

# LIFE ALL-IN

## Midterm workshop

10/03/2022

### PROJECT PARTNERS



The event earned the Patronage of



A project granted by LIFE Programme



# AGENDA

|                     |   |                                                                                                                       |
|---------------------|---|-----------------------------------------------------------------------------------------------------------------------|
| 10.30 am - 10.45 am | ■ | Welcome<br>LIFE ALL-IN project presentation                                                                           |
| 10.45 am - 11.30 am | ■ | LIFE ALL-IN concept<br>Q&A session                                                                                    |
| 11.30 am - 11.55 am | ■ | Round table: Innovation and sustainability<br>2 fundamental strategic pillars to<br>successfully growth in the future |
| 11.55 am - 12.00 pm | ■ | LIFE ALL-IN project next steps                                                                                        |



# SPEAKERS



Diego  
GUALTIERI

Global R&D manager  
Life All-in project  
manager



Alessandro  
CIPRIANI

R&D Project  
leader  
Life All-in  
technical  
manager



Rossella  
D'ONOFRIO

Strategical marketing  
manager  
All-in Marketing  
coordinator



Habib  
AMRANI

Senior innovation  
consultant



Miriam  
MOLINARI

Innovation  
Manager



# LIFE ALL-IN PROJECT

## PROJECT PURPOSE

LIFE ALL-IN aims to **shrink** the AHPs production chain by adding technologies on the manufacturing machines capable to **create** raw materials in line or to **enhance** their technical specification



# LIFE ALL-IN PROJECT

## PROJECT IMPACTS

LIFE ALL-IN solutions are expected to introduce **innovative concepts** in the AHPs sector, as well as the entire non-woven industry, having the great chance to move to a **lower cost business model** together with a **more environmental-friendly system**.

Up to **23%** of raw material savings per year

**10%** of CO2 emissions reduction each year

An annual cost reduction of **10%**



# LIFE ALL-IN PARTNERS



*With the contribution of the LIFE Programme of the European Union.*



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# LIFE ALL-IN PROJECT

## ABOUT FAMECCANICA

+  
**700**

**EMPLOYEES**

+  
**600**

**REGISTERED  
PATENTS**

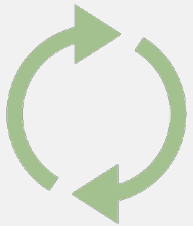
+  
**1200**

**MACHINES DELIVERED  
WORLDWIDE**



# LIFE ALL-IN PROJECT

## WHAT WE DO



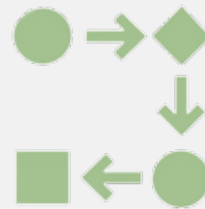
**CONVERTING**



**PACKAGING**



**FILLING**



**IN-LINE  
ASSEMBLY**



**ROBOTICS**



**DIGITAL**



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**LIFE ALL-IN**



# LIFE ALL-IN PROJECT

The sense of innovation at  
FAMECCANICA

“Non stop innovation  
is the culture of Fameccanica”

We aim to innovate to build a better  
future for everyone, every day.

Innovation and sustainability are  
now two sides of the same coin.

No innovation takes place where  
there is not the embrace of the  
concept of sustainability. Creating the  
best products on the market is just one part  
of Fameccanica's vision, which aims to  
actively contribute to the quality of life of  
end users with increasingly sustainable  
products and industrial processes.



