

At the heart of textile evolution

# Protection and Safety



**LES PÔLES DE**  **COMPÉTITIVITÉ**  
MOTEURS DE CROISSANCE ET D'EMPLOI



# techtera



## Techtera is the French innovation cluster for the textile industry.

We support our **250 members** in the emergence, structuration and implementation of their collaborative R&D projects. Since 2005, we have approved and supported **227 financed R&D projects**. We also provide services regarding the business development of our members: international actions (trade fairs, collective missions...), business launching projects for innovative products, identification of textile solutions for all industries.

Textile is essential for personal protective equipment. It provides **properties** for resistance, insulation, lightness, durability, waterproofness, etc., while matching the required level of comfort for the user. Another important stake today is the **smart/electronic functions**, for data sensing and analysis, or energy production.

**More than 22 projects** focused on textile applications for security, safety and personal protective equipment have been supported by Techtera.



### European level certification

The "CLUSTER MANAGEMENT EXCELLENCE LABEL GOLD" is given by the EUROPEAN CLUSTER EXCELLENCE INITIATIVE. It acknowledges the highly sophisticated cluster management of Techtera, and the success and commitment of the cluster to further improve its organizational structure and routines. **Techtera is the first textile cluster to obtain the Gold Label.**

# 2<sup>nd</sup>

France ranks 2nd in terms of technical textiles market in 2020.

# 189

Manufacturers of protective clothing in France in 2020.

# 10%

Share of the technical textiles consumption dedicated to the protection and safety equipment market, in value terms in 2020.

# 8 million

of employees requiring PPE in France in 2020.

# R&D projects

Techtera helps you to develop your network and finance your ideas for the development of products and/or services.

Textiles can be found in all kinds of PPE, offering essential functions, for the protection of the person.

Techtera supports collaborative projects aiming for the improvement of those functions.

## Textiles for protection against:



Fire



Electricity



Radioactivity



Gas & particles



Extreme temperatures



Chemicals



Liquids



Perforations



Tearing



Impacts



Abrasion



Germs & microbes



Odors



# Security-Safety-Personal protection

Some of our projects for the challenges of the textile industry:

**ACTIPROTEX:** develop multi-active protection textiles for the prevention of nosocomial infections and microbial contaminations.

**CODETEX:** design a mobile primary decontamination facility for fire suits and equipment.

**DEPERFLEX:** develop a comfortable, sturdy repellent material appropriate for sportswear and ecofriendly thanks to a fluor free coating.

**DEPOREX:** optimise one of the stages of a chemical process for recycling polyester textile materials: depolymerisation of the polyester by reactive extrusion.

**DOSELESS:** develop textiles that attenuate ionising radiation, to significantly improve the performance of the personal protective equipment used in the medical, nuclear power and research sectors.

**EFIGY:** develop polymeric formulations incorporating optimised optical properties to obtain multi-filaments with photo-luminescent, retro-reflective and chrome functions.

**ETINCELS:** provide textile solutions embedding sensors that will allow to answer to thermal-related stress situations encountered by security professionals.

**FILOGRAPH:** develop an intelligent textile from natural and/or bio-sourced yarn coated with graphene with conduction properties allowing to do without batteries while maintaining lightness, suppleness and flexibility.

**MIROIR:** design semi-industrial solutions for the metallisation of innovative, resistant, flexible materials; for luxury and personal protection.

**SILICOTEX:** develop textiles (yarn and fabrics) based on silicone for the manufacture of medical devices, lingerie and footwear products, technical clothing, thermal industrial applications.

**SYRIMAP:** develop polymeric materials and flame retardant hybrid composite structures obtained from chemical reactions resulting from reactive extrusion technology.

**SUPERHYDROPEX:** develop materials from textile production waste and end-of-life textiles to create three groups of high value-added materials: plastics, sound and heat insulation materials, materials for manufacturing synthetic yarn from recycled products.

## European partnership

**EU-ALLIANCE:** promote exchanges between the textile industry and the fields of defence and security at European level, in partnership with 6 European clusters from France, Italy and the Netherlands.

## Supporting the textile industry on masks

**Material studies for consumer masks manufacturing**  
over 2,000 material complexes analyzed by the working group on materials.  
over 1,200 reports from the French Directorate General of Armaments analyzed on the material properties for filtration and breathability.  
317 compositions of relevant material complexes identified, by the working group on materials.



**Research of masks manufacturers**  
141 entities identified and contacted.  
over 70 answers to specific demands.



**Research projects**  
12 companies supported in the development of covid-19 related projects.  
49 responses to call of interest for the creation of a new production line for the manufacture of FFP2 masks.

# Protection and Safety

- Belts
- Ropes
- Straps
- Masks
- Gloves
- Airbags
- Sensors
- HAZMAT
- Racing suits
- High visibility
- Ballistic protections
- Thermal protections
- CBRN protections
- Piezoelectric sensors

## Equipments for:

- Firemen
- Army
- Policemen
- Rescuers
- Industrial workers
- Construction workers

Markets and applications





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Techtera is supported by:

