context

European Network to connect research and innovation efforts on advanced Smart Textiles

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www.context-cost.eu

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CA17107

ABOUT CONTEXT

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CONTEXT brings together European researchers, manufacturers and main relevant stakeholders in order to develop joint ideas and initiatives which can be turned into advanced smart textile products

SMART TEXTILE: functional textile material, which interacts actively with its environment, i.e. it responds or adapts to changes in the environment

CONTEXT network covers 35 European countries, 3 Near Neighbour Countries and 1 International Partner Country.

The Management Committee is formed by 65 experts in advanced textile materials and related fields.

CONTEXT AIMS TO

Promote the development of a joint research roadmap for smart textiles.

Foster the transfer of knowledge among different actors in order to find suitable applications in various multidisciplinary fields.

Act as stakeholder platform to identify needs and requirements from different points of view in a bottom-up approach.

Promote networking activities in order to attract talent, build more and better research projects with more consciousness on the objectives of creating exploitable results.

CONTEXT is funded by the European Cooperation in Science and Technology (COST), which provides funding for the creation of research networks, called COST Actions. These networks offer an open space for collaboration among scientists across Europe (and beyond) and thereby give impetus to research advancements and innovation.

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CONTEXT starts its 3rd Grant Period

The third grant period of CONTEXT, approved by its Management Committee, started on 1st May 2020 and will last one year. Main activities foreseen are:

- Management Committee meeting and Working Groups' meetings in February 2021 in Guimarães.
- WG1 and WG5 meetings in October 2020 in Paris.
- WG2 and WG3 meetings and conference in April 2021 in Weimar.
- WG4 meeting in September 2020 in Brixen.
- Training School in November 2020 in Prato, focused on textile technologies.
- Launch of 2 calls for STSMs (10 grants).
- Launch of 2 calls for conferences (2 grants).

More information

CONTEXT increases the number of involved countries within the network

CONTEXT has approved the entrance of a new country to the network: Norway. It will be represented at the Management Committee by Dr. Azadeh Motealleh from the company Abalonyx AS.

With this new entrance, CONTEXT has reached 35 countries involved in the European continent.

List of involved countries

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CONTEXT has closed its second grant period

CONTEXT has closed its second grant period. It started on 1st May 2019 and lasted one year. Main activities carried out during this period have been:

- Member's meeting in TECHTEXTIL Frankfurt.
- Organization of a training school dedicated to textile materials in building&living and in personal protective equipment.
- Launch of 3 calls for STSMs - Short Term Scientific Missions: 12 grants awarded.
- Launch of 2 calls for Conference Grants: 1 grant awarded.
- Coorganization of an International Seminar on Advanced and Smart Textiles in Architecture, Building & Living Environments.
- Celebration of the 3rd Management Committee meeting.
- 9 working groups' meetings organized.
- Dissemination in two international events.

More information

Launch of two state of the art reports

WG1 and WG5 have issued the state of the art reports on smart textiles for healthcare and medicine applications and on smart textiles for sportswear and wearables.

State of the art report on smart textiles for healthcare and medicine applications

State of the art report on smart textiles for sportswear and wearables

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ABALONYX AS

Graphene-based wearable e-textiles

Abalonyx is the only European supplier of graphene oxide (GO) and its derivatives in kg quantities and has a wide portfolio of customers from energy storage, composites, and coating industries as well as research laboratories from universities and institutes. They have been involved in 14 different International and Norwegian projects and their role in these projects has generally been to prepare and optimize their GO and GO-derivatives for the specific target applications of the projects, potentially leading to the establishment of future business relationships and new products.

They are presently involved in a Horizon 2020 project, WEARPLEX, which is aimed to integrate printed electronics with flexible and wearable textile-based biomedical multi-pad electrodes. The project will tackle the fabrication of a new generation of inks for low-cost electronics, including water solution-based "green" printing.

More information

AEI TÈXTILS

AEI TÈXTILS fosters circular economy in the textile industry

A major priority for AEI Tèxtils during last years has been the promotion of circular economy and sustainability within the textile sector, especially in technical textiles.

The cluster activity includes several projects in this field such as the European projects MIDWOR and FLAREX (co-funded by LIFE Program) or PACTEX and ECODISTEX (co-funded by Waste Agency of Catalonia, WAC).

Thanks to the acquired experience and the trust of the companies' members of the cluster, 5 new projects have started in 2020, 3 of them led by SMEs (within a program to Foster Circular Economy by the WAC).

On 17th June, a webinar will be held, dedicated to to present the key findings and outcomes from the LIFE-FLAREX project and open a debate on the implementation of hazardous chemicals' substitution strategies and opportunities for the textile industry, in particular for flame retardants (FRs) used in textile finishing processes and other ongoing trends that are applicable to the sector.

