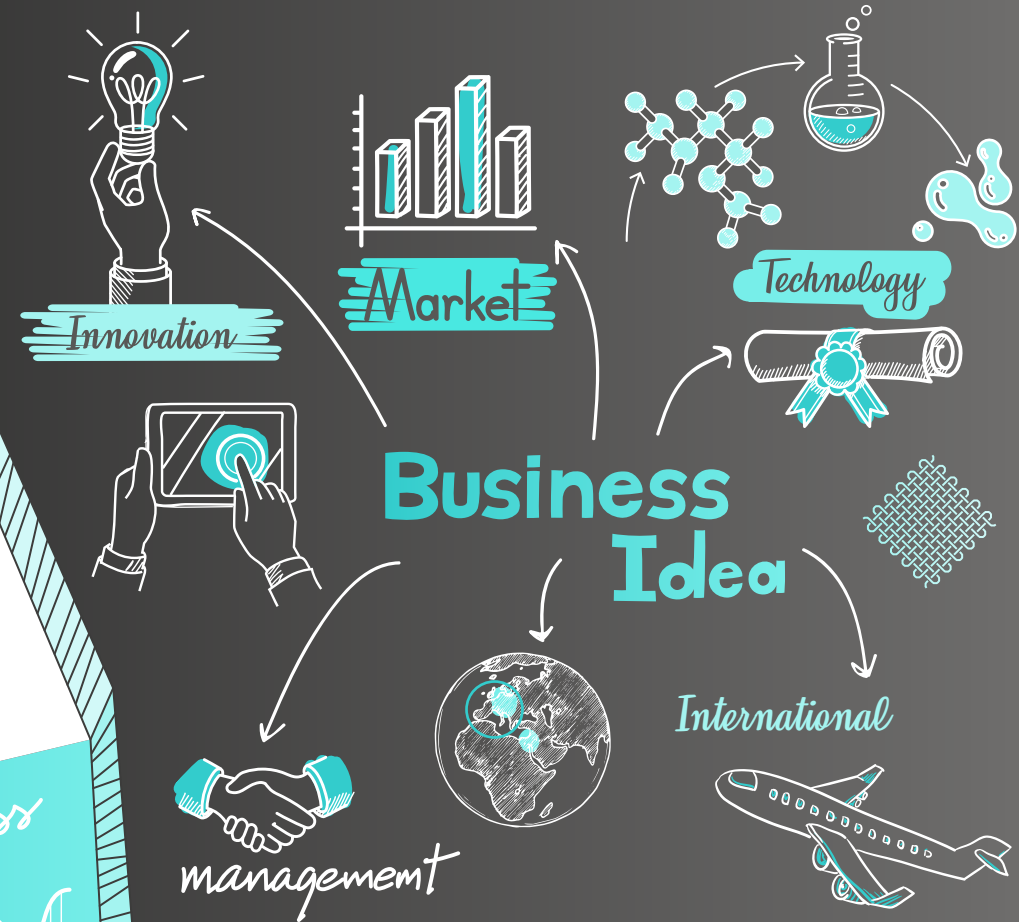
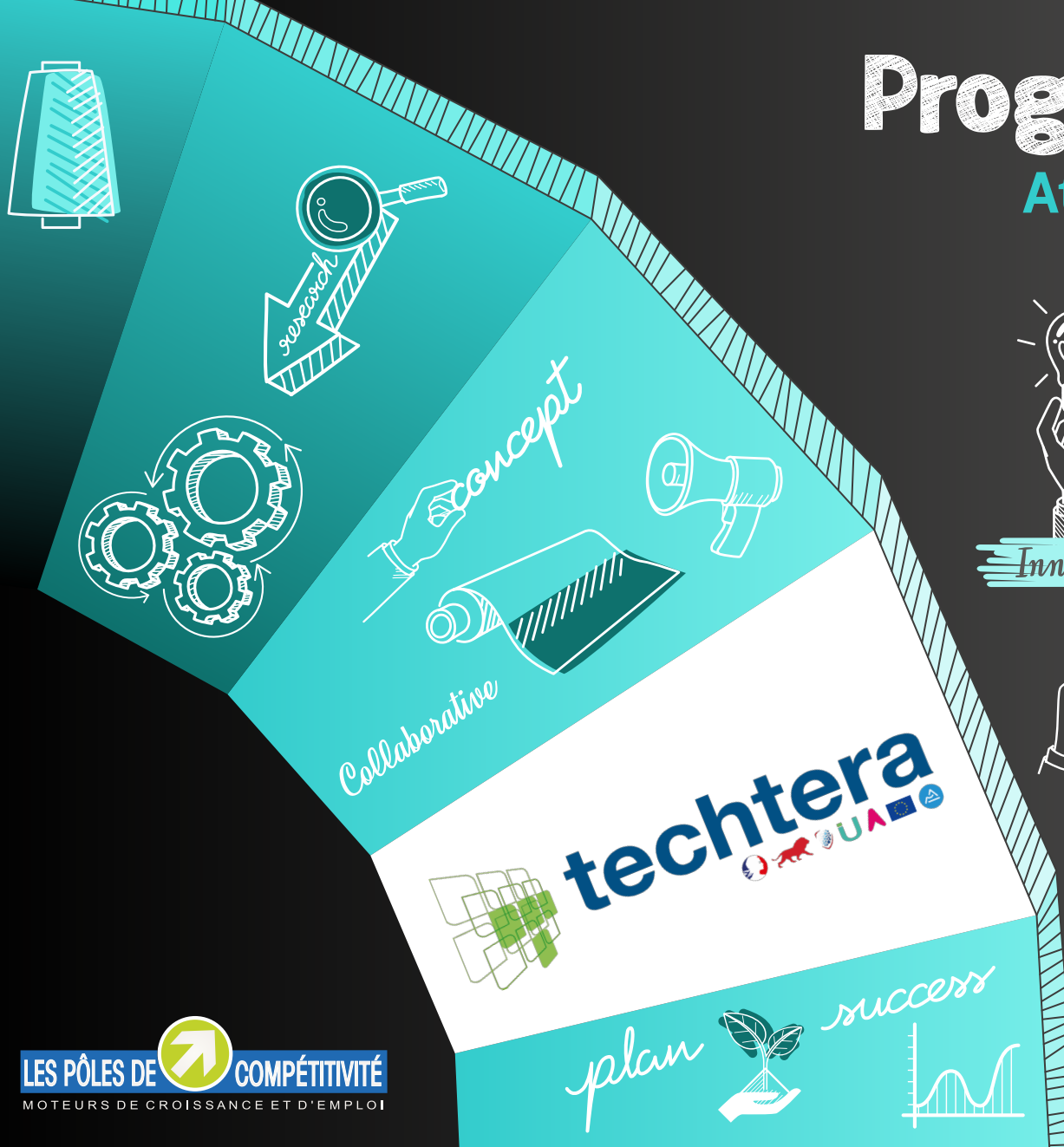