# LIFE ALL-IN PROJECT

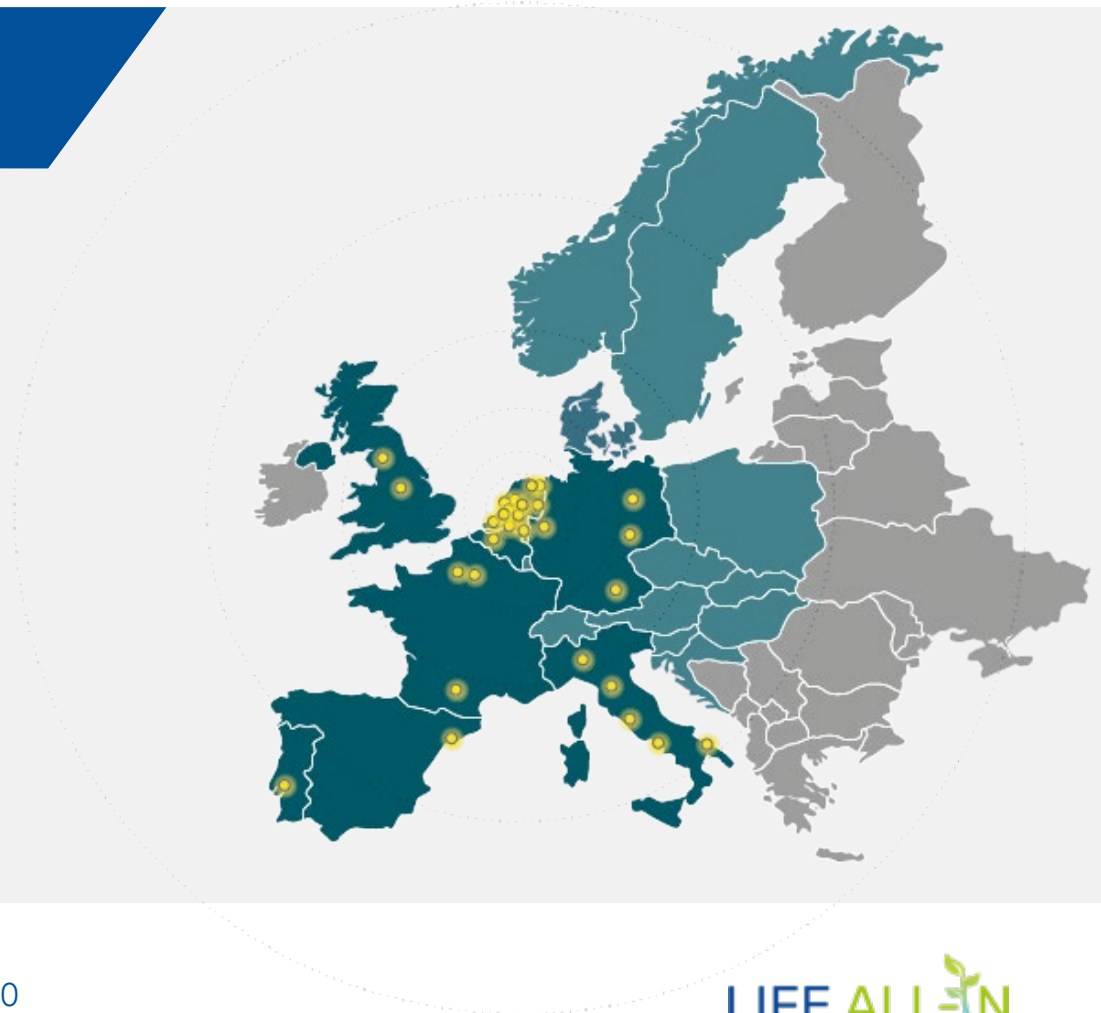
## About PNO Consultants

Europe's leading funding and innovation consultancy

35 years of  
experience in  
innovation

A double  
technical &  
sectoral  
expertise

Present in 8  
European  
countries



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LIFE ALL-IN

# LIFE ALL-IN PROJECT

## About PNO Group



Innovation &  
Public Funding



Chemistry



Accelerating  
Green Innovation



Life Science  
Innovation



Impact by  
Knowledge



Grants  
Management &  
Compliance



Grants  
Assurance



EU Funded  
Projects



Public Funding  
SMEs



Corporate  
Finance



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# LIFE ALL-IN CONCEPT

## PROGRAMME



Project actions  
overview



Technical  
details



Communicatio  
n &  
Dissemination



Q&A session

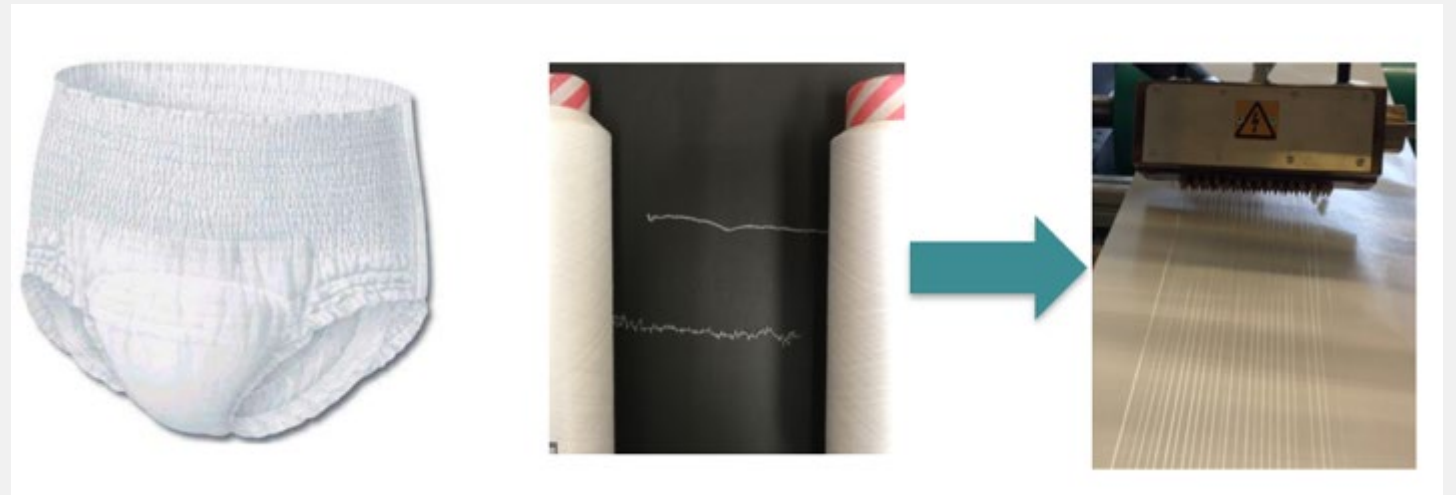


# TECHNICAL ACTIONS

## 1. ELASTIC EXTRUSION

This action focuses on the **integration of the elastic extrusion process into the AHPS machine.**

This process will avoid the use of pre-made elastics filament (es. Lycra)