More information

More information

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TEXTILE ENGINEERING LABORATORY (LGTEX)

9th International Conference of Applied Research on Textile and Materials, Tunisia

The International Conference of Applied Research on Textile and Materials (CIRATM), previously designed by CIRAT is a scientific meeting organized by the Textile Engineering Laboratory every two years.

The conference provides an international open forum for researchers from academic and industrial fields to present their original work and exchange ideas and information, it will be organised in Monastir, Tunisia 13-14 November 2020.

CIRATM will bring worldwide researchers and practitioners to share and discuss the latest scientific concepts and technological developments in textile.

It also intends to promote sharing ideas and emerging technologies, as well as to foster research and development collaborations amongst academia, research institutions & relevant industries.

More information

3rd edition of "Tunisian Textile Events" on November 12, 2020 in Monastir (Tunisia)

The Textile Engineering Laboratory "LGTex" co-organize the 3rd edition of "Tunisian Textile Events" on November 12, 2020 in Monastir (Tunisia).

Since its first edition Tuntex Events has become a reference for several players in the textile sector. In 2018, more than 450 participants attended this event. Tunisian Textile Events is a festive day of events which aims to bring together the actors of the textile sector and to promote innovation.

During the new edition, Tuntex Events 2020, several R2R and R2B meetings and competitions will take place:

- Rin-Tex Award a competition for research and innovation projects, for high value-added textiles as well as advanced materials based on emerging fibers.

- Fashion Award a competition that rewards excellence in fashion creation. The theme for this competition is: "The magic of Tunisian Desert".

- Start Tex- Award: an entrepreneurship competition open to stages of Concept, Prototype and initial business plan.

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ESITH at the service of companies against covid-19

From the beginning of the health crisis at Covid-19, ESITH mobilized to provide support to Moroccan companies in the textile sector to start production of textile masks (woven and non-woven).

Indeed, capsules were prepared to inform companies about valid textile materials and the manufacturing process to be followed, as well as support in the workplace. In addition, ESITH LEC's testing and control laboratory has worked closely with the Moroccan standardization service IMANOR to develop the standard NM-ST-21.5.201 and conduct laboratory tests to validate the compliance of fabric masks and the Certification of companies to produce fabric masks. Today Morocco produces more than 10 million masks per day. Our engineering students organized their ESITH distance-learning forum on the health crisis and ESITH's service to companies organized free distance learning certification training on logistics and the process from textiles to masks. Similarly, a webinar on masks was organized in collaboration with the C2TM cluster.

More information

ESITH

esith
Constructeur de compétences

JOANNEUM RESEARCH Forschungsgesellschaft mbH – Materials

JOANNEUM RESEARCH MATERIALS

Covalent immobilisation of antibacterial and antiviral agents on textiles

The organiztion is currently developing functional molecules that show antibacterial and antiviral behaviour. For this, they are using copper complexes, and both cationic and anionic functional groups. The functional molecules can be covalently immobilised on textiles via their vinylsulfonyl group. Thus, fabrication is similar to bonding of reactive dyes on textiles. The resulting antimicrobial textiles are expected to be stable against washing at elevated temperatures.

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Seminar Course in Smart Textiles for The Master Program in Chemical Engineering

For the first time in Jordan at Jordan University of Science and Technology, which is located in north of Jordan and considered as the best in Engineering programmes at Jordan and among the middle east universities, during the winter semester of 2019/2020, the chemical engineering department provided a seminar course for the master degree, considered the Smart textile and the related applications.

The aim of the course was to make the students more aware about the current research areas.

10 students joined the course, each student reviewed a common and recent research area in the Smart textile. They presented their written results and ideas. The course finished with 10 drafts for review papers.

More information

Jordan University of Science and Technology

NEXT TECHNOLOGY TECNOTESSILE

The TEX4IM newsletter is now available for download

The first issue of TEX4IM newsletter is now available for download at the following link: https://tex4im.eu/tex4im-newsletter-march-2020-no-1/

The newsletter is an overview of latest project activities and textile community initiatives all over Europe.

And do not forget to submit your project idea on the dedicated section of TEX4IM website to take part to the next matchmaking event, to be announced in the next coming months.

