

# SmartX

Innovation Hub

What happened in  
**2024?**

# European Community of Smart and High Performance Textile Innovators

In January 2024, together with Titera (DE), Tèxtils.CAT (ES), CeNTi (PT), IVGT (DE), University of Borås's Swedish School of Textiles (SE), Science Park Borås (SE), and Sistema Moda Italia (IT), the Textile ETP has launched the SmartX Innovation Hub **to help e-textile and high-performance textile companies, research organisations and brands to learn, network and collaborate.**

With online and in-person events, the Innovation Hub offers a diverse range of activities addressing a wide spectrum of high-performance textiles and wearables. This ensures that professionals from diverse backgrounds can discover relevant and valuable content tailored to their specific interests and build new projects or working groups towards upcoming legislations.

**This brochure summarises the first year of the Innovation Hub, the topics targeted in our different webinars and the physical meet-ups and networking opportunities where Hub members had a chance to meet in person.**

The SmartX Innovation Hub is a long-term initiative with a yearly recurring subscription, open for new joiners all year-round.

# What happened in **2024?**



## **Exploring the world of Smart Textiles and Hitech**

Road to TechTextil



## **Key Technologies and their Maturity**

Smart Textiles Emerging Technologies  
Integration Technologies  
Smart Textile Components 1-2  
Companies Producing e-textiles  
Medical e-textiles  
Meet the Expert Steliyan Vasilev



## **Assessing the Product Life Cycle and its Sustainability**

Innovative and sustainable textiles



## **Funding Opportunities**

Exploring European Defence Fund  
Opportunities (DG-DEFIS)



## **Target fields of applications, value chain and key stakeholders**

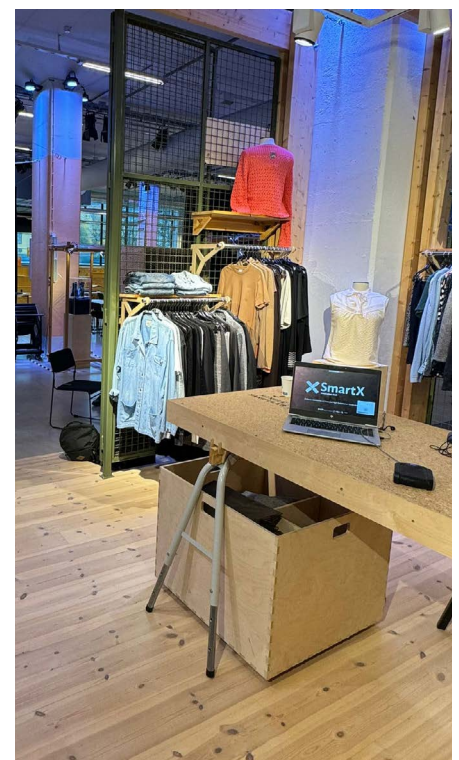
HitechFibres and Textiles in PPE  
Textiles in Medical applications and their  
functionalities  
Automotive Industry  
Meet the Expert: Christian Dalsgaard

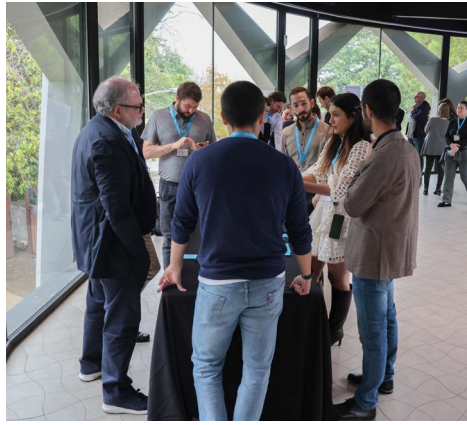


## **Networking events and visits**

LOPEC 2024 - March, Germany  
Techtextil 2024 - April, Germany  
Textile ETP Annual Conference - May, Belgium  
In-person Workshop - November, Spain  
E-textiles Conference 2024 - November, Germany

# Our networking events and visits





## Our online activities

# Exploring the world of Smart Textiles and Hitech

### Road to TechTextil Smart Textiles

The first Road to TechTextil webinar featured three presentations: ADRESYS highlighted ANGEL React for advanced connectivity and quality control, Sefar Group introduced testing opportunities for their PresSense sensor at Techtextil, and Polisilk showcased yarns for various applications, including fluorine-free options. Titera then presented Wiretex, a project focusing on preserving traditional expertise in textile craftsmanship.



