

Basic project information:

Programme(s)

H2020-EU.3.2. - SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy Main Programme
H2020-EU.2.1.4. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies – Biotechnology
H2020-EU.3.2.6. - Bio-based Industries Joint Technology Initiative (BBI-JTI)

Topic(s)

BBI-2019-SO3-R9 - Develop bio-based fibres and/or functional molecules to improve the performance of textile products

Glaukos – Circular Solution for the Textile Industry

Glaukos answered the call topic published in 2019 of Horizon 2020 Framework Programme '[Develop bio-based fibres and/or functional molecules to improve the performance of textile products](#)' under the Framework of the Bio-based Industries Joint Undertaking (BBI JU).

The consortium partners took up this challenge by valorising industrial side streams and setting up a circular approach to the textile industry. The project developed alternative polymers that could help slash the microplastic pollution caused by clothing and fishing gear. The individual innovations achieved by the partners can be discovered in individual videos around the value chains on the project [website](#).

Comprehensive Collaborative Efforts Across Target Value Chains

The consortium of Glaukos (14 partners: 3RTOs, 9SMEs and 2 large industries from Belgium, The Netherlands, Germany, Denmark, Spain, Italy, Slovakia and Turkey) included all key disciplines required to cover the clothing and fishing gear value chains on the targeted Technology Readiness Level (TRL). Individual interviews with all partners are available [here](#).

Belgian-based partners brought a wealth of expertise to the project.

[Bio Base Europe Pilot Plant](#) a state-of-the-art facility operating from laboratory to multi-ton scale for bio-based products and processes, scaled up the fermentation and purification processes to produce bio-based monomers to Technology Readiness Level 5 (TRL5).

[B4Plastic](#) a polymer architecture SME, developed various polymer families to meet the diverse requirements of the Glaukos polymer.

Another SME, Innovative Coating Solutions ([I-Coats](#)) created tailor-made coatings to meet market needs for fibres, rope, netting and wire rope, providing solutions for overlay finishes and coatings.

And [Eurocord](#), the European Association of Rope, Twine, and Netting Manufacturers, along with their suppliers and affiliate industries, actively disseminated and communicated information to the stakeholder group of rope and net manufacturing companies.

Following a Holistic Approach to Mitigate Plastic Pollution

- **Reducing Environmental Footprints:** The consortium aimed to significantly reduce the carbon and plastic footprints of clothing and fishing gear, recognizing the immense impact these industries have on our planet.
- **Innovative Biobased Textiles:** By developing biobased textile products with a unique environmental profile—bio-recyclable when possible and biodegradable when needed—offering a sustainable alternative to traditional materials.
- **Empowering Stakeholders:** By providing policymakers, industry leaders, and other stakeholders with advanced methods and tools, the project aimed to enable a reliable assessment of the textile value chain and its environmental and societal impacts.
- **Accelerating Commercialization:** Leveraging the polymer design principles of partner [B4Plastics](#), the consortium aimed to fast-track the commercialization of high-volume products like fishing gear and clothing.
- **Shifting to Biobased Coatings:** With partner [I-Coats](#), the project aimed to transition from fossil-based to (partly) biobased coatings, further reducing reliance on non-renewable resources.

Translating Research Findings into Actionable Policy Recommendations

The 10 workshops organized by the project, involving over 400 stakeholders, served as catalysts for dialogue, enabling participants to exchange insights, share concerns, and collaboratively explore solutions to environmental challenges. The Glaukos project, in collaboration with the Bio-Plastics Europe project, implemented a “Projects2Policy” format aimed at translating research findings into actionable policy recommendations.

This concept effectively addressed challenges related to engaging policy decision-makers. Its objectives were twofold: to shorten the gap between projects and policies, and to facilitate the exploitation of project results as recommendations for future policies. In order to achieve these objectives:

- Discussions were structured around relevant challenges proposed by policymakers.
- Projects addressing these challenges were mapped and involved.
- Structured discussions were stimulated within the workshops to generate actionable knowledge.

Navigating Challenges and Celebrating Successes in Project Rollout

The success of the project demonstrated that with concerted effort and innovative thinking, it is possible to create sustainable solutions that benefit both the environment and the industries reliant on these materials. This success story has inspired confidence and optimism among all stakeholders involved. However, the path to these achievements was not without hurdles. The development of sustainable materials proved to be a complex process, involving intricate challenges such as polymerization, spinning, coating, and weaving. Despite these obstacles, the project persevered through rigorous research and innovation, ultimately developing new biopolymers that hold great promise for the future.

Follow us on [LinkedIn](#) and read more about the project provided on Glaukos [website](#) and [Cordis](#).