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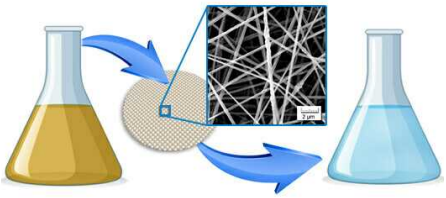
Antimicrobial nanofibrous membrane for water filtration

The Ministry of Education of the Czech Republic has approved a project within the inter – excellence program that is in line with the set objectives of COST Action CA 17107. The subject of the project is the creation of a smart textile in this case an antimicrobial nanofibre membrane. Further the project is focused on the complex explanation of interaction between antimicrobial additives and polymer in solution and the effect of the rheological properties on the resulted morphology of nanofibres fabricated by electrospinning.

More information

The Institute of Hydrodynamics of the Academy of Sciences of the Czech Republic



More information

TITERA innovative technologies

titera

Value creation model for Smart Textiles

Understanding the problem/solution and product/market fit relation and the scaling level, are activities where TITERA provides benefits in growing the business. TITERA combines the scientific expertise, engineering know-how and many years of experiences in the interdisciplinary field of research, the transfer of knowledge from R&D organizations into industrial sector, support in prototyping and upscaling.

TITERA is focused to consulting and R&D in the field of smart materials, where business success emerges from the combination of a broad range of activities and in close collaboration with different sub-contractors, suppliers of different smart elements (sensors, hardware and software). We can validate your project idea, the solution for the problem you want to solve, identify the specific market, and make your upscaling business sustainable.

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INTEXTER-UPC

UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH
Institut d'Investigació Tèxtil
i Cooperació Industrial de Terrassa

WINTEX

WINTEX project has started in INTEXTER (Universitat Politècnica de Catalunya)

WINTEX "Weaving innovation among academia and industry in the Tunisian textile sector", a capacity building project co-funded by the European Union, was launched last January at the Institute of Textile Research and Industrial Cooperation of Terrassa (INTEXTER) (Universitat Politècnica de Catalunya). The project aims to fill the gap in the area of specialized services for the textile sector in Tunisia.

WINTEX is led by INTEXTER and the partnership involves 13 organizations, 7 coming from the south of Europe - Spain, Italy, Greece, Romania and France- and 6 coming from Tunisia.

More information

FOSTEX

INTEXTER presented at the "Advanced textiles" roundtable in Amman (FOSTEX)

Last March 10th, in the framework of the FOSTEX project, in which INTEXTER (UPC) participates as project coordinator, an "Advanced textiles" roundtable was held in Amman (Jordan).

The roundtable was organized by the Amman Chamber of Industry (ACI), in collaboration with the other two Jordanian partners, BAU and JUST universities. Target audience were the Jordanian stakeholders of the Textile and Clothing Industry invited to join this open discussion about the industry needs and expectations against the advanced textile innovation centres that will be implemented thanks to the FOSTEX initiative.

Prof. Mònica Ardanuy (from INTEXTER), made a virtual presentation of the project and Josep Casamada, AEI Tèxtils' Project Manager, presented "Market trends and business opportunities in the field of advanced textile materials". ESITH and AMITH presented the market situation in Morocco. To get further information about the roundtable contact us via info@fostexproject.eu and follow us on social media twitter - facebook - LinkedIn.

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International Conference on Biomedical Innovations and Applications - BIA-2020

We invite you to participate in the International Conference on Biomedical Innovations and Applications (BIA-2020), to be held on 24-27 Sept 2020, in Varna, Bulgaria. Due to the COVID-19 outbreak and the expected long-term restrictions on travel and accommodation, we also offer on-line participation.

Conference Topics include Bioelectronics and Biomedical Engineering Applications, Biosensors and Personal Sensor Networks, Healthcare Applications, Innovative Materials in Biomedical Engineering, Smart Systems, Wearable Technology and Innovations and other.

Prospective authors are invited to submit original work of up to 4 pages (A4) following the standard IEEE double-column conference format. The BIA-2020 proceeding will be submitted for inclusion in IEEE Xplore Digital Library and indexed in SCOPUS.

More information

Technical University of Varna

International Conference on Biomedical Innovations and Applications
Varna, Bulgaria
September 24 - 27, 2020

University of Borås

smart textiles
BY SCIENCE PARK BORÅS

Become a better consumer – connect and talk to your clothes

Imagine a rainy Friday evening. You're watching a new crime show. Your phone chimes. You've received a message - from your wardrobe. It's your T-shirt, writing: "Hey, it seems that you've forgotten about me since it's been a long time since you wore me. Maybe I can be of better use to someone else? If you'd like, I can publish an ad for myself. A reasonable price would be 50 Swedish crowns. What do you think?"

The idea of an interactive and connected wardrobe that, for example, gets in touch with you if you haven't worn a garment for a long time to tell you that it may be time for the garment to move on within the circular flow of recycling may sound like science fiction. But the fact is that a small pilot project on this has already been carried out in the framework of the F/ACT Movement at Science Park Borås.

