



Guidebook on technology transfer in the Textile, Clothing, Leather and Footwear industries

European Light Industries Innovation and Technology (ELIIT) Project

EXECUTIVE SUMMARY



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European Innovation Council and SMEs Executive Agency (EISMEA)
Unit A1 COSME

Contact: Hervé Busschaert

E-mail: herve.busschaert@ec.europa.eu

*European Commission
B-1049 Brussels*

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EXECUTIVE SUMMARY

[The European light industries innovation and technology \(ELIIT\) project](#), funded by the European Union Programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME), was initiated to strengthen Europe's textile, clothing, leather and footwear industries and promote the implementation of disruptive technologies. In this sense, the ELIIT Project was directed to highly competitive manufacturing sectors in an attempt to reinforce Europe's strengths and assets in strategic value chains in new technologies. In this context, the TCLF (Textile, Clothing, Leather and Footwear) industries play an important role in the EU economy.

ELIIT's general objectives were to identify in the TCLF industries the obstacles behind the gap between innovation/research results and their uptake into the market, and to provide efficient solutions through the development and testing of concrete actions focused on faster market uptake of innovation and its integration in the industrial process. In this sense, the ELIIT programme fostered the cooperation between SMEs from TCLF industries and providers or owners of novel technologies to promote the use of technology-ready solutions to improve productivity, value chain integration, resource efficiency and to create new high-added-value niche-market products and services.

In the framework of the ELIIT Programme, a Guidebook on technology transfer process in TCLF industries have been prepared with the relevant information and the best-suited policy actions to foster the market uptake of innovative technology-based solutions by TCLF companies.

Implementation of the ELIIT Programme

As a result of the implementation of the ELIIT initiative, [25 partnerships between technology providers and SMEs in the TCLF industries](#) were selected to develop technology transfer projects. [These partnerships received](#) financial support of 70.000 EUR, a tailored-made mentoring programme, presence at international events, networking activities and support on IPR management.

The mentoring programme was conceived to support the partnerships to ensure the correct development of the projects and an effective technology transfer from the technology owners/suppliers to the SMEs.

Among all the selected partnerships, **successful examples of cooperation** have been identified to provide storytelling and demonstrate successful cases or initiatives. Details about these success stories defined in the framework of the ELIIT programme can be consulted in Annex I - Factsheets. These factsheets contain relevant information about the solution developed, information about the partners and other relevant data.

The impact of the ELIIT programme on the 50 partners selected goes beyond the technical aspects and directly influences companies' growth. Thus, as a result of the participation in the ELIIT Programme, 96% of the partnerships will continue the collaboration with their partner, 25 of the companies have employed new staff and 92% of the SMEs and 48% of the technology providers are considering entering other European markets or countries. Furthermore, most of the partners selected have created potential collaborations with stakeholders or other partners.

The ELIIT Programme has positively impacted the participating partnerships, enabling them to explore new market opportunities, enhance their business activities, and foster collaboration with other European markets. These outcomes contribute to the growth, competitiveness, and sustainability of the TCLF industries, reinforcing the program's success in fostering synergies between SMEs, researchers, and technology providers. Furthermore, the impacts presented align with the goals of strengthening Europe's industrial base and promoting sustainable development within the European economy.

Guidebook on Technology Transfer in TCLF Industries

In the framework of the ELIIT programme, the challenges and obstacles faced by the partnerships selected in the technology transfer projects have been identified to understand the issues that might hamper the market uptake of novel technologies in the TCLF industries.

Furthermore, a roadmap for a successful technology transfer in these sectors has been prepared. This roadmap addresses SMEs and technology providers and encompasses the steps required to ensure an effective technology transfer process. The roadmap has been divided into three stages encompassing the steps required for a successful technology transfer process, the information about this roadmap and the steps required can be consulted in Annex II.

As a result of the evaluation of challenges and obstacles, the suggestions provided by the experts that were part of the ELIIT Programme, the assessment of the ELIIT methodology and the ELIIT's Consortium knowledge on these industries, a set of policy recommendations have been presented to policymakers to tackle the issues related to the gap between research/innovation results and their market uptake.

All the information presented before is part of the Guidebook on technology transfer in the TCLF industries prepared in the context of the ELIIT Programme.