**Jasmin Simon**  
*Textile Engineer, ADRESYS*



**Roua Cheffi**  
*Project Manager, SEFAR*



**Marc Ponsa**  
*CEO, Polisilk*



**Katja Brencic**  
*Project Manager, Titera*

### Road to TechTextil Hitech

The second Road to Techtextil webinar focused on high-performance textiles started with YKK previewed their innovations, COATYARN showcased TPU Evolution, and Hilaturas Arnau presented their recycled technical yarns. Co-hosts from national clusters shared updates from their countries, and CeNTI and CITEVE highlighted Techtextil's significance for Portuguese companies, showcasing the industry's commitment to sustainability and innovation.



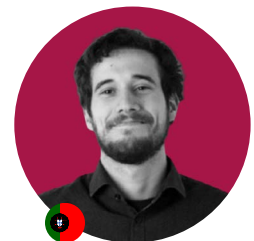
**Jan Cees van Baaren**  
*Business Developer Manager, YKK*



**Josep Casamada**  
*Project Manager, Textils.CAT*



**Joan Santamaria Arnau**  
*CEO, Hilaturas Arnau*



**Kevin Rodrigues**  
*Smart Materials Team Leader, CeNTI*



**Claudia Finazzi**  
*Sales & Marketing, COATYARN*



**Stefan Schmidt**  
*Department Manager, IVGT*



**Aldo Tempesti**  
*Head of Technical Textiles, SMI*



**Cristina Castro**  
*Public Relations, CITEVE*

# Key Technologies and their Maturity

## Smart Textiles Emerging Technologies

This webinar focused on advancements in pressure sensing technologies. Pavel Kulha demonstrated how PROFACTOR is leveraging its Inkjet PrintingHub to develop hybrid integration of electronics and sensors for smart textiles. Roua Cheffi from Sefar Group then showcased their Piezo-Resistive Pressure Sensing Fabric, a cutting-edge material renowned for its remarkable breathability, comfort, and versatility.



**Roua Cheffi**  
Project Manager, SEFAR



**Pavel Kulha**  
Senior Scientist, PROFACTOR

## Integration Technologies

The webinar highlighted integration technologies for e-textiles and wearables. It began with 3E Smart Solutions discussing embroidery techniques for smart textile integration, focusing on reliability, scalability, mass production, and design support. Radientum then showcased flexible, wearable antenna systems, merging antenna design with textiles for applications like search and rescue, transportation, and healthcare. Then Sensing Future Technologies explored the potential of pressure sensors in rehabilitation and medical fields, addressing emerging innovations and challenges. The session concluded with the presentation of the Hacktex Project, which promotes smart textiles entrepreneurship and provides valuable training resources.



**Steliyan Vasilev**  
Co-Founder &  
Development Engineer,  
3E Solutions



**Christine Nguyen**  
Director & Business  
Development,  
Radientum



**Luís Ferreira**  
CTO & Co-Founder,  
Sensing Future Technologies



**Luminita Ciobanu**  
Gheorghe Asachi Technical  
University of Iasi

# Key Technologies and their Maturity

## Smart Textiles Components 1

The first webinar focused on advancements in smart textile components, opening with an introduction to the new 'Textiles of the Future' EU Partnership, the first EU research and innovation funding programme dedicated entirely to the textile sector. Next, SUNFIBRE shared their journey toward innovation, highlighting the integration of LED tubes and colors directly into textiles, such as safety jackets, to enhance visibility across various applications. The Swedish School of Textiles from the University of Borås presented their research on developing wearable sensors using textiles, aimed at advancing personalised healthcare solutions. The session concluded with insights from ERT Têxtil Portugal, showcasing their expertise in e-textiles and innovative lamination techniques for creating interactive surfaces, including applications in car interiors and wearables.



**Markéta Králová**  
CEO,  
SUNFIBRE



**Emanuel Gunnarsson**  
Senior Lecturer,  
University of Borås



**David Macário**  
Innovation Manager,  
ERT Têxtil Portugal

## Smart Textiles Components 2

The second session focusing on smart textile components covered innovations in smart composites, yarns, and textiles. MCVE Technologie introduced their circuitry-printed composite fabrics for mass production. Bäumlín & Ernst AG highlighted their conductive yarn applications, while MDB TEXINOV showcased advanced warp-knitted and non-woven textiles for medical and industrial use. Datwyler Group concluded with information on their smart wearables featuring bio-signal electrodes for high performance and comfort.



**Adrien Hobt**  
Chief Marketing  
Officer,  
MCVE Technologie



**Raphael Vuillaume**  
Technical Manager,  
MCVE Technologie



**Bernd Schäfer**  
CEO,  
Bäumlín & Ernst ag



**Bruno Mougín**  
R&D Director,  
MDB Texinov



**Mattia Lucchini**  
Head of Wearable  
Sensors Development,  
Datwyler Group



# Key Technologies and their Maturity

## Companies producing e-textiles

This session provided insights into the latest innovations in the e-textiles sector. Dr. Sohail Sarang presented the final results of the STRENTEx Project, Florian Miguet discussed smart textiles in challenging industries, Nishadi Perera focused on sustainable design for e-textiles, and Miguel Ridao explored the field of stretchable electronics and AI. The event ended with a discussion on the differences between the US and EU markets.



