

APOJEE GMBH

Company

APOJEE GmbH is the German subsidiary of APOJEE SA, the French company created in 1999. With its 50 engineers and technicians, APOJEE develops and supplies high-technology in the fields of power electronics, test benches and ignition /combustion. Thanks to the skills of its recognized experts, the company both develops its own products but also customer specific ones. With its experienced engineers in the spheres of electronic and mechanical R&D, embedded software, multiplex systems, electromagnetism and modeling, production engineering and quality, APOJEE has skills covering the entire life cycle of a product. The company works with the major European automotive, aerospace and industrial players.

Power Electronics Know-how

Expertise in power electronics is one of APOJEE's key strengths. Performance, reliability and cost also depend on the mechanical, thermal management and the EMC: APOJEE possesses all these skills. The company defines specific products, conducts studies and then designs fitted architectures which leads to the creation of prototypes or pre-series. It finally supervises the whole industrialization process. Some significant products are: power supply for aerospace – Electronic hybrid automotive suppliers – inverters, DC / DC converters for electric/hybrid vehicles – embedded or external fast chargers (up to 43 kW). It also develops

and produces a technology-based silicon carbide inverter. This motorsport inverter delivers 150 kW for 2.2 l. APOJEE experts have been using their thorough know-how in the automotive power electronics to contribute to the development of hybrid/ electric vehicles for car manufacturers and suppliers, but also, to the definition and design of aeronautical power supply. Today, APOJEE is a team of over 30 people dedicated to the design and development of products incorporating power electronics.



Test Benches

To cope with the market demand, APOJEE developed and produced an innovative and modular testing system for the validation of power electronics components: Marvel. Highly standardized and widely deployable to reduce both investment and operational costs, Marvel is able to deal with the new functional requirements of future projects. A bay can take up to 22 modules reaching a maximum power of 440kW (220kWDC + 220kWAC).

Marvel's inverter has a high switching frequency (70 kHz) reducing current/ voltage ripple, giving higher dynamic performance.



Ignition & Combustion Expertise

Complementing its power electronics and high voltage know-how, APOJEE is expert in combustion phenomena: the company contributes to the optimization and improvement of gasoline internal combustion engines. APOJEE supports its customers in their combustion analysis, designs and develops prototypes or systems that are specific to ignition (spark plugs, ignition coils). It also provides innovative test equipment intended for engine as well as ignition system designers. APOJEE works with European OEMs, Tier 1's and various Formula 1 teams.