In summary, due to implementing the ELIIT project in a cascade funding scheme, 25 SMEs operating in the TCLF industries, and 25 technology providers have stepped forward to implement novel technologies. They have already influenced other companies across the sectors to adopt similar practices. By replicating the ELIIT programme scheme, more TCLF companies and technology providers can benefit from the support offered, impacting the rest of the industry. This spillover effect in the textile, clothing, leather and footwear sectors is crucial in driving innovation, sustainability, and competitiveness in these traditional industries.

All the information presented before is part of the Guidebook on technology transfer in the TCLF industries prepared in the context of the ELIIT Programme. This guidebook is available on demand by contacting: herve.busschaert@ec.europa.eu

ANNEX I – FACTHSEETS: SUCCESSFUL EXAMPLES OF COOPERATION



ELIIT PROJECT

European Light Industries Innovation and Technology

FUNCTEX

FUNCTEX is implemented by a consortium of two companies: Applynano Solutions from Spain and Stimpex from Romania. The project integrates a composite of phase change materials, which store heat, and carbon materials, which transfer it into fabrics used to make firefighters' clothing.

Applynano Solutions provides the technology, while Stimpex is responsible for its introduction into the manufacturing process.

Impact of ELIIT programme:

- **on company growth: up to 3 new employees for partner Stimpex SA**
- **partner Stimpex SA entered into a new sector**

KEY FACTS

Partners involved:

Applynano Solutions SL (Spain) & Stimpex SA (Romania)

Sector:

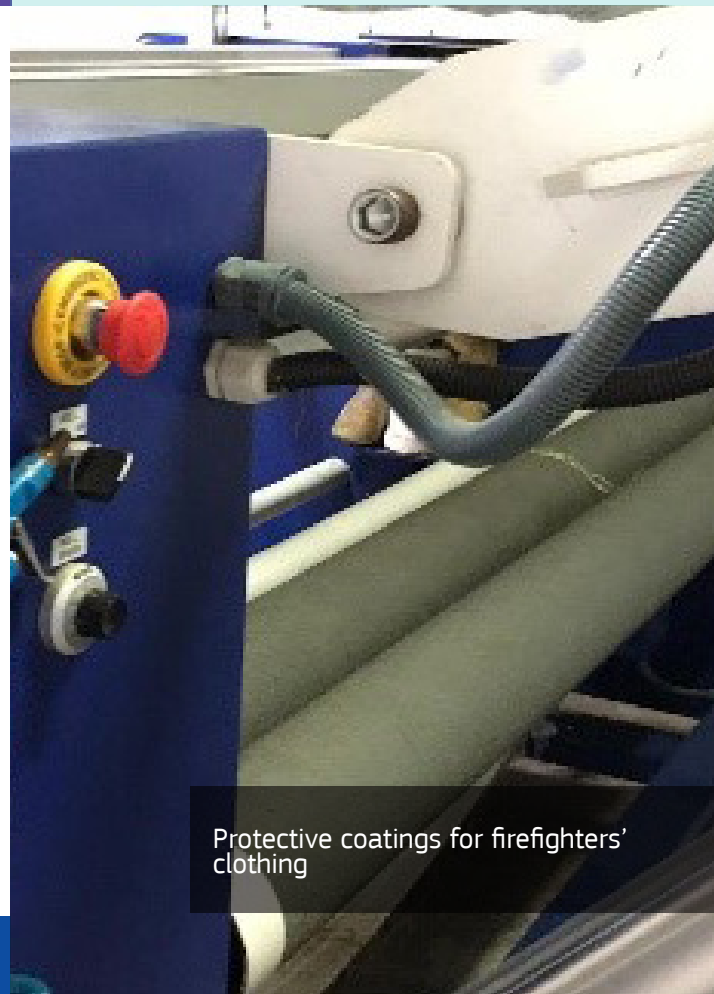
Technological innovation in textiles and clothing

Start/End date:

09/2020-09/2021

ELIIT funding:

EUR 70 000



Protective coatings for firefighters' clothing

METHODOLOGY FOLLOWED BY THE PARTNERSHIP

1

Willingness to collaborate **between a technology provider and SME in the TCLF industries.**

2

Submission of a technical proposal to a **European cascade funding programme.**

3

Continuous collaboration and communication **between the partners.**

4

Support of experts in **business strategy, marketing, entrepreneurship** and other related topics.

