The vision:

Complex process industry plants will be optimally run by the operators with the guidance of a coordinating, real-time optimisation system.
COCOP is based on the decomposition-coordination optimisation of the plant operations: the overall problem is decomposed into unit-level sub-problems, so then the solutions of sub-problems are coordinated to plant-wide optimal schedule using high-level coordination. This will enable operators to understand the functioning of the plant as a whole, including the areas traditionally beyond their control, and take better decisions within their part of the process.

Process industry faces a strong need to increase product quality and reduce operating costs & environmental footprint. A complex plant comprises continuous and/or batch unit processes. The plant’s complexity stems from its dynamic properties, so a plant-wide monitoring and control is a requirement for achieving economically and environmentally efficient operation.

**Objective**

To achieve plant-wide monitoring and control by using the model-based, predictive, coordinating optimisation concept in integration with local control systems.

**Beneficiaries**

The companies who can benefit from the COCOP’s results are:
- **Process Industry**: Iron & Steel, Copper, Chemical, Water treatment, Cement, Glass, ...
- **Automation solution suppliers**

**Benefits**

- **Reduced operation costs**
- **Increased sustainability** (reduced energy and resource consumption and decreased greenhouse gas emissions)
- **Improved working conditions** of plant operators by the new process control tools which support the operating work.
- **Increased competitiveness** of the European process and automation industry.

COCOP will combine the technological development with a social innovation process of co-creation and co-development for improving effectiveness and impact of the innovations and operator acceptance.

**Pilot cases:**
- **On-site application and validation at two plants**: copper and steel manufacturing process.
- **Transferability analysis** to other two sectors: chemical & water treatment processing.