

PRODIAS

Paving the way to successful
processing diluted aqueous systems

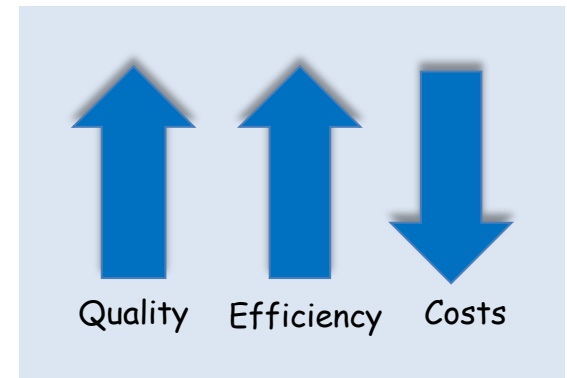




PRODIAS

Facts

- 💧 **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





PRODIAS

Goals

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





PRODIAS Challenges

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

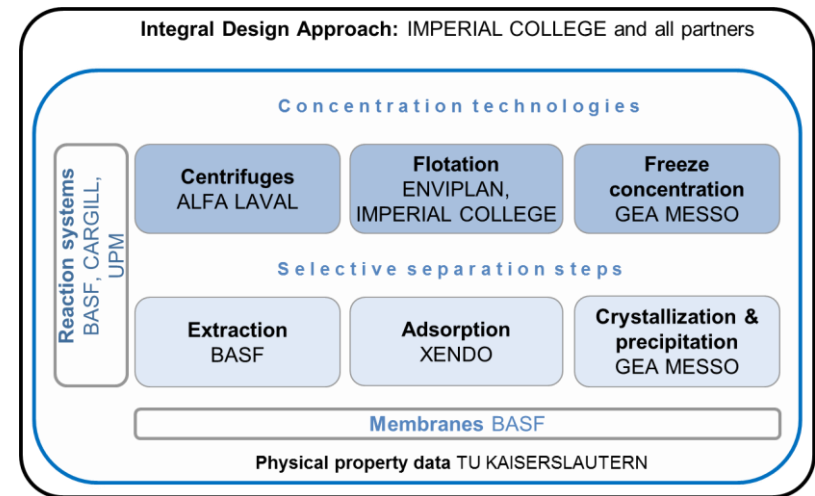




PRODIAS Objectives

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





PRODIAS Partners

Nine partners collaborate to develop cost and energy - efficient technologies to support downstream processing

