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## INDUSTRIAL PROCESSES GOING DIGITAL *Best practices from EU-funded projects*

**Based in Brussels (February 26, 2021). Learning from the experience of industries in adapting to the digital transition: RETROFEED, SHIP2FAIR, SOWHAT & ECOFACT projects.**

A recent webinar shows once more how important industry is if we are to meet our long-term climate and energy objectives. In the recovery plans for the soon-to-be post-Covid-19 era, the transition towards digitisation in industries becomes one of the main key priorities of the European Commission. In the era of the fourth industrial revolution, digital solutions are having an impact in addressing our climate and energy needs. Projects funded by the EU are now showing results that will definitely support the clean energy recovery plans and help Europe's industry become more competitive.

Innovative energy audit performance methods applied in the EU-funded RETROFEED project were showcased in the webinar. RINA Consulting ([www.rina.org](http://www.rina.org)), one of the consortium partners, is in charge of providing digital solutions to enable innovation in industries by valorising and enhancing traditional services and competences. RINA has adopted innovative energy audit performance methods, by making use of the Kiber augmented reality solution, which provides a comprehensive set of tools and measurements necessary for conducting remote energy audits. This innovation was crucial for the performance of activities in the energy-intensive industries involved in the project, that could not otherwise be carried out due to the pandemic situation.

The solution was presented in the webinar "*Digital solutions for industry*" virtually held by the company on 22<sup>nd</sup> February 2021. The event was organised and moderated by Iris Xhani and Stefano Barberis, project managers at RINA, while Giorgio Bonvicini, RINA senior engineer, presented the RETROFEED augmented reality solution.

*"RETROFEED was a perfect example to show during our webinar to highlight how digital solutions are fundamental to create a new simplicity for the complexity of tomorrow, or even of today, considering the difficulties arising from the Covid-19 pandemic. Digital solutions make every industrial step efficient even in situations where they could hardly be completed, such as the case of the Energy Audits planned within the project."* Iris Xhani (Project manager, RINA)

The webinar also had presentations on several other related EU-funded projects: SHIP2FAIR, SoWhat and ECOFACT. Thomas Bolognesi (LINKS Foundation) gave an introduction to SHIP2FAIR, fostering the integration of solar heat in industrial processes of the agro-food industry; the initiative is implementing a replication tool able to evaluate the techno-economic potential of the solution, starting from local solar potential and current process heat demand. Additionally, Francesco Peccianti (RINA) introduced the SoWhat project, in which RINA contributes to the development and demonstration of a market-ready integrated software which will support industries and energy utilities in simulating and comparing alternative waste heat and waste cold technologies, simulating how to balance the local forecasted H&C demand and supply, and including RES integration. Finally, under the newly funded ECOFACT project, Francesco Morentin (CARTIF) showcased a data-driven multi-service approach enabling the creation of an eco-innovative energy management platform based on improved dynamic LCA and LCCA.

### **RETROFEED project: background**

The project's main objective is to enable the use of increasingly variable, bio-based and circular feedstock in process industries through retrofitting of core equipment.

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This activity foresees the implementation of an advanced monitoring and control system and the provision of support to the plant operators employing a DSS – decision support system, covering the production chain.

A top priority is the development of a methodology to support retrofitting in the process industry, complemented by the DSS, to enable the performance of the diagnosis of the impact of different solutions. The demonstration takes place in five resource and energy-intensive sectors, namely ceramic, cement, aluminium, steel and agrochemical.

Five different approaches are being considered when performing the retrofitting activities: 1) the integration of feedstock mixtures of waste and/or by-products obtained within the plant; 2) the introduction of waste materials from outside the plant to complement the current furnace/reactor feedstock supply; 3) the use of bio-based sources as raw materials; 4) the combustion of bio-based fuels to reduce the current demand of fossil fuels; 5) the use of steel industry residues and other similar residues from other industrial sectors as alternative feedstock.

The project target aims at an increase of 22% in resource efficiency and 19% in energy efficiency, with subsequent reductions in costs and CO<sub>2</sub> emissions. Moreover, from the very beginning of the project, the consortium has been working on the definition of a clear and accurate exploitation plan, to achieve a successful replication of the developed solutions after the end of the action.

## RETROFEED Consortium Partners

The consortium is multidisciplinary, well-balanced and gathers expertise from 10 different European countries, therefore satisfying the ability to guarantee wide dissemination of the project outcomes as well as to maximise the opportunities for replication of the solutions developed. Project partners boast, in fact, years of experience in European projects and the development of innovative industrial solutions.

The consortium consists of 4 RTD performers, focusing on the characterisation and validation of the demo-sites and the development of the preliminary design of some solutions; 4 engineering and technology companies in charge of the manufacturing and implementation of the RETROFEED solutions making use of the developments of the RTDs; 6 end-users acting as data providers and supporting the development of the process by integrating the solutions developed in their facilities; and 4 horizontal partners working in the area of results validation, project business exploitations, dissemination and knowledge transfer.

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### For more information

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### Additional resources

Project website [www.retrofeed.eu](http://www.retrofeed.eu) - Project information (CORDIS) [Link](#)

Twitter [@retrofeedEU](https://twitter.com/retrofeedEU) - LinkedIn [RETROFEED EU project](#)

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