



# techtera



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At the heart  
of textile evolution

Press kit



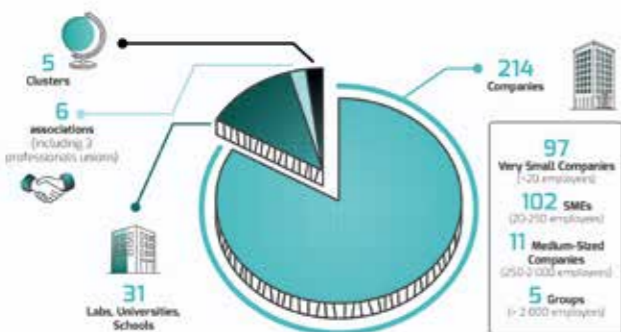
Auvergne-  
Rhône-Alpes

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## TECHTERA: AT THE HEART OF TEXTILE EVOLUTION

Techtera is the French innovation cluster dedicated to textile. We animate a network of more than 258 members with the main objective of boosting competitiveness through collaborative innovation.



Our members are supported on:

- innovation and collaborative R&D projects, from the idea to the dissemination of results,
- increasing the levers of innovation, with environmental, technological and economic keys.
- strategy, creation and anticipation of trends in clothing and decoration,
- the marketing of their innovation by individual or collectif support on trade shows, and international collective missions.

The cluster is also involved in structuring actions for the textile industry and related to other sectors, application markets, through interclustering partnerships or European projects.

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Under the presidency of Louis Vovelle, Innovation and R&D Vice President of Elkem Silicones, the cluster brings together the skills of 13 employees.

It relies on a wide network of partners:

- the innovation clusters,
- the collective of the Auvergne-Rhône-Alpes region for the industry of the future,
- the European textile platform Euratex,
- the network of fashion players (ESMOD, IFM, ENSAD...),
- the French Defence Procurement Agency (DGA),
- the main clusters and research centers.

At the international level, Japan is the historical partner of Techtera since 2005. In 2014, the French and Japanese ministries of economy have signed a memorandum of cooperation with associations like Techtera and JCFA (Japan Chemical Fibers Association). The latter was renewed in 2017, then in 2021, reinforcing the cooperation between the two countries, on both research and market.

## THE TEXTILE SECTOR IN FRANCE AND IN THE AUVERGNE-RHÔNE-ALPES REGION

The textile industry groups three types of activity: the manufacture of threads (spinning, miling, texturing...), the manufacture of textiles (weaving, knitting...) and their treatment (finishing, coating, impregnation...).

In the 1980s, this sector experienced a significant decline in the face of globalisation of markets, competition from low-cost countries, and pressure from the clothing industry. To ensure their survival, companies in the sector have reorganised and diversified to focus on activities with high added value. The strategy is paying off and since 2010, the French textile industry has returned to growth in its turnover (€13.9 billion in 2019), exports (€9.7 billion in 2019) and recruitment (61,910 jobs in 2019).

But the health crisis has undermined this stability, causing the entire sector to stall. The clothing industry, for example, fell by 11% in France and 24% in Europe, while the technical textiles industry fell by 6%, with significant disparities between segments. Manufacturers targeting the automotive and aeronautics markets were the most affected, unlike those supplying or repositioning themselves on the health (manufacture of masks in particular) or sports/leisure markets.

The Auvergne-Rhône-Alpes region brings together nearly a third of the companies in the sector (584 companies with a turnover of of €3.5 billion in 2019) and is the leading and is the leading employment area in the French industry (17,330 jobs).

## THE TECHNICAL TEXTILES SECTOR

The technical textile refers to textile products with technical properties offering specific functionalities adapted to well-defined uses. In France, the technical textiles industry now accounts for about 40% of total textile output (in value). It is the main driver of the French sector: 511 companies, for a turnover of 10,648 M € and a workforce of 36,500 employees.

### Transportation equipment (35-40%)

*Aerospace, automotive, railway, maritime*

Applications:

textile-reinforced rubber products, carpets, safety (belts, airbags, lifejackets, life rafts...)

### Health and hygiene (15-20%)

Applications:

cleaning, hospital linen, health devices, protection, biotextiles

### Building (10-15%)

*Construction in the building, civil engineering*

Applications:

building materials and components, stabilisation, separation, drainage, structural and soil reinforcement, erosion control

## MAIN APPLICATIONS OF TECHNICAL TEXTILES

### Sports and recreation (5-10%)

Applications:

canvases for paragliders, parachutes, sails, tents, sports equipment, camping equipment, sportswear...

### Protective gear and safety equipment (5-10%)

Applications:

chemical protection, anti-flame and anti-cut equipment, outdoor use (radiation protection...), other safety equipment (ropes, straps...)

### Other industrial applications (15-20%)

Applications:

filtration, insulation, belts, cleaning, draw, packaging...

