



BORN NEWSLETTER

ISSUE 2 - SEPTEMBER 2026

One year of BORN: from breakthrough science to a more sustainable future

As we celebrate the first year of the BORN project, it is a pleasure to look back at the progress made since our journey began on 1 October 2025. Over these first twelve months, BORN has brought together complementary expertise and a shared ambition: to develop biobased, biodegradable and thermally resistant materials capable of meeting the demanding requirements of food packaging.

The past year has been marked by intense scientific activity, collaboration and growing visibility. Our work on tailoring the crystallization and processing of poly(L-lactic acid) is advancing our understanding of how to engineer the thermal and functional performance needed for sustainable packaging solutions.

Important milestones have been achieved. The first was the launch of **BORN-TIPTOP**, our EIC Booster Grant initiative. By combining BORN's nature-inspired biopolymer technology with paper-coating expertise, this new activity takes an important step toward high-barrier, paper-based food packaging compatible with existing recycling streams. It represents precisely the kind of pathway we envisioned for BORN: connecting ambitious research with future industrial application.

A second important milestone was the publication of BORN's first JCR paper in Polymer (Elsevier): "Enhancement of crystallization kinetics of poly(L-lactic acid) via peroxide-initiated melt reaction with triallyl phosphate", jointly authored by the CNR and KTH teams (<https://doi.org/10.1016/j.polymer.2026.130730>), which details a 15-fold increase in crystallization rate poly(L-lactic acid) as preliminary result. The BORN project activities and results have also been presented at major international conferences, creating opportunities to exchange ideas with the wider polymer and materials science community.

Alongside these scientific achievements, significant progress has been made toward the project's biodegradation and sustainability objectives. **The first list of additives for biodegradation testing has been established**, providing an important basis for the next stage of experimental work. **Preliminary exploitation pathways have also been defined**, helping to connect the project's technological developments with potential future applications. In parallel, **guidance for process design based on early life-cycle assessment (LCA) results** has been developed, supporting the integration of sustainability considerations into material and process development from an early stage. The project is now also well prepared to move forward with biodegradation studies. The selection of additives and materials has been completed and the necessary equipment is ready for biodegradation studies in controlled conditions and simulated environments, including water and soil, with biodegradation studies in progress. These milestones mark an important transition from material development toward systematic validation of biodegradation performance.

All milestones scheduled for the first year of the project have been successfully achieved, with all planned deliverables submitted on time. Public deliverables are freely available on the BORN website at <https://www.born-project.eu/category/deliverables/>.

This first year has also been about people. From seminars and scientific exchanges to the recognition of BORN researchers within the broader EIC community, our project continues to grow through collaboration, dialogue and the dedication of its partners. The participation of BORN researchers in the EIC Women Leadership Programme and other international activities further reflects our commitment to scientific excellence and an inclusive innovation ecosystem.

Looking ahead, the challenge is clear: **to transform promising science into tangible solutions for a circular and sustainable packaging future**. The first year has laid a strong foundation. The next phase will be about strengthening our materials, validating their performance, advancing biodegradation studies, refining our exploitation pathways and moving ever closer to real-world applications.

Beyond its scientific progress, BORN has become an active voice within the EIC Circular Bioplastics Portfolio. By working closely with five sister projects, BORN is helping build synergies across science, regulation, exploitation and communication.

We invite you to explore this second issue of the BORN Newsletter and join us as the project enters its next exciting chapter.

Happy reading!

Maria Laura Di Lorenzo
BORN Project Coordinator

NEWS

BOOSTER GRANT AWARDED

BORN Project has been awarded the Booster Grant **BORN-TIPTOP**: Market Entry Add-On: High-Barrier Paper-Coated Food Packaging in collaboration with One.Five company (Germany)

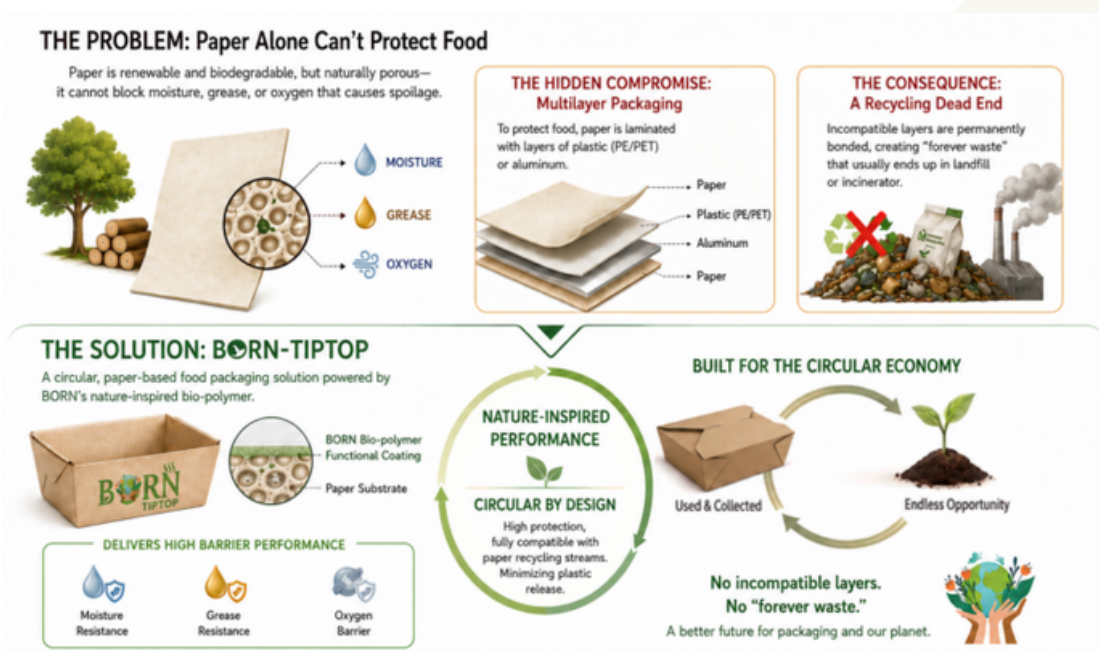
Grant Agreement: BOOS_08_08
Duration: 1 June 2026 – 31 May 2027



