



Cross-fertilization of industrial ecosystems in textile manufacturing and construction leveraging digital and advanced technologies to build up green and digital resilience in Europe.

FIRST CALL FOR PROPOSALS

SMART LIVING: SAFE, CONNECTED AND GREEN READY FOR THE FUTURE

The global objective of xBUILD-EU is to build an EU strategic partnership focused on cross-sectoral collaboration and cross-fertilization across textile, construction and advanced technologies as catalyst to deploy green solutions and a more digital Europe that enable smart living.

xBUILD-EU will promote building up resilience with a diverse lump sum grants with a total budget of 1.05M€ to foster SME resilience via green and digital transitions, innovation and internationalization that will generate growth opportunities globally. It is also aligned with the five key objectives of the Joint Clusters Initiatives for Europe's recovery program.

xBUILD-EU is a cross-fertilization Eurocluster that spans across different industrial ecosystems (textile and construction) and brings complementarities to the priorities for both thanks to the strong linkages of advanced technology sector to facilitate the SME uptake of digital talent and the cross-sectoral collaboration needed to push forward a greener and more digital Europe. This cross-sectoral partnership is composed of five clusters, three of them in the textile sector, one in advanced technologies and advanced manufacturing, and one in the construction sector.

All three sectors involved in xBUILD-EU will deliver a cross-fertilization towards smart living solutions by promoting safety (wear, digital tools for monitoring, construction methodologies, technical and smart textiles for safety and construction operators), facilitating connectivity through digital technologies (from user through garments, to domotics or home automation and smart buildings) and greener through new materials.



The first call for proposals for the xBuild-EU project was open from April 3 until June 7, 2023 and counted with 40 proposals in total between the three vouchers: Innovate, Global and Digital & Green.

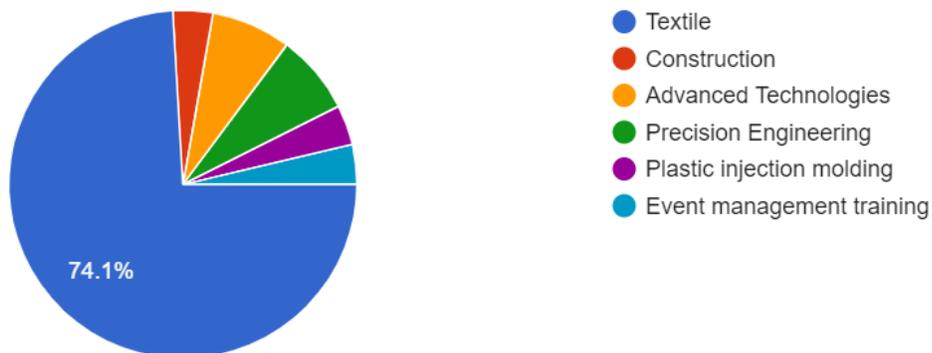


VOUCHERS' BACKGROUND & AMBITION

Within the preliminary activities of the xBUILD-EU project, a survey has been conducted at Textile and Clothing (Portugal and Spain), Construction (Slovenia) and Advanced Manufacturing (Ireland) industries, driven by their respective sectorial and national/regional clusters. The survey aimed at collecting new inputs about companies' needs and testing the specific directions that experts and stakeholders have drafted to become more resilient after the pandemic and to drive the recovery of those industries.

The poll has been set up to classify the needs and gaps of businesses, particularly SMEs, and to rank the assistance provided and the steps taken to address both recent and anticipated issues. Additionally, the findings from an internal workshop with partners' expertise were gathered to determine strategic directions and solutions.

A total of 77.8% of respondents considered as SMEs, from Ireland, Portugal, Slovenia, and Spain have responded to the survey. 74.1% of the businesses are in the textile industry. Construction, precision engineering, plastic injection molding, training for event management, and sophisticated technologies are some additional activity areas.



