconductor-related players in Penang included Broadcom, Intel, Micron, TF AMD and Western Digital. The state recently welcomed Lam Research, a global leading wafer fabrication equipment player. Meanwhile, other MNCs in Penang with product portfolio in automotive industry included OSRAM, Panasonic, Analog Devices, ASE Group, Clarion, Continental, FCA, Infineon, Kontron, Luxoft, Malaysian Automotive Lighting, Premium Sound Solutions, Renesas, and Valeo. To note, Robert Bosch's existing facilities in Penang produce car multimedia systems, automotive steering and power tools.

As the Silicon Island of Asia, the E&E value chain in Penang continues to grow in depth and complexity, to spur a strong ecosystem over the past five decades. In 2019, Penang contributed 39% and 54% of Malaysia's total E&E and machinery and equipment approved manufacturing investments, respectively. Meanwhile, in 2014-2019, Penang attracted combined RM35 billion of approved manufacturing investments in the E&E and M&E industries, representing 38% of Malaysia's total approved investments in these two industries.

Bosch AE's strategic investments decision in Penang at the current extraordinary period implies the company's confidence in its technology for the future and Penang's ecosystem is capable and sustainable in fulfilling the stringent requirements of the automotive industry.