5

Definition and planification of the business strategy and IP management before and during the project development.

6

Attendance at **exhibitions and networking activities.**



SME Name	Applynano Solutions SL
Country	Spain
Year of creation	2015
SME Website	www.applynano.com
SME social media	Facebook: @applynano LinkedIn: applynano

Tech. provider Name	Stimpex SA
Country	Romania
Year of creation	1991
Tech. provider ebsite	www.stimpex.ro
Tech. provider social media	N/A



More info:
https://ec.europa.eu/growth/sectors/fashion/eliit_en
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The ELIIT Project is funded by COSME Programme of the European Union for the Competitiveness of Enterprises and Small and Medium-Sized Enterprises (SMEs)



ELIIT PROJECT

European Light Industries Innovation and Technology

L3R

KEY FACTS

Partners involved:
BSC SRL (Italy) & WE ARE SRL (Italy)

Sector:
Technology innovation in Footwear & Leather

Start/End date:
09/2021-09/2022

ELIIT funding:
EUR 70 000

The Sustainable Leather Programme is working to develop a digital platform for leather order management (L3R). This is to increase transparency and introduce sustainable practices with measurable data along the leather value chain. This innovative technological solution can then be applied to the textile, clothing, leather and footwear (TCLF) sector.

Impact of ELIIT programme:

- on core business model or business activity for partner **Conceria Alaska B.S.C. Srl**
- on company growth: up to **3 new employees**



Sustainable leather programme

METHODOLOGY FOLLOWED BY THE PARTNERSHIP

1

Willingness to collaborate **between a technology provider and SME in the TCLF industries.**

2

Submission of a technical proposal to a **European cascade funding programme.**

3

Continuous collaboration and communication **between the partners.**

4

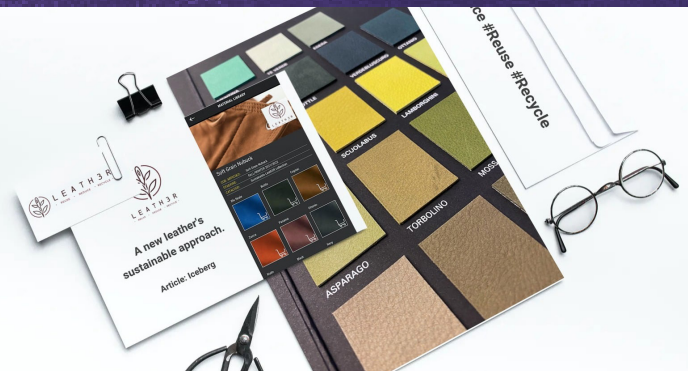
Support of experts in **business strategy, marketing, entrepreneurship** and other related topics.

5

Definition and planification of the business strategy and IP management before and during the project development.

6

Attendance at **exhibitions and networking activities.**



SME Name	BSC SRL
Country	Italy
Year of creation	1990
SME Website	Conceria Alaska website
SME social media	N/A

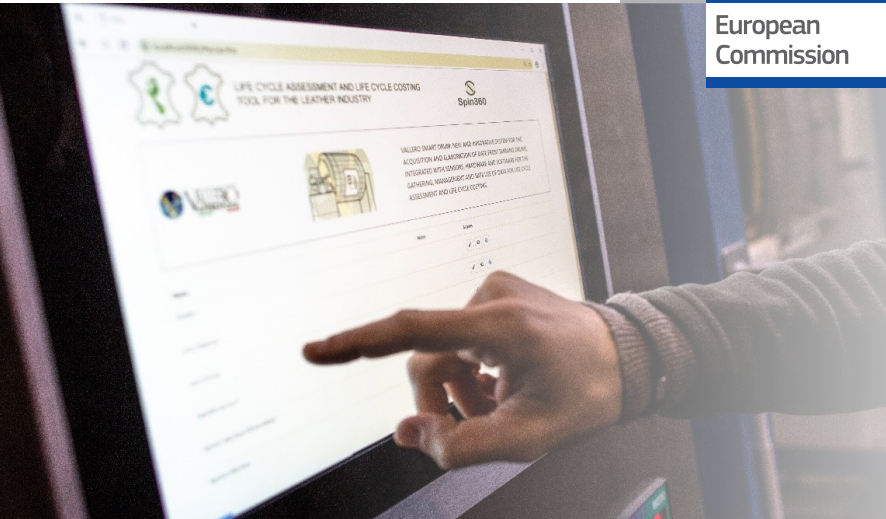
Tech. provider Name	WE ARE SRL
Country	Italy
Year of creation	2008
Tech. provider ebsite	We Are website
Tech. provider social media	We Are LinkedIn



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LEATHER SMART LCA

KEY FACTS

Partners involved:
Conceria Gaiera Giovanni Spa (Italy) & SPIN 360 Srl (Italy)

Sector:
Technology innovation in Footwear & Leather

Start/End date:
09/2020-09/2021

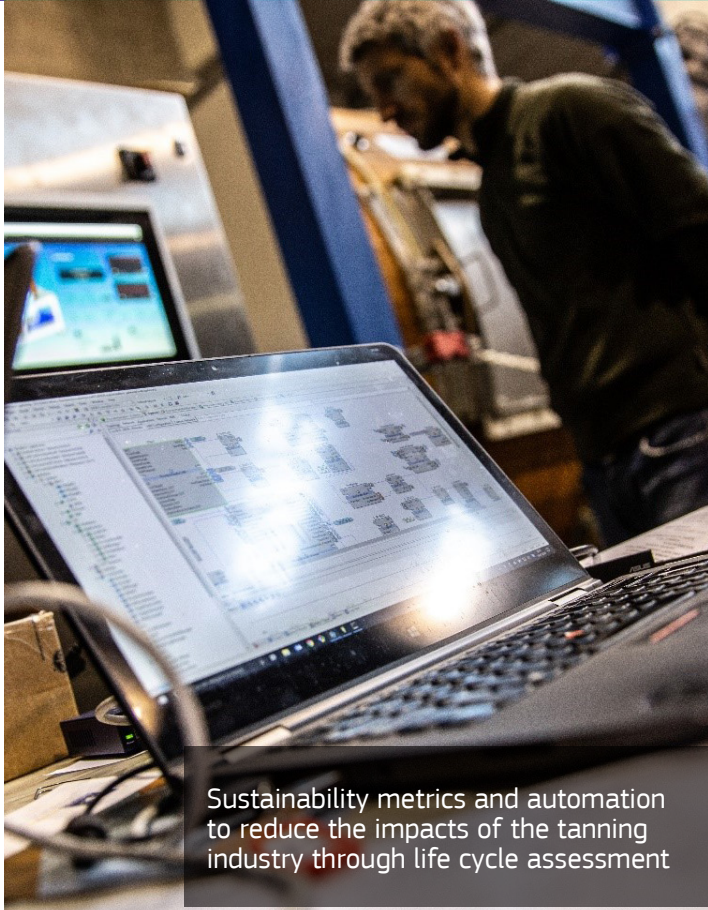
ELIIT funding:
EUR 70 000

The fashion industry is starting to recognise the importance of leather sustainability. The Leather Smart project seeks to address one of the most important topics of the entire leather value chain: production sustainability and minimising environmental impacts.

The Smart Drum technology from SPIN 360 combines data acquisition sensors with data processing software and automation features. These are used in a life cycle assessment (LCA)-based solution that tanneries can operate to scientifically analyse their processes, formulate hypotheses for improvement, and test ideas and validate the results. This creates a process that leads to continuous environmental improvements in tanning production.

Impact of ELIIT programme:

- on core business model or business activity of both partners
- on company growth: up to 3 new employees for both partners



Sustainability metrics and automation to reduce the impacts of the tanning industry through life cycle assessment

METHODOLOGY FOLLOWED BY THE PARTNERSHIP

1

Willingness to collaborate **between a technology provider and SME in the TCLF industries.**

2

Submission of a technical proposal to a **European cascade funding programme.**

3

Continuous collaboration and communication **between the partners.**

4

Support of experts in **business strategy, marketing, entrepreneurship** and other related topics.

5

Definition and planification of the business strategy and IP management before and during the project development.