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AUXDEFENSE2020 – 2nd World Conference on Advanced Materials for Defense 6-8 July 2020 On-line

AuxDefense 2020 – 2nd World Conference on Advanced Materials for Defense [Online Edition] is sponsored by the Portuguese Ministry of National Defense, organized by the University of Minho and focused on the latest scientific and technical novelties in advanced materials for Defense, including equipment and soldier protective systems. The conference will bring together various universities, research and technological centers, companies and all those interested in innovative solutions for this very high demanding field. The conference aims to represent a virtual forum for exchanging ideas, presenting the latest developments and trends, proposing new solutions and promoting international collaborations.

More information

UMinho Fibrenamics

Universidade do Minho

Fibrenamics

2020 AUXDEFENSE
2ND WORLD CONFERENCE ON ADVANCED MATERIALS FOR DEFENSE

University of Bern, Empa, NTB

Empa
Materials Science and Technology

UNIVERSITÄT BERN

NTB
Interstaatliche Hochschule für Technik Buchs
FHO Fachhochschule Ostschweiz

ProTex: Wearable textile sensor to protect against pressure ulcers

Ursula Wolf, Professor at the University of Bern, Institute for Complementary and Integrative Medicine (IKIM) , Luciano F. Boesel from the Swiss Federal Laboratories for Materials Science and Technology (Empa) and Guido Piai from the Interstate University of Applied Sciences NTB, work together in a "BRIDGE Discovery" project that is funded by the SNSF and Innosuisse.

The research team around the "ProTex" project is developing textile, "smart" sensors that prevent the occurrence of pressure injuries. Pressure injuries or ulcers of the skin and underlying tissue occur when the oxygen supply to the skin and underlying tissue is disturbed by pressure in persons with paraplegia who cannot move well and bedridden patients. The treatment is complex and expensive. "This makes pressure injuries a serious health problem," says Ursula Wolf. It is therefore all the more important not to let them develop in the first place.

More information

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Development of innovative mask with high antibacterial properties and visual indicators

The last two months was a very difficult period for all of us in Europe. After the two months of lock down, we try hard to get back the lost time. Although in Greece the situation is relative good the use of protection mask is foreseen to almost all activities. The research team of the lab of Innovative knitted products starts a project to develop ergonomic masks with sensor of detect the present of bacteria with visual signal. The project is with collaboration with the AthensKnitting Lab and the University of Athens.

More information

University of West Attica

University of Chemical Technology and Metallurgy

Smart textile materials with ecological and biomedical applications

The present project aims at designing, synthesis and characterisations of new smart textile materials combining textiles and hydrogels with nanoparticles incorporated therein which possess tailored properties. The design of such materials involves implementation of natural polymers, non-toxic metal salts, photopolymerization, solar energy, etc.

For the purpose, the modification of fibre forming polymers with natural polymers and in situ formation of nanoparticles which absorb and emit in the visible electromagnetic spectrum will performed by newly developed technological methods. The resulting composite materials will be tested as sorbents, filters and photodynamic catalysts against different contaminants in water sources to safe products. The newly obtained materials are expected to have multifunctional smart properties, including microbiological activity, as well as ability to react to different changes in their medium.

This research was funded by the National Science Fund, Ministry of Education and Science of Bulgaria through Project № КП-06-Н37/27.

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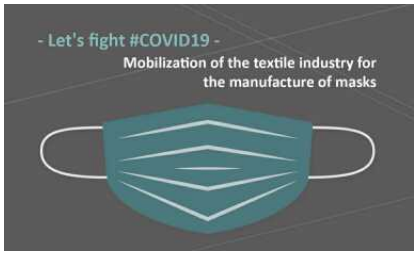
Materials database for the production of protective masks

TECHTERA

techtera

The innovation clusters TECHTERA and EuraMaterials, and the IFTH (textile and clothing technical center) have been asked by the government to assess existing and/or innovative solutions likely to be used in the fight against COVID-19 in addition to "traditional" masks (Surgical, FFP2, FFP3). The 3 structures have been very active in the mobilization of French companies in the choice of materials necessary for the production of protective masks.



The main task is to establish and communicate a materials database for masks production, in coordination with the French Directorate General of Armaments, which does the testing. Techtera then makes the link between the database and the textile companies. Today, more than 1 250 material complexes have been tested and analyzed.

Other figures:

- 12 companies supported by Techtera in the development of COVID-19 related projects.
- Nearly 50 responses to call of interest for the creation of a new production line for the manufacture of FFP2 masks.

More information