Progress report 2021

At the heart of textile evolution



A word from the president



Dear members,

Since its creation, Techtera has always been a fertile melting pot for innovation: encouraging the development of new technologies, supporting new areas, anticipating new constraints and building on them to foster new opportunities. This great collaborative energy developed within the cluster is a fantastic stimulus to innovation and value creation.

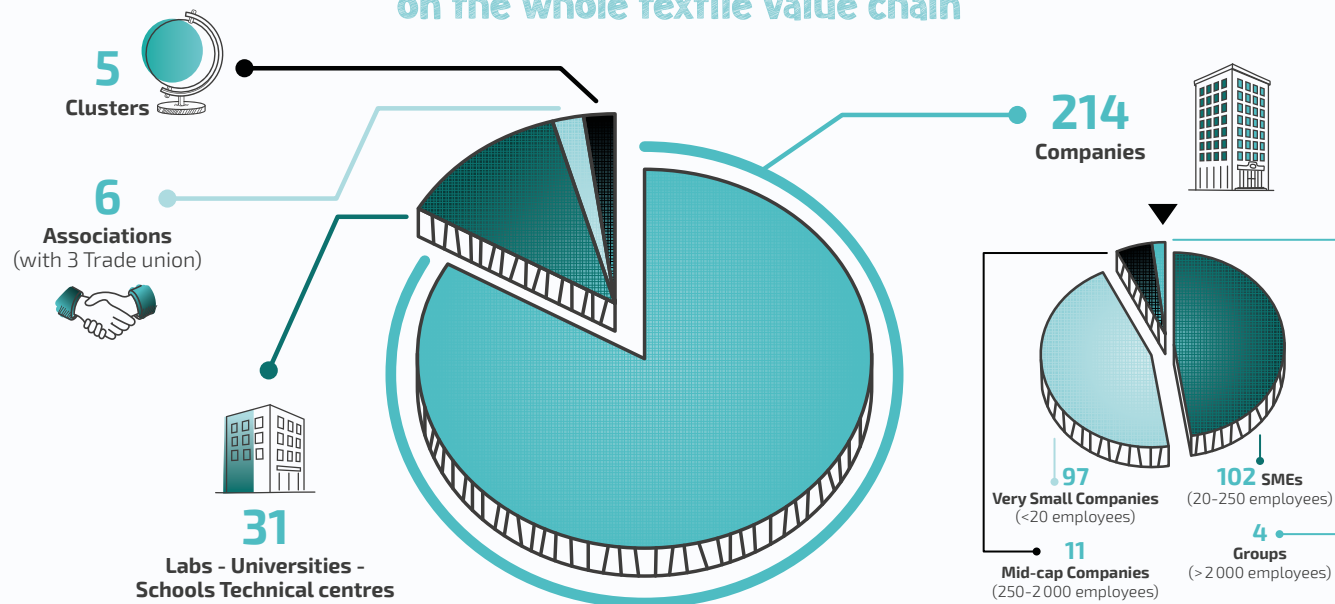
You will find out about these actions and enthusiasm within this report, thanks to the initiatives launched in 2021, and which respond to our strategic roadmap. Here are some examples:

- ✓ A stronger Europe thanks to interclustering projects promoting transnational cooperation between European clusters.
- ✓ Reaffirmation of the place given to digitalisation and processes with the creation of the ICI 4.0. club, dedicated to Industry of the Future in the textile sector.

Figures of the year 2021



258 members, on the whole textile value chain



✓ Greater commitment to sustainable development and the circular economy through calls for projects and the organisation of workshops, especially on the issues of sustainability and textile innovation ...

The year 2022 will also be an opportunity for us to rethink our roadmap with a programme for the years 2023 to 2027. We will obviously call on you to respond to your new requirements for cooperative innovation and development.

