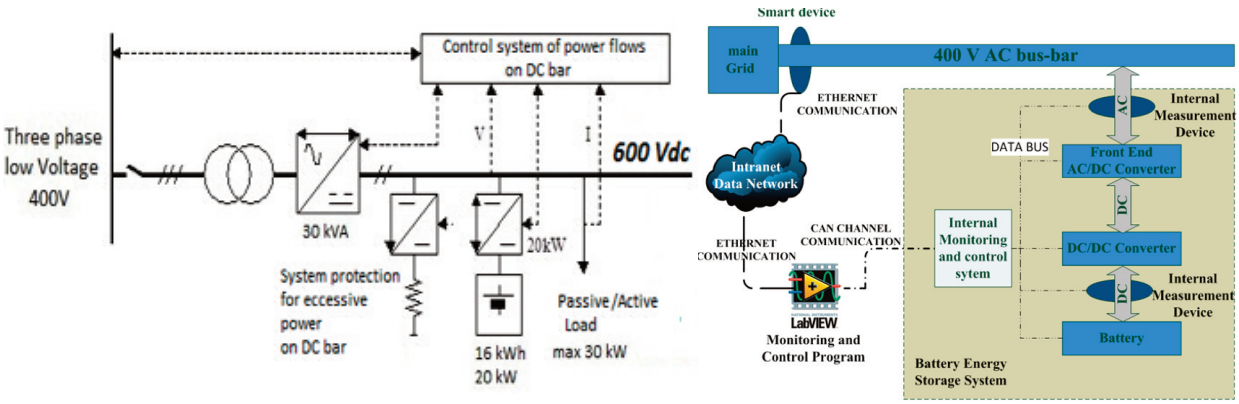
NACE CODE C27

RENEWABLE-ENERGY-INTEGRATED DSTATCOM (DISTRIBUTED STATIC COMPENSATOR) APPLIED TO LOW-VOLTAGE GRIDS

Innovations and benefits - ENEA has developed a power storage system for ancillary services to low-voltage grid and optimization of non-programmable removable energy systems (RES), installed at the end-user's location. The system makes use of a power interface with the grid, thus allowing to manage the power requested by the end-user so as to optimize their load profiles (peak shaving, load shifting, industrial re-phasing, power demand reduction) and the possibility to interrupt power supply from grid, with consequent low-cost access.

Uses - Thanks to its smart metering device and programmable interface, the system can manage renewable energy production in a way that self-consumption can be optimized during non-production hours, thus reducing the energy exchange with the grid and, consequently, the use of it. Applications are possible to low and medium voltage grids, parking areas with recharge columns for electric vehicles, renewable facilities for civil and industrial utilities with varying load profiles (buildings with heat pumps, industries with discontinuous daily production cycles).

Past and present activities - Experimental tests, using the Casaccia Research Centre's grid, of the integration of the static compensator with fast recharge columns for electric vehicles, in collaboration with 'La Sapienza' University of Rome (ENEA-MISE Programme Agreement on Electric System Research, three-year plan 2012-2014).



RESEARCH TO PROVE FEASIBILITY | TECHNOLOGY DEMONSTRATION | SYSTEM TEST, LAUNCH & OPERATIONS

BASIC TECHNOLOGY RESEARCH | TECHNOLOGY DEVELOPMENT | SYSTEM/SUBSYSTEM DEVELOPMENT

TRL 1 | TRL 2 | TRL 3 | TRL 4 | TRL 5 | TRL 6 | TRL 7 | TRL 8 | TRL 9

TECHNOLOGY READINESS LEVEL

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