6

Attendance at **exhibitions and networking activities.**

SME Name	Conceria Gaiera Giovanni Spa
Country	Italy
Year of creation	1946
SME Website	Conceria Gaiera website
SME social media	Conceria Gaiera Facebook

Tech. provider Name	SPIN 360 Srl
Country	Italy
Year of creation	2009
Tech. provider ebsite	SPIN 360 website
Tech. provider social media	N/A



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European Light Industries Innovation and Technology

NANOCORK

KEY FACTS

Partners involved:

LEBIU (Italy) & Care Applications (Spain)

Sector:

Technology innovation in Textile & Clothing

Start/End date:

09/2020-09/2021

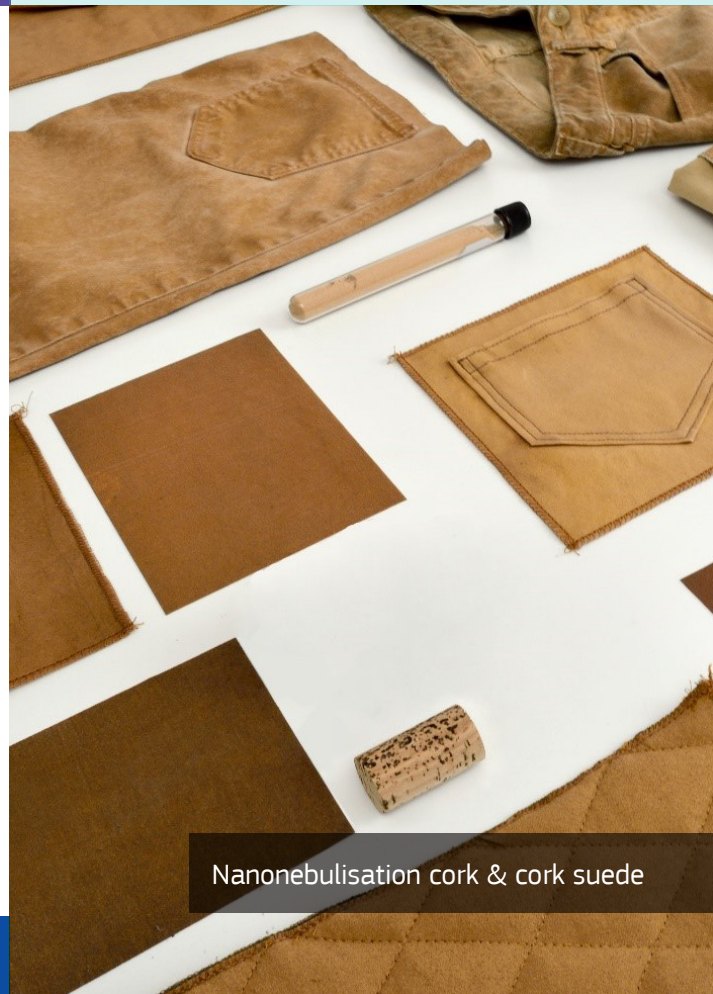
ELIIT funding:

EUR 70 000

Nanocork is a new bio-denim finish that can be used for garments and textiles, using leftovers from the production of cork stoppers. A key step in upcycling cork waste is “micronebulisation”, in which the cork particles, along with other bio-based products and natural pigments, are nebulised to create a mist that envelops the support garment or fabric, gradually penetrating its fibres. This can achieve bio-denim effects using only vegetable raw materials, achieving a worn effect without adding toxic products.

The production process yields significant savings in water and chemicals, as minimal water is needed for the particles to penetrate the fibres. Enough cork solution is applied for the garments to absorb it without leaving any waste. The process additionally creates important savings in textiles, as it allows for the production of ad hoc garments. Dyes can also be added without producing more than needed, thereby avoiding overproduction.

Impact of ELIIT programme on core business model or business activity of partner LEBIU



Nanonebulisation cork & cork suede

METHODOLOGY FOLLOWED BY THE PARTNERSHIP

1

Willingness to collaborate **between a technology provider and SME in the TCLF industries.**

2

Submission of a technical proposal to a **European cascade funding programme.**

3

Continuous collaboration and communication **between the partners.**

4

Support of experts in **business strategy, marketing, entrepreneurship** and other related topics.