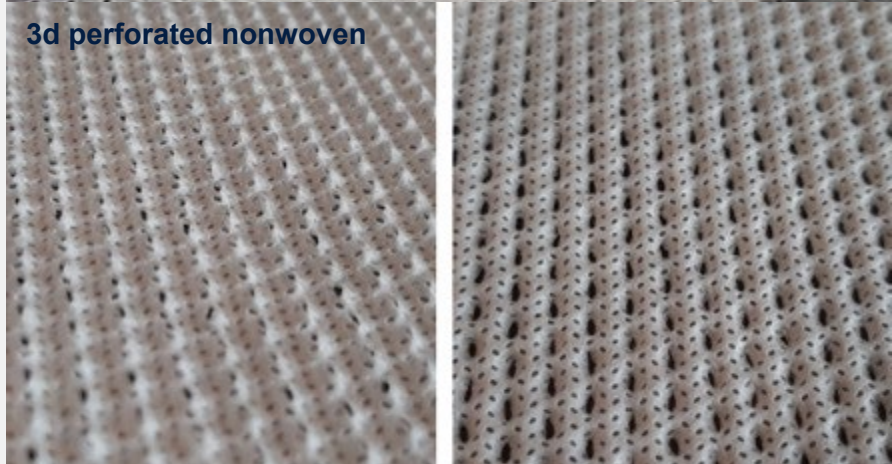
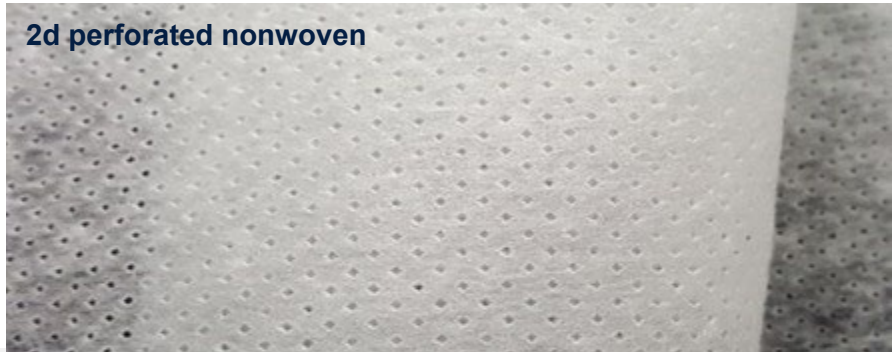


From premade elastic thread to in line Elastics extrusion

# TECHNICAL ACTIONS

## 2. WEB TRANSFORMATION

This action will realize the optimization and implementation into the final machine of two web transformation processes, the perforation (2D perforation and 3D perforation) and the conversion to a 3D structure of the non-woven material.

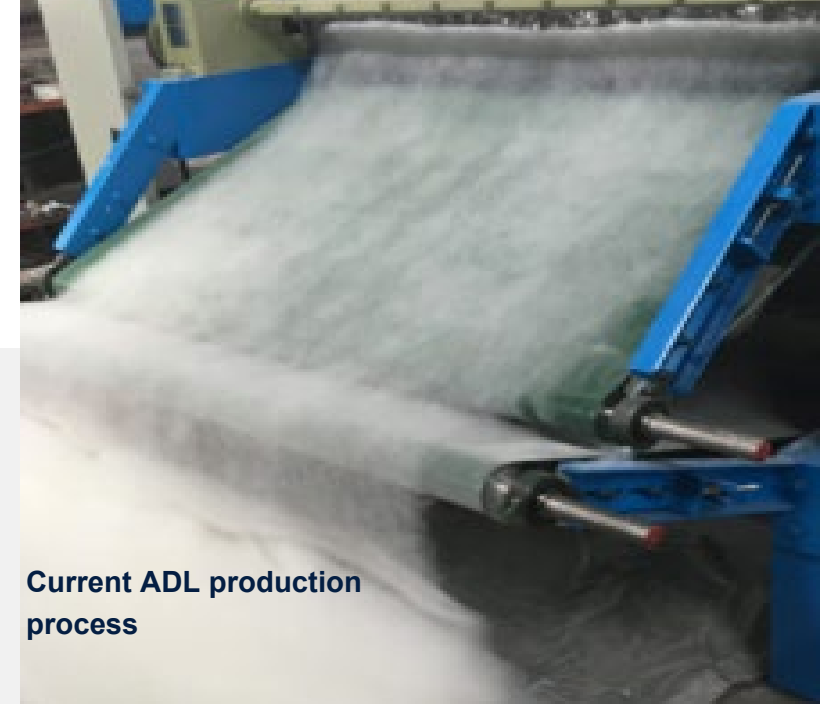


# TECHNICAL ACTIONS

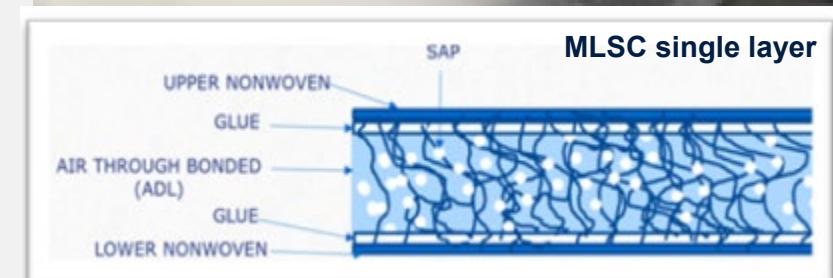
## 3. Fluff free Acquisition & Distribution Layer (ADL)