# THE TEXTILE SECTOR IN FRANCE AND IN THE AUVERGNE-RHÔNE-ALPES REGION

## The societal challenges that guide and determine the products of tomorrow:

- Increasing demand for transparency and ethics
- The need to live better and longer
- The need for every worker to be safe while working
- A logic of mass customization more and more developed
- Awareness to do better with better, in a logic of saving resources
- Everyone's desire to be entertained, to take care of oneself
- The need to differentiate in a context of globalisation of markets

## Beyond these societal challenges, the textile sector is confronted with strong industrial challenges:

- Demonstrate agility, ability to adapt and be responsive in a competitive environment
- Have a CSR strategy that is compatible with the increased requirements of end-users, regulation, and ecological transition
- Learn how to take advantage of the great versatility of textile potential applications, and anchor its ability to renew itself by identifying target markets with high added value
- Make teams grow and progress through lifelong training and boost the attractiveness of the industry

## To meet these challenges, Techtera supports its members, leading companies in the market and witnesses to the industrial and technological excellence of the sector on three major technological axes:

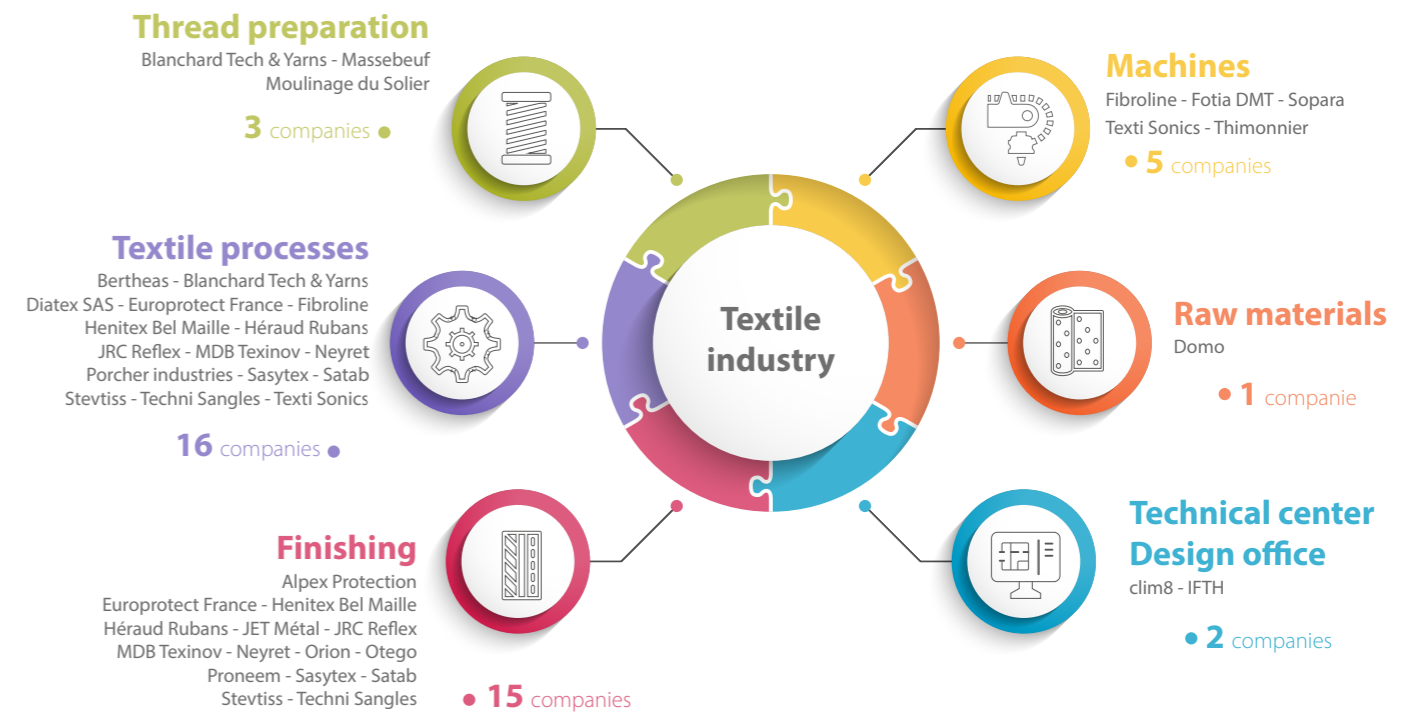
- Intelligent high-performance materials: additive manufacturing, smart textiles, textiles and composites, development of new high-performance textile materials...
- The circular economy: bio-sourced and alternative materials, recycling, eco-efficient processes, short circuits...
- Plant 4.0 and the new business models: vertical and horizontal integration of the industry, customisation, servitisation...

# TECHTERA, 1<sup>ST</sup> FRENCH DELEGATION ON TECHTEXTIL 2022 TRADE FAIR



For the 8<sup>th</sup> consecutive edition, Techtera will be present at Techtextil (Frankfurt, June 21<sup>th</sup> to 24<sup>th</sup>), alongside 30 industrial companies on more than 360 sqm surface, dedicated to the innovations and know-how of its members. This is the most important French delegation present on this trade show.

The Auvergne-Rhône-Alpes Region, which financially supports the participation of companies at the show, will be particularly well represented. 29 of the 30 participants present are located in the region.



## EXCELLENCE COMES WITH INNOVATION

Endowed with a strong entrepreneurial and innovative spirit, our 30 companies present at techtextil are great ambassadors for promoting French and regional excellence. Back in detail on some of the iconic innovations.



### Two new materials for optimum comfort

#### DIABLO: a technical stretch fabric for clothing that moves with the wearer

Based on the observation that in the heart of the action, nothing should hinder movement, ALPEX Protection has developed DIABLO, a material that enables the creation of inserts placed on areas particularly solicited when the body is active: waist, under the shoulder and arms, knees... The elongation capacity of this 2-layer laminate is around 50% (49% test 20N/5cm). Its resiliency is 96% (20N/5cm test). DIABLO combines durability, strength and elasticity and is suitable for active and dynamic wearers such as special forces, elite troops, professional athletes, etc. Designed to support intensive use, its resistance and durability are excellent. The material has been tested after 100 washes, retaining its properties and has not shown any signs of deterioration.



