Safran strengthens its electrical offer with the launch of its ranges of electric generators and motors, GENeUS and ENGINeUS

Safran Electrical & Power announced the launch of its new ranges of electric generators and motors called GENeUS and ENGINeUS, respectively. A pioneering company in the electrification of systems, Safran has adopted an ambitious energy roadmap.

For many years, research in the field of electrical engineering has concentrated on developing a more electrical aircraft. In an aircraft, this means electrifying as much equipment as possible. When we replace pneumatic or hydraulic energy with electrical energy, consumption is lower, maintenance is easier and a more ecological aircraft emerges.

Today, a new (r)evolution is on the horizon. The role of on-board electricity is no longer limited to non-propulsion equipment and systems. Now, electric hybridization is also an option. A conventional motor collaborates with an electric motor and they alternate or complete each other according to the phases of flight or the needs of the mission.

Hybridization reduces fuel consumption and improves the operability of the conventional motor, which is no longer used during low-rev phases, for example. It is also possible for certain light aircraft to use 100% electric propulsion energy, meaning the aircraft runs completely on electrical energy.

Our range of GENeUS generators meets these needs. These generators mark a major step forward in high-power DC generation solutions. A permanent magnets generator rotates at high speed (circa 40 000 Revolution Per Minute), integrating power electronics rectifier & innovative technologies. It has a high output voltage equal or superior to 540VDC & a power to weight ratio superior to 8 KW/Kg for the whole pack (total weight : mechanical/ E-mag/ active rectifier/ cooling).

Our ENGINeUS electric motors offer an optimal solution to all these challenges with a large range of power ratings and an intelligent system that can integrate high performance power electronics into the motor. This integration of the best power electronics with a multiphases motor ensure a high reliability, a power to weight ratio superior to 2.5kW/Kg (total smart motor weight including air cooling) & a torque to weight ratio superior to 15Nm/Kg (E mag only weight) at 2500 revolutions per minute. These performances are even higher with oil cooling version.

Safran Electrical & Power is the only company with all the expertise necessary to develop and optimize a complete hybrid electrical system. It can, moreover, draw on the strength of Safran and its ambitious roadmap in the field of electrical energy.