

SusChem 2017 Brokerage Event

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Project Proposal dedicated to

**„Reduction of energy and other resources under
uncertainties through resources integration at
company's and regional level “**

University of Maribor

- Beginnings in 1859, established in 1975
- 19 member institutions, around 1,800 staff members
- High quality education to around 15,000 students in 185 study programmes
- Highest score among Slovene universities on Times Higher Educations World University Ranking

Faculty of Chemistry and Chemical Engineering

- Organized in 9 well equipped Laboratories
- Around 90 staff members and 450 students
- Study programs on Chemistry and Chemical Engineering at Bachelor, Master and Doctoral levels
- The budget around 4 M€, out of which 37 % from research, 11 % from market, and 52 % from education activities
- Well established collaboration with domestic and international companies

PROJECT IDEA CONCEPT (OR INDICATE THE TOPICS AND CALLS YOU ARE INTERESTED IN)

Topics of interest

- Integration of renewable and secondary sources into industrial production networks at company's and regional level
- Total site integration of resources at company's and regional level including industries, public sectors and residential areas (raw materials, products, heat, electricity, cooling)
- Exploitation of low-grade waste heat, and heat recovery
- Optimizing value chains on company's and regional level for flexibility (variable energy and resources, market changes, risk, uncertain data)
- Optimizing flexible distribution systems and logistics
- Multi-criteria optimization for sustainability (economic and energy efficiency, unburdening environmental alternatives, social impacts)
- Novel business models based on cycle economy

Relevant H2020 calls: „CE-SPIRE-03-2018: Energy and resource flexibility in highly energy intensive industries“ and similar

Potential industrial demonstration: chemical, metallurgical, food and other production, waste management services, integration of renewable energy supply

Goals

- Maximizing energy self-sufficiency and security of companies and regions
- More efficient utilization of energy resources, water and raw materials by performing energy and other resources intra and inter integration
- Consequently, reduction in consumption of water, energy and other resources
- Significant reduction of emissions
- Maximizing systems' sustainability - growth in economy, lower environmental impacts, new job positions
- Holistic concept for designing and operating of sustainable and flexible value chains

EXISTING PROJECT CONSORTIUM/ or LOOKING FOR PARTNERS

PARTNERS who have already expressed their interest to cooperate:

- Aristotle University of Thessaloniki - Prof. Michael Georgiadis
- Technical University of Brno - Prof. Jiří Jaromír Klemeš, Prof. Petar Varbanov
- Technical University of Denmark - Prof. Rafiqul Gani
- The University of Manchester - Prof. Robin Smith
- Instituto Superior Tecnico - Prof. Ana Barbosa Pova
- University of Tuzla - Prof. Elvis Ahmetović
- INESC TEC - Prof. Samuel Moniz
- TU Dortmund University - Prof. Sebastian Engell

NEW PARTNERS attending the SusChem 2017 Brokerage Event are welcome

Contact details for project idea(s) :

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