Finally, leaving the presidency after 10 years of involvement, I wanted to end this editorial with a “big thank you” to everyone with whom I had the chance to work and grow. I add a little personal touch with a special “Thank You” to the Techtera team and the administrators.

I wish you all the very best.

Louis Vovelle – President

CERTIFICATIONS:

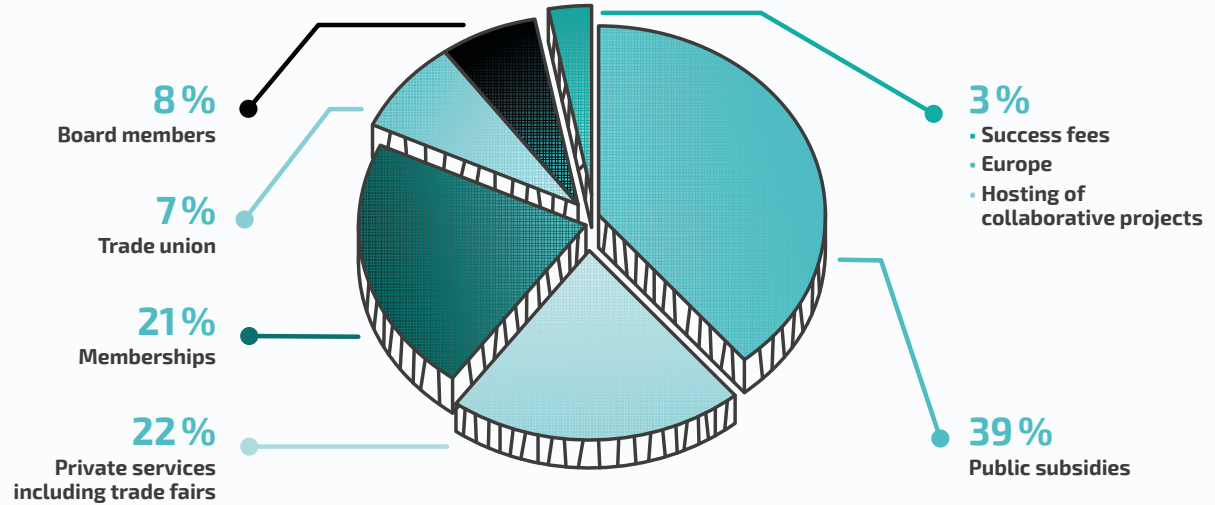


The ISO 9001 for TECHTERA's quality management system.

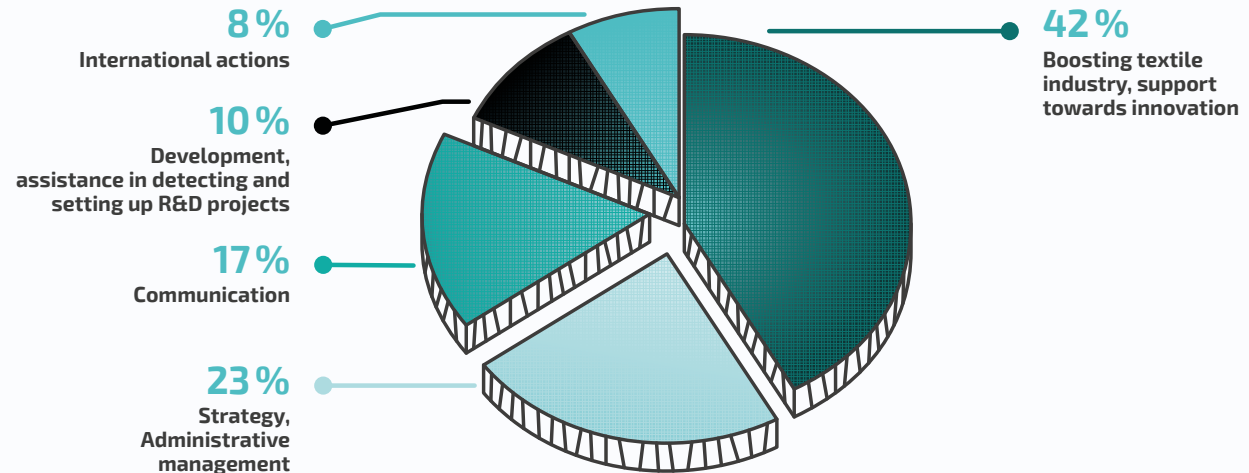


The European Cluster Management Excellence Label Gold for Techtera's highly sophisticated management and dedication to continuous improvement.

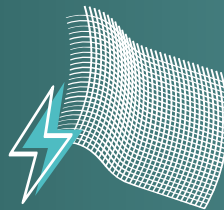
Resources



Actions



- ✓ Printed electronics
- ✓ Biosourced materials
- ✓ Polymers for sports & 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
- ✓ Textiles & Acoustics
- ✓ Textiles & Energy



- ✓ 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

Innovation workshops Themes launched

Competitiveness Workshops

Do the groundwork

Prepare the land to make your development projects fertile!

