

CETI - CENTRE EUROPÉEN
DES TEXTILES INNOVANTS

**IMPROVING AGILITY
& SUSTAINABILITY
WITH 4.0 TECHNOLOGIES**



THE APPLIED RESEARCH CENTRE FOR SUSTAINABLE INNOVATION

OUR MISSION

Designing, prototyping and industrializing materials and finished products with you

OUR AREAS OF EXPERTISE

CIRCULAR ECONOMY MATERIALS AND PRODUCTS	OPTIMIZATION OF THE MATERIALS PERFORMANCE	DIGITALIZATION OF MATERIAL AND PRODUCT PROCESSES
PRODUCT ECO-DESIGN	ECO-DESIGNED FIBRES: RECYCLED, BIOPOLYMERS, BIOSOURCED, NATURAL	3D VIRTUAL DESIGN
END-OF-LIFE TREATMENT OF A PRODUCT	FILAMENT & NONWOVEN FUNCTIONALIZATION	PRODUCT CUSTOMIZATION
MECHANICAL & THERMOMECHANICAL RECYCLING	MONO, BI AND TRI-COMPONENT THREADINGS	PRINTING, KNITTING, WEAVING, REASONED MANUFACTURING
SHORT AND BAST FIBRE SPINNING	3D NONWOVENS	STOCK POOLING
TRACEABILITY		TRACEABILITY

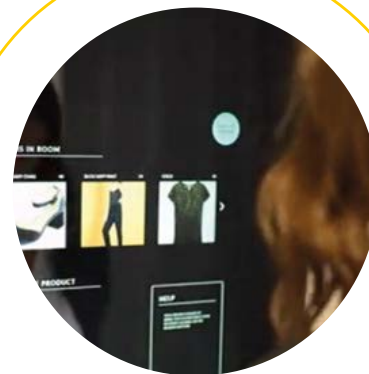
OUR DEMONSTRATOR



DESIGN INNOVATION



DIGITAL 4.0



CONNECTED CONSUMERS

DIGITAL makes sense as a RESULT OF RADICAL CHANGES in CONSUMER BEHAVIOUR.

For the fashion sector, the international lockdown at the beginning of the year has upset the process of creating the offer and its marketing: production sites shut down, inability to move, store closures, a fall in consumption generating an increase in stocks and unsold goods... This situation has highlighted the fragility of a fragmented value chain that is too dependent on distant sourcing, with multi-factorial risks: health, geopolitical, social and environmental crises, without controlled traceability.

To adapt to these major upheavals, brands and the entire textile industry must show real flexibility and agility in their teams and organization to resist and implement change quickly. Digital is no longer an option but a necessity to get out of the crisis and rebound.

The era of PERSONALIZATION, SHORT CIRCUIT and TRANSPARENCY has arrived!

More and more brands and retailers are reflecting on the subject of personalized fashion that echoes the need to consume better and more responsibly. A new approach to design, product validation on 3D virtualisation to eliminate unnecessary prototypes, product customization, limitation of material and product stocks, relocation and short circuit are opportunities to meet these expectations.

At CETI, we are imagining the breakthrough of mass customization, a customization that is not only allowed to one person within the framework of made-to-measure, but to groups of individuals, via mini-series of products intended for them. The evolution of digital solutions, the adaptation of new software and technologies to this type of production more adapted to the current context, will allow to act on different stages of the complete process of a product from its conception. Taking into account the new desires of a community of consumers that marketing will have identified, they will be consulted during a co-creation phase, integrating the brand's DNA.

End of a system and necessary transition TO THE NEW WINNING ECONOMIC EQUATION.

At CETI, we are convinced that innovation through creativity in materials and products is the regeneration of fashion by integrating 3 drivers: Create on demand / Produce on demand / Integrate the circular economy as a pillar associated with digitalization.

SUPPORTING COMPANIES TO TACKLE THIS CULTURAL TRANSFORMATION OF PROFESSIONS.