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## EXCELLENCE COMES WITH INNOVATION

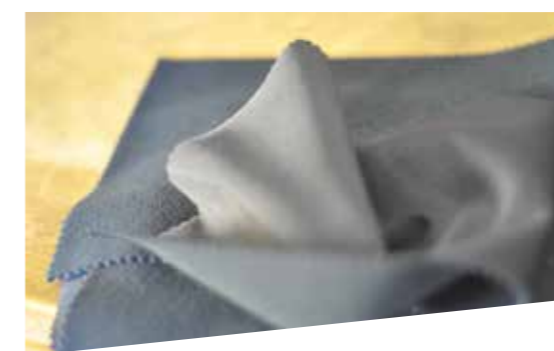


Moulinage du Solier  
LE FIL AU SERVICE DE LA TECHNOLOGIE

### Moulinage du Solier develops a range of thermochromic wires

Moulinage du Solier has developed the range T.R.Y. for Thermo-Reactive Yarn: threads that change color when are heated or cooled to a given temperature. For example, a originally purple thread, will turn red at 30°C (86 °F), then white at 50°C (122°F). When the thread cools down, it returns to its original color.

According to applications, it is possible to choose up to two reactive temperatures, from -20° (68°F) to 70°C (158°F) and the original colors (among the primary colors) and reactive. Currently, the threads are made with polyester (continuous filaments, 170 dtex), but trials are in progress on other subjects such as cotton. This new thread finds its application in all sectors of activities: decoration, building, personal protective equipment, electrical protection... Besides its playful and aesthetic qualities, it constitutes a real warning system for the user.



VAALSEBERG quality meets the highest standards and is extremely durable and long lasting. It proves this by retaining its properties and showing no signs of deterioration, even after 100 washes. VAALSEBERG fabric therefore meets all standards including:

- EN 20471, class 3 for the industrial disinfection washing process (ISO 15797),
- EN 13758-2 for the protective properties against ultraviolet solar radiation.



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### Europrotect further protects people and their environment

As a specialist in technical textiles, Europrotect develops, manufactures, and markets a wide range of fabrics, knits and assemblies designed for personal protective clothing (PPE) in various sectors: army, law enforcement, fire brigade, industry, etc.

As part of its latest developments, Europrotect has launched a new evolution of its Twin® range (a collection of original products whose main properties lie in their resistance to tearing): the Twin® KUB, intended for the firefighting sector.

The construction of this new generation of reactive fabrics achieves better mechanical and thermal performance than the outer layers available on the market while improving the comfort of the firefighter.

The main strength of Twin® KUB compared to other fabrics in the Twin range is therefore its ability to counteract the problem of «break open» more effectively: its excellent resistance means that it retains its integrity after exposure

to high heat. Firefighters' outfits designed with Twin® KUB also allow firefighters to save precious seconds in their escape time. The gain measured according to EN/ISO 469: 2020 standard is up to 8 seconds compared to assemblies with Twin®.



MORE INFORMATION?

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EXCELLENCE COMES WITH INNOVATION



### PROTECTOR 35 : the first 100% effective mosquito repellent



Thanks to a team of R&D expert engineers, Proneem has developed the PROTECTOR 35 technology. This innovative textile repellent treatment is highly effective (100% after 15 washes) on a wide

range of insects: mosquitoes, ticks and bedbugs. The unique formulation of PROTECTOR 35 perfectly fulfils the requirements of the biocidal regulations thanks to the absence of harmful substances, as it combines the IR3535 molecule (insect repellent) with Eucalyptus Citriodora vegetable oil, integrated into high-performance microcapsules. By friction of the fabrics, the PROTECTOR35 microcapsules release the active ingredient which acts to guarantee comfort and well-being in the open air.

This unique formula makes PROTECTOR 35 (Oeko-Tex label) the first mosquito repellent on the market to guarantee excellent effectiveness while being safe for men, pregnant women and children over six months.



Because protecting people is its core mission, Europrotect also aims to protect them over the long term and in all aspects. In addition to developing new products, Europrotect is therefore committed to an ambitious strategy of improving its production processes to limit its impact on the environment. In line with its CSR approach, the company has also been working for several years on the recycling and upcycling of aramid and aramid/viscose-based fire-resistant clothing. Europrotect is implementing a recycling chain which, after treatment and securing, allows the manufacture of yarn that can be used in the manufacture of warp and weft, felt or knitted products. Thus, 60% of the material used for certain finished products comes from recycling as an alternative to the use of fossil carbon.

MORE INFORMATION?

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EXCELLENCE COMES WITH INNOVATION



### Garments reacting to the human body like a second skin

Founded in 2016, clim8 develops innovative fully autonomous intelligent thermoregulation systems.

The patented clim8 technology uses tiny integrated thermal sensors to monitor skin temperature in real time, analysing the environment, the user's profile and their specific needs according to their activity. Based on the data collected, the heating elements integrated into the garments in the most strategic areas for optimal comfort and warmth will then automatically activate when the comfort temperature fluctuates.

In this way, the garments detect and react in real time to the human body like a second skin, whereas competitors' systems will only allow a fixed temperature selection. The technology is also managed by a single mobile application, which makes it particularly interesting for customers with different brands or products:

a single application will allow them to manage all their textiles (t-shirts, gloves, jackets, etc.). The latest developments include a survey at the end of the user session. Depending on the answers given by the user, the regulation device linked to artificial intelligence will automatically adapt the heating parameters during subsequent uses, thus allowing the product to learn from its use and to perform better as it is used. This cutting-edge technology opens up great prospects for future developments in other thermal applications, particularly in cooling.



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EXCELLENCE COMES WITH INNOVATION

**Thimonnier**  
RADIO FREQUENCY WELDING PARTNER

### Thimonnier anticipates the obsolescence of triodes in its vacuum generators

Thimonnier, a specialist in the welding of flexible materials, has particular expertise in high frequency welding (power between 400W and 30kW), allowing the assembly of plastic materials.

