Battery console
Volkswagen, Polo
A project of our Plastics Technology Business Unit

Specifications:
- Battery console withstands negative crash acceleration values of up to 35 g (without additional metal bracket) – with metal retaining bracket up to 65 g
- Braced with highly glass-fibre-reinforced plastic, plastic ribbed structure and hybrid technology (plastic-metal)
- Project support from pre-development (various stability calculations and crash simulations) to readiness for series production
- Fully automatic manufacturing and assembly

Development
Increased crash safety through smart product design

Project description: The increased crash requirement of the battery console from 35 to 65 g was the central focus of the joint development work with our customer. In order to ensure that the most important electrical features of the vehicle (for example the window controls) still perform after an accident, it is essential that the battery remains connected to the on-board power supply during a crash. The plastic console that is screwed to the battery must therefore withstand very high impact forces.

Today we produce a battery console that fulfils these increased crash requirements. In addition to choosing a highly glass-fibre-reinforced plastic, we were able to achieve the necessary stiffness of the console using a reinforced ribbed structure, the effectiveness of which we have ensured by using a FEM simulation. Moreover, the plastic-metal hybrid technology used on the underside of the console was optimised and an additional metal retaining bracket, patent pending from VW, was integrated to securely enclose the battery. Furthermore, the console is designed to accommodate three different battery sizes.