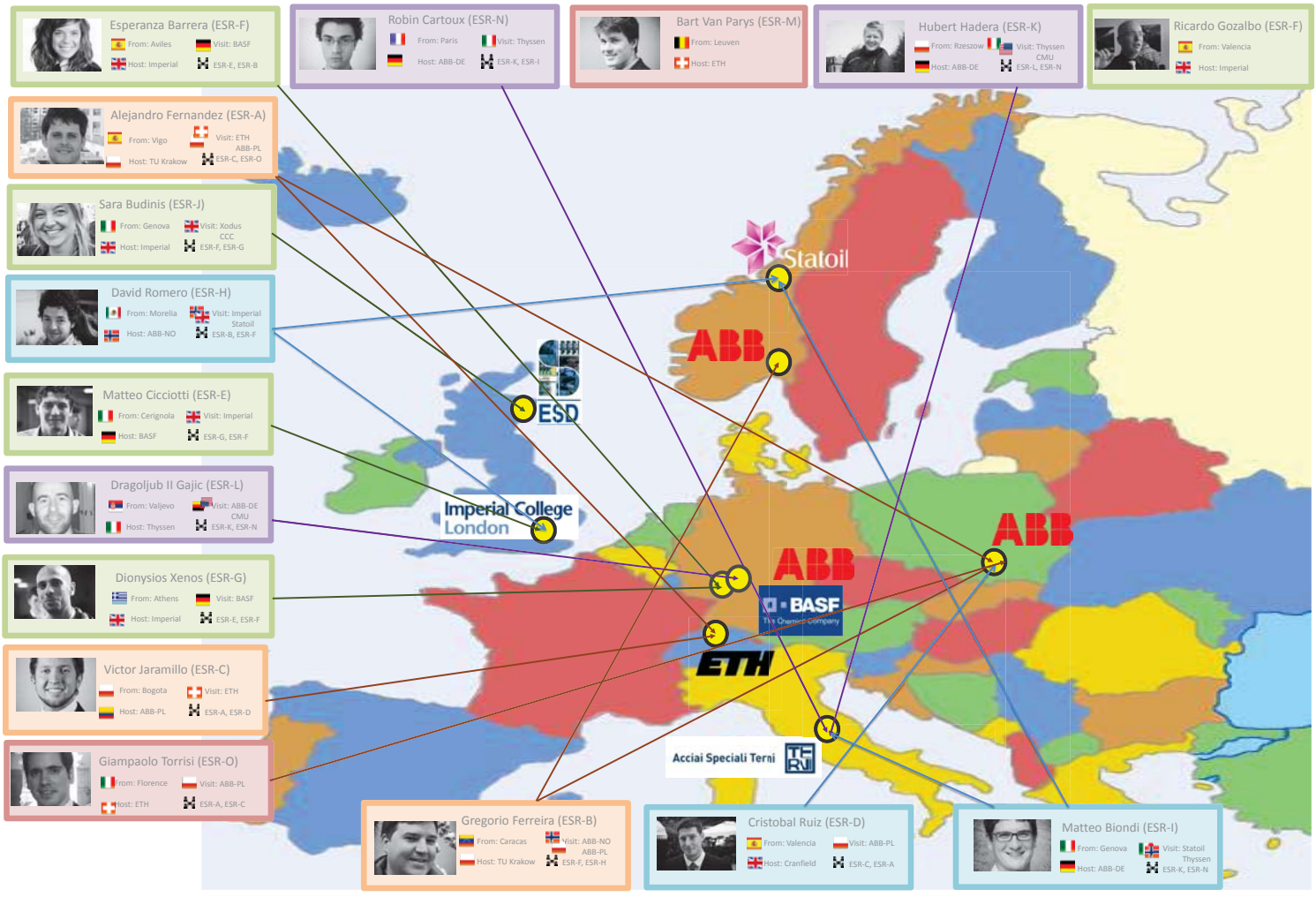
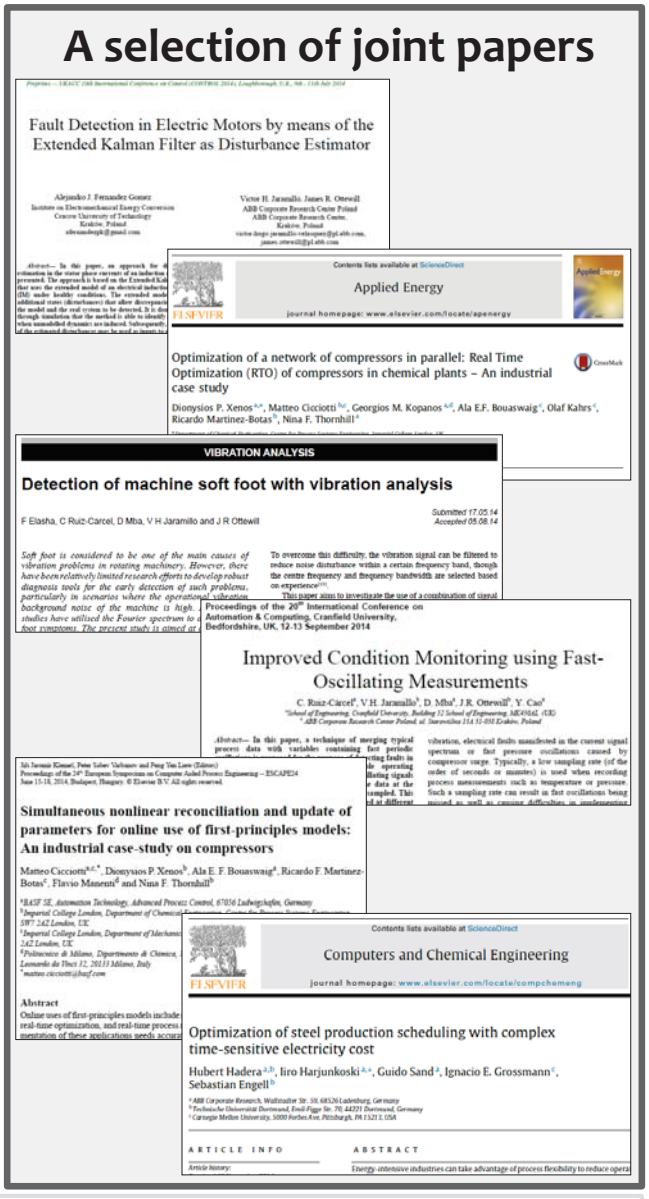
Energy-SmartOps