Both the poll and the workshop made it clear that the greatest challenge facing businesses right now is the uncontrollable and exponential rise in raw material and energy expenses. Companies are dealing with regular and ongoing increases, which have an impact on the price of raw materials as well.



VOUCHERS' BACKGROUND & AMBITION

Finally, considering the companies' input and the experts' judgement, the higher priority gap/opportunities to address within the scope of xBUILD-EU should be:

Innovation

The most crucial tool for achieving a swift and seamless twin changeover is innovation. It must be founded on a blend of both radical and incremental technological advancements in materials and processes, non-technological enhancements or transformations of business models, value chain operations, customer engagement, product life cycle management, and creative application by both industry professionals and consumers.

Labor force

Innovation can only thrive in an industry if employees have access to a sufficient pool of employees that are well-educated, talented, and motivated. The largest obstacle to the industry's change may be a constantly aging workforce mixed with the requirement to quickly pick up new competencies and skills. Companies are under pressure to up their game in terms of attracting and retaining young talent, including intra-company career development and training programs, as a result of a fast-ageing workforce and the retirement of highly qualified senior specialists.

Funding

Investment in green and digital technologies is expensive but, on the other hand SMEs awareness of national & international funding or projects to support SMEs growth is scarce. When they try to apply for they feel funding application is too complex for them and not suitable for small scale innovation projects.

Markets

Identifying and gaining access to new international markets is quite a challenge for SMEs. Finding the right market, the right partner and the right value proposition is hard. Support is needed in identifying high added-value niches that search for high quality, design and customization.



GRANTS TYPES OFFERED

In the framework of this xBUILD-EU project call, three different types of grants are offered in 2 open calls. The grants will be addressed to SMEs active in the fields of construction, textile and advanced manufacturing.

Grant types offered for the whole duration of xBUILD-EU:

Global grant

This instrument is aimed at facilitating the internationalization of SMEs to become more resilient and globally competitive with facilitated access to third markets to ensure supply and production with a broader customer portfolio to facilitate overcoming regional value chain disruptions. SMEs must target one of the prioritized target countries by xBUILD-EU. The grant per SMEs was 25.000€.

Innovate grant

This instrument is aimed at the innovation for SMEs to become more resilient with an increased portfolio of new-to-firm products and services to adapt to VUCA environment, increasing their capacity to respond and adapt easily in case of value chain disruptions. In this case, the grant per SMEs was 20.000€.

Green and digital grant

This instrument is aimed at the adoption of processes and technologies by SMEs to become more competitive and resilient with focus on green and digital transition to ensure the sustainability and connectivity of the value chain. While this grant will not fund technology acquisition, the goal is to raise awareness with small pilots to test and adapt business processes to facilitate the twin transition, particularly technologies that can drive both simultaneously. The grant per consortia of SMEs was 50.000€.

All three grants will be built on the following cumulative restrictions and general terms:

- Eligible beneficiaries: SMEs (fitting EU recommendation 2003/361 or newer) established in one of the 27 EU Member state countries and active in any of the sectors of xBUILD-EU or supporting its ecosystems.
- Maximum financial support per third party: 60.000€ (cumulative over all xBUILD-EU vouchers)
- Eligible financial support: lump-sum to cover detailed activities in each voucher.

xBUILD-EU vouchers:

	INNOVATE GRANT Identify and bring to market new-to-firm products and/or services to make SMEs more resilient against value chain disruption.
20K€ per SME	15 SMEs expected
	GREEN AND DIGITAL GRANT Assess technologies and adopt business processes to enable the green and digital transition to make SMEs more competitive, ready for a resilient future and for global growth.
50K€ per consortia of SMEs	18 SMEs expected
	GLOBAL GRANT Facilitate internationalization of SMEs.
25K€ per SME	12 SMEs expected



WINNING PROJECTS

GLOBAL VOUCHER



AirConSA - Spain

Their main focus will be the innovative approach in the coating for flexible tubing system which can have the usage in the thermal isolation or pipes, HVAC, thermal insulation or oil industry. The other objective is connected with finding new applications for our products in the chosen country, or to grow the cross sales for our catalogue.

