



Workshop-2: Platform for screening process and technologies; Workshop proceedings

Place: *Online*

Date: *15 - 17 June 2021*

RENESENG II[©]

RENESENG II project deliverable D7.2
Responsible for delivery: Surrey University
Work package concerned: WP7



NTUA

Imperial College
London

IMPERIAL

DTU
Danmarks Tekniske Universitet

DTU



WR



EPFL



GREENE



UoS



CIMV



CHALMERS



BPF



Arkema



TUD

CHIMAR

IBJ

1 Introduction

On the 15-17 June 2021 the second workshop was organized within the RENESENG II project framework aiming at reviewing platform for screening process and technologies. The workshop was organised by the project consortium member DTU, it was co-sponsored by KT consortium and delivered online as a part of KT consortium Annual Meeting. This workshop is part of a series of training activities to form system engineers expected to have a high impact in the design of the new, complex biorefinery industry.

The attendees from within the RENESENG project were from NTUA represented by Prof. A. Kokossis, Aikaterini Mountraki and Paraskevi Karka, from the University of Surrey represented by Prof F Cecelja, from ALMAGREEN represented by Enrique Montiel, from Bio2Oil represented by Prof. Ib Johannsen, from ARKEMA represented by Dr. Mirela Tsagkari and from EPFL represented by Andreas Pateromichelakis in addition to over 80 participants attending the workshop with great interest in biorefining (Appendix 1).

2 Workshop Topics

The workshop was organised as a three days conference covering the following topics:

1. Petroleum and Geoscience
2. Petroleum and Fluid Properties
3. Thermodynamics, Water and Electrolytes
4. Petroleum properties – solids and solutions
5. Thermodynamics, Water and Electrolytes
6. CCUS and related topics

Ant the topics directly involving RENESENG II project activities Platform technologies which include:

7. New horizons
8. Process System Engineering
9. Bio-Process Systems Engineering
10. RENESENG II

For the topics directly involving RENESENG II activities and workshop, there were in total 30 scientific papers presented in the course of three days of the workshop as demonstrated in the workshop schedule in Appendix 2.

Direct RENESENG II contribution was represented by 9 presentations as per RENESENG II workshop schedule in Fig. 1:

3 The Workshop Outcome

The outcome of the workshop is measured in two ways:

1. The workshop proceedings: the workshop proceedings is published in the form of a KT Consortium Annual Meeting proceeding (appendix 2).
2. Networking: a separate 2 hrs slot was organised for networking which was attended by academic representatives on one side and most of 50 industries on the other side.

4 Observation

The engagement of workshop attendees in the programme of the workshop was remarkable: as evidence the RENESENG II session was attended by >30 participants on the top of presenters and session chairs..

1400-1630 RENESENG II

Moderator: Prof. Antonis Kokossis

14 ⁰⁰ -14 ¹⁰	Introduction Prof. Antonis Kokossis, National Technical University of Athens - NTUA (GR)
14 ¹⁰ -14 ³⁰	Ex-ante LCA and advanced data-driven modelling in selecting feedstocks and products Postdoc Paraskevi Karka, Chalmers University of Technology (SE) & NTUA (GR)
14 ³⁰ -14 ⁵⁰	Gasification-FT-fermentation for the production of waxes and methane from syngas: ALMAGREEN, R&D Project manager Enrique Montiel, Greene Waste to Energy (ES)
14 ⁵⁰ -15 ¹⁰	Process developments in scaling-up and scaling-down hydrothermal liquefaction Assoc. Prof. Ib Johannsen, Bio2Oil (DK) & Aarhus University (DK)
15 ¹⁰ -15 ³⁰	Early-stage capital cost estimation of biorefineries at low TRLs Dr. Mirela Tsagkari, NTUA (GR), Dr. Jean-Luc Dubois, ARKEMA (FR)
15 ³⁰ -15 ⁵⁰	Systems integration for the holistic design of lignocellulosic biorefineries Postdoc Aikaterini Mountraki, NTUA (GR) & CIMV (FR)
15 ⁵⁰ -16 ¹⁰	Integration of CAPE models and data for the domain of biorefining: Inter-CAPE model ontology design Postdoc Linsey Koo, University of Surrey (UK)
16 ¹⁰ -16 ³⁰	The use of GVL for the holistic utilization of biomass PhD Andreas Pateromichelakis, École Polytechnique Fédérale de Lausanne (CH)
16 ³⁰ -16 ⁵⁰	A semantic repository for classification and characterisation of organic waste Dr. Edlira Kalemi, University of Surrey (UK)

Figure 1 RENESENG II workshop programme

Appendix 1: Workshop schedule

Time	Monday		Tuesday			Wednesday	Thursday
	14 June		15 June			16 June	17 June
	Session 1	Session 2	Session 1	Session 2	Session 3		
8			Plenary Session (Philip Fosbøl)			Plenary Session (Nicolas von Solms)	
9							Bio-Process Systems Engineering (John M. Woodley)
10							Plenary Talk
11			Thermodynamics, Water and Electrolytes (Georgios M. Kontogeorgis)	Petroleum properties – solids and solutions (Thomas G. Petersen)		Plenary Session (Georgios M. Kontogeorgis)	Plenary Session (Jens Abildskov)
12							
13	Plenary Session (Nicolas von Solms)		Thermodynamics, Water and Electrolytes (Xiaodong Liang)	CCUS and related topics (Philip Fosbøl)	New horizons (Arne D. Andreassen)	Process System Engineering (Gürkan Sin & Seyed S. Mansouri)	
14							RENESENG II (Antonis Kokossis)
15						Break	
16	Petroleum and Geoscience (Ida Fabricius)	Petroleum and Fluid Properties (Alexander Shapiro)	Plenary Session (Georgios M. Kontogeorgis)				
17	Break	Break	KT Consortium Advisory Board Meeting			Plenary Talk	
18	CERE Member Companies Round Table Discussion						
19							

Appendix II The workshop proceeding (whole)



KT Consortium
Annual Meeting 202