This action will realize the creation of the ADL for Fluffless in-line. FAMECCANICA developed a Fluffless technology to entrap SAP granules within a material having high “void volume”. Creating the material in-line will improve the entrapping technology with the following positive effects:

- optimize the SAP gradient distribution through the core layers
- reduce environmental impact due to transportation
- reduce row material grammage
- reduce product cost



Current ADL production process



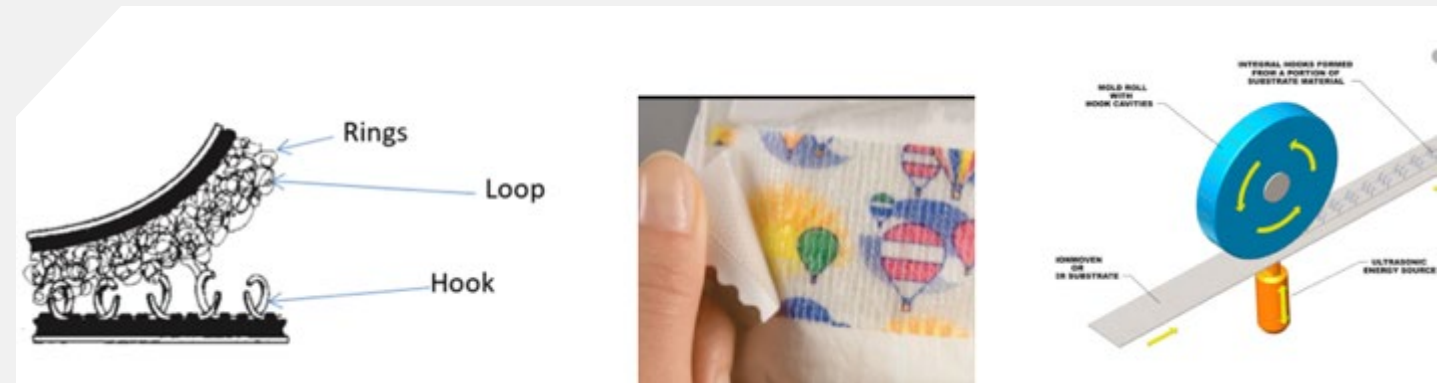
MLSC single layer



# TECHNICAL ACTIONS

## 4. HOOK FOR FRONTAL TAPE CREATION

This action will integrate a new closure solution, based on the transformation of the non-woven material of the backsheet, leaving a surface similar to a hook that can then be close and secure the AHP in use. For the integration of the frontal tape creation online, the prototype will be engineered and then validated by bench tests.



From premade hook material to in line process

# TECHNICAL ACTIONS

## 5. PRODUCT TESTING AND VALIDATION

This action aims to validate the introduction of new technologies tested in Hygiene products. The complete product will be assembled with all the features developed in the 4 sub-processes described.

FATER, Associate Beneficiary, will conduct tests on the assembled products to demonstrate that the 4 sub-processes meet the full-scale performance criteria.



# TECHNICAL RESULTS

## INSTALLATION OF 2 PERFORATION UNIT

FAMECCANICA, coordinator of the LIFE ALL-IN project, dedicates a complete test stand to the web transformation action, with the installation of 2 units for 2D perforation and 3D perforation.