5

Definition and planification of the business strategy and IP management before and during the project development.

6

Attendance at **exhibitions and networking activities.**



SME Name	LEBIU
Country	Italy
Year of creation	2020
SME Website	Lèbiu's website
SME social media	Lèbiu's Instagram

Tech. provider Name	Care Applications
Country	Spain
Year of creation	2015
Tech. provider ebsite	Care Applications' website
Tech. provider social media	Care Applications' Facebook Instagram LinkedIn YouTube



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NEW WHITE LEATHER

New White Leather is developing a new, cleaner concept for leather tanning and finishing to produce white and pastel products. These are made with fewer pollutant discharges and without using heavy metals or formaldehyde.

This new concept will make it possible to develop innovative products targeted at high-added value markets that have a whiter base colour compared to similar processes, a high level of light fastness, brighter colours, are water and oil-repellent, and can be cleaned easily.

**Impact of ELIIT programme on company growth:
up to 3 new employees for both partners**

KEY FACTS

Partners involved:

INDUTAN – Comércio e Indústria de Peles, S.A. (Portugal) &
CTIC – Centro Tecnológico das Indústrias do Couro (Portugal)

Sector:

Technology innovation in Footwear & Leather

Start/End date:

09/2020-09/2021

ELIIT funding:

EUR 70 000



New white and easier-to-clean leather

METHODOLOGY FOLLOWED BY THE PARTNERSHIP

1

Willingness to collaborate **between a technology provider and SME in the TCLF industries.**

2

Submission of a technical proposal to a **European cascade funding programme.**

3

Continuous collaboration and communication **between the partners.**

4

Support of experts in **business strategy, marketing, entrepreneurship** and other related topics.

5

Definition and planification of the business strategy and IP management before and during the project development.

6

Attendance at **exhibitions and networking activities.**



SME Name	INDUTAN – Comércio e Indústria de Peles, S.A
Country	Portugal
Year of creation	1993
SME Website	Indutan's website
SME social media	N/A

Tech. provider Name	CTIC – Centro Tecnológico das Indústrias do Couro
Country	Portugal
Year of creation	1992
Tech. provider ebsite	CTIC's website
Tech. provider social media	N/A



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PLASMA NANOTEX

The water and air filtration sector is the largest market for nanofibre products. Moreover, this market is growing, with predicted annual growth currently at around 35%. This is mainly due to the COVID-19 pandemic, which has increased the need for antimicrobial and antiviral filtration textiles.

In the area of nanofibre-based textile filter production, there is now an urgent need for environmentally friendly and cost-effective surface treatments which do not contain organic solvents or caustic solutions.

Impact of ELIIT programme:

- **on core business model or business activity of partner NAFIGATE Corporation a.s.**
- **on company growth: up to 3 new employees for NAFIGATE Corporation a.s.**

KEY FACTS

Partners involved:

Navigate Corporation a.s. (Czech Republic) & Masaryk University – CEPLANT (Czech Republic)

Sector:

Technological innovation in textiles and clothing

Start/End date:

09/2020-09/2021

ELIIT funding:

EUR 70 000



Plasma technology for manufacturing of nanofibre-based filter fabrics

METHODOLOGY FOLLOWED BY THE PARTNERSHIP

1

Willingness to collaborate **between a technology provider and SME in the TCLF industries.**

2

Submission of a technical proposal to a **European cascade funding programme.**

3

Continuous collaboration and communication **between the partners.**

4

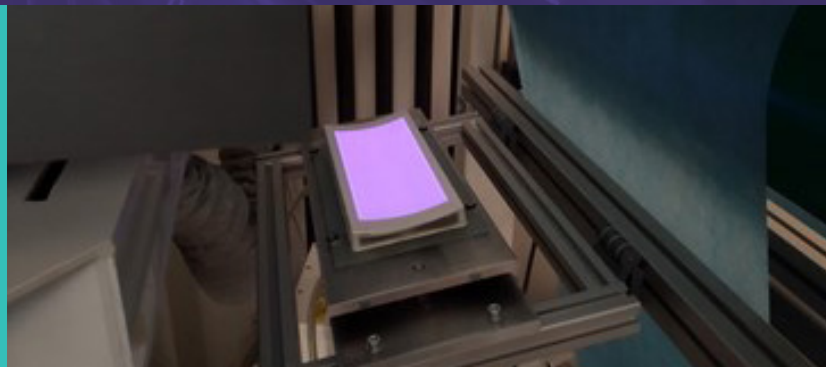
Support of experts in **business strategy, marketing, entrepreneurship** and other related topics.

