PRODIAS
Paving the way to successful processing diluted aqueous systems
PRODIAS (PROcessing Diluted Aqueous Systems) fosters competitiveness of the European process industry.

PRODIAS aims to decrease production costs for renewable-based products via increasing the efficiency of raw material use and production processes.

PRODIAS: Consortium of nine partners, funded by European Union with €10 million – total project budget is about €14 million.
Boosting the competitiveness of European Process Industry by substantial improvement of downstream processes:

- Decreasing CAPEX via shorter process chains and / or smaller unit sizes
- Decreasing OPEX via increased efficiencies, less energy and utility usage and lower CAPEX
- Increase of competitiveness of bio-processes and renewable processing
The integration of renewable raw material into industrial value chains comes along with immense challenges:

- Cost-competitiveness of products from renewable resources
- Complex reaction mixtures with challenging product properties
- Processing highly diluted aqueous systems
- Energy intensive downstream processes due to removal of vast amounts of water
- High complex downstream separation steps
PRODIAS Objectives

PRODIAS perfectly address the challenges by:

- Developing highly innovative, cost-effective and “renewable-tailored” separation technologies; single technologies and/or hybrid systems
- Novel, optimized apparatus and machinery to enable and host the developed technologies
- An integrated design approach for the fast-track selection of appropriate technologies
Nine partners collaborate to develop cost and energy-efficient technologies to support downstream processing

- BASF, Germany
- Cargill R &D Center Europe, Belgium
- University of Kaiserslautern, Germany
- Imperial College London, Great Britain
- Alfa Laval, Sweden
- GEA Messo PT, The Netherlands
- Xendo, The Netherlands
- UPM, Finland
- Enviplan, Germany
PRODIAS
Work Packages and Timeline

WP 1 "Getting started"
Specifying starting conditions and boundaries for all tasks
- BASF
  - all partners

WP 2 “INEMOS”
Integrated Experiments, Modeling, Simulation
- TU Kaiserslautern
- BASF

WP 3 “LESSY”
Low Energy Separation Systems to handle dilutes aqueous systems
- Alfa Laval
- BASF
- Cargill
- Enviplan
- Imp. College

WP 4 “SelSepS”
Adaption and optimization of selective separation steps
- GEA MESSO
- BASF
- Cargill
- Xendo

WP 5 “Tuneaction”
Tuning reaction to facilitate smart downstreaming
- Cargill
- UPM

WP 6 “HySys”
Hybrid systems by combining performance optima
- Cargill
  - all partners

WP 7 “DemoSys”
Demonstration plants for optimized systems
- BASF
  - all partners

WP 8 “Integral Design Approach”
Fast-track process design based on specific decision criteria
- Imp. College
  - all partners

WP 9 “Management of Project”
- BASF

WP 10 “Dissemination and Exploitation”
- BASF
PRODIAS Impact

Technological

- Novel & cost effective separation technologies
  - Toolbox of validated separation technologies
  - Integrated design approach

- Improved Performance
  - Significant increase in productivity and efficiency
  - Decrease of complexity of processes
  - Significantly lower energy consumptions
  - Decrease of investment costs

Environmental

- Reduction of energy consumption
- Reduction in GHG emissions
- Reduction of water usage
- Increase of raw material efficiency
**PRODIAS Impact**

**Economic/Social**

- **Stronger Competitiveness of the European Industry**
  - Establishes R&D results in near to industrial environment
  - Develops methods and technologies used in different industrial sectors
  - Increase of competitiveness of renewable-based chemical products
  - Offers employment opportunities

- **Improved Innovation Capacity and Knowledge Integration**
  - Cross sectorial partners share knowledge and costs
  - Deepened understanding of downstream processes via cooperation
  - Acceleration of adaption, transfer and take up of new technologies
PRODIAS
Measures for Dissemination & Exploitation

- Facilitate interaction and information exchange among relevant industrial and research communities to support potential technology transfer

- Create two-way communication channels with stakeholders, research communities and industry for disseminating the project achievements and results

- Promote dissemination of the project and its execution in strategically relevant directions

- Ensure that the project results will live on in a commercial context after the project closure
PRODIAS
Management and Structure

Exploitation Board
Sabina Buchardt

Project Coordinator
Prof. Michael-Helmut Kopf

EU Project Officer
Istvan Ritz

Governing Board
(Decision-making body)

Project Management Board

Administrative Support

Financial Support

WP 1
WP 2
WP 3
WP 4
WP 5
WP 6
WP 7
WP 8
WP 9
WP 10
PRODIAS
Founding

- Budget grants: 60 Mio € for SPIRE 1-4
- Funding per project:
  - SPIRE 1: 3-6 Mio €
  - SPIRE 2: 6-10 Mio €
  - SPIRE 3: 6-10 Mio €
  - SPIRE 4: 0,25-0,5 Mio €
- EU funding rate:
  - profit org.: 70 % of direct costs
  - nonprofit org.: 100 % of direct costs
- Overall PRODIAS project amount: 14 Mio €
- Overall PRODIAS EC grant: 10 Mio €
- PRODIAS project time: 4 year
First-ever 7-year innovation Public-Private Partnership (PPP) with Europe’s process industry

Industry has leading role in defining research & innovation priorities

Focus on enabling industrial technologies to foster European competitiveness
PRODIAS webpage:
http://spire2030.eu/prodias/

Framework Horizon2020:
http://ec.europa.eu/programmes/horizon2020

Project PRODIAS is coordinated through:

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