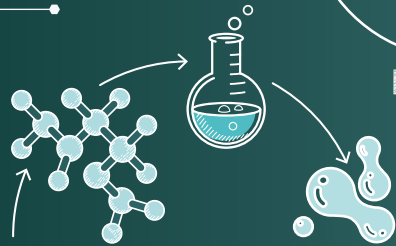
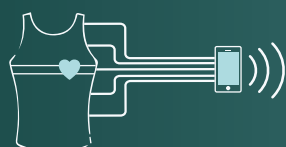
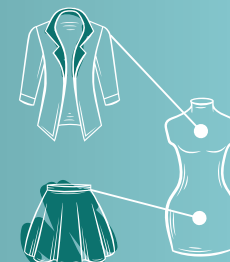
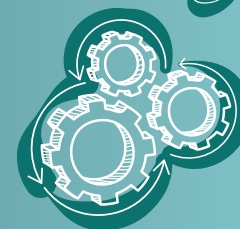
Market exploration

- ✓ **Materials watch:** smart textiles for health, construction, PPE, sport 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

- ✓ **Sport 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



Quantified focus

10
TECHNOLOGY-WATCH
results

362
PARTICIPANTS
in market and
creative watches

>1400
PARTICIPANTS
in «groundwork»
actions

Fibres & Talents contest: to promote the innovation projects of students

The textile sector is constantly renewing itself! Today's students are our talents of tomorrow. Techtera has organised its **first Fibres & Talents contest to highlight student textile innovation projects**. This is a great opportunity to promote the diversity of training courses required by the textile industry: design, scientific and technological studies, engineering studies, research degrees, etc.

3 Techtera prizes and 3 sponsor prizes (totaling more than €2,000 in rewards and lots of publicity for the winners) were awarded during the event of July 22, 2021.

The 6 winners, from the three major textile regions of France and the Île-de-France area, presented **very diverse projects in three categories – key areas of textile innovation for the innovation cluster:**

- ✓ Advanced materials and high-performance materials (including smart textiles). Sponsor: ELKEM SILICONES
- ✓ The circular economy and new business models. Sponsor: PORCHER INDUSTRIES
- ✓ The industry of the future and digitisation. Sponsor: SCHAEFFER PRODUCTIQUE

Congratulations to all and a big thank you to the sponsors!

Facilitate the emergence of projects in the security sector with the DGA (French Ministry of Defence)

Techtera, a partner of the French Ministry of Defence, launched a call for expertise concerning **flexible protection of combatants** as part of the Centurion programme. About fifty industrial and academic organisations came forward. The first developments, which should begin in 2023, will make it possible to **perfect, by 2030, the equipment for the soldiers of the future**.

Market and technology watch: a fine opportunity for questioning your strategy

In order to better understand **the issues and developments in the textile application sectors**, Techtera has organised several **monitoring surveys on events and targeted markets:**

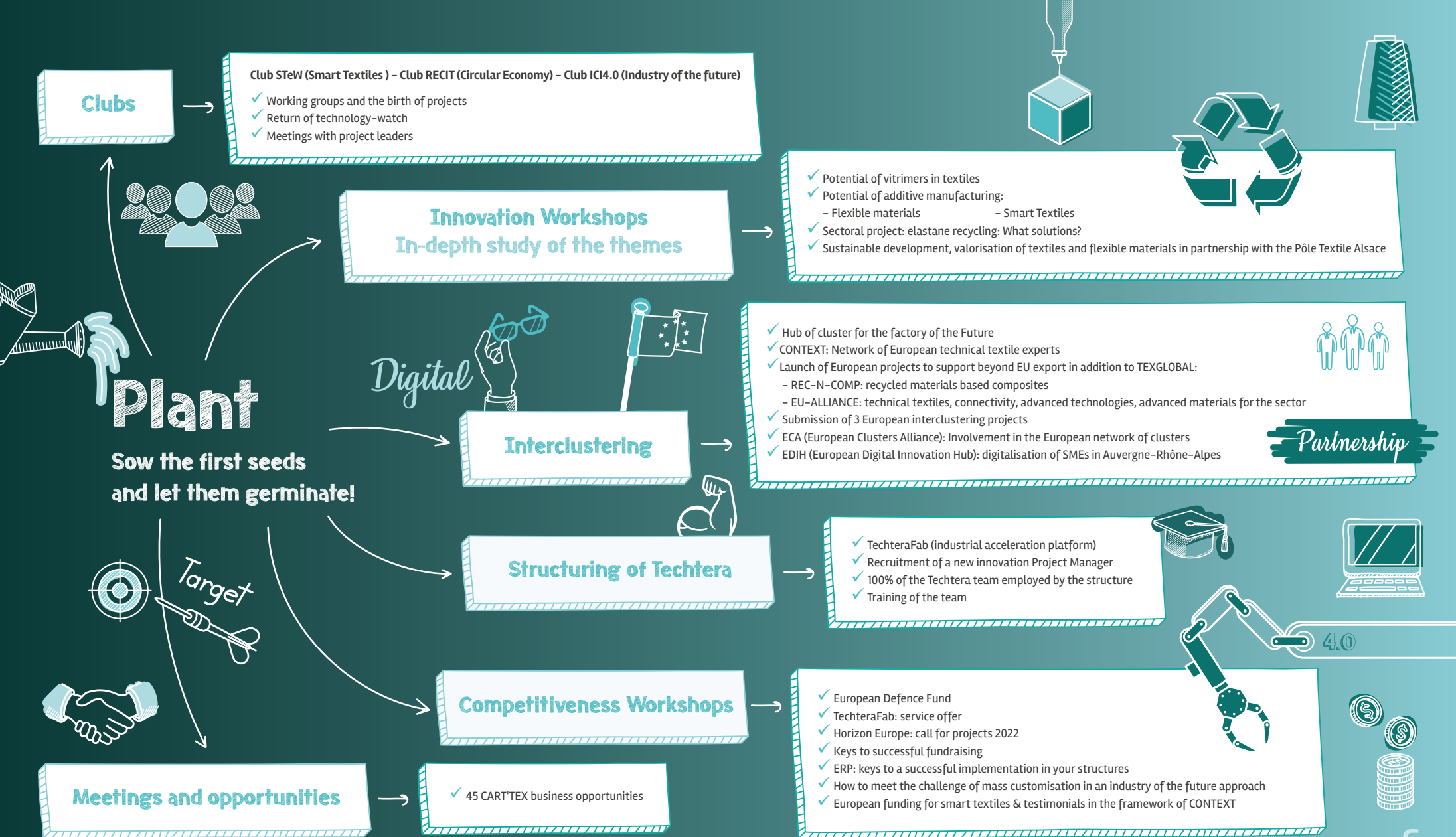
- ✓ The Performance Days trade fair and the FashionSustain conference on the themes of sport, clothing and sustainability,
- ✓ The German PPE market,
- ✓ The German market for sports textiles,
- ✓ Creative watch.

