



EHL CATHOL



## D9.3 – EHL CATHOL open website

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EHL CATHOL – <http://ehlcathol.eu/>

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<b>Grant Agreement Number</b>	101006744
<b>Action Acronym</b>	EHL CATHOL
<b>Action Title</b>	Chemical Transformation of Enzymatic Hydrolysis Lignin (EHL) with Catalytic Solvolysis to Fuel Commodities Under Mild Conditions (EHL CATHOL)
<b>Funding Scheme</b>	H2020-LC-SC3-2020-RES-RIA
<b>Version date of the Grant Agreement against which the assessment will be made</b>	27/10/2020
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<b>Actual date of submission</b>	26/2/2021
<b>Responsible</b>	F. Battin-Leclerc
<b>Contributors</b>	CNRS
<b>Dissemination level</b>	Public

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## Executive Summary

Deliverable 9.3 reports on the set-up of the EHL CATHOL website. This public website (<https://ehlcathol.eu/>) aims at presenting useful and interesting information about the EHL CATHOL project - e.g. aims and objectives, technological implications and impacts, partner lists.



## Table of Contents

1. EHL CATHOL website setting-up .....	6
2. Website implementation and maintenance .....	14

# 1. EHLcATHOL website setting-up

With the help of the external company (the company of Nadia EL HAMDANI) hired for the design of a logo and Graphical chart, CNRS has set up a project web site. The address is <https://ehlcathol.eu/>. It is linked the homepages of the EHLcATHOL partners.

Figure 1 presents the EHLcATHOL website menu, which can be found in all the pages, with:

- \* [HOME](#) to come back to the welcome page,
- \* [CONSORTIUM](#) to describe the all the institutes involved in the project,
- \* [PEOPLE](#) to present the all the people taking part in the project,
- \* [ABOUT THE PROJECT](#) to introduce the background of the project and to allow downloading the project leaflet,
- \* [PUBLICATIONS](#) to allow downloading our press releases, conference presentations and scientific publications,
- \* [CONTACT US](#) for sending a mail to people in charge of the project.



Figure 1 – EHLcATHOL website menu, which can be found in all the pages.

The seven following figures present representative screen copies of the web pages for the different items of the menu (made on February, 18<sup>th</sup> 2021) to give a first idea of this website; however, the full picture can only be obtained by going to this site.

## Chemical transformation of enzymatic hydrolysis lignin (EHL) with catalytic solvolysis to fuel commodities under mild conditions

EHL CATHOL, Number: EU-101006744

To contribute to the EU's carbon neutral goal in 2050

Our target is to develop a novel technology that fully takes the advantage and utilizes the energy of the waste-EHL, transforms it to high quality liquid fuels applicable, e.g., in hybrid cars, heavy-duty transport vehicles, ships and jet airplanes, thus, doubling the energy efficiency of the 2G bioethanol production chain and contributing to achieve the targeted carbon neutral EU by 2050.

EHL CATHOL action aims at:

To completely transform via direct catalytic solvolysis, viz. using a fuel compatible solvent as one of the reactant to fully depolymerize, of a large volume Enzymatic Hydrolysis Lignin (EHL) waste of the 2G bioethanol production from lignocellulose biomass, to produce high performance fuel blends, i.e. high heating value jet-fuel, high octane gasoline and high cetane number diesel.




### NEWS

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EHL CATHOL has received funding from the European Union's Horizon 2020 - EU-3.3.2 - Low-cost, low-carbon energy supply programme under grant agreement No 101006744


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Figure 2 – EHL CATHOL website HOME page.





