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Deep Eutectic Solvents project makes good progress and welcomes new partner

The Deep Eutectic Solvents (DES) project of ISPT, aimed at developing an environmentally friendly alternative to chemical solvents in the European pulp and paper industry, is making good progress. The project group consisting of 23 European organizations continues to grow. Recently they welcomed a new partner, the Portuguese company Altri.

Altri joins the project with its Celbi mill. "We've followed the project from the very beginning, when it won CEPI's Two Team competition," says Carlos Van Zeller, Mill Director of the Altri-Celbi mill. "We immediately thought that it might be a major breakthrough for the future of our industry, both technically and economically. It's a complete 'out of the box' approach, and for a market pulp producer such as Altri, we believe it has great potential. I'm very happy about the collaboration. The first DES meeting was well planned, with clearly established goals, and it was great to hear about the first results. The place and the setting also contributed to a productive informal discussion between the working groups. We will follow the project very closely and seize opportunities as they arise. Our knowledge of DES is still in its infancy, and I'm hopeful the project will lead to even broader applications in different areas in pulp production."

In February of this year, the whole team got together in Mönchengladbach (Germany), where the R&D facilities of the Stora Enso paper division made for a great meeting venue. During this second general meeting, the project partners shared their views and decided on the next steps. The Ph.D. students shared their research results they obtained so far and got good support from the specialists working in the industry. The meeting was held in a great cooperative spirit, and all members are looking forward to the next set of results.

About the DES project

Green alternative

Deep Eutectic Solvents (DESs) are nature-based, renewable, biodegradable, low-volatile, cost-effective and 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.

Two Team Project Competition

As one of the most energy-consuming industries today, the pulp and paper industry is continuously looking for ways to improve the energy efficiency of its processes. That's why the Confederation of European Paper Industries (CEPI) organized its Two Team Project competition in 2012 to find new breakthrough technologies. The winner was announced at the European Paper Week 2013. The winning concept, Deep Eutectic Solvents (DESs), is now successfully being worked out further in a Europe-wide project coordinated by the Netherlands-based Institute for Sustainable Process Technology (ISPT). The project brings together European paper companies and researchers from Eindhoven University of Technology (Netherlands). For the final report on the Two Team Project, visit http://www.cepi.org/system/files/public/documents/publications/innovation/2013/final_toteamprojectreport_website_updated.pdf



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Ph.D. research

As part of the DES project, two Ph.D. students from Eindhoven University of Technology (Netherlands) are carrying out research in close collaboration with the industrial partners from the pulp and paper industry. One of them focuses on the use of DESs for the recycling of paper, while the other focuses on lignocellulose fractionation. Their research group is the first in the world to systematically screen possible DES mixtures, and they recently reported several new ones.

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 endeavor. In addition to developing knowledge, the Institute fosters the demonstration and application of new technologies. More information: www.ispt.eu.