Main target market: Saudi Arabia



SOLLTECH - Slovenia

SollTech provides advanced drying, hygiene solutions for the construction industry but also in oil and gas, hospitals, food production, public utilities, fire & rescue, police, shipyards, fisheries, especially for new construction projects where SollTech can be integrated from already in the planning phases. SollTech advanced ozone supported technologies successfully tackle issues associated with of drying of personal protective equipment like helmets, gloves, jackets, boots, masks. With ingenious design SollTech saves space, saves energy increases safety and health and safety of employees and due to saving space, increases ROI for real estate developers and industry investors. With Solltech the protective equipment's life span could be prolonged by 30% saving over USD20 billion annually for the construction industry.

Main target market: United Arab Emirates



CoolShield - Slovenia

Innovative Cooling and Shielding solutions for harsh environments / CoolShield: Besides air conditioning and shade, there is no effective solution when it comes to extreme heat and body protection. People have to maintain work performance even in harsh environmental conditions, heavy-duty workers, construction workers and sports athletes have no effective solution to their problem. When air temperature reaches 35°C, human body needs support to maintain healthy functioning. Many solutions were introduced to the market, yet non of them offer what TITERA can bring. UAE is a country with an average temperature above 35°C, and implementing TITERA's know-how can ease people suffering from heat-related illnesses. A solution in the form of the most efficient, user-friendly, Germany tested and doctors-approved cooling system on the market. UAE is developing fast in the field of computer science. Furthermore, our know-how in the field of electromagnetic shielding can be applied in the form of personal protection garments and be implemented as building materials, wall paints or floor elements. In this manner, the market can be even wider.

Main target market: United Arab Emirates



WINNING PROJECTS

GLOBAL VOUCHER



FINSA2UAE - Spain

The main goal of the project is to find a local partner who has in-depth knowledge of the market and who can provide us with support in terms of manufacturing or through established connections with companies in the mining, chemical, water treatment and/or food sectors. Our goal is to leverage this partner's experience and network to facilitate our market entry and maximize our business opportunities in the UAE. The second main goal of the project is to attend Dubai's fair WETEX, which will be held in November between the 15th-17th. We think we can find several companies dedicated to water treatment, therefore, involved/in need of textile filtering solutions like the ones of FINSA.

Main target market: [United Arab Emirates](#)



RECYCLED TECHNICAL FABRICS FOR ARMY - Spain

Their general objectives are aligned in supporting the expansion of our strategy of environmental sustainability of recycled yarn material in the Middle East region by achieving a higher global degree impact and to support the development of our know-how policy of the topic. In this intent from the technical aspect try to expand new production of threads combined of Recycled fibers: para-aramid, meta-aramid, Preox, Vectran, cose, very typical in the protective apparel industry. The objective reason would focus on evaluating market opportunities, confirming our positive outputs of the Israeli protective apparel needs market and reaching a collaboration agreement with at least one Israeli manufacture, and expanding their line or portfolio of products of this type.

Main target market: [Israel](#)

Secondary target markets (only if more than one) [Arabia Saudí](#).



TECHTEXSA - Spain

Their goal is to develop relationships with new clients and build a loyal customer base in the new market. The Saudi Arabian market now is unknown to us, we want to change this by identifying potential customers and finding, at least, 2 customers. We would like to introduce ourselves to the companies in the rubber industry that use textile reinforcements and to those companies that manufacture personal protective equipment that are looking for certified technical fabrics for the oil industry.