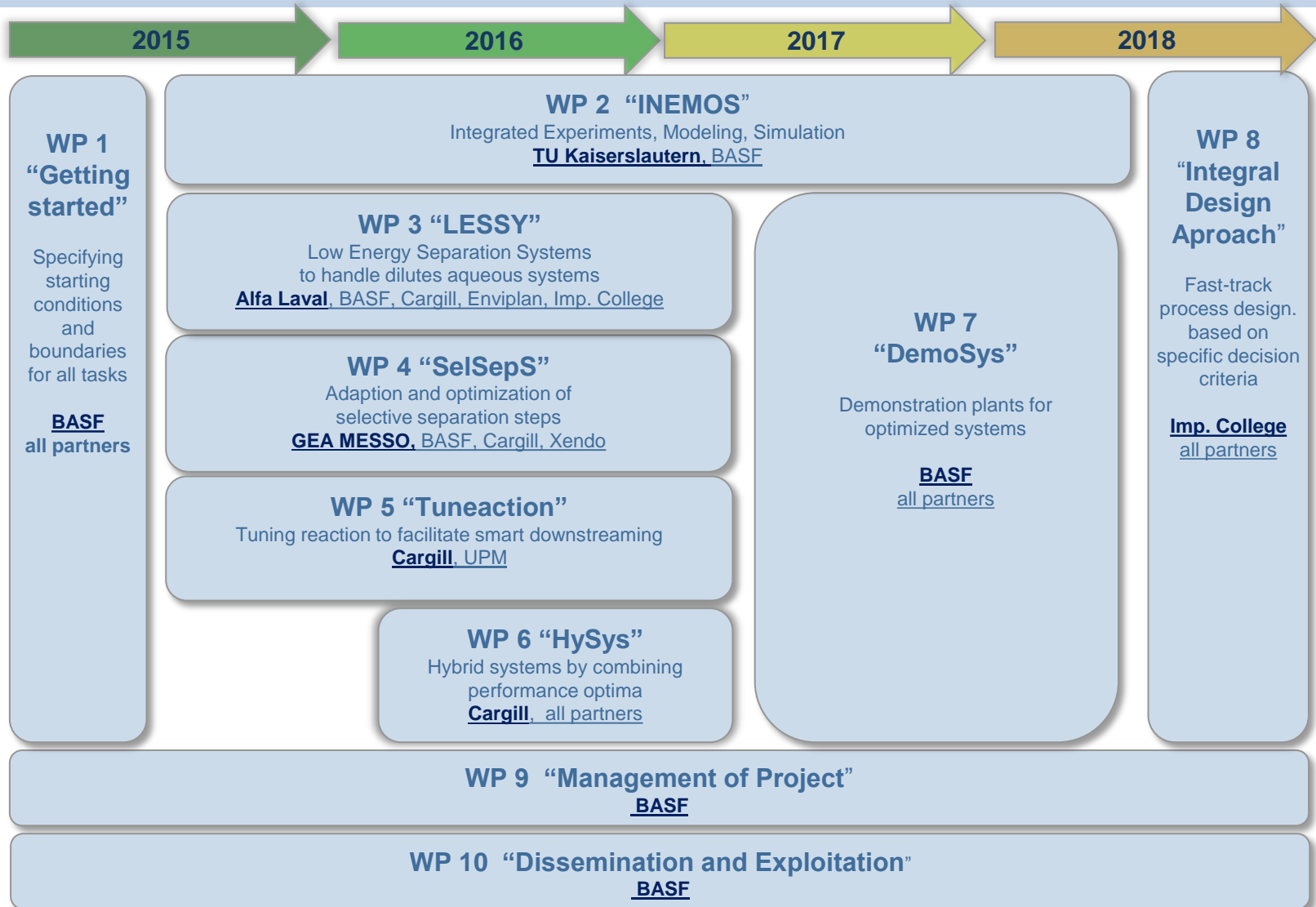
- 💧 BASF, Germany
- 💧 Cargill R &D Center Europe, Belgium
- 💧 University of Kaiserslautern, Germany
- 💧 Imperial College London, Great Britain
- 💧 Alfa Laval, Sweden
- 💧 GEA Messo PT, The Netherlands
- 💧 Xendo, The Netherlands
- 💧 UPM, Finland
- 💧 Enviplan, Germany





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Work Packages and Timeline





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



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Measures for Dissemination & Exploitation

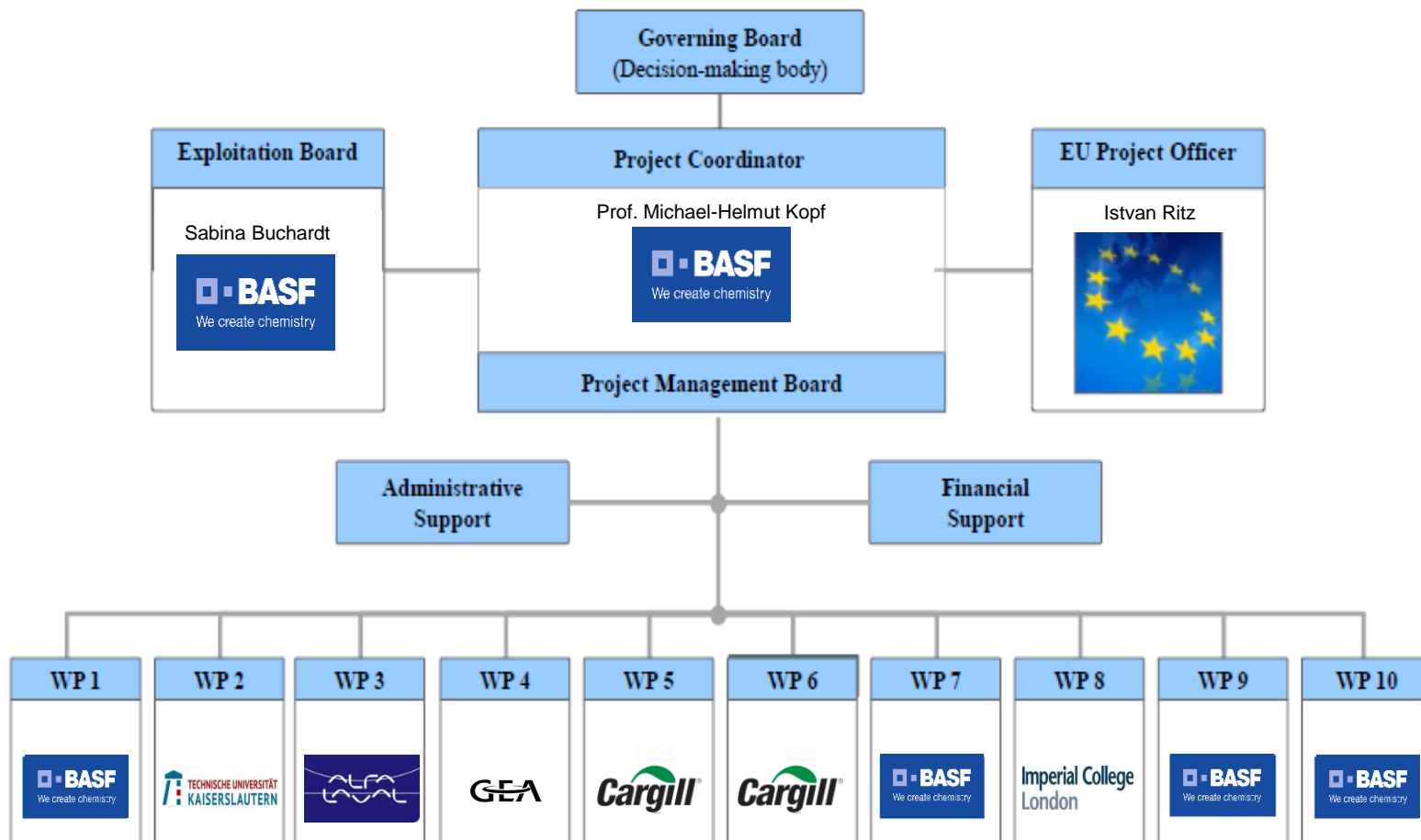
- 💧 Facilitate interaction and information exchange among relevant industrial and research communities to support potential technology transfer
- 💧 Create two-way communication channels with stakeholders, research communities and industry for disseminating the project achievements and results
- 💧 Promote 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