Since its creation in 2012, CETI has integrated digital textile innovation as a source of competitiveness and growth for brands. Of course, start-ups have more natural ability to launch themselves using digital tools at all stages of the product development process because they are more agile than large traditional players whose organizational and information systems are more demanding and complex to evolve.

CETI's expertise gives the various players in the textile industry the opportunity to make choices that best suit their structure and teams.

A POSITIONING TAILOR-MADE ASSISTANCE FOR YOUR PROJECT

Carrying out R&D means making an alliance with uncertainty, which is not always teasy.

Thanks to the **technical skills** of our engineers, to their **experience in the industry**; thanks to their attentive listening, their openness and their availability at your side to exchange throughout the project, **your R&D experience takes place in a climate of trust and healthy stimulation.**

This favourable climate is conducive to **a fine and realistic analysis of your requests**, an **efficient diagnosis of the solutions** to be considered and points of vigilance to be addressed in order to **nourish reflection**, to **guide the test plan** and to **formalise the results.**



Fabienne Hindré
Business Development Circularity
Design 4.0 & Training
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Fabienne Hindré is a professional in the textile-clothing industry and has been working in the worlds of sport, fashion, lingerie and luxury goods for more than 25 years as a Product Marketing Manager for major French companies abroad. She has contributed to the development of brands such as Aigle® and Poivre-Blanc®, as well as to the deployment of the Lectra FashionPLM® software. She joined the CETI in early 2019 to assist companies with their brand strategy and their evolution towards a 4.0 approach.

“
By adjusting to each individual situation, our support engineering widens the scope of possibilities and enables you to achieve your objectives efficiently.



OUR OFFER

3D COLLABORATION / PRODUCT DEVELOPMENT

THE DESIGN OFFICE, DECISION-MAKING CENTER

- Rethinking the creative process and product validation.
- Increase your skills with CAD and PIM tools.

3D PROTOTYPING

- Quickly visualize creations in 3D.
- Accelerate validation and decision making.
- Reduce costs and increase efficiency.

VIRTUAL REALITY

- Discover how easy it is to collaborate remotely.
- Gain immediate understanding of the demands.

PERSONALIZATION / INDUSTRIALIZATION

FASHION ON DEMAND

- Validate customization requests.
- Understand the benefits and integrate it into the collection process.
- Supporting the transfer of skills and organisation.

TRACABILITY OF THE SUPPLY-CHAIN PROCESSES

- Integrate the flow traceability process throughout the value chain (RFID, ...).

DESIGN / CO-CREATION MATERIALS AND PRODUCTS

MINIMAL WASTE DESIGN

- Rethinking the creative process.
- Design products differently.
- Analyze material consumption gains..

MASS PERSONALISATION

- Capitalize on the customer experience.
- Co-create with the client.
- Integrate the data collected.

FUNCTIONAL MATERIALS AND PRODUCTS AND ECO-RESPONSIBLE

- Define steps and partners.
- To accompany the feasibility from prototyping to industrialization.

RETAIL / EXPÉRIENCES CLIENTS

CUSTOMER EXPERIENCE SCENARII ACCOMPANYMENT

- Use the connected shop to test customer behavior.
- Analyze and interpret consumer data to propose new products or services.

VIRTUAL REALITY

- Test co-creation with a consumer community.

INCREASED REALITY

- Test augmented reality for your merchandising.

MARKETING & SALES VALORIZATION

- To decrypt the benefits of the 4.0 approach applied to textiles and fashion.

CO-CREATION

3D
PROTOTYPING

PERSONALIZATION

CUSTOMERS
EXPERIENCES

A DEMONSTRATOR TEXTILE & FASHION DESIGN 4.0

CETI's **experimental workshop space** aims to promote the discovery and **experimentation of 4.0 technologies** for the creation of products and materials, the digitalisation of processes and the prototyping of all innovative products based on **new consumer behavioural experiences**.

The objective is to enable the various companies in the textile sector to make the right changes in this transformation of traditional activities.