In 2015, the regulations concerning vacuum generators are changing and require the reduction of electromagnetic wave emissions (potentially impacting surrounding devices and people with medical implants). In addition to these regulatory changes, triodes are becoming increasingly obsolete and are being replaced by other components. Thimonnier, which equips its machines with vacuum generators containing triodes, is mobilising its R&D teams to find alternative solutions.

The bet was won a few months ago, with the launch of solid state generators (SSG) equipped with transistors, the SSG 2.0, which present several innovative aspects:

- their compactness (footprint 350x450 cm),
- the absence of electromagnetic interference
- data recording allowing the tracing of each welding parameter,
- increased reliability both in terms of mechanics (no wearing parts) and accuracy, with a weld

defect of less than 0.2% and total stability of the weld parameters over time.

This new equipment also offers certain competitive advantages, allowing Thimonnier to perpetuate its activity in high frequency welding, such as:

- a compact product with all the advantages of a classical generator condensed in a fully integrated solution of Thimonnier's know-how,
- the flexibility of the operating frequencies (13.56 MHz, 27.12 MHz and 40.68 MHz) to fit the weld surface and obtain an optimal quality in terms of thickness, mechanical resistance, creep and the possibility to weld small surfaces (12 mm<sup>2</sup>).

This innovative solution is already winning over customers, such as the number one French swimming pool company, which has installed a compact, lightweight SSG enabling it to weld liners at the end of a motorised robot arm, bypassing the constraints linked to the gravity centre.



MORE INFORMATION?

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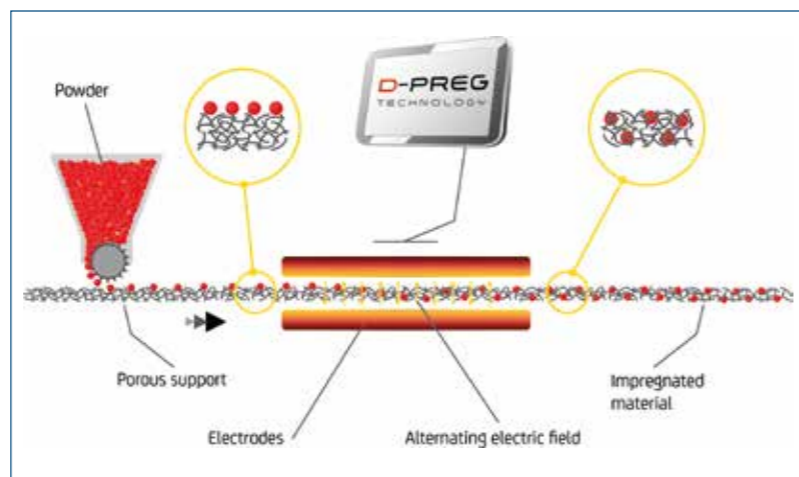


### Fibroline solutions for filtration purpose

Fibroline is an engineering company which developed and patented revolutionary dry impregnation technologies. Those cleantechs enable to impregnate homogeneously powder form materials into porous structures thanks to high intensity alternating electric fields. The main advantage of these solutions is that they are completely dry, without water or solvents. Filtration purposes present a wide range of possibilities for the various Fibroline solutions. Over the last months, the Fibroline R&D team has focused on this type of technologies and established several partnerships to validate the potential of our technology. Fibroline technologies can impregnate thin to relatively thick substrate. Filter media can be based on various materials depending on the desired properties, from nonwovens, textiles, foams to papers. Many different active powders can be used in filtration with various functions.

The powder can be a resin, with the objective to protect mechanically the fibers. Or it can also give functionalities to the media, for example: MOF, zeolite... Those very porous particles will then act as a cage that traps the targeted molecules.

Many other functions can be added to the filter such as: fire retardancy, moisture resistance... Moreover, a dry alternative opens new possibilities for water sensitive powders, that are not possibly processed with liquid solutions. Promising results have been obtained for liquid filtration (water depollution, oil purification for automobile applications...) but also for air filtration media (capture of hazardous gasses in NRBC applications, air dehumidification...), resulting in a high priority given to the Filtration field for the coming years.



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EXCELLENCE COMES WITH INNOVATION

### Fibroline extends its technologies to the impregnation of yarns with the «y-preg» solution

Over the years, Fibroline developed a strong expertise with textile and nonwoven impregnation thanks to its innovative dry powder impregnation solutions.

More recently and following a two-year research program, Fibroline innovation team developed and patented a new technological solution dedicated to yarns and rovings (the Y-Preg technology). Its functioning remains closely linked to the use of a high voltage alternating electric field charging and distributing particles homogeneously into the porosities of the multi-filaments.

Any type of binders or functional powders can be processed without any solvent and with extremely limited energy consumption, significantly reducing the overall manufacturing environmental footprint.

### A dedicated team to support your product developments

Fibroline dedicated an innovation team to support its customers during the product development phase, until final technology transfer. «Our objectives are to assist our customers with the powder selection, powder blending, fixation parameters in order to help them identify the added value our new solution can bring to

their applications» says Sofien Bouzouita, Innovation Manager at Fibroline and in charge of the Y-Preg business development.

A brand-new pilot line has been installed in the Fibroline's innovation center, in line with flexible peripheral equipment in order to carry out semi-industrial runs with customers, prior to final technology transfer.

### A business model providing technological lead to innovative companies in their field

Fibroline and its customers initially focused their R&D efforts on the composite tape markets and functional yarns.

