Textiles & flexible materials

Smart textiles
TECHTERA is the innovation cluster for textiles and flexible materials in the AUVERGNE-RHÔNE-ALPES Region, French leader in the textiles and composites sectors.

We support more than 130 members in the emergence, structuration and implementation of their collaborative projects of innovation. Since 2005, we have approved and supported 190 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.

Smart Textiles is the trending topic in the textile industry, and one of the key technologies identified by TECHTERA. The cluster supports collaborative research projects on the different applicative markets of Smart Textiles (clothing, protection, sports, health...), and builds the links between textile industry and the players of the digital sector and the Internet of Things.

Interactive, smart, connected... Textiles are innovative! Textile technologies lead to the creation of complex multi-materials systems for manufacturing connected objects, possibly wearable.

Innovation on smart materials and new industrial processes open new technological horizons in order to imagine the uses of tomorrow. These smart, interactive and connected products presents core properties of textiles: conformability, flexibility, comfort and lightness.
The TECHTERA services

TECHTERA supports all players in the development of their Smart Textile systems–related activities:

Club Smart Textiles & Wearables — STeW

TECHTERA has built, and leads the club STeW, an innovation group for sharing and collaboration among members:
— Meetings, visits
— Emergence and support of innovation projects
— Working groups
— Prototypes
— Structuring of the sector
(Exclusive to members of the cluster)

Collective actions

The cluster organizes and supports collective actions on major events to further develop the network, knowledge, and exchanges:
— International collective missions: WEAR conference (San Francisco), SMART FABRIC (Dallas)
— SIdO (the Internet of Things Showroom, Lyon)
— Premiere Vision Wearable Lab (Paris)
— Market and technological intelligence

Fibertronics

French and Japanese scientific think tank on connected fibers, in partnership with 4 Japanese universities.
R & D projects

AGENV : Develop a configurable stapling system for lingery/corsetery providing possible insertion of electronic components.

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

FILOGRAPH II : Develop a smart textile made of natural and/or biosourced yarn, coated with graphene, with conductive properties that will provide a free-battery equipment while preserving lightness and flexibility.

LIGHTEX INSIDE : Large-scale industrialisation of the Lightex® technology, a process of weaving optical fibres to achieve flexible or rigid luminous surfaces, with very low space requirements, low power consumption and long life.

LITEVA : Develop multifunction textiles for emitting the appropriate alerts for the safety of autonomous vehicles users.

ORGTEX : Capitalise on the potential of organic materials in biomedical monitoring systems, that will provide biocompatible solutions for lower-cost interface between the human body and advanced electronic devices.

PACID : Develop monitoring systems for laundry and linen in hotels and hospitals.

PRIDYN : Develop four safety schemes embedded security textile sensors (DCR 2.0 screens, mudslide barrages, rockfall protection kits, forest screens) for protection from natural hazards (rock and soil).

QAICARS II : Develop an air-treatment concept for inside cars to quickly and durably deal with chemical pollutants smells and microorganisms.

SEALCOAT : Provide a transport system that avoids the road infrastructure for transporting heavy loads with self-repairing materials.

SMART BANDAGE : Detect wound infection as soon as possible by embedding a diagnostic solution in the bandage.

TEXIMED : Develop medical devices (bandages, implants, photodynamic therapy) to address specific pathologies.

— Lighting textiles for medical applications
MDB TEXINOV

THESEE : Industrialise the E-Thread™ yarn embedding RFID chips for applications in traceability, anti-theft and anti-counterfeiting.

— Embedded RFID E-Thread™
©PRIMO 1D
Connectics
Textile sensors
Conductive fibers
Printed electronic
Embedded RFID chips
Lighting textiles
Electrodes

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Applications

3.0 bench — Garnier-Thiebaut, la Société Choletaise de Fabrication, Structures, AD Confection, Amaury Poudray et Armor

Lighting textile for medical application — MDB Texinov

Lighting Bias — AJ Biais

BiliCocoon® — NeoMedLight

Underwear with electromagnetic shielding — DUOO

Cardionexion® T-shirt — Cardionexion

Urban Connect — Urban Connect

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