PRODIAS

Founding

- 💧 Budget grants: 60 Mio € for SPIRE 1-4
- 💧 Funding per project:

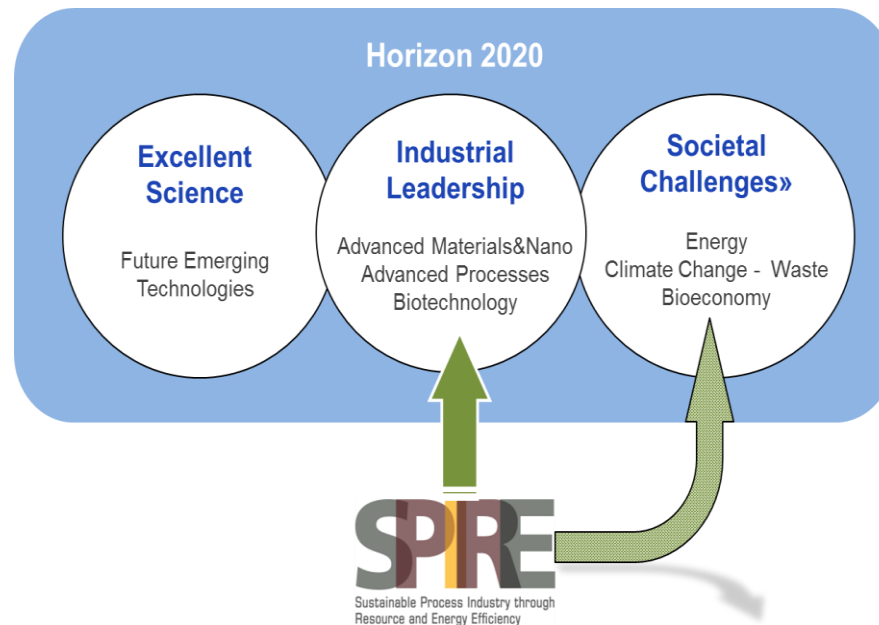
SPIRE 1	3-6 Mio €
SPIRE 2	6-10 Mio €
SPIRE 3	6-10 Mio €
SPIRE 4	0,25-0,5 Mio €
- 💧 EU funding rate:

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**



PRODIAS

Framework: HORIZON2020 - SPIRE PPP



- 💧 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

More Information

- 💧 PRODIAS webpage:
<http://spire2030.eu/prodias/>
- 💧 Framework Horizon2020:
<http://ec.europa.eu/programmes/horizon2020>
- 💧 Project PRODIAS is coordinated through:

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