Fibroline established strategic cooperation agreements per market segments, providing to companies driven by innovation a technological advance in their field with the introduction of greener and unique products thanks to a disruptive solution.







Towards a responsible democratisation of industrial protection around the world

In 2020, Otego (formerly Dickson PTL) is leaving the Glen Raven / Dickson group to become independent and to step up the development of its strategic areas:

- innovation: nearly 20% of the company's sales are generated by new products,
- international development: the company exports to more than 110 countries around the world, with a localised and local approach on the five continents.



Today, it is recognised as a global specialist in technical textiles laminated and coated with polyurethanes, silicones and lightweight PVC for applications requiring protection against heat, chemicals, non-stick coatings and abrasion resistance. At Techtextil, Otego is presenting three major innovations

The first is Fireshield, a multi-layer fabric specially designed for firefighting suits with EN1486 certification. It offers a maximum level of protection against radiant heat with a minimum total weight (<950g/m2) allowing firefighters to gain mobility and reduce the risk of heat exhaustion.

The second is a range of cross-linked polyurethane coated fabrics dedicated to the protection of laser cutting or 3D printing machines. This textile solution is a high-performance alternative to traditional steel protections with the advantage of flexibility, lightness and

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A new range of technical yarns

Thanks to constant innovation, Massebeuf Textiles offers a new range of technical yarns by providing a polymeric layer to a yarn the yarn to improve its resistance to abrasion during use, for better durability of textile. Then this new yarn can be used in technical markets by keeping its primary properties as its flexibility and also the breathability of finished textile. This protection can be added with others functions (grip, color, visual effect) and is applied on all kind of yarns: polyamid, polyester, glass fiber, carbon, linen...



better durability. These fabrics will protect, for example, the optical beams or guidance systems of laser cutting machines from dust and metal chips generated during cutting. Highly resistant to flame and heat, they are designed to preserve the integrity of the machine and avoid the risk of fire caused by incandescent metal residues.

Otego's latest innovation is quite remarkable, as it will be launching a marketplace for its customers in September 2022. With its extensive international expertise and perfect knowledge of the markets, Otego notes on a daily basis that needs in a given geographical area could find suitable solutions via suppliers who may be located at the other end of the globe. The main obstacle to trade lies in the lack of clarity in supply and demand and in the practical constraints associated with marketing (customs formalities, transport, etc.).

Driven by its vocation to democratise security throughout the world, Otego is offering players in the sector a digital showcase that will enable them to reference their products and services. It also provides them with feedback to support them throughout the marketing process.

MORE INFORMATION?

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### SATAB launches Eweave, a smart connected smart textile solution made in France, unique in the world

The French company Satab, a European reference in the narrow textile market, is launching a new range of connected smart textile solutions as a world exclusive at the Techtextil trade fair.

By combining French textile know-how and IOT (Internet of Things) skills, Eweave offers a complete connected textile solution offering a detection, protection and prevention service for professionals. This innovation gives Eweave tapes unlimited uses.

Already a pioneer with the launch in 2018 of a range of connected tapes, Satab, thanks to its integrated R&D unit «Satab Lab», is taking this unique smart textile solution a step further by offering a complete turnkey service with Eweave.

The innovation, which required several years of R&D, was previewed at Techtextil and can also be seen on the dedicated website [www.eweave.fr](http://www.eweave.fr), which presents the range of applications, uses and services of Eweave.



**MORE INFORMATION?**

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## THE TECHTERAFAB: INDUSTRIAL ACCELERATION PLATFORM

Techtera offers a totem place for the sector, enabling it to host projects. This platform creates a bridge between ideation and industrialisation and aims to meet the growing demand for industrial agility.

TechteraFab host the French cluster team, 150 sqm offices, meeting rooms and technical hall of 350 sqm for users equipment hosting. The latter will be divided in 3 blocks:

- an open area composed of 30 sqm modules for hosting research and innovation research and innovation work in the context of collaborative projects,
- a collective area with the provision of machines and prototyping equipment,
- a private technical area of 80 sqm, where where hygrometry and temperature are controlled controlled in order to work with specific materials materials such as carbon fibre.

This innovative and original offer is part of the current trend of equipment sharing between industrials. Nowadays, when companies want to develop and manufacture prototype of final products before industrialisation and commercialisation, they are used to work alone. They must then face some problems of skills and equipment provision, costs or space availability for a short period. Once this work has been completed, the question of the sustainability of these resources arises.

TechteraFab will provide a solution to these problems by proposing within the same place human and material resources for:

- making finished prototypes,
- producing small series of finished and semi-finished products,
- validating an economic model,
- validating the industrialisation of a product.

Following up from different actions carried out by Techtera, the benefits provided by this innovation hub are primarily focused on carrying out collaborative innovation projects.

However, TechteraFab's offer is aimed at a large audience:

- to all actors in textile industry: industrials, creators, schools, equipment manufacturers, fablabs...
- to many sectors: sports, health, fashion, PPE, aeronautics...
- to a wide range of flexible materials companies, with focus on smart textiles and assembly methods, common topics in Techtera's three strategical axes.

Through TechteraFab, some partnerships will be developed with IFTH, Centrale Lyon, ITECH, TEXT-IN platform and EMLyon to pool material and expertise.



## INNOVATE AND CONQUER NEW MARKETS

Innovation is a strategic priority for companies evolving in the textile industry. It aims to cope with competition, specially from abroad, to diversify its outlets by promoting the penetration of textiles into new areas of application and to increase its market power with customers. But that says research and development, also means strong financial, human and material investments, which could represent a risky gamble for SMEs. Techtera supports the development of industries in the sector through collaborative research and allows them to establish themselves into new markets, including international, through dedicated services.