Main target market: [Saudi Arabia](#)



WINNING PROJECTS

GREEN AND DIGITAL VOUCHER

MARLEGNO



Knitronix
industrial flexible sensors

S.G.T.S. - Italy

The objective of Smart Green Textile Sensors (SGTS) is the development of an innovative distributed sensor system for building's monitoring. The project will be realized by Marlegno and Knitronix, whose collaboration started in 2023, when several tests to evaluate the technical feasibility were performed. The sensors realized within the project will monitor the structural health of wooden houses, sending alerts to guide preventive maintenance actions. The system proposed by the synergies of the two companies provides the constant humidity and temperature monitoring of building structures and artifacts, allowing active health check and prevention of damages. The core added value of the project is centered on being the unique system, based on data harvesting via a "large area" sensor applicable to several environments: from wooden houses to huge surfaces and modular artifacts. Such building surfaces will be therefore transformed into active elements, able to send information and transmit data to the tenants to improve their wellbeing and extend the useful life of the structure, saving resources and raw materials.



Project Machine Carbon - Ireland

The project proposes to develop a digital system to monitor the carbon emissions of manufacturing machining assets. The monitoring system aims to accurately measure and record the carbon emissions generated by machining assets during their use. This will be designed to help manufacturers track and take action to reduce their carbon footprint in line with emission commitments. This project aims to develop a new and innovative digital system which will support SME manufacturers to track and reduce their carbon footprint. The system will promote and embed sustainable practices within manufacturers in a practical, accessible, and economically viable way. The project's consortium has an Ultimate Goal that includes rolling out the technology developed during the project to all types of manufacturers to achieve a greater collective impact towards combatting carbon emissions and consequently climate change. The system will comprise of a hardware and software component. Sensors and monitoring devices will collect data on carbon emissions during machine operations. The software platform will complete data processing, running algorithms to convert the raw data into actionable insights. It will be easy to install and integrate with all machines, regardless of brand, as well as fully tested and validated. Manufacturers are planning ahead and now looking for solutions to carbon emissions tracking and reporting, yet there are no accessible solutions on the market that are: quick and easy to deploy, sustainable to independently operate (without regular external technical and consulting support), and able to integrate into existing productivity monitoring systems so it becomes embedded in their processes. This system would address that.



WINNING PROJECTS

GREEN AND DIGITAL VOUCHER



LoomproductionMVP - Spain

The project objective is to design and develop a technical prototype of an advanced manufacturing solution for an enhanced streamlined production planning process. More precisely, this project aims to implement a non-intrusive 4.0 manufacturing solution in order to collect real-time information from the weaving process and improve logistics and production processes in the industrial plants and warehouses and reduce maximum material waste and unnecessary energy consumption from nonefficient machinery running. Utilizing cutting-edge IoT technologies, industrial organization techniques, and platforms, the consortium will develop systems that reduce costs, time, and waste by leveraging existing infrastructures.



VISIONTEX - Spain

A textile computer vision company has significant potential to revolutionize quality control in the textile production industry. By combining computer vision technology with the textile industry, this emerging field offers numerous benefits and vast potential. First and foremost, textile computer vision enables more accurate and efficient product inspection. Utilizing advanced algorithms and high-resolution camera systems, a textile computer vision company can automatically identify easier defects in fabrics. This reduces human error and ensures that products meet desired quality standards. In addition to quality inspection, textile computer vision can also be used for product sorting and classification. Due to computer vision algorithms can recognize patterns, colors, sizes, and other attributes. A textile computer vision company can help improve efficiency and productivity in the textile industry. Automated inspection and precise classification enable faster product processing, reducing labor costs and speeding up time to market. Beyond direct production benefits, textile computer vision can also have a positive impact on the industry's sustainability. By identifying and eliminating defective products at an early stage, the amount of discarded items and unnecessary resource waste is reduced. This improves companies' profitability and decreases the environmental footprint of textile production. Another significant potential of a textile computer vision company lies in its ability to collect and analyze data. This data can be analyzed to identify trends, optimize production processes, and make informed data-driven decisions. It also enables companies to gain a competitive edge by better understanding their customers and quickly adapting to market demands. In summary, by harnessing the power of computer vision technology, such a company can drive innovation, enhance productivity, and contribute to the sustainable growth of the textile industry.