**Aalto University**

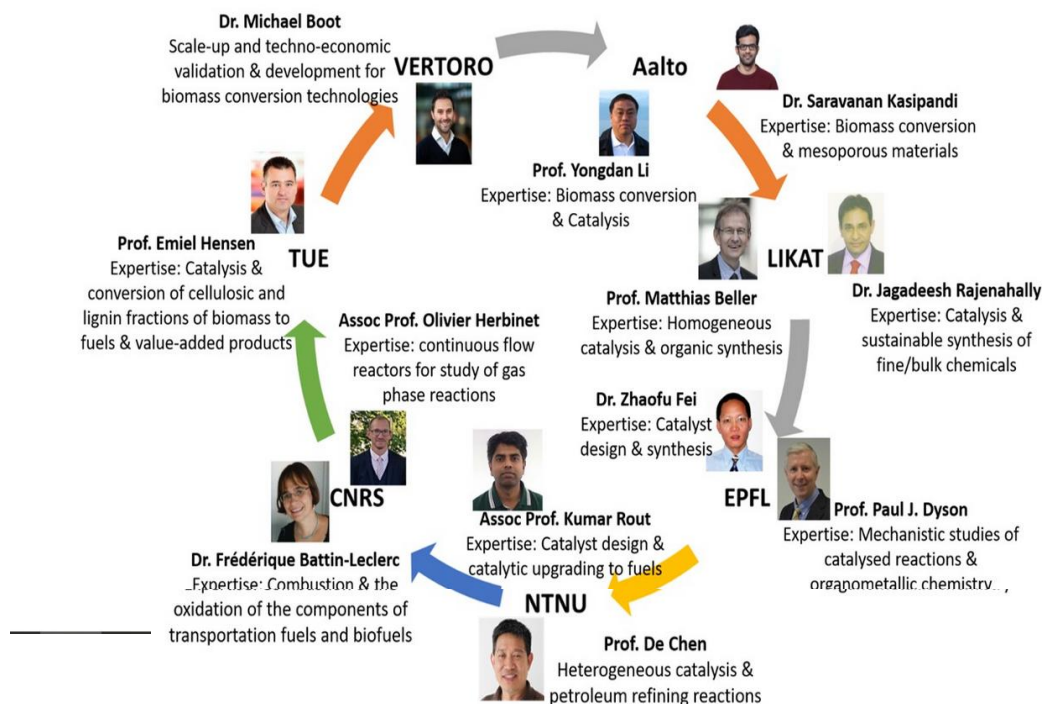
Aalto korkeakoulusäätiö sr. <https://www.aalto.fi/en/aalto-university>

Aalto University works towards a better world through top-quality research, interdisciplinary collaboration and pioneering education. The university was founded 2010 as a merger of the Helsinki University of Technology, Helsinki School of Economics, and the University of Art and Design Helsinki. Aalto is also partner in the European University Pilot UNITE! The Aalto community has about 17600 students and more than 4399 employees. The School of Chemical Engineering (CHEM) has among its research priorities advanced metals, active and functional materials, sustainable technologies, circular economy, etc. The School deals with materials, their production and related processes, design and applications and has a strong cooperation with the Finnish industry. Research in the Department of Chemical and Metallurgical Engineering (CMET) targets to sustainable utilization of raw materials, designing more efficient processes and developing new materials and products. The department's expertise enables sustainable future with high performance products and processes in circular economy and bioeconomy. Research group of Industrial Chemistry, focuses on research related to chemical reaction engineering and reactor design. This group will improve the performance of existing commercial chemical convertors and the understanding on the governing factors, e.g. the mechanical strength of solid catalyst and the mechanical reliability of the catalytic convertors; improvement of the performance of DeNO<sub>x</sub>, three-way and hydrogen production catalysts and convertors. The group also promotes the commercialization of promising new reactions through revealing the limiting factors, e.g. lignocellulose fractionation and transformation to chemicals and fuels; photo-catalytic water splitting; advanced batteries; solid oxide fuel cells with direct carbon and hydrocarbon fuels; methane catalytic decomposition to hydrogen and nano-carbons and NO direct decomposition.

LIKAT	+
EPFL	+
NTNU	+

Figure 3 – EHL CATHOL start of the website CONSORTIUM page. In this page, a description of each partner can be unveiled.





