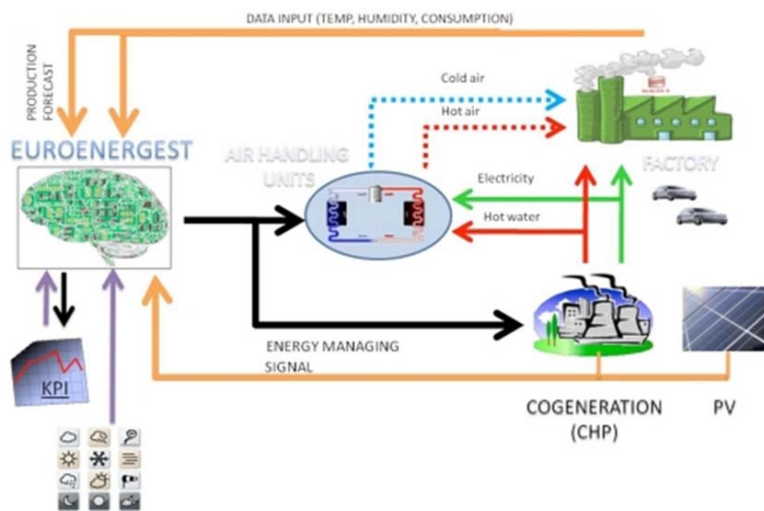**EUROENERGEST,** *EU 7th Framework programme (2011 – 2015).*

The challenge of climate change is real and growing. Every industrial sector must look deep into its operations and use every opportunity to play its part in reducing overall emissions. Euroenergest project aims are to reduce 10% of energy consumption in specific areas of the automotive industry, such as HVAC.

For achieving this goal, an Intelligent Energy Management Systems (iEMS) is being developed in the project. iEMS is able to interact with industrial loads and available power sources with the objective of optimizing the demanded power and costs, as well as maximizing local and low-carbon energy sources (photovoltaics and CHP).

In the EuroEnergest project, production models for available power sources such as CHP and renewable energy technologies are combined with load prediction models for industrial machinery and HVAC systems through an energy hub connection matrix with electricity and natural gas as the main power sources.

Through intensive use of artificial intelligence algorithms to apply a dynamic simulation to former models, together with some optimization based on energy prices and real production data it becomes possible to research and develop an intelligent energy management system able to extract planning rules and optimized interconnections at energy hub level for energy consumptions and costs optimization.

Industrial users and companies can take advantage of the individual modules, each of which can be used independently or all together linked to standardised Supervisory and Control Software.

Euroenergest includes a deep analysis of CO2 emissions and process needed for measuring and modelling the manufacturing carbon footprint. A key part of this project is the enthusiastic involvement of one of Europe's most important automobile manufacturers, SEAT. This involvement gives EuroEnergest the opportunity to verify this groundbreaking system in a real world situation.