"Surrounded by professional experts, the CETI positions itself as a demonstrator and beta-tester to facilitate each brand's ability to make decisions. It is also a catalyzer for the fashion industry of tomorrow"



DESIGN OF INNOVATION WORKSHOP

"Promote creativity and strengthen the identity of its brand".



4.0 DIGITAL WORKSHOP

"Integrate digital design and model 4.0 processes"



CONNECTED CONSUMERS LAB

"Discover new tools to Rekindle client experiences enthusiasm"

DESIGN OF INNOVATION WORKSHOP



A COLLABORATIVE METHOD FOR FURTHER REFINEMENT

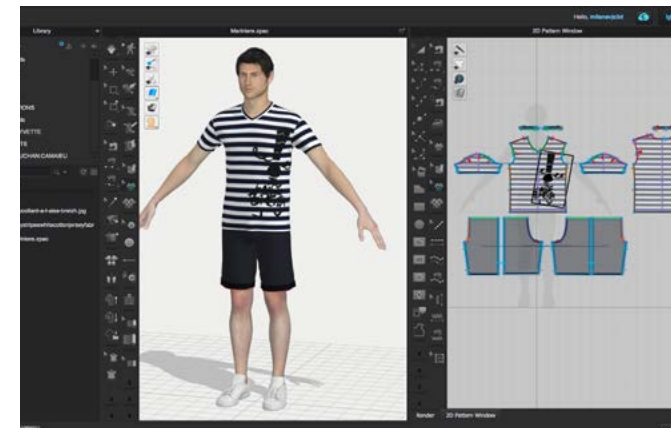
A COLLECTIVE INTELLIGENCE

A CONFRONTATION OF IDEA WITH MARKET REALITY

VALIDATION TOOLS AND ACTION PLANS

AN IDEA ACCELERATOR

4.0 DIGITAL WORKSHOP



A DESIGN OFFICE OF THE FUTURE

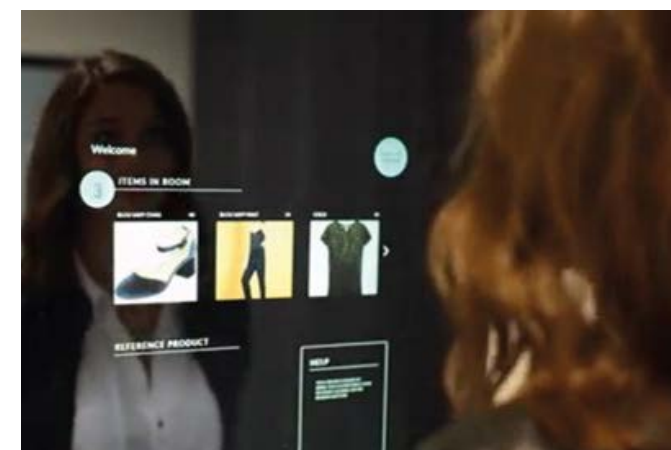
A DIGITAL DESIGN OF MATERIALS AND PRODUCTS

3D MODELING

A COMBINATION OF PERSONALIZATION AND TIME TO MARKET

A 4.0 PROCESS IMPLEMENTATION

CONNECTED CONSUMERS LAB



A PHYGITAL EXPERIMENTATION PLACE

CUSTOMER DATA CAPTATION TO PERSONALIZE A COLLECTION, A PRODUCT, A SERVICE

A PRELIMINARY STEP TO IMPLEMENT SHORT-TERM PRODUCTION ROUTE

IMAGINE THE DESIGN OFFICE OF THE FUTURE

The DIGTEX project in partnership with LECTRA and CETI made it possible to rethink the value chain in a collaborative way by placing the customer at the heart of the strategy.



©PETIT BATEAU ©LECTRA ©XRITE

COLLABORATION FOR REASONED COLLECTION

REINFORCE COMPETITIVITY BY LETTING US PUT INNOVATIVE products or products reinvented by co-creation with consumers into the market faster and help remove the Client/Supplier divide to benefit a long-term, collaborative relationship.

