



FIBFAB

NEWSLETTER

ISSUE 3 - JUNE 2019

WELCOME TO THE THIRD NEWSLETTER OF FIBFAB
Discover the latest developments of the FIBFAB project!

WHAT IS FIBFAB PROJECT ABOUT?

FIBFAB will improve the performance of PLA based fibres by adapting its processability and functionality, maintaining biodegradability properties, to reach the same process speed as the current materials (PES).

OBJECTIVES AND ADVANTAGES

FIBFAB project aims to industrialize and successfully launch the production of biodegradable and sustainable polylactic acid (PLA) based fabrics (wool/PLA and cotton/PLA) for the applications in casual, protective and workwear clothing, and to overcome the current limitations of PLA fibres as a real alternative to current fabrics (wool and cotton combined with polyester fibres).

- > To obtain a final clothing product 100% bio-based and biodegradable that meets the mechanical performance requirements of the textile sector.
- > To improve the thermal resistance of PLA fibres (target > 90°C).
- > To improve extrusion process for PLA fibres (fine fibres less than 3 dtex, friction control in ring spinning process) to be able to spin PLA blend fibres at high speeds.
- > To reduce the market dependence of Asian countries and improve the competitiveness of the textile sector by creating a new concept of clothing that fits the expectations of customers with high ecological awareness.

PLA FIBRE PRODUCTION



Enhance PLA
crystalization



YARNS & FABRICS MANUFACTURE

Compact Ring
Spinning
Weaving
Dyeing and
Finishing



Ring Spinning
Knitting
Weaving



ECONOMIC & ENVIRONMENTAL EVALUATION

- Life Cycle Analysis
- Economic Analysis



PRODUCT VALIDATION

Evaluation parameters:
Tensile strength,
elongation, shrinkage...
Marketing strategy,
consumer survey, busi-
ness plan, etc.



FIBFAB PROJECT IS ABOUT TO FINISH!

FIBFAB - PROGRESS SO FAR AND WHAT'S NEXT

FIBFAB is a 33 months project which started on 1st of January 2017 and will end next September. Since the project started the consortium has been working on the development of new bio-based and biodegradable fibres (PLA/cotton and PLA/wool) for clothing applications. This work will allow the team to select the most efficient materials and lead onto the development of the final garments 100% biodegradable.

During the last months, the project consortium has been working on the optimization of the new compound properties to be used in clothing applications. The work has been focused primarily on the suitability of the material for the melt spinning processes and upscaling the processes in industrial installations reaching the fineness and property level that allows further processing in yarn spinning and the fabric manufacture.

Based on the project results, PLA staple fibers with improved properties have been obtained on an industrial staple fiber line. The fibers reach the requirements for these applications on mechanical properties, shrinkage, titer and crimp. These fibers are now being evaluated on yarn spinning in combination with cotton and wool.

	Cotton type fiber	Wool type fiber
Titer (dtex)	1.7	2.65
Fiber length (mm)	38	84
Tensile strength (cN/tex)	42.2	41.3
Elongation (%)	36.3	48.4
Crimp contraction (%)		18.4
Crimp stability (%)		83.8
Hot air shrinkage (130°C, 10') (%)		2.9

Main properties of the reference fibres made by cotton and wool.

PROJECT MEETINGS

FIBFAB project meetings are an opportunity to visit the different partners' facilities and see how the project progresses on the ground. The last meeting has been hosted by AIMPLAS.

The objective of the meeting was to show the performed activities and to plan the following ones.

During the next months, the consortium will continue to work on the optimization of the industrial processes to be able to commercialize the new sustainable fabrics and garments developed.



PROJECT WEBSITE AND TWITTER

You can check our website and twitter to obtain regularly new information but if you would like to follow the project even closely, you can become a stakeholder and express your support through a letter or an email to **fibfab@aimplas.es**

FUTURE ACTIONS

In the last months of the project, partners will be focused on finishing the industrial scale-up processes to be able to commercialize the new fabrics developed.

FIBFAB DISSEMINATION ACTIVITIES

In the last months of the project, partners will be focused on finishing the industrial scale-up processes to be able to commercialize the new fabrics developed.