**Sohail Sarang**  
*Researcher,  
Faculty of Technical  
Sciences, University of  
Novi Sad*



**Florian Miguet**  
*CEO & Co-founder,  
Clim8*



**Miguel Ridao**  
*CEO, Sensing Tex*



**Nishadi Perera**  
*Operations Engineer,  
Bohr Limited*

## Medical E-Textiles

The webinar focusing on medical e-textiles opened with a live presentation by Science Park Borås, showcasing four prototypes. These included a versatile haptic technology system, a metal-based arterial dilation device co-developed with healthcare providers, innovative muscle stimulation technology, and an ECG T-shirt designed for enhanced connectivity. upLYFT highlighted the potential of transforming fabrics into functional systems, illustrating how advanced textiles can augment human capabilities and redefine wearables. Haltian then showcased the collaboration between IoT, electronics, and the textile industry, emphasising the transformative potential of cross-industry partnerships in driving smart textile innovations.



**Pasi Pentinpuro**  
*VP, IoT Business Line  
Haltian*



**Aalok Rai**  
*Founder & CEO,  
upLYFT*



**Nils-Krister Persson**  
*Senior Lecturer & Researcher,  
Science Park Borås*

# Key Technologies and their Maturity

## *Meet the Expert: Steliyan Vasilev*

In this edition of the Meet the Expert podcast, SmartX Innovation Hub Manager Judith Bosch engages in a conversation with Steliyan Vasilev, Co-Founder and Development Engineer at 3E Smart Solutions.

Steliyan shares valuable insights into their groundbreaking work on integrating electronics and textiles using embroidery technology and conductive threads. He highlights the critical role of documentation, training, and sustainability while exploring the exciting possibilities of wearable technology. The discussion also delves into innovative approaches to addressing high resistivity, digitizing embroidery designs, and improving the durability and washability of conductive textiles.



**Steliyan Vasilev**  
*Co-Founder & Development  
Engineer, 3E Solutions*

# Target fields of applications, value chain and key stakeholders

## *HitechFibres and Textiles in PPE*

This webinar focused on PPE end-markets and flame retardant materials. Judith Bosch opened the session by highlighting key activities and topics from Techtextil. The session continued with four keynote presentations: Technitiger discussed client-focused fabrics for thermal protection in PPE; LunaMicro AB presented their moisture-wicking fabric for thermal comfort and cooling; CeNTI shared their R&D on technological fibres and textiles, including projects like Biomat and Impatex; and Kufner provided insights into interlining technicalities for automotive and medical applications.



**Bruno Peliteiro**  
R&D in Functional Fibres,  
CeNTI



**Anna Rovira**  
Operations Manager,  
Technitiger, S.L



**Jenny Borg**  
Textile Engineer,  
LunaMicro AB



**Juliana Oliveira**  
Scientific Researcher,  
CeNTI



**Steffen Kurz**  
Global Sales Medical  
Textiles, Kufner

## *Textiles in Medical applications and their functionalities*

This session, focusing on textiles in medical applications and their functionalities, was moderated by Regina Malgueiro from CeNTI. The first keynote speaker, Pedro Magalhães from Tintex Textiles, shared his company's journey in developing innovative textile coatings and laminated fabrics specifically for the healthcare sector. Prof. Gaetano Guerra from the University of Salerno then presented his research on active molecules embedded within nanocavity polymers.



**Pedro Magalhães**  
Head of Innovation,  
Tintex Textiles



**Gaetano Guerra**  
Professor,  
University of Salerno



**Regina Malgueiro**  
Biomaterials team leader and  
scientific researchers, CeNTI

# Target fields of applications, value chain and key stakeholders

## Automotive Industry

This session focusing on the automotive industry was moderated by Stefan Schmidt. The first presentation explored the future of coated textiles, discussing how these materials are evolving to meet the challenges of a rapidly changing world. An application of high-performance fibers in Formula Student was then highlighted, showcasing their role in racing and automotive innovation. The session then covered a diverse portfolio of textile products, demonstrating their global use and impact. Finally, the integration of smart textiles and sustainable materials in the automotive sector was discussed, emphasizing how they are shaping the future of mobility and driving sustainability in the industry.