All In Test Stand

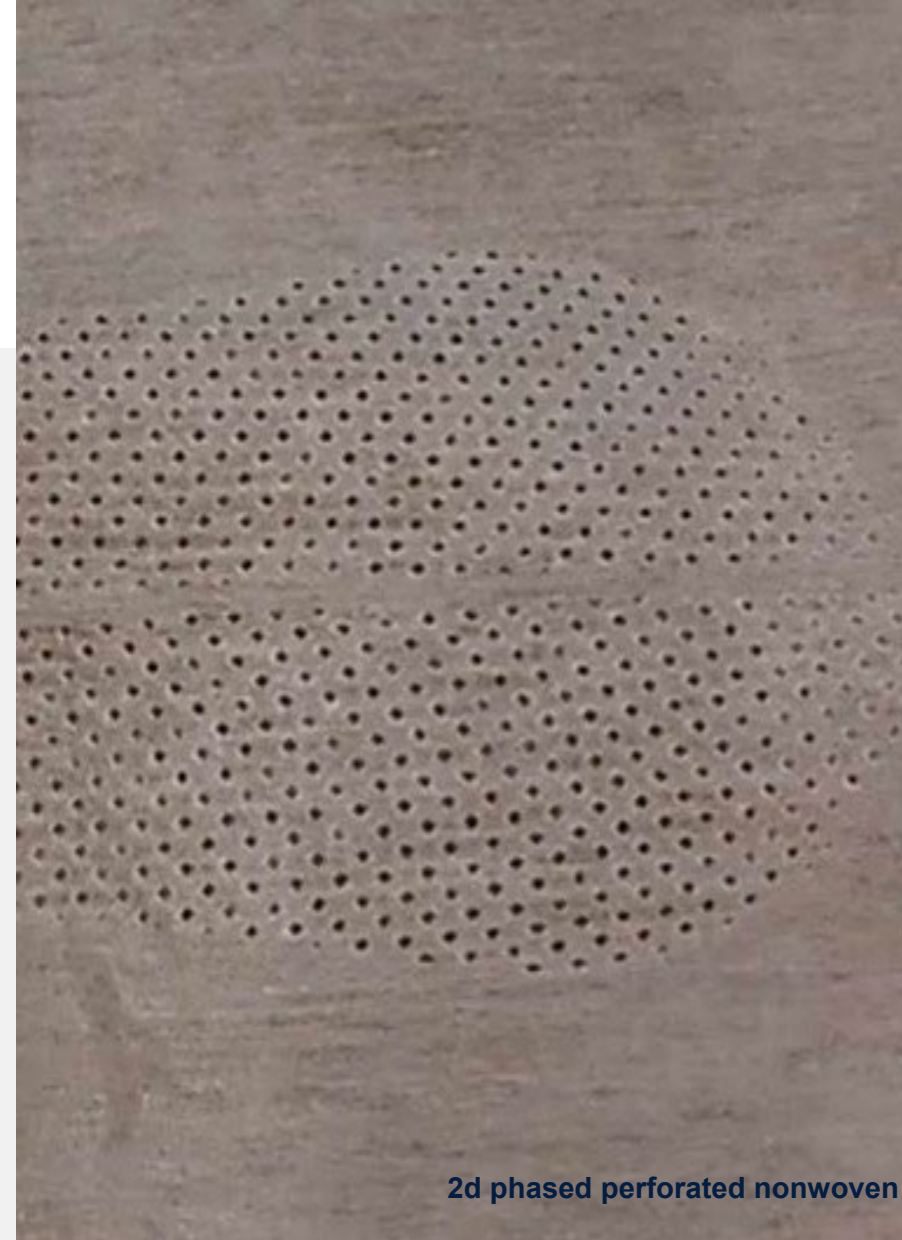


# TECHNICAL RESULTS

## 2D PERFORATION UNIT (1/2)

Holex-in is the FAMECCANICA patent solution for the in-line perforation of nonwoven material. This can offer many advantages in terms of:

- More flexible process
- Cost advantage opportunities
- Product appeal and breathability of the product for the external layers
- Increased fluid handling performance of the product when used as a topsheet



2d phased perforated nonwoven

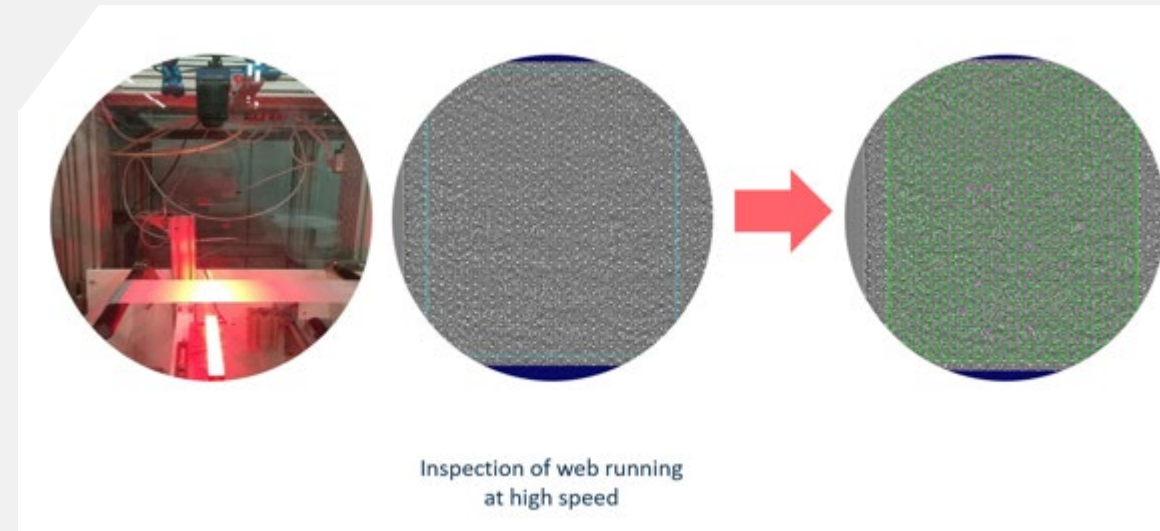


# TECHNICAL RESULTS

## 2D PERFORATION UNIT (2/2)

FAMECCANICA also developed the in-line vision system to check results of the perforation process, in terms of number of holes and holes dimensions. The process has been tested at full speed (450 m/min). A long run of 24 hours has been done to validate the process stability.

The phased process has been tested and validated.



