

## Process

### Blue-Print model of plant's own performance

Nor-Par builds process and control models that match the performance of an operating plant as perfectly as possible with steady state and dynamic process simulation. Calibrating the model parameters together with the client gives top accurate rendering of the plant behaviour right in your PC.

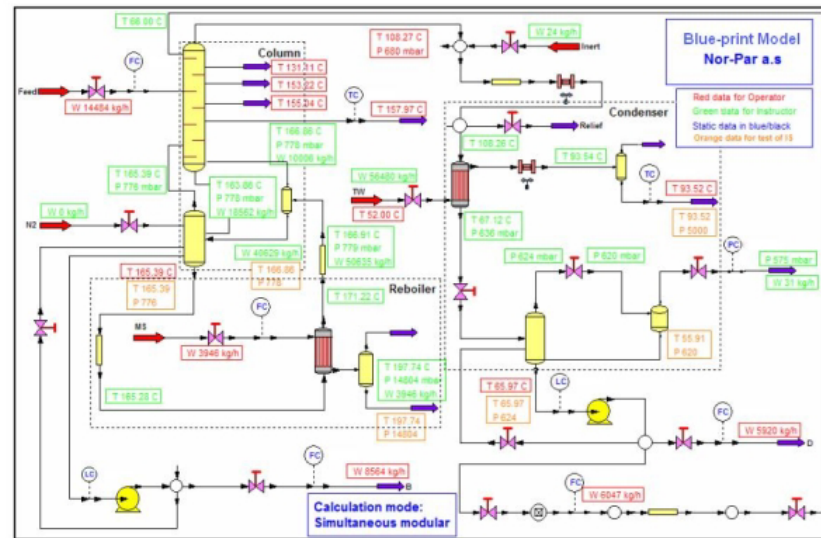
By running the **Blue-Print** model of the plant, you can test – in your computer – all your ideas of what you would like to do to with your plant without physical field tests.

In a chemical plant, reactors are the most critical object. They are one of the major sources of the manufacturer's earning and are very sensitive to operating parameters. They are also the most difficult to model. Nor-Par has long-time expertise in modelling reaction systems, involving fast and runaway reactions as well heterogeneous and multi-phase systems. The detailed reactor models play vital role in **Blue-Print** models of plant's own performance.

**Blue-Print** models of plant's performance are open to the user (contrary to "black-box" solutions that only the developer understands and

can change.) The **Blue-Print** models are developed by Nor-Par in close cooperation with you. You take part in the calibration of the model parameters so you fully understand and trust the model.

**Blue-Print** models are the basis for



A part of the **Blue-Print** model of plant's own performance in CC-DYNAMICS

Production Improvement & Optimisation Tool, Training Simulator and Online Process Simulation. The same models can be used in R&D and Engineering departments of the plant as well, or they can be passed

to the external engineering company that you work with.

**Blue-Print** models use CHEMCAD and CC-DYNAMICS as the Engine.

Benefits from using **Blue-Print** model of plant's own performance:

- ✚ Identification of the parameters of the technology that adversely or positively affect the process performance
- ✚ Finding the room for economical optimisation of the plant, increase of yield, product quality, production throughput, energy saving and product documentation
- ✚ A flowsheet for a part of the plant never tells you the true story; **only Blue-Print model of the entire plant gives all answers that you need**
- ✚ Identification of interaction between different process equipment
- ✚ Possibility to study emergency situations and the ways to handle break-downs or avoiding them
- ✚ Analysis of performance of the cooling systems, for example in situation of fouling of heat exchangers
- ✚ Analysis of trajectories between two stationary states and calculation of the time needed for it
- ✚ Basis for Production Improvement & Optimisation Tool
- ✚ Basis for Training Simulator
- ✚ Basis for Online Process Simulation
- ✚ Use in the Production, R&D and Engineering

- ✚ Deep insight into the true nature of the plant operation, which is very important for **all members** of the plant's personnel