Textiles Tomorrow and the Circular Economy: topic at the heart of textile evolution

This second edition, organised in partnership with UNITEX, CIRIDD, Campus Text'in, and financed by the Auvergne-Rhône-Alpes Region and the Lyon metropolis, brought together **185 people around the themes of the sustainable production of biosourced textiles, the upgrading of unsold items and production offcuts**.

A winning three-part strategy to redesign the textile sector of tomorrow: round tables, BtoB meetings and a Hackathon. **New to the edition:** the **Hackathon**, organised by the "Fabrique de l'Innovation" (University of Lyon), was dedicated to students in order to propose **innovative solutions in team mode based on the major challenges of the textile industry**. It was a burst of energy and creativity concentrated within 48 hours.

Building on its success, the format will be renewed for the 2022 edition.



Quantified focus

16
PROJECTS
labelled

33
PROJECTS
including
13 EUROPEAN
PROJECTS
submitted

586
PARTICIPANTS
in the «plant» actions

European Projects Partnerships: Great for fostering internationalisation

EU-ALLIANCE, new international opportunities for dual-use materials and technologies

The EU-ALLIANCE European project, of which Techtera is the coordinator – with five partner clusters – was officially launched on September 15, 2021. This 2-year project will offer opportunities for the development of intra-European and extra-European cooperation in the markets of Defence and Security. The objective of the cluster and its partners is to **support the internationalisation of small/medium enterprises in the fields of technical textiles, connectivity, cutting-edge technologies and advanced materials, in order to reach dual-use markets Defence/Security** in four targeted countries: **USA, Canada, Japan and Indonesia.**



Rec-N-COMP, towards the internationalisation of European technologies for more sustainable composites

Techtera is a partner of the **REC-N-COMP** interclustering project, aimed at supporting the internationalisation of European small/medium enterprises whose activities relate to the **manufacture of composites based on recycled materials, including textiles.** A joint internationalisation strategy will be developed and tested, targeting three countries: **USA, Japan and Singapore.** A market study will be carried out for each country and a mission organised, with the possibility for fifteen small/medium enterprises to participate in these trips as from the second half of 2022. Through this project, which will end in the spring of 2024, the innovation cluster is building **cooperation with four European textile counterparts.**



Industry of the Future & Techtera: fertile ground for tomorrow's textile industry

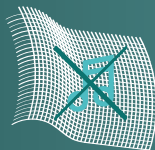
Industry of the Future is **one of the three strategic axes of Techtera's roadmap.** In 2021, as part of the **ICI4.0 Club**, members defined the specificities of Industry of the Future applied to textiles. They were particularly interested in ERP (digital transformation tools). A visit to the **regional digital campus** was organised and **several projects were highlighted.**

In the Auvergne-Rhône-Alpes Region, the **theme of mass personalisation** was developed within the framework of all the innovation clusters working on Industry of the Future.

Also, on a European scale, Techtera is involved in **the establishment of two European Digital Innovation Hubs (EDIH).** The purpose of these groups is to constitute a **single organisation**, physical or virtual, aimed at connecting companies to the resources and ecosystems they need **to succeed in their digital transformation.**



- ✓ Textile & Acoustics
- ✓ Textiles and the challenges of a clean city
- ✓ Microplastic release from textiles
- ✓ Alternatives to fluorinated products
- ✓ Heated textiles in the framework of CONTEXT
- ✓ Anti-cutting textiles
- ✓ In partnership with the Pôle Textile Alsace – Recovery and recycling of production waste
- ✓ In partnership with OSV – Innovative alternatives to waterproof and breathable membranes
- ✓ Recycling of technical textile fibres
- ✓ Development processes for functional and sustainable regenerated cellulose fibres
- ✓ Support to the international collaborative network for silk actors (Silky cities)
- ✓ Resilience and dual transition for textile retail



Techtera interventions:

- ✓ Textival: business meeting and conference on the Industry of the Future
- ✓ MecaPlasTronic: B2B trade fair & conference dedicated to Mechatronics, Plastronics and printed electronics
- ✓ 9th international conference on applied research & materials (Tunisia): networking activities on smart textiles in the framework of CONTEXT
- ✓ EUTT (European Industrial Exchange on Technical Textiles) – Conference on "Effect of pandemics on innovation" chair of the session on digitalisation

Increased visibility of the textile sector and members:

- ✓ Creation of a new website
- ✓ Press relations: Projects press releases and press kits
- ✓ Event communication
- ✓ Monthly newsletter (French, English, Japanese)
- ✓ Development of a digital community on social networks



Workshops Resulting from the Innovation Workshops

- ✓ Partnerships
- ✓ Identification of funding
- ✓ Opinion of the Innovation Commission
- ✓ Labelling

- ✓ A+A (PPE)
- ✓ Medica (Health)
- ✓ Performance Days (sport, functional textiles)
- ✓ TEXTIVAL (Textiles and flexible materials Business meetings)

Innovation projects and results - Communication and Dissemination

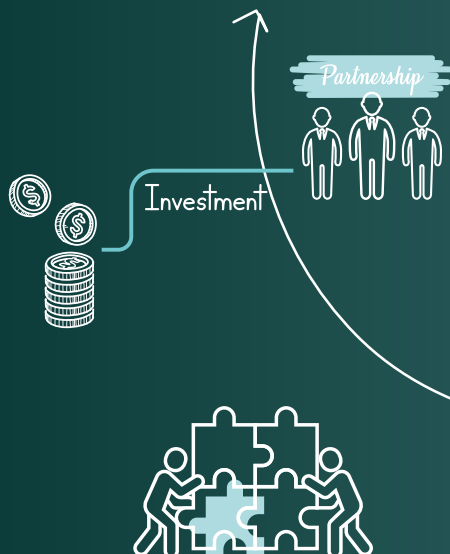
Project support

Support for international trade fairs



Ripen

Take care of flowering
to ensure fruitful development!



Quantified focus

16
financed
PROJECTS
labelled by Techtera

Since 2005,

243
PROJECTS
financed

for an
amount of
618,7
MILLION EUROS

R&D projects funded


CALME — Create an innovative system of multifunction facade cladding with a mineral appearance, for renovation and new construction.

Market:  **Budget:** 2.99 million €
Funding: PSPC Regions, Auvergne-Rhône-Alpes Region

CODETEX — Develop decontamination systems for fire-fighters' clothing (dirty with soot, deposits of all kinds).

Market:  **Budget:** 1 million €
Funding: R&D Booster, Auvergne-Rhône-Alpes Region

CONVERTIR — Develop an innovative textile production tool for the manufacture of carbon fibre-based materials.

Market:  **Budget:** 2.16 million €
Funding: French recovery plan


DIAGONAL — Develop “safe by design” systems based on nanomaterials for the functionalisation of products.

Markets:      
Budget: 6.34 millions €
Funding: Europe H2020


DYNAMIC MOLDING — Develop an innovative moulding process by 3D printing.

Markets:   **Budget:** 1.03 million €
Funding: PIA Concours Innovation ILAB

GAFAC — Replace traditional resins by mineral resins for composites used in the building sector (facade coating, etc).

Market:  **Budget:** 500 000 €
Funding: Pack Ambition Recherche, Auvergne-Rhône-Alpes Region


LACTIF — Imagine and develop innovative systems based on high-performance materials for the protective equipment sector.

Markets:   **Budget:** 610 000 €
Funding: ANR Labcom

OZONE — Develop and qualify a device for treating air and surfaces including textiles with ozone.

Market:  **Budget:** 990 000 €
Funding: R&D Booster, Auvergne-Rhône-Alpes Region


PRISMA — Deploy intelligent processes, and nomadic online analyses in real time.

Market:  **Budget:** 3.98 million €
Funding: PIA3 Régionalisé, Auvergne-Rhône-Alpes Region


RESOL — Develop recycling units for the textile and composite materials sector.

Market:  **Budget:** 900 000 €
Funding: R&D Booster, Auvergne-Rhône-Alpes Region

REVIEN — Develop systems for recycling PVC-based flexible composites.

Market:  **Budget:** 1.85 million €
Funding: PSPC Régions, Auvergne-Rhône-Alpes Region

SENTMI — Develop textile-based systems to control the stock of French infrastructure and organisations, with a view to preventing incidents.

Market:  **Budget:** 2.28 million €
Funding: PSPC Régions, Auvergne-Rhône-Alpes Region

SYMPHONIES — Design new compression products and digital services based on new “green” manufacturing processes.

Market:  **Budget:** 10.54 million €
Funding: PSPC

TEXTILIA — Integrate artificial intelligence technologies into the textile production tool, with a view to digitising the value chain.

Markets:   **Budget:** 3.16 million €
Funding: PIA3 Régionalisé





Located in the heart of Paris, “La Caserne” is a **sustainable fashion accelerator hub**. Techtera is present at La Caserne and already supports several companies in its **showroom via a fabric library dedicated to eco-responsible materials**. The purpose is to provide manufacturers with a **meeting place for the textile industry and the various brands**, where they can benefit from the emulation of La Caserne and its ecosystem. It also makes it possible to show **collections and to communicate about exhibitors’ materials**.



Supporting the textile industry to Europe

A strategy that is bearing fruit!

Textiles: One of Europe's fourteen priority sectors!

The European Union has redefined its strategic objectives and means of action to support European industry.

Objectives: improve Europe's resilience, reduce its dependence on external supplies, and promote the climate and digital transition.

Fourteen key ecosystems, including textiles, have been listed. For Techtera, this translates into an intensification of activities linked to European cooperation, with a dual role:

- ✓ As an innovation cluster and head of the network, contribute to this implementation thanks to its expertise,
- ✓ Provide its members with the benefits of the actions implemented and opportunities for being involved in European projects and initiatives.