In line vision system for quality check



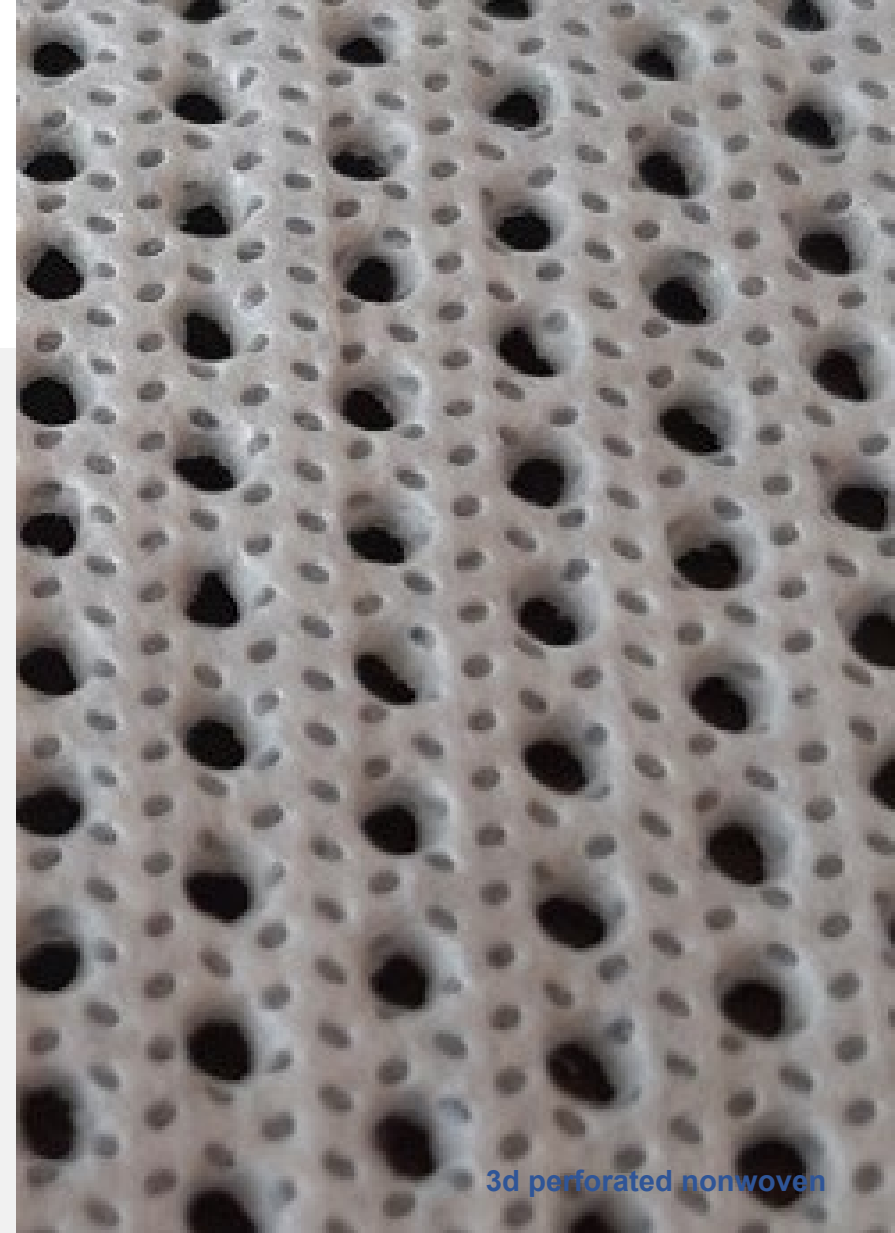
# TECHNICAL RESULTS

## 3D PERFORATION UNIT (1/2)

The development of the 3D perforation process of the sheets aims to create product layers with funnel-shaped holes oriented in a specific direction.

This allows to obtain good fluid handling benefit. This kind of raw material is already used in hygiene products and FAMECCANICA is already processing this type of premade NW in its line.

The in-line creation of this kind of product will give environmental impact reduction and product/process benefit in comparison with standard product.



3d perforated nonwoven



# TECHNICAL RESULTS

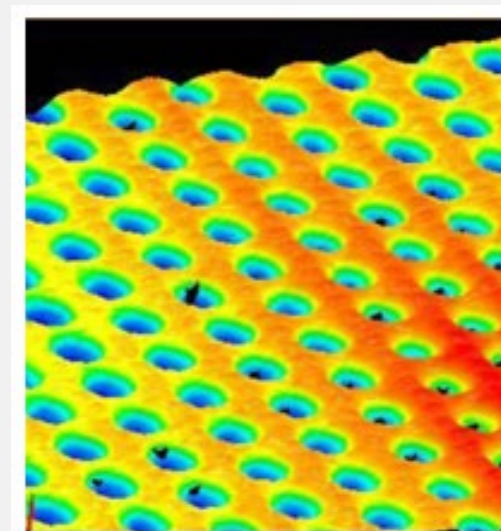
## 3D PERFORATION UNIT (1/2)

FAMECCANICA has installed a complete unit for nonwoven perforation.

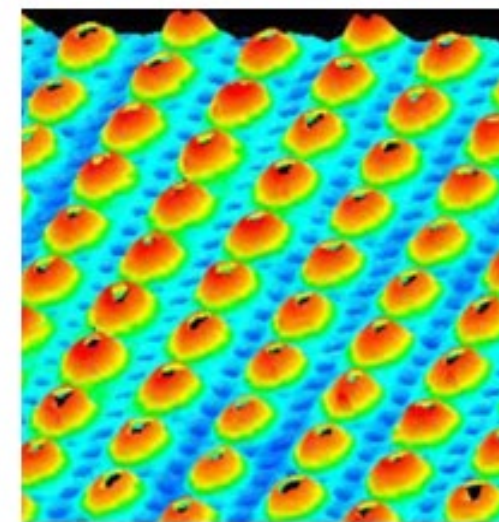
The unit consists of two rolls:

- the upper roll has needles
- the lower roll one has holes, in phase with the needles

FAMECCANICA completed the validation at 150 m/min.  
this allows to insert the feature in high-speed lines by making the perforation on the product patch.



In line quality check



In line quality check



# TECHNICAL RESULTS

## 3D TOPSHEET (1/3)

3D topsheet is a product feature, mainly developed in Asia, which involves the use of a topsheet with many protuberances (like bubbles) made in an organized way according to a particular design<sup>3D</sup>.

