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In 2016, almost 25 million cars manufactured will be electrified, the majority of them being micro-HEV, with a low level of electrification. However, some 5 million will be full HEV, plug-in HEV or EV. http://www.bharatbook.com/market-research-reports/consumer-electronics-market-research-report/power-electronics-in-electrics-and-hybrid-vehicles-active-components.html

As a consequence, electric vehicles (EV) and hybrid electric vehicles (HEV) will represent the biggest accessible market for power device and system makers. Without getting completely mature, the EV/HEV industry has seen its first steps toward standardization. Electrical configuration shows a preference for parallel and split structures. Following the same logic, DC/DC boost converters and DC/AC inverters architecture for full HEV and EV are adopted. Getting the best switch at the lowest cost is a must. IGBT will continue having a bright future in hybrid and electric cars. market to market

We expect the power module market to be near $5 Billion, most made with IGBT. It is huge and will change the game in power electronics market!

But there are still some uncertainties:

* What about new power semiconductor device adoption?

* Which materials will be preferred?

* What are the consequences on the rest of the powertrain? Cooling? Integration? Connectivity? Passives?

* What are the consequences on the supply chain?

ELECTRICAL ARCHITECTURES ARE CHOSEN BUT SUPPLY CHAIN KEEPS ON CHANGING

The powertrain supply chain is being absorbed by car makers on one side and power device module makers on the other, leaving few free space to tier one suppliers. The supply-chain is literally changing. With EV/HEV, the tractionâ€™s main part becomes the inverter and the motor. We will experience great improvements with innovative switches, inverter designs and topology, regenerative braking etcâ€¦

Car manufacturers need to keep that added value, and thus they already started covering the value-chain starting from the semiconductor die. Toyota is even deeper in the supply chain with silicon wafer production capability. GM is closer to Delphi, and they still have manufacturing available at Kokomo (US). And we canâ€™t forget the Chinese companies. BYD is now producing IGBTs, and many Chinese semiconductor foundries are now able to do the same.

CHINA: MARKET OPPORTUNITY OR COMPETITIVE THREAT?

China will soon have enough experience to enter foreign markets. The companies in an uncertain position are the European ones: Volkswagen, PSA or Daimler do not have such advantages, and may play with their tier-ones (Valeo, Continental, etcâ€¦).

This is also an opportunity for new players. Tesla and Coda are one of those who can come and

play with the big ones.

In addition, Chinese companies, supported by the Chinese government already benefit from big car brands and electrified transportation platform to first protect the local market from Occidental and Japanese ones and then expand abroad.

For more information kindly visit :

Power Electronics in Electrics and Hybrid Vehicles - Active components

Or

Bharat Book Bureau

Tel: +91 22 27810772 / 27810773

Fax: + 91 22 27812290

Email: info@bharatbook.com

Website: www.bharatbook.com

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