

SusChem 2017 Brokerage Event

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High-efficiency fuel production with downstream process integration and in-situ product recovery



National Technical University of Athens (NTUA)

- School of Chemical Engineering (CHEMENG)
 - Professor Antonis Kokossis



PLUS

Consortium of EERA Bioenergy partners who have subscribed to the concept

Unlock potential in reactions & dramatically increase conversions; use technology innovations to combine **reaction and separation in a single unit (ISPR)**:

much higher conversions,
simpler separation sequences,
fewer recycles, lower energy costs.

Use alternative catalysts, enzymes and feedstocks.

Separations not restricted to distillation but extend to a wide range of conventional (e.g. adsorption, membrane technologies, desorption, stripping etc) or untested separation alternatives (e.g. membranes, novel adsorbents etc).

Innovations may include

- (i) pilot-scale installations capitalizing on lab-scale research.
- (ii) improvements on hydrolysis (lignocellulosic biomass) using new strains to degrade and ferment sugar polymers, and yield paraffinic fuels using catalytic condensation of the alcohols/ketone mixtures
- (iii) several options to diversify biomass supplies offering further integration to the thermochemical paths (pyrolysis, gasification), and fermentation (syngas fermentation)

CE-SPIRE-04-2019: Efficient integrated downstream processes

- Dramatic improvements on yields and reductions of downstream separation costs
- New patentable knowledge in hybrid equipment design and process development
- Exploitation of new and emerging technologies on separation and catalysis
- Innovations on targeted applications (ABE/IBE production, syngas fermentation)
- Pave the way for the commercialization of advanced biofuels

EXISTING PROJECT CONSORTIUM/ or LOOKING FOR PARTNERS

#	Organization	Country	Type
1	PARTNER 1	UK	RTO
2	PARTNER 2	Netherlands	RTO
3	PARTNER 3	Greece	RTO
4	PARTNER 4	France	Industry
5	PARTNER 5	Belgium	SME
6	PARTNER 6	Netherlands	Industry
7	PARTNER 7	Germany	PNPA
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...	New Partners		
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Contact details for project idea(s) :

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Prof. Antonis Kokossis

akokossis@mail.ntua.gr