This feature has the effect to:

- increase material softness by increasing material volume: the increase in material thickness reaches up to three times the basic one
- give an esthetic feeling and value perception improvement to the final consumer



3D topsheet nonwoven





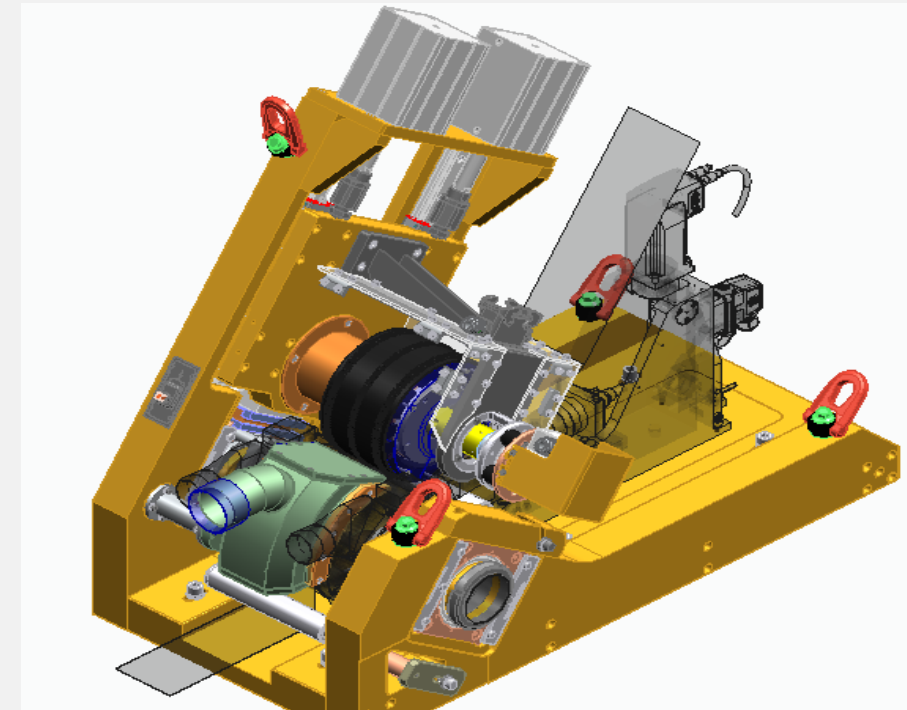
# TECHNICAL RESULTS

## 3D TOPSHEET (2/3)

From a market analysis it is possible to have a 3D topsheet single layer or double layer.

After brainstorming, handmade prototype creation and patent analysis, FAMECCANICA define the best process and pattern design (patent pending).

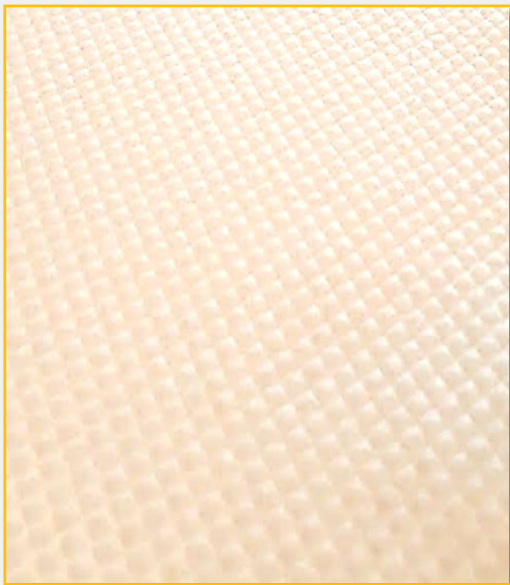
FAMECCANICA dedicated a Test stand to the in-line creation of Tri-dimensional materials. Both single layer and double layer product versions have been tested. The process has been proven up to 450 m/min.



3D topsheet nonwoven unit

# TECHNICAL RESULTS

## 3D TOPSHEET (3/3)

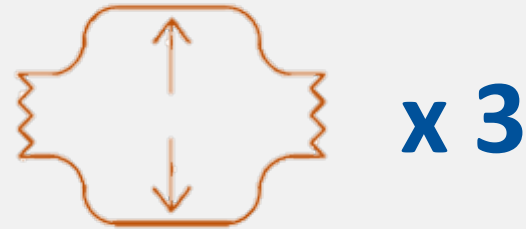


### Single Layer

- Nonwoven ATB 30 gsm
- Tested up to **450m/min** production speed
- Test on going with 18 gsm

### Dual Layer

- Nonwoven ATB 20 gsm
- Tested up to **350m/min** production speed



### THICKNESS RESULTS:

From **0.37 mm** to **1.02 mm**

### Project status:

R&D validation completed at **450 m/min**

-> test with different NW on going



# TECHNICAL RESULTS

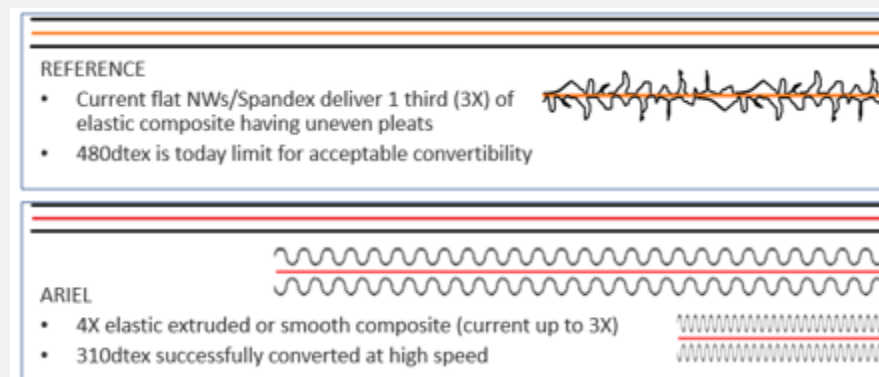
## ARIEL – NEW SOLUTION FOR WAIST ELASTICIZATION (1/2)