Horizon Europe - European funding opportunities: “Allo PCN”!

The European Union's framework programme – Horizon Europe – **funds European research and innovation projects over the period 2021–2027** through calls for proposals.

In order to provide **local support for the French community** wishing to submit projects, the Ministry of Higher Education, Research and Innovation (MESRI) has **deployed a team of National Contact Points (PCN)**. Its main mission is to **help French communities to become aware of the programme's funding opportunities and to advise on its operating procedures**.

In this context, **Julie RAFTON-JOLIVET**, Business Development and International Director at Techtera, **has been appointed National Contact Point for Industry** and performs this mission 40% of her time. The textile sector can therefore once again count on Techtera to support it in its innovation projects – with a European dimension!

Calls for projects, representing opportunities for the textile industries, are identified for you

As part of Horizon Europe, **Techtera continues to decipher Calls for Projects relevant to the textile sector** (webinars in July and November, Europe ambition day). Several projects have been submitted on the development of composite material recycling demonstrators, bio-sourced materials, cellulose regeneration or the replacement of perfluorinated products. The cluster is confident about the funding of several of these projects and its participation as a partner in various services such as the dissemination of results.

Techtera roadmap

Projects maker - 3 technological axes -



Smart and
high-performance
materials



Circular Economy
and resources efficiency



Factory of the future and
new business models

TechteraFab : Industrial accelerator platform

Outreach and Business development



Increasing the
European dimension



Developing
cross-border
cooperation



Strengthening
the synergies of the sector



Identifying
collaborations with
the clusters of the region

Expertise and robust organisation, the key words for a long-lasting innovative cluster



Strengthening the Techtera
team of experts



Intensification of alliances
throughout France

Members 2021

3DEUS DYNAMICS — 3DITEX — 3F INNOVATION — ACCES — ACOUSTEAM — ACTIVATION — AD MAJORIS — AE2M — AERO TEXTILE CONCEPT — AET — AFELIM (ASSOCIATION FRANÇAISE DE L'ÉLECTRONIQUE IMPRIMÉE) — AFITEXINOV — AGENCE DU TRAVAIL D'INTÉRÊT GÉNÉRAL ET DE L'INSERTION PROFESSIONNELLE — AJ BIAIS — ALLIANCE MACHINES TEXTILES — ALPEX PROTECTION — ALSATHERM SERVICES — ALTHOFFER — ANDRITZ PERFOJET — APF ENTREPRISE ALSACE — APF FRANCE HANDICAP — ART MARTIN — ASSOCIATION POUR LA RECHERCHE ET LE DÉVELOPPEMENT DES PROCESS INDUSTRIELS — ASTRA — ATELIER SYSTÈMES DE PROTECTION — AUTHENTIQUE BRODERIE — AWAKE CONCEPT — AXEL'ONE — BALAS TEXTILE — BARDUSCH — BARRAL — BEFC — BELINAC — BLANCHARD TECH & YARNS — BLANCHISSERIE DU REFUGE (ASSOCIATION JEAN EUDES) — BLEUFORET — TRICOTAGE DES VOSGES — BOLDODUC — BROCHIER TECHNOLOGIES — CALDERA — CANOE (CENTRE TECHNOLOGIQUE NOUVELLE AQUITAINE COMPOSITES ET MATÉRIAUX AVANCÉS) — BG COUTURE — CAPI (COMMUNAUTÉ D'AGGLOMÉRATION PORTE DE L'ISÈRE) — CARLIHAN — CAWE FTB GROUP — CEA-LITEN — CERMAV-CNRS (CENTRE DE RECHERCHES SUR LES MACROMOLÉCULES VÉGÉTALES) — CETI (CENTRE EUROPÉEN DES TEXTILES INNOVANTS) — CHAMATEX — CHAVANNOZ INDUSTRIE — CHEMICA — CHOMARAT TEXTILE INDUSTRIE — CIMES — CLUSTER MONTAGNE — CNRS INSTITUT CARNOT MICA —

COLORATHUR — CONSEIL RÉGIONAL AUVERGNE-RHÔNE-ALPES — CORDERIE MEYER-SANSBOEUF — COUBLANC TEXTILES — CRÉATION ET IMAGE PARIS — CROUVEZIER DÉVELOPPEMENT — CTIPC — CTMI (COTTON TEXTILES MATÉRIAUX INNOVANTS) — CTP (CENTRE TECHNIQUE DU PAPIER) — CTTN - IREN — DAR — DE FIL EN AIGUILLE — DENIS ET FILS — DEVEAUX — DIATEX — DITF (DEUTSCHE INSTITUTE FÜR TEXTIL- UND FASERFORSCHUNG DENKENDORF) — DMC — DOLLFUS & MULLER — DORIAN CAYOL / QUENTIN BARRALON — DS + M PORCHERET — DUTEL — ECLG — ÉCOLE CENTRALE LYON — ÉCOLE NATIONALE DES TRAVAUX PUBLICS DE L'ÉTAT — ÉCOMOBILIER — EFFBE FRANCE — ELKEM SILICONES FRANCE — EMANUEL LANG — ENERSSENS — ENISE — ENNOBLISSEMENT TECHNIQUE DE CERNAY (ETC) — ENSAD (ÉCOLE NATIONALE SUPÉRIEURE DES ARTS DÉCORATIFS) — ENSAIT — EUROPROTECTFRANCE — ÉVÈNEMENTIEL EN VAL D'ARGENT — EVENT DRESS CODE — EXTRACTHIVE — FAIRBRICS — FESTO — FIBROLINE — FILATURE DE LAINE PEIGNÉE D'AJOIE (FLASA) — FINAL ADVANCED MATERIALS — FK EUROPE — FONTANILLE SCOP — FOTIA DMT — FREUDENBERG PERFORMANCE MATERIALS — FRIP'VIE — GARNIER-THIEBAUT — GEORGES G — HTCD (HEIM TEXTILE CONCEPT ET DIFFUSION) — HENITEX INTERNATIONAL — HERAUD RUBANS — HOLDING TEXTILE HERMES — HOLOMAKE — HUGOTAG ENNOBLISSEMENT — IDO-DATA — IJM — INGENIERIE@LYON — INNOTHERA NOMEXY — INSA DE LYON — INSTITUT DE RECHERCHES EN INGÉNIERIE DES