**Stefan Schmidt**  
Department Manager  
Technical Textiles,  
IVGT e.V.



**Bettina Gereth**  
Fundraising & HR,  
NUVI



**Frederic Nagel**  
Ecurie Aix - Formula  
Student Team  
RWTH Aachen e.V.



**Silvia Giovanna  
Avataneo**  
Global Innovation  
Public Funding,  
Stellantis



**Martin Dinter**  
Global Sales Medical  
Textiles, Kufner

## Meet the Expert: Christian Dalsgaard

In this edition of the Meet the Expert podcast, SmartX Innovation Hub Manager Judith Bosch discussed with Christian Dalsgaard, Chair of the Smart Textile Alliance and Senior Consultant at the Danish Technological Institute. Together, they explore the dynamic world of smart textiles, delving into topics such as identifying potential markets, showcasing impressive field demonstrators, and examining the current state of the art. The conversation highlights the challenges and opportunities surrounding the adoption of e-textiles, offering valuable insights into this rapidly evolving field.



**Christian Dalsgaard**  
Senior Consultant,  
Smart Textile Alliance  
and Danish Technological  
Institute

# Funding opportunities

## *Exploring European Defence Fund Opportunities (DG-DEFIS)*

In a webinar focusing on opportunities within the European Defence Fund (EDF), Paul Kruis from the European Commission's Directorate-General for Defence Industry and Space (DG-DEFIS) delivered an insightful keynote address providing a comprehensive overview of the EDF, highlighting its role as the EU's flagship research and development program for the defense sector.

Paul Kruis detailed the core principles driving its implementation, outlined its key focus areas, and shared information about upcoming funding opportunities.



**Paul Kruis**  
*Policy Officer, European  
Commission (DG DEFIS)*

# Assessing the **Product Life Cycle** and its Sustainability

## *Innovative and sustainable textiles*

This webinar explored the blend of high-tech innovation and sustainability starting with Human Material Loop, discussing the use of hair waste for advanced technical applications, showcasing its potential as a sustainable resource. DuPont followed with a presentation on their technology, which sets a new standard for high-performance protection in extreme environments, from Formula 1 fuel bladders to spacecraft shielding. CITEVE wrapped up the presentations with the Waste2BioComp project, which aims to transform organic waste into sustainable bio-based materials, offering scalable, eco-friendly alternatives to fossil-based products.



**Helena Vilaça**  
*Researcher, CITEVE*



**Zsafia Kollar**  
*Founder,  
Human Material Loop*



**Lukas Whitcomb**  
*Market Development Leader,  
DuPont*

# The Organisers

The European Technology Platform for the Future of Textiles and Clothing, Textile ETP in short, is the largest network for textile research and innovation in Europe. It acts as a think tank, strategic connector and EU funding access facilitator for textile industry, research, education and cluster organisations.

Follow the Innovation Hub on LinkedIn



# The Co-Hosts



TITERA innovative technologies, Germany  
[www.titera.tech](http://www.titera.tech)



Tèxtils.CAT, Spain  
[www.textils.cat](http://www.textils.cat)



CeNTI - Centre for Nanotechnology and Smart Materials, Portugal  
[www.centi.pt](http://www.centi.pt)



Industrieverband Veredlung-Garne-Gewebe-Technische Textilien (IVGT), Germany  
[www.ivgt.de](http://www.ivgt.de)



University of Borås's Swedish School of Textiles, Sweden  
[www.hb.se/en/the-swedish-school-of-textiles](http://www.hb.se/en/the-swedish-school-of-textiles)



Science Park Borås, Sweden  
[www.scienceparkboras.se](http://www.scienceparkboras.se)



Sistema Moda Italia (SMI), Italy  
[www.sistemamodaitalia.com](http://www.sistemamodaitalia.com)

# The Team



Lutz Walter  
Textile ETP



Judith Bosch  
Textile ETP



Matteo Mainiero  
Textile ETP



Daniela Zavec  
Director at Titera



Ariadna Detrell  
Cluster Manager  
at Tèxtils.CAT



Josep Casamada Ribot  
Project Manager  
at Tèxtils.CAT



Stefan Schimdt  
Technical Textiles  
Department  
Manager at IVGT



Mauro Sampellegrini  
Head of the  
Research and  
Innovation at SMI



Aldo Tempesti  
Head of Technical  
Textiles section  
TexClubTec at SMI



Kevin Rodrigues  
Smart Materials  
Team Leader  
at CeNTI



Nelson Duares  
R&D Manager  
Functional Fibres  
at CeNTI



Caterina Dias  
Costa  
Senior Researcher  
at CeNTI



Susanne Nejderås  
Textile Strategist  
at Science Park  
Borås & Swedish  
School of Textiles

European Community of Smart and High Performance Textile Innovators