### COMPANIES' NEEDS IN R&D

- Participate in the emergence of innovative projects: collaborate with contractors, take part in disruptive projects for the sector, consolidate pre-existing links or meet new industrial partners.
- Pool resources and risks.
- Structure its innovation project: ensure the viability and solvency of the project.

### TECHTERA'S ANSWERS

#### Generate and support projects

#### Labeling of projects

The Techtera label guarantees the viability of a project, its technical and economic strength. Thus, a project labeled by Techtera is twice as likely to be funded by public bodies. This label is given after a double examination of the project, carried out by:

- The Innovation Commission, composed of experts who evaluate the innovation of the project and its orientation towards a given call for projects.
- The Executive Office (BE) conducts a second review on the basis of the opinion issued in Innovation Commission, then by analysis of the architecture of the project. At the end of this second examination, the BE officially awards the label of Techtera.

#### Project editing

Techtera supports its members in their innovation process, helping them at each key stage: emergence, structuring (identification of technological barriers, budget, work packages, consortium agreement), labeling, financing, monitoring and product launching into the market.

## THE COLLABORATIVE PROJECTS IN 2021

Since 2005, 243 collaborative R&D projects have been labeled and accompanied by Techtera for a total budget of € 619 million.



33 projects submitted



16 labeled projects



9 funded projects



11 projects launched

## INNOVATE AND CONQUER NEW MARKETS

### Foster the emergence of ideas

#### Innovation Workshops

The aim of the Innovation Workshops is to stimulate innovation in companies through collaborative research projects.

They bring together researchers and industrialists, deal with a particular technology and lead to the creation of R & D projects.

Examples of themes: elasthane, textiles and acoustic, alternative to perfluorinated, biomimicry.

#### Valorisation Workshops

The aim of the Valorisation Workshops is to spread the benefits of R&D projects labelled by Techtera and carried out by the members of the cluster. Beyond this, the objective is to promote the transfer of know-how by highlighting the results of R&D projects and opening them to commercialisation.

Examples: valorisation of the benefits of the TEX-SHIELD Project (development of hydrophobic treatments low in fluorine capable of replacing perfluorinated resin treatments), ECOLASTANE project and european projects...

#### Techtera Network Workshops

The objective of the Techtera Network Workshops is to build a dynamic of innovation in the textile industry by generating R&D projects and by animating specialized networks: meeting with key players, targeted communication, grouped actions, meeting and exchange spaces.

They discuss innovation in each of Techtera's nine strategic business areas:

- building/civil engineering,
- transport,
- protection/security & defence,
- fashion/clothing,
- health/aging well,
- agriculture,
- furnishing/decoration,
- industry,
- sports/leisure.

#### Techtera's clubs:

- RECIT: Recycling and Circular Economy,
- STeW: Smart Textiles and Wearables,
- ICI 4.0: Industry of the future.



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## LAST PROJECTS ACCOMPANIED BY TECHTERA

### EU-ALLIANCE\*

To promote exchanges between the textile sector, ICT and the fields of application of and security applications at European level for the development of technological or commercial partnerships.



Budget: 500 K€  
Number of partners: 6  
Markets: security, defence

### REC N COMP\*

Supporting the internationalisation of European SMEs involved in the manufacture of the manufacture of composites based on recycled from recycled materials, particularly textiles. A collective internationalisation strategy will be developed and tested, targeting three countries: the United States, Japan and Singapore.



Budget: 500 k€  
Number of partners: 5  
Markets: industry, transport, furnishing, decoration, fashion, clothing

### TEXGLOBAL\*

Support the growth, competitiveness, international presence and industrial modernisation of European textile SMEs by improving their capacity for innovation. The project will allow

SMEs to benefit from a set of services in order to identify opportunities for international growth in three countries: the United States, Mexico and Vietnam.



Budget: 500 K€  
Number of partners: 5  
Market: textile industry

### MC4\*\*

Establish circular approaches for carbon and glass fiber composites through a European partnership (Multi-level Circular Process Chain for Carbon and Glass Fibre Composites).



Budget: 7 M€  
Number of partners: 15  
Markets: building, civil engineering, industry, protection, security and defence, sports and leisure, transport

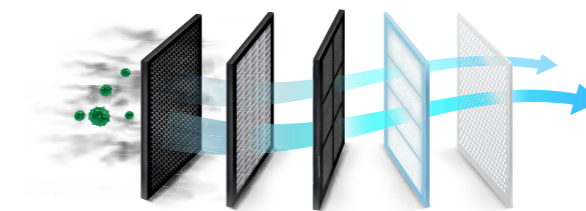


## LAST PROJECTS ACCOMPANIED BY TECHTERA

### OZONE

To develop and qualify a device for air and surface treatment.

Budget: €997K  
Number of partners: 5  
Markets: agri-food, health, public reception



### REVIEN

Work on the highest possible incorporation of recycled PVC and recycled plasticised PVC, especially for the thin film coating and extrusion process.

Budget : 1.85 M€  
Number of partners: 4  
Markets: building, civil engineering, fashion, clothing

### MIROIR

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

Budget: €3.2M  
Number of partners: 7  
Markets: protection, luxury

### AURAREFIL

Develop a low-energy chemical recycling demonstrator to treat non-reusable used polyester textile waste (pure and mixed) for a 100% recycled yarn «Made in Auvergne-Rhône-Alpes region» (France).

Budget: 148 k€  
Number of partners: 3  
Market: clothing

### TRIMETIS

Develop a new technology for the functionalisation of polymeric threads and filaments.

Budget: 2.85 M€  
Number of partners: 3  
Markets: health, sports and leisure

### TIGER

Develop a prototype of current generation by triboelectricity using a textile yarn, with an electronic system and a flexible battery.

