Convert2Green - Open Innovation Network boosts eco-friendly materials to make new sustainable products in a wide range of applications

Convert2Green

Our Mission:

We enable European SME to deploy low carbon circular material innovations to the European Key Value Chains 30% faster and cheaper creating eco-friendly products made in Europe.

sustainable packaging


Smart health


Clean energy solutions


Industrial IoT


Clean vehicles

On 1st January 2023, the Horizon Europe-funded project Convert2Green was launched. The project aims to set-up an open innovation network to support small and medium enterprises (SMEs) in the development of circular and eco-friendly material solutions for key European markets. These markets include clean and smart vehicles, smart and sustainable textiles, smart health, clean energy solutions, agriculture, flexible electronics, and industrial Internet of Things. 17 Partners from 10 European countries have joined forces to accelerate the market entry of novel, sustainable materials and therefore reduce carbon emission in these sectors by up to 30%. To achieve this, the project combines a unique set of technical facilities for material processing, upscaling, and testing, with distinct services for life-cycle assessment, business development, value chain formation, and intellectual property management. In collaboration with the Open Innovation Network FlexFunction2Sustain, Convert2Green is co-organizing an industry workshop on June 28, 2023, in Prague. This workshop serves as a platform to promote and discuss eco-friendly material solutions with industry experts, researchers, and innovative SMEs.

Despite the urgent need for increased sustainability, currently, only 5% of plastic materials used in vehicles are based on recycled or renewable materials. This low percentage is primarily due to demanding technical requirements and the limited availability of suitable materials that prevent the use of a larger share of recycled (“green”) materials in the automotive sector. Similarly, in the healthcare sector, plastics account for 30% of all healthcare waste, caused by both packaging products and single-use devices such as gloves, catheters, medical tubes, respiratory masks, and others. The introduction of recycled materials to that market is hindered by a strict regulatory framework. Moreover, agriculture in Europe utilizes a staggering amount of 700,000 tons of plastic every year, making it one of the largest contributors of microplastic pollution in soil and oceans, along with textile processing. Textiles release microplastics through the washing of synthetic textile products, contributing to 500,000 tons of microplastic fibres being released into the oceans each year.

Nonetheless, the ecological impact of these products may be drastically reduced through the adoption of bioplastics, as well as by utilizing recycled plastics, natural materials, and/or

biodegradable products. Recently, a variety of innovative ideas have been proposed, ranging from PHA and PLA-based bio-plastics and novel recycling strategies to the utilization of bio-mass, such as algae or even chitosan from marine fish waste. These solutions are paving the way for the development of sustainable and climate-neutral products.

The EU-funded initiative Convert2Green aims to address these challenges by providing expert support to small and medium enterprises (SME), which offer innovative, green, material solutions. Convert2Green services range from dedicated technical facilities, development support, regulatory advice to and business and IP services. A single-entry point offering a one-stop-shop approach ensures that interested SME have easy access to the facilities and services offered across the Convert2Green network. The Single-Entry Point will engage directly with SMEs both technical and business aspects and will facilitate the selection of the best-suited facilities and services, coordinating all interactions with Convert2Green members. Facilities and core competencies of the project include smart textile rapid prototyping, recycling and processing of plastics, nano-materials from biomass, flexible electronics processing, eco- and human toxicity analysis for novel materials, recovery and reuse of critical raw materials from waste, as well as social, economical and ecological life cycle analyses. Additionally, Convert2Green will support its customers with the development of intellectual property strategies, business planning, and go-to-market strategies for "green" materials.

The project coordinator Magdalini Krokida, National Technical University of Athens, explains the unique potential of the project: “With Convert2Green, European Material Suppliers benefit from the holistic expertise about materials, conversion processes, a strong database of life-cycle data, business expertise, and more. This combined knowledge accelerates time-to-market by up to 50% and reduces development cost by more than 30%.”

Convert2Green is one of 28 Open Innovation Test Bed projects supported by the European Union. The project consortium comprises of 17 partners, including research and development facilities, business experts, and IP experts recruited from universities, public and private research organizations, and companies. Convert2Green uniquely interconnects facilities for testing and processing secondary raw and advanced materials that enable innovative, eco-friendly products in key European value chains. Five key industrial players in automotive, healthcare, agriculture, and flexible electronic markets support the alignment of Convert2Green facilities with the target markets by contributing industry-typical use scenarios.

Convert2green directly supports SME material suppliers with subsidized access to the Convert2Green facilities and services. An open call for pilot projects will be launched in July 2023, through which eligible applicants can receive services worth €100,000 to accelerate the development and commercialization of their circular and eco-friendly material solutions. The first cut-off date for applications is set for December 2023.

Save the date: Convert2Green will be co-organizing the Workshop on Sustainable Nanofunctionalized Materials in Prague on 28 June 2023. The workshop will present a unique opportunity to engage with experts and discuss topics, such as sustainability by design, material recycling and upcycling, sustainable materials in application and innovation

ecosystems for sustainable materials. To learn more, visit https://www.amires.eu/workshop-on-sustainable-nanofunctionalized-materials/.

About Convert2Green: The project Convert2Green has started on 1st January 2023. The project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101092347.

Convert2Green consortium consists of 17 European partners, including research and development facilities, business experts, and IP experts:

	Participant organization name	Country	Nature
1	National Technical University of Athens	GR	**EDU**
2	Fraunhofer Gesellschaft zur Förderung der angewandten Wissenschaften e.V.	DE	**RTO**
3	Technical Research Center of Finland	FI	**RTO**
4	International Iberian Nanotechnology Laboratory	PT	**RTO**
5	Textilforschungsinstitut Thüringen-Vogtland e.V.	DE	**RTO**
6	University of Burgos – Institute for critical raw materials	ES	**EDU**
7	DIGNITY	GR	**SME**
8	STAM S.r.l.	IT	**SME**
9	KETMarket GmbH	DE	**SME**
10	Amires Business Innovation Management Institute z.ú.	CZ	**NPO**
11	Inlecom Commercial Pathways	IRE	**SME**
12	Fiat Research Center	IT	**IND**
13	Biokeralty Research Institute AIE	ES	**IND**
14	NetCompany Intrasoft	LUX	**IND**
15	Enfucell Oy	FIN	**SME**
16	Stryker Trauma	DE	**IND**
17	Polivouga	PT	**IND**

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More information about the project can be found at https://convert2green.eu/.