5

Definition and planification of the business strategy and IP management before and during the project development.

6

Attendance at **exhibitions and networking activities.**



SME Name	Navigate Corporation a.s.
Country	Czech Republic
Year of creation	2011
SME Website	Navigate's website
SME social media	Facebook Instagram Twitter LinkedIn

Tech. provider Name	Masaryk University – CEPLANT
Country	Czech Republic
Year of creation	1919
Tech. provider ebsite	Department of Physical Electronic website
Tech. provider social media	Department of Physical Electronics Facebook CEPLANT Facebook Department of Physical Electronics LinkedIn



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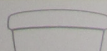
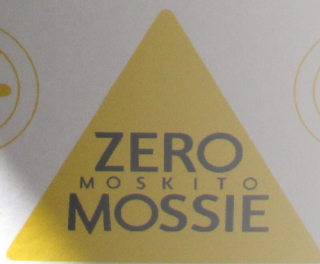


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CREA UNA ZONA LIBRE DE MOSQUITOS



ELIIT PROJECT

European Light Industries Innovation and Technology

TEXDECON

KEY FACTS

Partners involved:

Texalve Technologies SL (Spain) & ES Creatividad, Innovación y Desarrollo SL

Sector:

Technological innovation in textiles and clothing

Start/End date:

09/2020-09/2021

ELIIT funding:

EUR 70 000

The Asian tiger mosquito is an invasive pest which is mainly found in urban areas in the countries to which it has spread. It lays its eggs in receptacles such as jugs, buckets, vases and dishes containing small amounts of water, especially in shaded spots.

Because the mosquito tends to proliferate on private property, eradication efforts by public authorities are likely to be difficult, expensive and ultimately ineffective. Thus, a device is needed that allows individuals to prevent the mosquito's spread without posing a risk to human health.

Impact of ELIIT programme:

- on core business model or business activity
- on company growth: up to 3 new employees for both partners
- partner E.S.CREATIVIDAD INNOVACION Y DESARROLLO S.L.U. entered into a new sector



Textile device for mosquito control

METHODOLOGY FOLLOWED BY THE PARTNERSHIP

1

Willingness to collaborate **between a technology provider and SME in the TCLF industries.**

2

Submission of a technical proposal to a **European cascade funding programme.**

3

Continuous collaboration and communication **between the partners.**

4

Support of experts in **business strategy, marketing, entrepreneurship** and other related topics.

5

Definition and planification of the business strategy and IP management before and during the project development.

6

Attendance at **exhibitions and networking activities.**



SME Name	Texalive Technologies SL
Country	Spain
Year of creation	2010
SME Website	Texalive's website
SME social media	Instagram

Tech. provider Name	ES Creatividad, Innovación y Desarrollo SL
Country	Spain
Year of creation	2011
Tech. provider website	Esaltia's website
Tech. provider social media	LinkedIn



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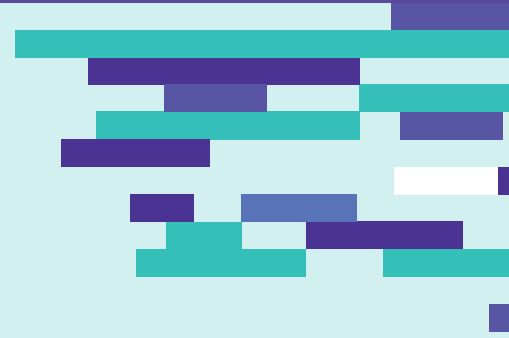
ANNEX II – ROADMAP ON TECHNOLOGY TRANSFER

What motivates technology transfer?