CAPITALIZE ON NEW TYPES OF CONSUMPTION by using social networks, Internet, mobility and new experiences expected by the consumer.

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LECTRA

4.0 COLLECTION

SAVING TIME AND REDUCE COSTS
on the whole value chain.



VALIDATION OF THE VIRTUAL COLLECTION
before prototype assembly

The American group **Hanes Brands Inc**, designer and manufacturer specialized in lingerie, carries the brands **DIM**, **WONDERBRA**, **PLAYTEX** internationally.

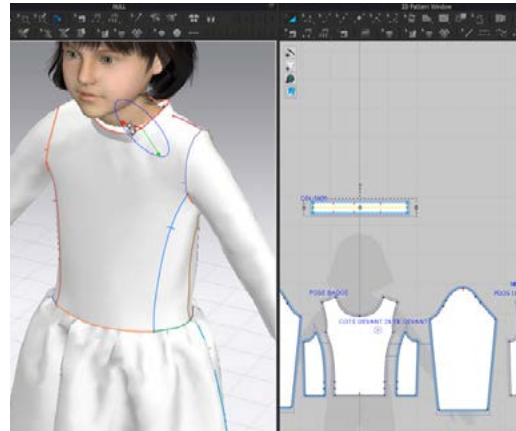
Since 2017, a leader in its field, Hanes France, formerly DBA (Dim Branded Apparel), has been committed to a digital strategy that impacts several internal activities, including product development. The objectives are clearly expressed: to respond effectively to the need for rapid renewal of the product offer for retail. To achieve this, CETI supports creative teams in validating collection plans at an early stage through **the virtualization of new designs, using CLO 3D software.**

HANES
Brands Inc

LINGERIE



PETIT BATEAU brand has called upon CETI's expertise to **integrate virtual prototyping as a pillar of sustainable development**. CETI experts accompanied them in the concretisation of this project to **evolve towards a new economic model**.



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A **PROOF OF CONCEPT** was carried out to give PETIT BATEAU visibility on its future organisation **by integrating the entire process of the path of a product personalised by a client**, from its conception resulting from market analyses, exchanges with the client and stylistic creations up to its production, with an emphasis on priority visual collaborative tools (Clo 3D and Modaris V8 3D) and secondary co-creation tools such as Virtual Reality.

REASSURE ON A NEW
OPPORTUNITY TO DEVELOP
ITS OFFER

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OUR TRAINING COURSES

Developing talents

CETI supports European companies in the extended **textile, fashion, luxury goods, distribution and/ or users of textiles** and flexible materials in their evolution and transformation towards a responsible approach.

The **strength of conviction** of CETI's trainers and their experience in companies, invites each trainee to **surpass himself** and to **approach this transformation of the professions** in the best possible way.

CETI IS AN INTERNATIONAL TRAINING
CENTRE CERTIFIED

The originality of this training lies in a more concrete pedagogical approach through the **sharing of experience between brands and manufacturers** and through demonstrations on the CETI demonstrator dedicated to textile & fashion design 4.0.

INNOVATE TOWARDS FASHION ON DEMAND

CO-CREATION AND PERSONALIZATION AT THE HEART OF BRAND STRATEGY

DIGITAL MATERIAL AND PRODUCT DESIGN

SHORT CIRCUIT AND PRODUCTION ON DEMAND

BECOMING A RESPONSIBLE BRAND 4.0

ECO-DESIGN OF MATERIALS AND PRODUCTS

TRACEABILITY AND TRANSPARENCY IN ITS ECOSYSTEM

DIGITAL TRANSFORMATION OF BUSINESS PROCESSES

INNOVATIVE AND FUNCTIONAL MATERIALS SPORT AND FASHION

TRAINING CATALOGUE
AVAILABLE
WWW.CETI.COM

**FUNDAMENTAL
VALUES**

AMBITION

PROXIMITY

EXCELLENCE

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