Budget: 917 K€  
Number of partners: 3  
Markets: protection, security and defence, sports and leisure

### RESOL

Recycling of PVC textile composites in short circuit by coating processes.

Budget: €900K  
Number of partners: 4  
Markets: transport, protection

\* Co-funded by the COSME programme of the European Union

\*\* Funded by the European Union

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## PROJECTS ACCOMPANIED BY TECHTERA AND LED BY OUR MEMBERS PRESENT AT TECHTEXTIL



### OZONE: developing smar devices for the treatment of air and surfaces and surfaces with ozone

The teams of the VirPath academic research laboratory and Fotia DMT, through its fotiozone.com brand, are partners in a collaborative public-private project, OZONE. Based on several technological innovations and the synergy of the partners' expertise, the aim of the project is to meet a health safety need by developing effective, controlled microbiological decontamination solutions that respect the safety of workers and the environment.

The companies Pierre Martinet and François Cholat, as well as the Nord-Dauphiné Hospital Group (GHND), will carry out tests in real-life situations of the decontamination devices and processes developed within the framework of the collaborative project. Certified by the innovation clusters Lyonbiopôle Auvergne-Rhône-Alpes (health) and Techtera (textiles),

the OZONE project is the winner of the of the 2021 R&D Booster call for projects, supported by the Regional Innovation Fund of the Auvergne-Rhône-Alpes Region and Bpifrance. This programme finances collaborative R&D projects projects that fit into the Domains of Excellence (DOMEX) of the Regional Regional Strategies for Higher Education, Research and Innovation (SRESRI) and for Economic Development, Innovation and Internationalisation (SRDEII) and which aim to develop new products, processes or services with the purpose of launching them on the market in the short term.

Fotia DMT, leader of the OZONE project, will rely on VirPath's BSL-2 and BSL-3 laboratories and its VirNext technological research platform within the Lyonbiopole Auvergne-Rhône-Alpes Innovation Center. This collaborative academic and industrial project addresses a major challenge in the search for innovative technological solutions to current and future health issues, and positions the clusters and the Auvergne-Rhône-Alpes Region at the forefront of the fight against the spread of pathogenic microorganisms, such as epidemic and pandemic respiratory viruses, and bacteria responsible for nosocomial and multi-resistant antibiotic diseases

MORE INFORMATION?

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## PROJECTS ACCOMPANIED BY TECHTERA AND LED BY OUR MEMBERS PRESENT AT TECHTEXTIL



### MIROIR: developing solutions for the metallisation of innovative and resistant flexible materials

In order to face the increased competition due to the migration of a significant part of the world textile production to emerging countries, SMEs in the French textile industry have had to evolve their activity towards high added value areas such as luxury and technical textiles. However, these two areas are also extremely competitive. Maintaining their position requires major investments and a constant search for innovation. The production of metallised fabrics is a cross-cutting objective in both fields. Metallization is sought for aesthetic reasons in the first case, and technical reasons in the second.

Metallization allows the development of various functions: electromagnetic shielding, electroconductivity, anti-static, antistatic, etc, anti-static, thermal protection or even antibacterial functions.

The MIROIR project aims to design innovative metallised textiles that are resistant to washings and real-life conditions of use conditions of use, while maintaining their

aesthetic and functional properties. These new textiles will be produced using a roll-to-roll an eco-responsible roll-to-roll process continuous mode.

The textile products developed by the consortium members thanks to the metallization solutions will be diverse: metallized textiles, bias and tapes. These will be the basis for finished products such as personal protective equipment (PPE) for industry, the fire service and the army - tapes for luxury packaging - but also by-products such as bias for the production of PPE or saddlery.

#### Project partners:

- ISA laboratory (Claude Bernard Lyon I University),
- IFTH, French Institute of Textiles and Clothing,
- HEF-IREIS (project leader),
- Science & Surface
- AJ Biais
- Europrotect France
- Julien Faure.

**Overall budget:** €3.18M

**Labelling:** Techtera (co-labelling: Cimes)

MORE INFORMATION?

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PROJECTS ACCOMPANIED  
BY TECHTERA AND LED BY  
OUR MEMBERS PRESENT AT TECHTEXTIL



### TRIMETIS: developing a new technology for the functionalisation of polymer yarns

Current technologies for the functionalisation of polymer yarns are mostly not environmentally friendly and do not apply to all types of yarns. In the TRIMETIS project, the aim is to build on existing technologies from other fields and adapt them to the textile sector in order to obtain innovative effects on new surfaces. Thus, TRIMETIS aims to develop a new technology for the functionalisation of polymer yarns and filaments with the possibility of integrating different types of additives for the manufacture of yarns on request. The final purpose is to manufacture rigid or elastic, functionalised and customised yarns on demand. The technologies developed will be implemented in a pilot plant integrating equipment for the formulation and prototyping of yarns.

This project will also initiate the emergence of a sector on the theme of the func-

tionalisation of yarns for covered yarns and to develop processes that are more respectful of the environment: less water consumption, low energy consumption and no volatile organic compounds. These functionalised yarns are intended for technical markets where the demand for personalisation is high, such as medical, well-being, sports and leisure, technical protection equipment, furniture and transport. Two main markets are targeted for the use of the developed yarn: medical and sportswear. This project (2.986 million euros) brings together 3 partners: IS2M - Institut de Science des Matériaux de Mulhouse, the companies Massebeuf Textiles and E-Text.



MORE INFORMATION?

