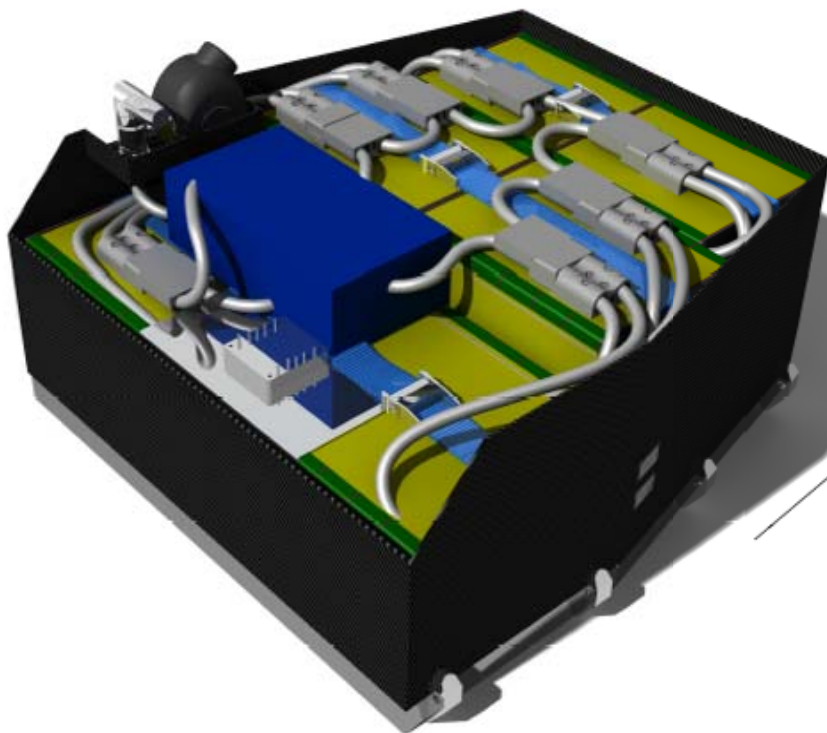


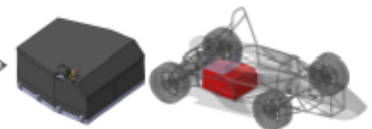
## BATTERY PACK

Battery pack was designed with respect to four goals identified in a descending order as: **safety | lightweight construction | low centre of gravity | compact size.**

These objectives were achieved using a unique trapezoidal shape that positions all the mass as low as possible while leaving the rear part of the car narrow enough to leave a sufficient space for the rear axle of the vehicle – objectives 3 and 4.



Type name:	ACP 2013
Nominal voltage:	400 V
Cell configuration:	108s2p
Cell type:	Kokam SLPB55205130H 11.0Ah
Stack design:	TREMONDI company
BMS:	MiRy BMS-F (self designed)
Dimension:	520x550x250 mm
Energy:	8kWh
Weight:	80 kg



The whole accumulator container consists of two main parts: load-bearing aluminium frame and a light carbon-fibre top. The frame is formed by aluminium sections with a glued-in sandwich floor and it is rigidly mounted to the car chassis. This solution enables to reach the 2nd objective – the lightweight construction – with accordance to all mechanical safety requirements. The carbon top with a dismountable lid ensures that the inner parts cannot be accidentally touched and protects them from water as well.

In order to lower tractive current load, to better overcome remaining motor internal electromagnetic fields self-induced and to improve the overall motor torque characteristic we decided to use 400V nominal tractive voltage instead last season's 200V. The stored energy is 8kWh, which may seem a lot compared to other teams. We based our decision on two reasons: firstly, we want to be able to use full power of our car even at the end of the race. Secondly, we do not use recuperation. Electrical safety is provided by the third generation of our self-made accumulator design. All 216 Li-Pol battery cells are set to 108s2p configuration and are divided into the six cell-stacks, original stack design delivered by TREMONDI company (further cooperative design work), made from UI94-V0 certified material for electrical insulation and fire prevention ensuring safety. The cell-stacks integrate battery management system (BMS) developed in our workshop, which enables a real time voltage, energy and temperature monitoring of each cell and as well as of the whole battery pack. This system provides verified and trusted information which enables reaching the first main goal of our design – the safety