SURFACES — IFTH (INSTITUT FRANCAIS DU TEXTILE ET DE L'HABILLEMENT) — INSTITUT FÜR TEXTILTECHNIK DER RWTH AACHEN UNIVERSITY — ISABELLE LAURENT STYLE — ITECH — JACOB HOLM INDUSTRIES FRANCE — JEPLAN — JET METAL TECHNOLOGIES — JRC REFLEX — JULIEN FAURE — KAYSER FILTERTECH — KERMEL — KEYBOP CONSEIL — KURARAY — LA FABRIQUE — LA MORETAINE — LABONAL — LABORATOIRE GÉNIE DE PRODUCTION (ÉCOLE NATIONALE D'INGÉNIEURS DE TARRES) — LABORATOIRE INTERUNIVERSITAIRE DE BIOLOGIE DE LA MOTRICITÉ — LABORATOIRE ITODYS (INTERFACES TRAITEMENTS ORGANISATION ET DYNAMIQUE DES SURFACES) — LABORATOIRES INNOTHERA — LPMT (LABORATOIRE DE PHYSIQUE ET MÉCANIQUE TEXTILES) — LE JACQUARD FRANCAIS — LES MOULINAGES DE RIOTORD — LES TISSAGES DE CHARLIEU — LESAGE PARIS — LYCÉE LA MARTINIÈRE DIDEROT (PLATEFORME TEXT'IN) — LYON INGÉNIERIE PROJETS — MAILLE VERTE DES VOSGES — MAISON TROGLER — MANUFACTURE HARTMANN — EURO TF — MANUFACTURES DE MODE — MAPA — MAPEA — MARCK & BALSAN — MARDUEL — MASSEBEUF TEXTILES — MATÉRIELS INDUSTRIELS DE SÉCURITÉ — MDB TEXINOV — MECANIUM — MELROSE STUDIO — MILLET MOUTAIN GROUP — MITWILL TEXTILES EUROPE — MOBIL ELASTO FRANCE — MONTDOR — MORAH — MOULINAGE DU SOLIER — N. SCHLUMBERGER — NCV INDUSTRIES — NDS ELECTRONICS — NORMALU — NOSC — OPENFAB

— O.E.A. (OURDISSAGE ENCOLLAGE D'AMPLEPUIS) — ORION — OTEGO — OUATINAGE D'ALSACE — OUTDOOR SPORTS VALLEY — PALO IT — PARADOX — PHILEA TEXTILES — PMG ARDECHE — POCKUS CONSEIL — POLE TEXTILE ALSACE — POLYMAGE — POLYMERIS — PORCHER INDUSTRIES — PORCHER TISSAGES — PRONEEM — PROTECHNIC — RINCO ULTRASONICS — ROBERT LEVY — ROVITEX — SABLE CHAUD — SAERTEX FRANCE — SAMAYA — SASYTEX — SATAB — SCHAEFFER PRODUCTIQUE — SCHAPPE TECHNIQUES — SEFAR FYLTIS — SEMPATAP — SENFA (DUBIN HASKELL JACOBSONDISTRIBUTION FRANCE DAVAL ASH) — SEPARATIVE — SERGE FERRARI — SERICENTER — SERMA TECHNOLOGIES — SFIP (SOCIÉTÉ FRANÇAISE DES INGÉNIEURS DES PLASTIQUES) — SIGVARIS — SIMP ORTHO — SME SOFT MATERIALS ENGINEERING — SO3D — SOFILA — SOFILETA — SOLAR CLOTH SYSTEM — SOLARMTEX — STEVTS — SULITEC — SUPPLEO — TAT — TECHNI SANGLES — TENTHOREY — TEXTI SONICS — THANN TEXTILES — THUASNE — TICA LAB — TIL — TISSAGE DU MOULIN — TISSAGE MOULINE THILLOT — TISSAGES L. RECORBET & FILS — TISSUS GISÈLE — TLC SYNERGIES — TOILTECH — TOPTEX CUBE — TRIUM TECHNOLOGY — TRIUS SAFETY — UIT (UNION DES INDUSTRIES TEXTILES) — UFIMH (UNION FRANÇAISE DES INDUSTRIES MODE ET HABILLEMENT) — UNITEX — UNIVERSITÉ CLAUDE BERNARD LYON 1 — UNIVERSITÉ SAVOIE MONT BLANC : LOCIE ET IMEP-LAHC — UP'TEXTILE — VELCOREX — VERNE & CLET



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