

### Customer



The European Synchrotron Radiation Facility (ESRF) is a joint research facility supported by 22 countries. The company is situated in Grenoble, France. Each year 8,000 scientists visit this particle accelerator. Together these scientists conduct 2,000 experiments and produce around 1,800 scientific publications.

### Challenge



The actual system was based on a resonant circuit combination at 10Hz, called White circuit. This system was working well since more than 20 years and they now wished to upgrade their operation mode into a topup mode, with one injection ranging from a few minutes to 30 minutes. What ESRF wanted was the design, manufacture, test and installation of a set of 6 inverters with PWM drive. The range of power foreseen is from 500A-1000V to 1600A-3000V. The repetition rate will be 4Hz, and we will request many million cycles without intervention.



*We are very happy with the solution Ampulz has given.*

### Solution



For the renewal of the booster of the European Synchrotron Radiation Facility in France, an IGBT based ramping current injection system for the dipole electromagnets has been developed, delivered and commissioned. The main function of the dipole power supply is to drive the necessary voltage for an accurate 4 Hz triangular current wave injection in the electromagnets with peak value of current 1600 A.

### Customer benefits



- Precise high current injection
- Synchronized operation of 2 converters
- High accuracy and stability
- High load cycles capability
- Low peak to peak ripple voltage
- Human machine interface