Integrated Control and Operation of Process, Rotating Machinery and Electrical Equipment

Secondments in Europe



A selection of joint papers



Overall aim

The overall scientific and technical aim of the ENERGY-SMARTOPS project is to take a pivotal role in demonstrations of creative ideas for energy savings in large scale industrial sites making the best possible use of measurements from all plant subsystems: process, utilities, mechanical equipment and electrical equipment. The project integrates in-depth understanding of the operational issues with analysis of measurements and first-principles physical knowledge to invent and develop tools that will be deployed in the field in case studies with the transmission operator partners. Three specific research objectives are:

- To develop scalable and complete equipment monitoring systems
- To devise new algorithms for overall performance monitoring and control
- To study ways that energy savings can be achieved

Project goals and scope

Execution of the ENERGY-SMARTOPS project involves activities in five work package each of which will address one or two of three Research Objectives, as follows:

- Research Objective 1: To develop scalable and complete equipment monitoring systems
- Research Objective 2: To devise new algorithms for overall performance monitoring and control
- Research Objective 3: To study ways that energy savings can be achieved

The project is organized in 5 Work Package (WP), which are shown in the figure to the right. Each one has been organized in a way that it includes at least one industrial partner and one or more universities.

- WP1: Electromachinery
- WP2: Turbomachinery
- WP3: Maintenance & diagnostics
- WP4: Energy optimization
- WP5: Electricity optimization
- Project supervisors

Institutions involved

- Imperial College London
- ABB (Germany, Poland, Norway)
- Cracow University of Technology
- ETH Zurich
- BASF
- Cranfield University
- ThyssenKrupp Italy

Associated partners

- Carnegie Mellon University
- Statoil
- ESD Simulation Training

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