The Incorporation of Flexibility & Controllability Aspects into Whole-Process Synthesis

A CAPE.NET Workshop
Tuesday 15th June '99
ENSIGCT, Toulouse

With today's business trends towards more flexible/responsive manufacturing, many more aspects must be considered when developing processes. Hitherto, the primary consideration in process development has typically been a strong focus on steady-state efficiency and capital & operating costs. Nowadays, however, a broader range of aspects of "manufacturing excellence" must be addressed. Many of these reflect the dynamic performance characteristics of the process, including, for example:

- Efficient utilisation of resources in dynamic operations: both raw materials and utilities
- Flexible operations, in order to respond to market and supply/distribution chain dynamics (involving both campaign and batch operations)
- Quality, safety & environmental issues
- Resilience & reliability
- Controllability & operability

The purpose of this Workshop is to

- Explore the state of the art and the key challenges in the areas of "Whole Process Synthesis & Integration" and "Flexibility, Operability & Dynamics"
- Develop a view of how these technologies can best be combined to form a working environment and toolbox for conceptual process development & design
- Identify the key research challenges
- Develop an action plan

Provisional Agenda (may be subject to revision)

0830 Chairmens' Introduction & welcome by our hosts: the director of ENSIGC and by the director of the LGC (Laboratory of Chemical Engineering from the CNRS).
0845 Roundtable self-introductions by participants
0915 End-User Needs, Available Tools & Techniques, Key Challenges for R&D: Scene-setting presentations by CAPE.NET Technology Working Groups in "Whole Process Synthesis & Integration" and "Flexibility, Operability & Dynamics" and by invited industrial speakers
Coffee Break/Demonstrations

Participants (users, researchers & vendors) are invited to display demonstrations of software relevant to the theme of the Workshop. Table-top space will be provided but participants are responsible for providing their own demonstration equipment.

Vendors' Response

Lunch & Demonstrations

Individual Contributions

Each participant is required to make a short presentation (min: 5 mins/2 slides; max: 10 mins/5 slides) outlining their experience and views on any or all of Needs, Available Tools & Techniques, Key Research Challenges. Such presentations should be forward-looking and technology-oriented, addressing the underlying theme of the workshop (see above): commercial presentations are not acceptable.

Break/Demonstrations

Open Discussions:

• What is "conceptual process development"?
• How can WPSI/FOD tools & techniques contribute to its effectiveness?
• What capabilities must such tools & techniques have in order to make such a contribution?
• What are the key pieces of the technical jigsaw?
• What are the outstanding research challenges?
• How should these challenges be addressed?

Review & Conclusions

Action Plans

Close

Venue

The workshop will be held at ENSIGC (Ecole Nationale Supérieure d’ Ingénieur de Génie Chimique), 18 chemin de la Loge, 31078 Toulouse Cedex 04 at the Amphitheater Joseph Cathala

Registration

Attendance is open to all CAPE.NET members and others may attend by invitation, though some degree of relevant expertise/experience would normally be required and all participants will be expected to make an active contribution to the event (as indicated in the Agenda, above). To register your interest in attendance, please contact one of:

Carsten Sorlie (CAS@statoil.com)
Jean-Marc LeLann (JeanMarc.LeLann@ensigct.fr)
Francois Marechal (F.Marechal@ulg.ac.be)
Tony Perris (Tony.Perris@btinternet.com)

Travel & Accommodation
Participants are responsible for arranging their own travel & accommodation. The following information is provided for guidance only and further information may be found on the ENSIGCT website (see below).

**Hotels**

All these hotels are in the centre of the town with a good ratio quality/price (Room around 200-250 FF)

- Hotel OURS BLANC WILSON, 2 rue Victor-Hugo, 31000 TOULOUSE  
  Phone : +33 5 61 21 62 40  Fax : +33 5 61 23 62 34

- Hotel OURS BLANC PLACE VICTOR HUGO, 25 Place Victor Hugo, 31000 TOULOUSE  
  Phone : +33 5 61 23 14 55  Fax : +33 5 61 23 62 34

- Hotel de France, 5 rue Austerlitz  
  Phone : +33 5 61 21 88 24  Fax : +33 5 61 21 99 77

- Hotel Raymond IV, 16 rue Raymond IV  
  Phone : +33 5 61 62 89 41  Fax : +33 5 61 62 38 01

At a higher price (from 520 FF to 680 FF per night):

- Hotel MERCURE LES CAPITOULS CENTRE, 29 all. Jean Jaurès  
  Phone : +33 5 34 41 31 21  Fax : +33 5 61 63 15 17

**Travel**

For information about how to reach ENSIGC, the best thing is to see:

www.ensigct.fr

where informations are in french, but where you have some maps on the ENSIGC location

Some others practical informations:

- to go from the Blagnac airport to town center, you may use a taxi (around 120FF) or the Airport shuttle (50-60 FF) which goes to Allée Jean-Jaurès in the centre of the town, just near all the proposed hotels (by walk 5 min)

- From the centre to ENSIGC, taxis are the more convenient way.

- Depending the number of participants, we may plan to have a bus service at cheapest price between the hotels in the town centre and ENSIGC in the morning and in the evening.