Combining Process Intensification-driven Manufacture of Microstructured Reactors and Process Design regarding to Industrial Dimensions and Environment

Fact Sheet

Project Information

COPIRIDE
Grant agreement ID: 228853

Project website

Status
Closed project

Start date
1 September 2009
End date
31 August 2013

Funded under
FP7-NMP

Overall budget
€ 16 816 774,76

EU contribution
€ 11 000 000

Coordinated by
FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.
Germany

This project is featured in...
Objective

The ultimate ambition of COPIRIDE is to develop a new modular production and factory concept for the chemical industry using adaptable plants with flexible output. This concept will be superior, intellectual property (IP) protected, and enable a much wider spread of know-how and education of this skill-intensive technology. Key functional enabling units are new production-scale, mass-manufactured microstructured reactors as well as other integrated process intensification (PI) reactors realising integrated processes. This will lead to a substantial reduction in costs, resources & energy and notably improves the eco-efficiency. To ensure the competitiveness of European (EU) manufacturing businesses, PI technology / know-how is transferred from leaders to countries (and respective medium & small industries) with no exposure in PI so far, but with a track record in sustainability, and to the explorative markets food and biofuels. A deeply rooted base will be created for IP rights (Copyright, © = COPIRIDE) by generic modular reactor & plant design and new generic processes via ‘Novel Process Windows’, facilitating patent filing. Due to the entire modular plant concept comprising all utilities – far beyond the reaction & processual parts - a holistic PI concept is provided, covering the whole development cycle with, e.g., safety & process control & plant approval. Features, inter alia, are fast plant start-up and shut-down for multipurpose functionality (flexibility in products), sustainable & safe production, and fast transfer from lab to production & business (time-to-market). Industrial demonstration activities up to production scale with five field trials present a good cross-section of reactions relevant to the EU chemical industry. The economic impact in COPIRIDE is 10 Mio €/a (cautiously
optimistic) to 30 Mio €/a (optimistic) by direct exploitation. Indirect exploitation might sum up to 800 Mio €/a (very optimistic) by other companies via technology transfer.

Field of science

/social sciences/economics and business/economics/sustainable economy
/social sciences/economics and business

Programme(s)

Topic(s)

Call for proposal

FP7-NMP-2008-LARGE-2

Funding Scheme

CP-IP - Large-scale integrating project

Coordinator

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Record number: 92652

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