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PROJECTS ACCOMPANIED  
BY TECHTERA AND LED BY  
OUR MEMBERS PRESENT AT TECHTEXTIL



### AEROTEX: towards more efficient thermal insulation solutions

The AEROTEX project (€928,000), led by the company Fibroline, brings together six industrial partners and laboratories with the ambition of developing new industrial manufacturing processes for high-performance flexible textile materials for three key markets: personal protective equipment (PPE), outdoor sports and construction.

The companies Millet Mountain Group (sports), Balsan (PPE) and P.E.G. (construction) are collaborating with technology suppliers Enersens (aerogel-based insulating materials), Fibroline (eco-sustainable dry impregnation technology) and the CETHIL UMR5008 (CNRS, INSA-LYON, Lyon 1 University - an energy and thermal laboratory). The companies Millet Mountain Group (sports), Balsan (PPE) and P.E.G. (construction) are collaborating with technology suppliers Enersens (aerogel-based insulating materials), Fibroline (eco-sustainable dry impregnation technology) and the CETHIL UMR5008 (CNRS, INSA-LYON,

Lyon 1 University - an energy and thermal laboratory). The products developed will provide a real breakthrough in the field of insulation, in markets that require both cutting-edge technology and materials that are highly adapted to use, with increased conformability, lightness, comfort and ease of use, comfort, and ease of application.

Silica aerogel is an innovative, ultra-insulating, very light, hydrophobic, water vapour permeable and non-flammable material. These properties make it an ideal candidate to improve the thermal insulation performance of many products. The aim is to combine these aerogels with FIBROLINE's innovative dry impregnation technology. Materials with high performance in terms of thermal insulation, lightness, thinness and flexibility will be developed for applications in the fields of protective clothing, sports and leisure and construction. The project will also integrate the modelling dimension. It will thus result in several demonstrators at the end of the project.

MORE INFORMATION?

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## COMPANIES' NEEDS IN BUSINESS DEVELOPMENT

- **Reach relevant contacts:** create partnerships, extend and/or consolidate its client portfolio, meet with contractors.
- **Better understanding of the market:** discovering new application markets, keeping abreast of evolutions and major new developments in the industry.
- **Market innovations:** present its products and innovations on key industry events or through a direct approach to validate the right targets.
- **Develop its notoriety in France and abroad.**

## TECHTERA'S ANSWERS

### Launch its innovations

Techtera aims to inject innovation into the markets. The cluster seeks to transform the collaborative projects it has supported so that the resulting innovative products, processes and services can exist in the markets and be economically viable.

In order to help the innovations find their way into the markets, the cluster offers companies a variety of tools adapted to their needs, enabling them to identify potential new applications, approach targets to validate market potential and gather technical and market information.

### Market studies

Techtera leads several market studies per year to allow its members to apprehend the opportunities of textile applicative markets abroad.

Sessions were organised around the Japanese market, one on the transport sector and the other on health and well-being, around the German market, Israeli market, Korean, the United States...

### Collective missions

Techtera organises collective missions abroad allowing the participants (companies, laboratories, universities) to engage in various actions: technological and commercial monitoring, business development, identification of partners, network development. Many missions have already taken place in Japan, Korea and Taiwan, Germany, Israel, Mexico, the United States...

### Exhibitions

Techtera supports its members for marketing, communication and logistics at major international trade shows in the textiles and composites sector.

### Competitiveness Workshops

The objective of the Competitiveness Workshops is to increase the innovation and market skills of companies and give them keys to read their competitive environment.

## MORE INFORMATION?

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## In 2021: 29 workshops

### 11 Innovation workshops

- Printed electronics
- Biosourced materials
- Polymers for sports and leisure applications
- Alternatives to fluorinated products
- Monitoring and research of solutions in relation to the recycling of elastane
- Impact of the pandemic on R&D in the textile sector in the framework of EU-TEXTILE 2030 and CONTEXT<sup>1</sup>
  - Textiles & acoustics
  - Textiles & energy
- Potential of vitrimers in textiles
- Potential of additive manufacturing: flexible materials and smart textiles
- Sectoral project: elastane recycling: what solutions?
- Sustainable development, valorisation of textiles and flexible materials in partnership with the Pôle Textile Alsace

### 12 Competitiveness Workshops

- Textiles tomorrow and the circular economy with CIRIDD, the Auvergne-Rhône-Alpes Region, the Metropolis of Lyon and Unitex
- Morning sessions presenting Horizon Europe calls
- Discovery of the regional digital campus
- Maintaining R&D jobs
- DGA call for expertise: innovations for the flexible protection of the combatant
- European Defence Fund
- TechteraFab: service offer
- Horizon Europe: call for projects 2022
- Keys to successful fundraising

- ERP: keys to a successful implementation in your structures
- How to meet the challenge of mass customisation in an industry of the future approach
- European funding for smart textiles and testimonials in the framework of CONTEXT

### 4 Market exploration

- Materials watch: smart textiles for health, construction, PPE, sports and transport as part of the CONTEXT project
- PPE watch: overview of the German PPE market
- Creative watch: Trend Programs
  - Fashion trends
  - Decoration trends
  - Megatrends
  - Première Vision trends Meeting
- Sports watch:
  - Sustainability and innovation, the challenges of textiles for the sports and clothing markets (Performance Days, FashionSustain conferences and Frankfurt Fashion week)
  - German sports textiles market

### 6 creative trends programme workshop

- 2 fashion workshops: analysis and trends
- 2 decoration workshops: decoding home trends
- 2 360° workshops: markets and megatrends

<sup>1</sup> The Context project aims to set up networking activities for scientific and industrial experts in the field of smart textiles. Context brings together experts from 35 different countries with the aim of generating research, development and innovation projects at European level in the smart textiles sector.



# techtera



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