**Project n°15: Portable ventilation system for personal protective equipment against infectious diseases in developing countries**

*Proposed by:* maxon motor AG; EPFL EssentialTech Center

**Company description:**

maxon motor develops and builds high quality electric drives (motors, gearheads, sensors and controllers) for the medical, industrial, aerospace, transportation, e-mobility and robotics markets.  
**Number of employees:** approx. 2900 worldwide. **Headquarter:** Sachseln, Switzerland (with a maxon innovation Lab at EPFL Innovation Park).

**Project description:**

The goal of the project is to develop a ventilation system that can be integrated inside a personal protective equipment (PPE) against infectious diseases like Ebola. The implementation in developing countries puts a strong constraint on the total cost of the device, as well as on its robustness. Based on commercially available components (motors, fans, batteries, filters, etc...), the students will have to design a full ventilation system meeting all the requirements of air flow, weight, size, robustness, user safety and cost. The students will also have to conduct a market analysis and propose a market entry and a business model for the ventilation system, for the application in PPE as well as for other potential applications (e.g. asbestos removal).