Analysis and development of an innovative power electronic converter topology for high power and medium voltage applications

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- **OBJECTIVES:**
  - Design of the converter topology selection method
  - Development of the modulation strategy
  - Analysis of the balancing problems of the DC bus and development of balancing algorithm
  - Converter dimensioning
  - Driver design for the series connection of the power semiconductors
  - Validation of the modulation and balancing strategy in a real scale test bench

- **POSSIBLE APPLICATION AREAS:**
  - Traction
  - Industrial Applications (Rolling Mills, Compressors, Pumps, ...)
  - Energy Generation (Thermal Plants, Hydraulic Plants, ...)

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![Diagram of power electronics system with symbols for input power (P_in), output power (P_out), converter, load, and control connections.]

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Electrical ENERGY research line