WINNING PROJECTS

INNOVATE VOUCHER



TExBINDERS - Spain

The TExBINDERS project aims to expand the potential of a new generation of technical coating mortar materials for repairing and reinforcing structures. To achieve this goal, hydraulic lime-mortar materials currently used in heritage applications will be explored in combination with new binders, additives, and recycled synthetic fibers from different textile industries. The fibers will serve to replace sand and cementitious materials in the mortar matrix and will consist mainly of polyamides, nylon, polyester, polypropylene, and/or acrylic fibers. Once mortar will be formulated, properties such as workability, consistency, compression, and flexural resistance will be evaluated. At the same time, physicochemical properties such as water vapour permeability, density, thermal conductivity, and salt resistance will be tested. Finally, the obtained materials will be evaluated under European normalized regulation principles and will be tested for use in heritage buildings as coating mortar for facades and interior walls. The newly developed technology will have better performance than the current technology, achieving a reduction per year of 20 % in CO₂ emissions, 25 % acidification potential of land and water, and 15% building material improving at the same time reinforcing properties of walls and promoting the use of textile residues in the building sector.



3DAppRace - Spain

Development of an APP that ensures human body measurements automatically and instantly during ordering/purchase process by customers. The 3 main project benefits expected from the project are: 1) Substantial reduction of production errors based on measures taken incorrectly by the customer. 2) It would be much faster in making decisions when creating a specific pattern for each race pilot, since this APP would already provide us with reliable and accurate measurements. Through Big Data we could make our own system propose a defined pattern. 3) It would be much more reliable with the result. That would increase end-customer's satisfaction and would generate a user-frictionless game-like shopping experience.



WINNING PROJECTS

INNOVATE VOUCHER



humiTEX - Germany

The project deals with the innovative approach in moisture monitoring system for durability and longevity of wooden structures. HumiTEX consists of a textile sensor, read-out electronics and the integration technology adopted for wooden structures. The main objective of the project is the technical assessment and evaluation of viability of textile moisture sensors for implementation in wooden structures. In the frame of this project, we are solving the problem of humidity in wooden structures and buildings, which may lead to swelling of wood or the formation of mold, necessitating the use of sealing agents, regular maintenance and complicated, cost-intensive repair. A reliable humiTEX for wood constructions will help companies to reduce their use of wood for renewals and will protect wood buildings against mold damage and high maintenance costs. Accordingly, humiTEX is aimed to provide better well-being in wooden houses and a resilience against shortages of lumber.



STFaaS - Spain

They would like to demonstrate both technically and commercially from a business perspective that Soft Smart Flooring as a service is a new alternative to current solutions used in the construction of smart Buildings to deliver services such as Cameras, LiDAR, and other intrusive, non-privacy respectful and non-complete area monitoring coverage for space use of facility management. They would combine new Soft Textile Floors together with textile sensors manufactured with additive manufacturing and they will collect and generate the digitalization of data from the ground to leverage digital and advance technologies to build green buildings. The Main challenge addressed is to integrate and scale up the Sensing Floor for Smart Building management, based on the usage of different components developed by the company that could help to gather data through Textile Sensitive Surfaces in different form factors, about the interaction of the user with the ground, with non-intrusive, non-invasive Pressure Sensor Textiles. The Textile Hardware will be integrated under Soft Flooring. The mobility patterns will be used to know the activity of the user and keep the users active analyzing their routines. The data, gathered from the Textile Sensors through the Electronic Module, is filtered and treated using ML algorithms to recognize i.e. patterns, shapes, routine, which are transformed into valuable data. They want to use the implementation of the solution through the X-Build project to demonstrate that the data gathered from the sensors, being 100% compliant with the GDPR and analyzed with ML models, can be used to extract valuable data related to Facility Management.



