



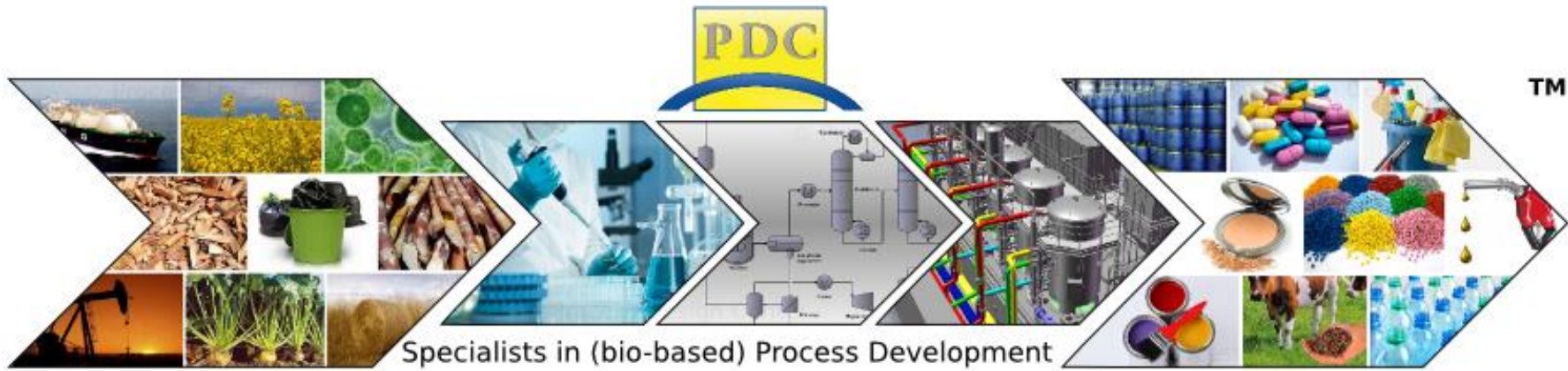
Connecting Innovative Small & Big Businesses

29 June 2015

Crowne Plaza Brussels – Le Palace,
Rue Gineste 3, Brussels

www.spire2030.eu

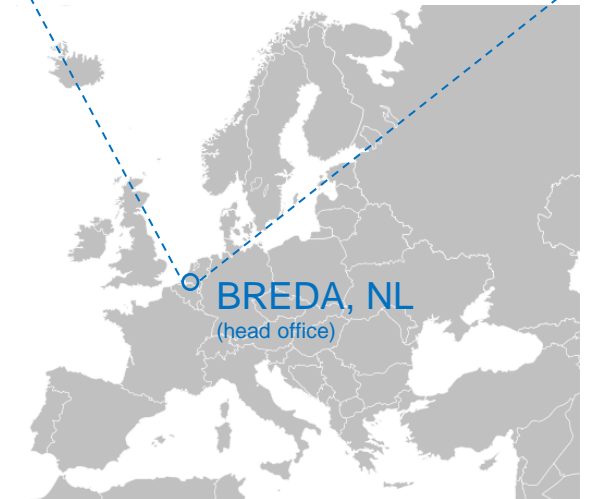
SPRE
Sustainable Process Industry through
Resource and Energy Efficiency