## AALTO

Pr. Yongdan Li



Prof. Yongdan Li (male) has been Professor of Industrial Chemistry at Aalto since 06/2017, and Professor of Industrial Catalysis (up to 10% Commitment in 2020) in School of Chemical Engineering, Tianjin University, China. In 1994-2017, he was Professor of Industrial Catalysis and Director of Tianjin Key Lab on Applied Catalysis in Tianjin University. He was also a visiting professor in 1999 the Hong Kong University of Science and Technology, 2007 EPFL, Switzerland, 2009 University of Michigan, USA, and 2015 Yale University, USA. After his PhD 1989 in Tianjin University, he worked 1 year as a lecturer in his alma mater and after that he had post-doc fellowships 1990-91 in University of Twente, the Netherlands, and 1991-92 in CNRS, Nancy, France. Prof. Li is an Associate Editor of Catalysis Today (2009-), and Journal of the Chemical Industry & Engineering Society of China (CIESC Journal) (2011-). He is also the member of the Editorial Board in CIESC Journal, Chinese Journal of Catalysis, Journal of Fuel Chemistry and Technology, Chinese Journal of Molecular Catalysis, etc. In addition, he has hosted and chaired several international conferences such as EECAT 2020, The 4th International Symposium on Catalytic Science and Technology in Sustainable Energy and Environment, ITICAT2019 Workshop on Catalytic Reactions with Ion Transfer through Interfaces, 10th International Conference on Environmental Catalysis ICEC 2018 & the 3rd EECAT 2018, 2017 18th National Congress on Catalysis in China, the 2nd EECAT 2016 and 1st EECAT. Researcher unique identifiers of Prof. Li are: ORCID 0000-0002-0430-9879, Publons/Research ID L:7304-2017 (h-index 50, over 9235 citations to 329 articles, 5 Apr 2020), Scopus AuthorID 7502076108. URL for web site: <https://people.aalto.fi/yongdan.li>

Dr. Saravanan Kasipandi

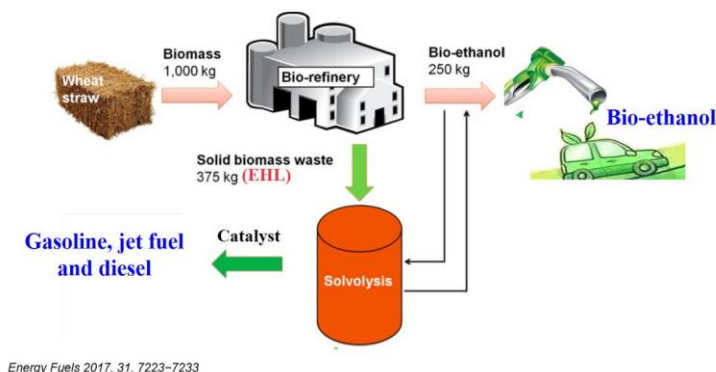
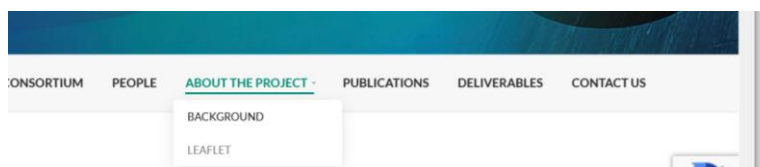
## TU/E

Prof. Emiel Hensen



Dr. Michael Boot (male) holds an MSc. and PhD degree in Mech. Eng., as well as an MBA. Boot is an interdepartmental fellow at TU/e, whose research activities are focused on scale-up and techno-economic validation of, and application development for, biomass conversion technologies. He has authored 47 peer-reviewed papers and submitted 10 patents in the domain of renewable fuels and biomass conversion, and is responsible for the valorisation activities and project management within the IMC group.

Figure 4 – EHL CATHOL start of the website PEOPLE page. As illustrated in only two cases, in this page, a description of each member of the project can be unveiled.