WINNING PROJECTS

INNOVATE VOUCHER



IT support for the green transition of SMEs 23 - Slovenia

The concept of the DNA EQMS application developed by NETS is to simplify the implementation of management solutions, specifically targeting micro and small businesses. The application offers a user-friendly software solution accessible online, with the goal of optimizing processes, reducing errors and costs. The goal is developing new modules ISO 14001 in DNA EQMS and upgrading the IT application, facilitating ISO 14001 compliance, and supporting the green transition. By achieving these goals, the application aims to provide micro and small businesses with accessible tools and guidelines for implementing environmental management solutions and promoting sustainable practices. Ultimately, the objective is to empower businesses to enhance their environmental performance, reduce their impact, and contribute to a greener future. The application enables companies to optimize their processes, reduce waste, and efficiently utilize resources, contributing to overall environmental sustainability. By incorporating the necessary requirements and algorithms, DNA EQMS assists companies in meeting environmental management standards and promoting sustainable practices. The application will be downloadable online and will offer easy guidance through the requirements of the standard, emphasizing its user-friendly interface, affordability, and ability to streamline implementation.



CoSMoS Innovative project - Spain

CoSMoS™ monitors the evolution of concrete strength in real-time. To overcome challenges in extreme heat conditions, they plan to develop the CoSMoS™ eCure tank, which maintains concrete test cylinders under the same curing conditions as the on-site project. The objectives include prototype development, technical testing, integration with the existing CoSMoS™ application, and market launch. The innovation lies in eliminating human intervention during the setting process by updating tank temperature using information from on-site sensors. The project's feasibility has been established through technical assessment and viability studies. The value proposition includes enhanced control, accurate results, portability, and suitability for hot and cold environments. The project's impact includes improved data accuracy, safety, cost reductions, and environmental sustainability. Key performance indicators include integration success, test cylinder accuracy, pilot program engagement, customer satisfaction, and marketing readiness. The project is poised to revolutionize the construction sector with its innovative product and international expansion strategy.



WINNING PROJECTS

INNOVATE VOUCHER



Dress to Impress
Custom printed fashion for kids and women

Create your style - Bulgaria

The project Create your style aims to inspire and help people to create custom clothes and accessories printed on demand. Print on demand services contribute to sustainability and a better use of resources, because the products are produced only after they are ordered. They are printed with sublimation, which is one of the most sustainable fabric dyeing processes. Sublimation printing creates absolutely zero waste and there is no need for water in the dyeing process. Designs are created with a photo or drawing, provided by the clients and they will not throw the products away quickly, because they will have a sentimental value for them, which contributes to their long use. The main objective of the project is to create and offer more products and a variety of product styles - dresses, shirts, skirts, shorts, leggings, tank tops, scarves, textile bags. 100 templates of predesigned prints will also be created to facilitate customers with ideas to choose from. Another objective is to promote personalization as a trend in fashion design and a sustainable business model. We also plan to find and use recycled polyester instead of virgin polyester at least in most products where possible and to make them even more sustainable. All products will be photographed and inspirational videos will be created in order to show examples and unleash the creativity of the potential customers. The project is cross-sectoral and its purpose is to show how with the help of digital technologies a variety of products can be offered and produced on demand to prevent the generation of unsold goods and waste of materials. The project will be part of the transformation of the fashion sector towards the digitalized industry of the future.



NaturalOutdoorsrugs - Spain

The new product we are proposing is still very new in the market with few companies in the world offering a similar product. Etsilk's approach is unique and will improve greatly what is in the market now. The product itself is an outdoor rug made with a special soft Polypropylene yarn produced by Polisilk, Etsilk's sister company. These special yarns and the novel weaving construction will create a completely new outdoor rug that will have an unprecedented touch and look.



GET READY FOR THE 2ND CALL FOR PROPOSALS Q2 2024

MEET THE PARTNERS



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