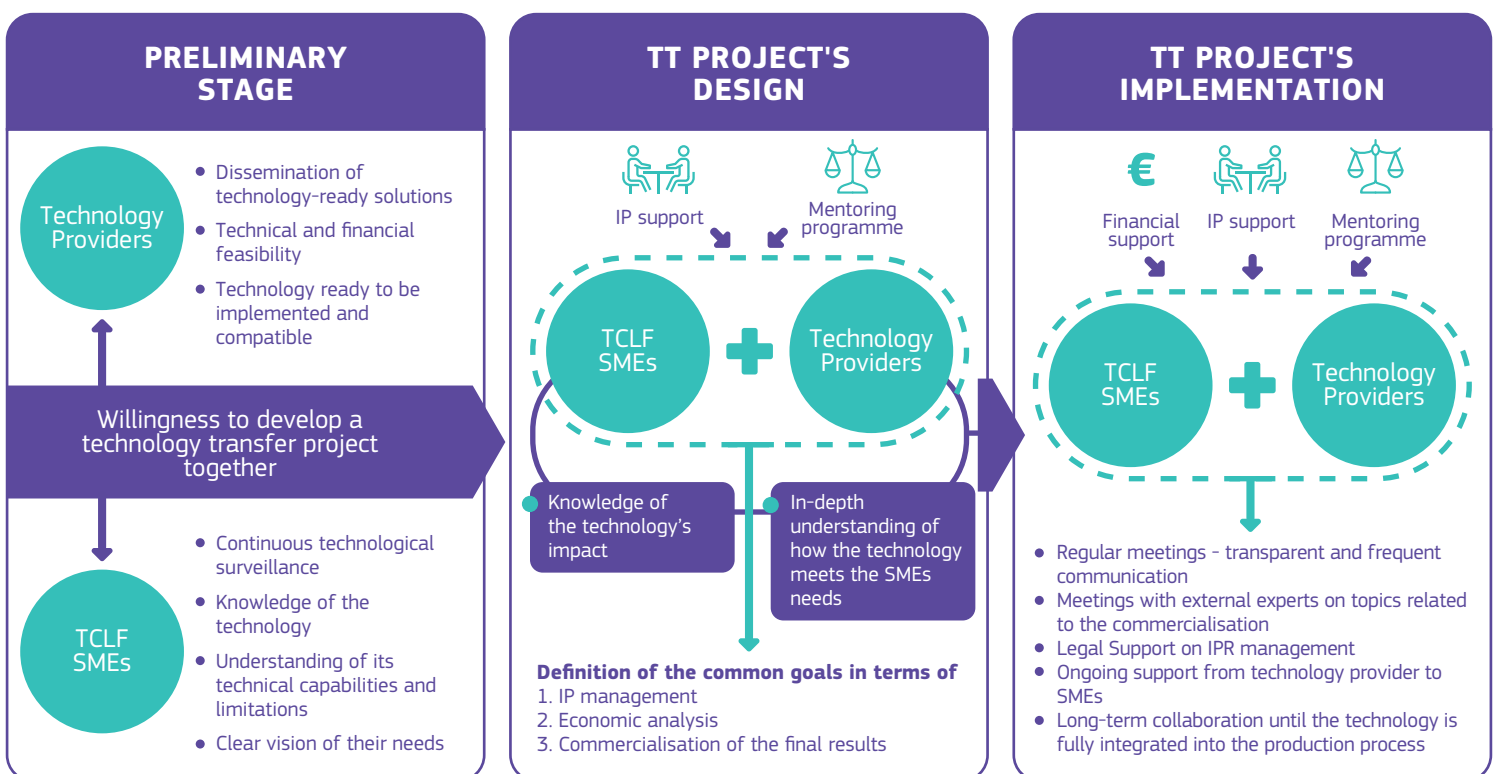
SMEs	Technology Providers
<ul style="list-style-type: none"> ➔ Market demand or need ➔ Growth opportunities through innovation ➔ Exchange of knowledge with stakeholders ➔ Expansion of product range and market 	<ul style="list-style-type: none"> ➔ Technology transfer is the main business model ➔ Technology has high potential in the TCLF industries ➔ Helping SMEs reach the market with added-value products

Key Aspects for Successful Technology Transfer

- ➔ Interest in innovation and willingness to collaborate closely
- ➔ Understanding of business strategy and common goals regarding intellectual property assets
- ➔ Common interests between technology providers and SMEs
- ➔ SMEs have a clear vision of their needs, interest in the technology and knowledge of its benefits



Technology Transfer Stages





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