**Process Design Center's unique
process development tools with high
added-value for R&D consortia**

SME, BUSINESS IDEA AND KEY BENEFITS

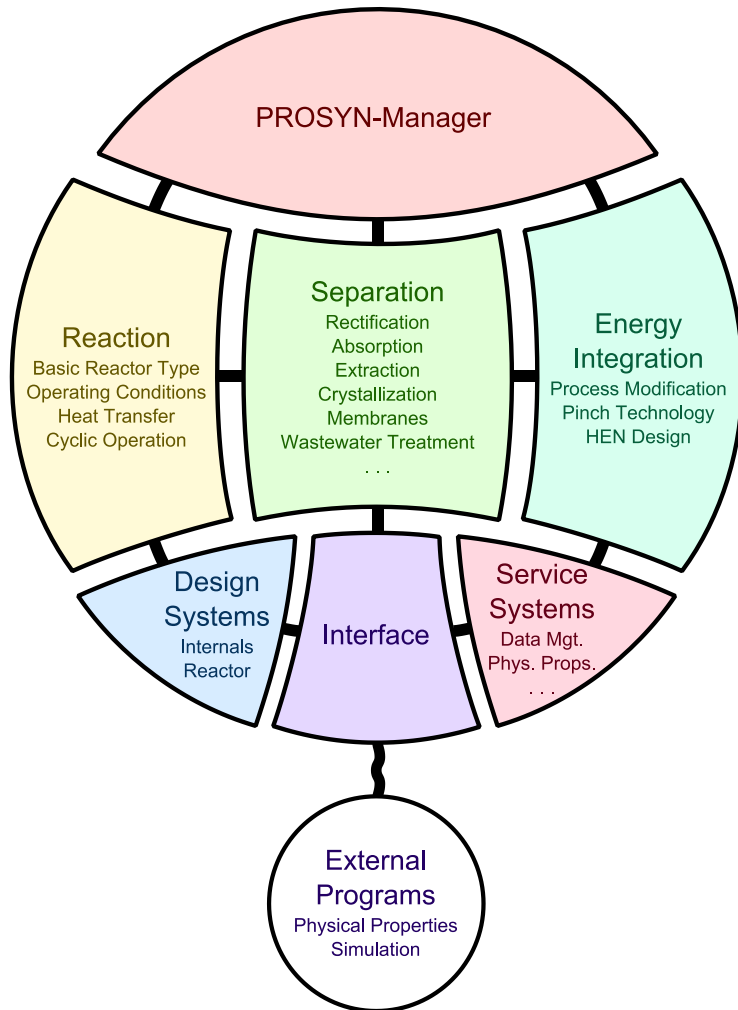
- Independent consultant for the process industry
- Highly qualified experts in chemical engineering (PhD/MSc)
 - Conceptual process design
 - Techno-economic evaluation
 - Energy efficiency and sustainability
- Proprietary tools and methods - PROSYN®
 - Expert system for conceptual process design
 - 250-300 man years invested (since 1980s)
 - Ongoing development effort
- Profound experience
 - Proven capability to come up with better solutions
 - Wide international experience, working with major companies and technology (startup) companies
 - Partner in EU consortia
 - CYCLOP (2000 – 2003), INSERT (2004 – 2007), NEPUMUC (2005 – 2008), CACHET (2006 – 2009), F3Factory (2009 – 2013), EuroBioRef (2010 – 2014), CARENA (2011 – 2015), CAPSOL (2011 – 2015), BISIGODOS (2013 – 2017), FASTCARD (2014 – 2017)



SME, BUSINESS IDEA AND KEY BENEFITS

- **Structured process development tools offer added-value to R&D consortia:**
 - Early-stage conceptual process design (during development)
 - Early-stage capital and operating cost estimate
 - Early-stage feedback to R&D (target setting)
 - Design rationale / reasoning with underlying knowledge rules
 - Evaluation & ranking of alternative designs or technologies
 - Strengthening of the IP and market position
 - Speed up time to market
 - Common knowledge platform
- **Enables parallel or integrated R&D instead of sequential task execution in collaborative research projects**

TECHNOLOGY STATUS



PROSYN

- Expert system for structured conceptual process design and techno-economic evaluation
 - Heuristic rules
 - Numerical methods
- Application
 - Broad range, from first idea to retrofit design
 - Very suitable in data-lean environment
- Development effort
 - 250-300 man years (since 1980s) with German chemical industry
 - 800.000 lines of code - estimated rebuild value 60 MM\$
 - Continued effort
 - new expert systems, e.g. membrane reactors
 - transfer to new platforms (web browser)

INITIAL BUSINESS PLAN

- Develop structured methodologies for selection and design of equipment, technology, and sustainable processes
- Support R&D consortia in structuring:
 - Technology and process development
 - Techno-economic evaluation
 - Exploitation

EXPERIENCE IN FP7 PROJECTS

- F3Factory (2009 – 2013)
 - Development of design and costing methodology for **modular design** and **decentralized production**
- CARENA (2011 – 2015)
 - Development of **conceptual selection** and **design methodology** for catalytic membrane reactors
 - **Exploitation management**
- EuroBioRef, FASTCARD, and other FP7 projects
 - Central role in (**conceptual**) **process design** and **techno-economic evaluation**

CONTACT DETAILS

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