Energy Fuels 2017, 31, 7223–7233

## OBJECTIVE



Our EHL CATHOL action aims to completely transform via direct catalytic solvolysis, viz. using a fuel compatible solvent as one of the reactant to fully depolymerize, of a large volume Enzymatic Hydrolysis Lignin (EHL) waste of the 2G bioethanol production from lignocellulose biomass, to produce high performance fuel blends, i.e. high heating value jet-fuel, high octane gasoline and high cetane number diesel. The EHL CATHOL research will focus on gaining the knowledge for improving greatly the catalytic activity and stability, mechanism of suppressing recondensation steps, solvation of lignin, selectivity to fuel molecules, product separation, fuel performance enhancement, combustion of the EHL biofuel, as well as reducing the environmental impact of the emission, all needed to develop the novel EHL catalytic solvolysis technology exploiting the energy, around 40% of the lignocellulose feed, stored in EHL with the highest efficiency. Our consortium of Aalto, TUE, NTNU, LIKAT, EPFL, CNRS and VERTORO engages with the profound background in biofuel chemistry, catalysis, mechanism and kinetics, operando spectroscopy on organic reactions, fuel performance enhancement, combustion kinetics and modelling, reactor and process design, as well as distillation techniques. We will reveal and overcome the potential factors limiting the up-scaling of the processes, as well as exploit and test the new fuel products and determine their environmental impacts. Our target is to develop a novel technology that fully takes the advantage and utilizes the energy of the waste-EHL, transforms it to high quality liquid fuels applicable, e.g., in hybrid cars, heavy-duty transport vehicles, ships and jet airplanes, thus, doubling the energy efficiency of the 2G bioethanol production chain and contributing to achieve the targeted carbon neutral EU by 2050.

Funded under H2020-EU.3.3.2 – Low-cost, low-carbon energy supply

## Project Information

**EHL CATHOL**  
Grant agreement ID: 101006744

**Status**  
Ongoing project

**Start date**  
1 November 2020

**End date**  
31 October 2024

**Funded under**  
H2020-EU.3.3.2.

**Overall budget**  
€ 3 999 628,75

**EU contribution**  
€ 3 999 628,75

**Coordinated by**  
AALTO KORKEAKOULUSAATIO SR  
+ Finland



## AT A GLANCE

OUR LOGO COORDINATOR ORGANISATION GANTT CHART PHOTO GALLERY

Close collaboration of chemists, chemical engineers, combustion scientists and fuel engineers are proposed

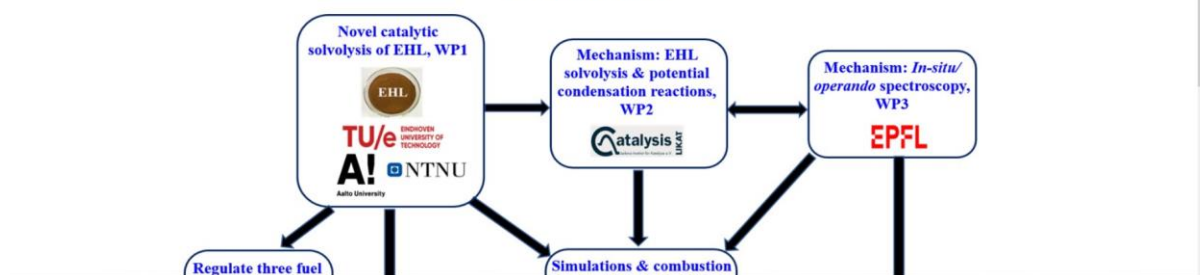


Figure 5 – EHL CATHOL website start of the page BACKGROUND in the ABOUT THE PROJECT page, more information can be found in the AT A GLANCE menu. The project leaflet can be found in the page LEAFLET.

## PRESS RELEASES

... *Coming soon* ...

## CONFERENCE PRESENTATIONS

... *Coming soon* ...

## SCIENTIFIC PUBLICATIONS

... *Coming soon* ...



Figure 6 – EHL CATHOL website PUBLICATIONS page, which in due time will contains the list of future press releases, publications and conference presentations.

