CRISP

Field experiment demonstrating automatic supply-demand matching in a commercial power cluster

ICT for Smart Power Networks
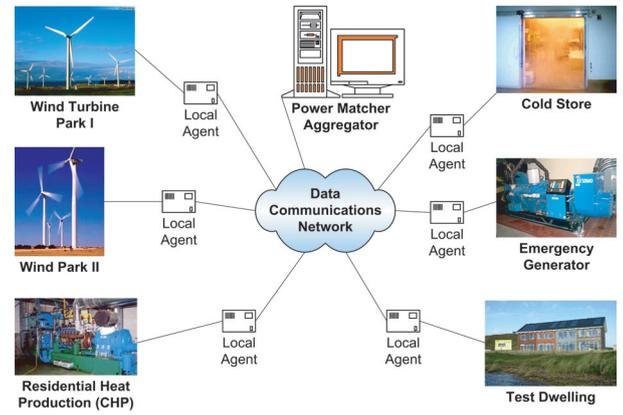
Information and Communication Technologies, or ICT for short, are key to managing the future distributed energy networks. The networks for power and for ICT are both essential to the functioning of today's society. EU research in the CRISP project shows how these two critical infrastructures can work together better.

Making the critical infrastructures of power and ICT work together

► ICT creates universal connectivity between grid devices. This provides new foundations for large-scale distant control of highly distributed networks.

► The Internet and Web provide new services based on real-time and two-way communication between suppliers, distributors, and customers in the grid.

► Advanced Information System techniques make the grid intelligent. Automated supply-demand response, balancing services, and dynamic pricing, buying and selling of power in real time are all enabled by ICT.
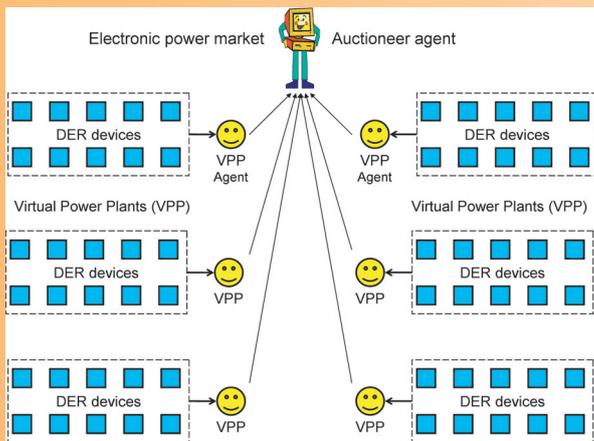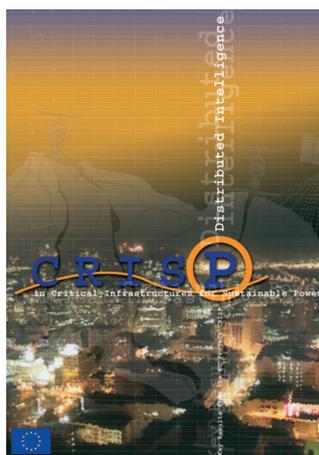

Agent and e-market technology enables large-scale distributed control of Distributed Energy Resources (DER)

Increasing the intelligence of the grid

CRISP has produced several important innovations:

► ICT is a basis for the commercial aggregation of DER into Virtual Power Plants. Field experiments in the Netherlands show that software agent-based electronic markets minimize needs for regulating power and reduce costs for market parties.

► Recent tests in France show that software agents in the grid support fault detection and grid reconfiguration in real time.

► In critical situations, black-out measurements in Sweden show that today's techniques sometimes worsen the situation. CRISP research has produced an intelligent tap changer that takes into account the voltage level at both the distribution and transmission levels.

Tomorrow's grid needs decentralized ways for information, coordination and control to serve the customer. ICT is central in making the grid intelligent, self-organizing, and self-healing.

Project partners:
ECN, Netherlands
ABB, Sweden
BTH, Sweden
EnerSearch, Sweden
E.ON, Sweden
IDEA, France

EU Project CRISP
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A full-colour brochure describing all innovation results is available for free: turn to the CRISP website