FAMECCANICA dedicates a complete test stand to the Ariel process this is technically needed for the on-line elastic extrusion.

Ariel is a patented product and process. It is a new concept of waist band for pant-type products aiming at:

- improving material softness by increasing material bulkiness
- being positioned as «premium» product thanks to the improved aesthetic feeling and higher value perception of the product to the final consumer.
- offering Cost advantage opportunities: thank to the special process the elastics are tensioned at minimum level and therefore it is possible to use low dtex elastics down to 310 dtex

Ariel product structure



# TECHNICAL RESULTS

## ARIEL – NEW SOLUTION FOR WAIST ELASTICIZATION (2/2)

### Product design:

Ari-EI™ solution is applicable in combination with different elastic materials, from lycra to elastic film, from a combination of lycra and elastic films to elastics extruded.

The process has been tested up to 300 m/min. A long run of 24 hours has been done to validate the process stability.

Further extrusion tests are in progress.

Ariel product samples



# LCA CALCULATION, DISSEMINATION AND POLICY IMPLICATION

In accordance with the LIFE ALL-IN program, FAMECCANICA will also have to take care:

- the impact of the project actions by the environmental performance indicator definition and monitoring, the environmental impact assessment and LCA
- the focus on the political and social implications of the project: economic growth, job creation and health benefits
- to reach the goal of dissemination, replication and transfer. PNO will support this activity. It will be important to reach as many customers as possible and to make networking in other application areas to establishing synergies with similar initiatives and other EU funded projects



# LIFE ALL-IN PROJECT

## LIFE ALL-IN implementation

### Obligation towards the LIFE programme & EC

Each LIFE ALL-IN tools on materials should include include:

- The logo of the LIFE programme
- The LIFE project number: LIFE19 ENV/IT/000230
- Explicit mention to the LIFE financial support

Also, a disclaimer will be indicated:

“This document reflects only the author’s view; the EC is not responsible for any use that may be made of the information it contains.”



# LIFE ALL-IN PROJECT

## Communication VS Dissemination

### COMMUNICATION

Increasing the visibility of the project in an accessible language to general public

VS

### DISSEMINATION

Sharing the project results to the scientific community, policy makers and industry by using scientific language prioritizing accuracy



# LIFE ALL-IN PROJECT

## Communication VS Dissemination

How communication strategy serves the dissemination

Website

Social Media

Newsletters





# LIFE ALL-IN PROJECT

Project dissemination concrete actions

Targets defined by the stakeholder analysis

**Scientific  
publications**

**Events  
participation**



# LIFE ALL-IN PROJECT

## Project dissemination concrete actions

Netlinking with EU projects

Find a synergy

Facilitate the dissemination of  
the project results

Share the audience



# Q&A SESSION



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# AGENDA

|                     |   |                                                                                                                              |
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| 10.30 am - 10.45 am | ■ | Welcome<br>LIFE ALL-IN project presentation                                                                                  |
| 10.45 am - 11.30 am | ■ | LIFE ALL-IN concept<br>Q&A session                                                                                           |
| 11.30 am - 11.55 am | ■ | <b>Round table: Innovation and sustainability</b><br>2 fundamental strategic pillars to<br>successfully growth in the future |
| 11.55 am - 12.00 pm | ■ | LIFE ALL-IN project next steps                                                                                               |



# ROUND TABLE



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# ROUND TABLE

#1

How does FAMECCANICA approach the research on sustainability? How do you design the sustainability path and how do you interact with the clients about this topics?



# ROUND TABLE

#2

Are you considering how to make sustainable the entire value chain in which you operate? How do you involve the supplier/vendor within the sustainability path?



# ROUND TABLE

#3

Could you explain to us how to take part in a LIFE project? I know you already participated in the glueless project.





# ROUND TABLE

#4

How do you manage the dissemination of this kind of projects? We know that it is really strategic for the European Union in order to propagate best practices and spread sustainability in different industries and different countries.



# AGENDA

10.30 am - 10.45 am

Welcome  
LIFE ALL-IN project presentation

10.45 am - 11.30 am

LIFE ALL-IN concept  
Q&A session

11.30 am - 11.55 am

**Round table: Innovation and sustainability**  
2 fundamental strategic pillars to  
successfully growth in the future

11.55 am - 12.00 pm

LIFE ALL-IN project next steps



# LIFE ALL-IN NEXT STEP

## PROGRAMME

1. Complete the processes validation for all the technical actions
2. Complete the LCA calculation to verify the final environmental impact of the project
3. Continue the Life ALL-IN dissemination and networking to obtain the expected results of economic growth, job creation and health benefits



# TO KEEP IN CONTACT

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program

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