Technology & Partner Identification for Power Electronics Systems in xEV

FutureBridge

Client	A leading automotive electronics manufacturer
Industry	Automotive/Electronics
Products	Power switching devices in EV

Background

- Client wanted to understand Power Switching Devices market for all applications in an EVs/HEVs. Client was already supplying power switching components across applications, and wanted to identify potential business in EV/HEV applications.

Key Business Questions

- Technology identification for DC-DC converters, Inverters & Subsystems for EV/HEV and differentiating factors that could help client to develop, design and manufacture power switching devices
- What are the technology developments that are currently taking place for power switching devices? What is the future outlook for these devices in each application?
- Overview of key differentiators of powertrain controllers for ICE, EVs and HEVs.

Engagement Scope

1 Supply Chain Identification

- Complete understanding of xEV key players and value chain
- Supply chain identification for electronics and semiconductors
- Supply chain identification for DC-DC converters, inverters & subsystems, battery management systems
- Various control topologies and trends

2 Vendor Filtering

- What is approach towards creating a short list of vendors across the EV/HEV value chain?
- Which are the filtering criteria to select top vendors from long list of vendors for each application to focus on their developments?

3 Technology Mapping

- Information about top technologies, depending on parameters given below:
  - EV, HEV, ICE topologies
  - Various Control topologies/architectures
  - Power ranges and switching frequency
  - Technology trends

4 Key Technology Developments

- Who are the key players that are investing heavily in power switching device segment?
- What are the key developments happening in this segment?
- Trends in supply chain w.r.t. to technological developments
- M&As, JVs, partnerships, strategies by key vendors across the value chain

Research Methodology

Secondary Research

- Conducted desk research studying various EV/HEV/ICE architectures, control topologies, key players across the value chain, etc.
- Referred paid data sources such as vendor databases, semiconductor association reports, etc.

Primary Research

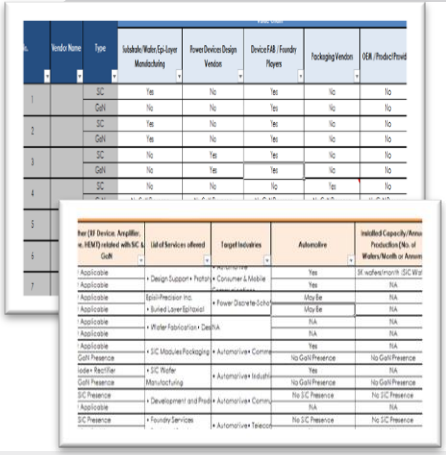
- **100+** Telephonic interview with suppliers and industry experts.
- **20+** face-to-face interviews with customers.

Benefits to Client

- The study helped client to identify and collaborate with SiC & GaN vendors, Automotive OEMs, and non-OEMs
- Findings from the investigation helped are being used by electronics division of client to understand technology developments in the area

Sample Analysis

1 Supply Chain Identification



2 Vendor Filtering

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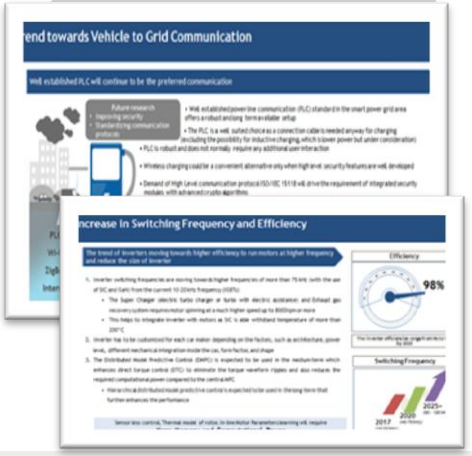
4 Key Technology Developments



Thank you

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