

PRESS RELEASE – FOR IMMEDIATE RELEASE:

25 Juni 2015

80% CO₂ reduction in paper industry closer than ever thanks to BBI subsidy

The PROVIDES consortium recently received a substantial subsidy from the Bio-based Industries Initiative (BBI JU). The consortium focuses on developing environmentally friendly alternatives to chemical solvents in the European pulp and paper industry by means of Deep Eutectic Solvents (DES). Coordinated by ISPT, the industry-driven PROVIDES project is also financially supported by 18 industrial partners. The BBI subsidy means the project can go full steam ahead with the further development and industrial implementation of these innovative green processes.

The project is of high interest to the paper and pulp industry as it offers a new, environmentally friendly technology to isolate high-quality cellulose fibres and lignin from lignocellulose. The innovative technology can potentially reduce CO₂ emissions in the papermaking chain by 80%.

“The subsidy is great news for the industry,” says Math Jennekens, R&D Director at Sappi Europe, one of the consortium’s industrial partners. “The DES technology will bring an enormous breakthrough in our industry and strengthen our position as a pivotal sector in the development of the bio-based economy. It’s therefore important, in this pre-competitive stage, that the technology is developed in a form of cooperation that brings universities and institutes together with the European pulp and paper industry.”

“The PROVIDES project is an excellent example of what industrial cooperation can bring,” says Tjeerd Jongsma, Director of ISPT. “The original approach taken in CEPI’s Two Team Project competition brought forward the best ideas industry-wide. The next step is an open innovation setting with broad participation of the major European industries to bring this idea to realization. For me, this is proof that the joint European paper industry will be able to cope with global competition ‘head-on’.”

“The role of ISPT in the consortium formation is truly exemplary,” says Ekhard Beuleke from Omya International AG, Switzerland. “ISPT provided us with support, as well as with pre-discussed ‘standardised’ draft contracts and agreements, which made it much easier and less time-consuming to align all the many different partners in the consortium.”

The PROVIDES project will benefit from the knowledge and expertise on DESs that has already been built up over the past few years. Technical University Eindhoven (TU/e) recently produced the first hydrophobic DES. The PROVIDES project can use these insights to remove detrimental hydrophobic components from wood and paper for recycling. Progress has also been made by TU/e and VTT, both partners in the consortium, on lignin-dissolving DES. This will be further developed in the context of the project.



Institute for Sustainable
Process Technology

FOR THE EDITOR

About the PROVIDES project

Green alternative

Deep Eutectic Solvents (DESS) are nature-based, renewable, biodegradable, low-volatile and cost-effective. When used for producing high-quality cellulose fibers in paper-making applications, they are extremely energy efficient, particularly because they do not require high temperatures. They offer a groundbreaking new method for the pulping of many different lignocellulosic materials for producing chemical pulp, pure lignin and other chemicals.

PROVIDES consortium

The PROVIDES consortium consists of 18 industrial partners in the pulp and papermaking chain, complemented by ISPT as coordinator, and Technical University Eindhoven, CTP and VTT as knowledge partners. Consortium partners come from all over Europe: Austria, Belgium, Finland, France, Germany, Netherlands, Portugal, Sweden and Switzerland.

PhD research

As part of the PROVIDES project, three PhD students from Eindhoven University of Technology (Netherlands) are carrying out research in close collaboration with the industrial partners from the pulp and paper industry. These projects focus on the use of DESs for the recycling of paper, lignocellulose fractionation and recovery processes. The research group is the first in the world to systematically screen possible DES mixtures, and has already reported several new ones.

CEPI Two Team Project competition

In 2012, the Confederation of European Paper Industries (CEPI) organized a competition in which two teams – independently and in competition with each other – worked for a year on finding new breakthrough concepts to achieve 80% CO₂ reduction by 2050. Each team presented four concepts. The winning concept was Deep Eutectic Solvents (DESS). For more information, see www.unfoldthefuture.eu and the [press release](#).

About ISPT

The Institute for Sustainable Process Technology unites industry, universities, research organizations and SMEs in order to accelerate innovation and ultimately transform process technology into a green, clean, efficient endeavour. In addition to developing knowledge, the Institute fosters the demonstration and application of new technologies. More information: www.ispt.eu.

About BBI

The Bio-Based Industries Joint Undertaking is a new €3.7 billion Public-Private Partnership between the EU and the Bio-based Industries Consortium (BIC). Operating under Horizon 2020, it is driven by the Vision and Strategic Innovation and Research Agenda (SIRA) developed by the industry. 50% of the PROVIDES partners are member of BIC. More information: www.bbi-europe.eu and www.biconsortium.eu.

Photo and caption

Group photo by ISPT – 'PROVIDES consortium'

Logo of the BBI, official H2020 requirement to add this logo to all publications.

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