## DELIVERABLES

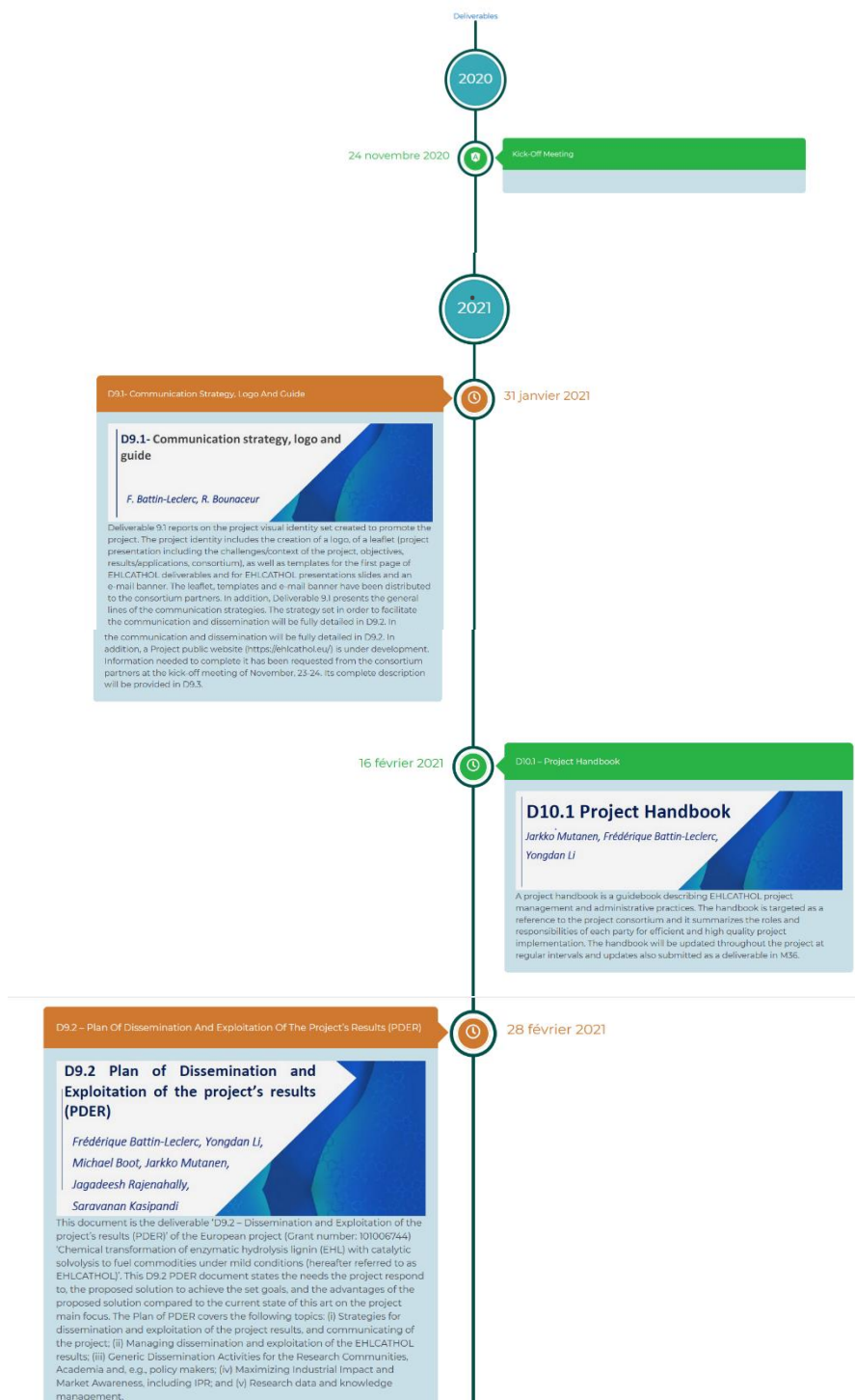


Figure 8– EHL CATHOL start of the website DELIVERABLES page, with the timeline of the already submitted public deliverables.

Name\*

Organisation

Email\*

Object\*

Your message

SUBMIT

Search ...

**Figure 8 – EHL CATHOL website CONTACT US page, through this page, mails will be automatically sent to Yongdan LI, Jarkko MUTANEN and Frédérique BATTIN-LECLERC.**

## 2. Website implementation and maintenance

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The EHL CATHOL website presented in this deliverable is a basis, which aims to be continuously alimented in project achievements by the partners during all the project life, by transferring by mail the related information to CNRS (Bounaceur Roda: [roda.bounaceur@univ-lorraine.fr](mailto:roda.bounaceur@univ-lorraine.fr)). Especially, a link towards the open-access publications and theses, as well as press releases and conference presentations produced by the EHL CATHOL work should be provided as soon as available, to be added in the COMMUNICATION pages.

During each monthly WP leader meeting, each WP leader will inform WP9 leader of their plans for newly required additions to the website (scientific news, events, publications), the related information will then be transferred by e-mail for the addition to be made to the website before the next monthly WP leader meeting. WP9 leader will check that every publication permission well leads to a new addition to the website.