YUNSA at the 8th International Textile Conference

YUNSA participated with an oral presentation at the **8th International Textile Conference in Istanbul 14-16th April 2018**. The conference was enriched by the presentations of a lot of academicians and sector experts from four corners of the world. Academicians and experts discussed about the textile sector and the theme *"Current and Future Developments in Innovations and Enterprises in Traditional Textile, Technical Textile and Ready-Made Clothing Areas"*.



Workshop organised by SINTEX

SINTEX organised a workshop about FIBFAB project intentions and results for members and partners of Cluster of technical textiles **last 20-21st June 2018 in Czech republic**. Academic audience as well as industrial specialist took part at this event. They were mostly interested in a project progress and final use of newly developed materials.





AIMPLAS attended the **DORNBIRN Congress** that was held **last 12-14th September 2018 in Austria**. More than 700 participants from over 35 nations made use of the congress to learn more about the most recent innovations in the global fiber industry.



AIMPLAS showed FIBFAB latest results at **the INFODAY H2020 (SME Instrument, FTI and FET Open)** that was held in **Castellón (Spain)** the last **26th of September**. Our project was invited as a succesful case in Fast Track to Innovation from the "European Innovation Council".



CENTEXBEL Conference on Biobased textiles and Plastics

CENTEXBEL organised a **conference on biobased textiles and Plastics on 16th of October 2018 in Gent, Belgium**. During the conference, a selection of recent material developments in the field and notable product developments were presented. The developments in the Fibfab project received a central place in the conference.

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Two articles were published in Bioplastics Magazine (Nov/Dec 2018) and Chemical Fibers International (December 2018) during the last part of the year.

The video project has just been released. You can see it here.

<https://www.youtube.com/watch?v=bUwublw-CGO>



ChemPlastExpo (7-9 May 2019) is an annual event focused on the chemical and plastic industry, with more than 200 exhibiting companies, to discover the trends that will mark the most immediate future of the chemical and plastic industry at the level of materials, technologies and management models. This year, AIMPLAS was there carrying out a workshop about FIBFAB where the results of the project were launched.

STAY IN TOUCH

WITH FIBFAB

You can stay up to date with the FIBFAB project or contact the consortium directly via:



fibfab@aimplas.es



<http://www.fibfab-project.eu/>



@fibfabproject

ABOUT HORIZON 2020 FAST TRACK TO INNOVATION PROGRAMME

This project has received funding from the European Union's Horizon 2020 Fast Track Innovation Pilot programme (H2020-FTIPilot-2016-1) under grant agreement No 737882.

The FTI pilot is the only fully-bottom-up measure in Horizon 2020 promoting close-to-the-market innovation activities that is open to all types of participants. FIBFAB project is one of the 15 funded projects of a total of 280 projects proposals that were submitted in the fifth round of the scheme.

FIBFAB PARTNERS

AIMPLAS' fields of work are related to technological research and development on thermoplastic and thermosetting plastic materials & products, its transformation processes and their recyclability and sustainability. www.aimplas.net

Centexbel (CTB) is the Belgian scientific and technical centre for the textile industry, located in the heart of the Belgian textile industry with strong links to the majority of the textile companies. CTB offers a complete range of standardized testing, it is a notified body for protective clothing and can deliver CE marking and testing. CTB is also involved in standardization committees and offers technological advice and training to companies in Belgium and abroad. www.centexbel.be

Yünsa Yünlü Sanayi ve Ticaret A.Ş. Established in 1973, Yünsa ranks among the world's top five producers of worsted fabric, with its sales and operational excellence, flexibility in production and product innovation, cost reduction-oriented approach, vision and its experience in industry. Yünsa is Turkey's and Europe's largest worsted wool fabric producer and exporter. www.yunsa.com.tr/en/

SINTEX is equipped with a sampling warper and loom enabling to manufacture small amounts of standard or special materials into various kinds of woven fabrics. The major part of SINTEX product portfolio is dedicated to sport knits and functional clothing with specific properties. SINTEX also produce a broad range of protection textiles such as heat resistant, fireproof, antistatic, and antibacterial. It also produces ringspun yarns mainly based on aramid and POP. www.sintex.cz/en/



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