BORN-TIPTOP is accelerating the transition toward truly circular food packaging by combining BORN's nature-inspired bio-polymer technology with industrial-scale paper coating expertise.

The goal is to develop high-barrier paper-based food packaging that delivers the performance required for food protection while remaining fully compatible with existing paper recycling streams.

As new EU Packaging and Packaging Waste Regulation (PPWR) targets accelerate the shift away from fossil-based multilayer packaging, BORN-TIPTOP aims to help bridge the gap between breakthrough material innovation and scalable industrial adoption.



- RENEWABLE AND BIO-BASED
- BIODEGRADABLE IN NATURE
- REDUCES PLASTIC RELEASE AND POLLUTION
- BETTER FOR THE PEOPLE
BETTER FOR THE PLANET
- HIGH BARRIER PERFORMANCE

BORN-TIPTOP

NEWS



**EIC WOMEN
LEADERSHIP
PROGRAMME**

European
Innovation
Council



ELENA TORRIERI SELECTED TO JOIN THE *EIC WOMEN LEADERSHIP PROGRAMME* 2026!

Elena Torrieri, associate professor in Food Science and Technology at University of Napoli, plays key roles in BORN Project, as member of BORN Executive Committee, and Leader of WP2.

EIC Women Leadership Programme programme brings together women entrepreneurs, innovators and researchers from across Europe to strengthen leadership capabilities, expand professional networks, and support the growth of breakthrough innovations within the hashtag #EUeic ecosystem. Looking forward to learning, connecting with inspiring peers and mentors, and growing throughout this journey.

Elena was also invited to participate in the EIC Summit 2026 / Innovation Forum, that took place on 3–4 June at Tour & Taxis in Brussels.



MONIKA DOBRZYŃSKA-MIZERA (PUT) RECOGNIZED AMONG THE *TOP 10 WOMEN IN TECH SUMMIT* 2026

Dr. Monika Dobrzyńska-Mizera, leader of Politechnika Poznańska research group in BORN was recognized among the Top 10 Women in Tech Summit 2026 by the Perspektywy Women in Tech Foundation.

This prestigious distinction celebrates outstanding women whose achievements are actively shaping the future of science, technology, and innovation.

Monika's groundbreaking work in advanced biomaterials and sustainable polymer technologies perfectly exemplifies the excellence and real-world impact that the BORN project strives to deliver.



EVENTS

**APR 15
2026**

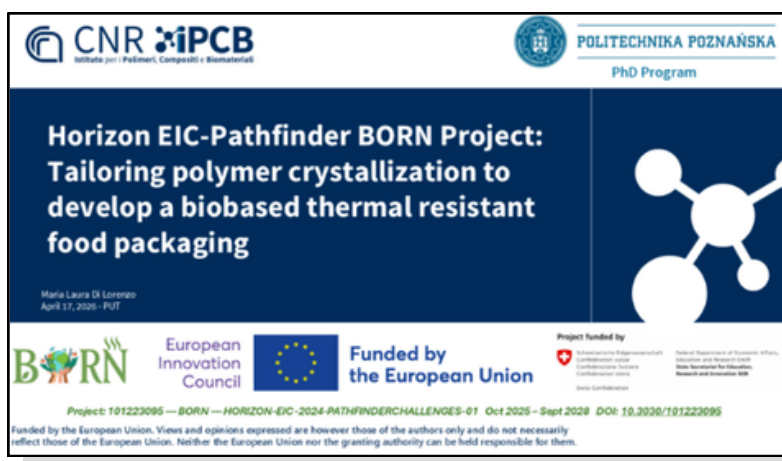
Plenary lecture at Poznań University of Technology delivered by Maria Laura Di Lorenzo



As part of her Visiting Professorship at Politechnika Poznańska – Poznań University of Technology (PUT), Maria Laura Di Lorenzo, Coordinator of BORN – EIC Pathfinder Project, delivered a plenary lecture titled “Manipulation of crystallization kinetics as a tool to engineer properties of poly(L-lactic acid)”

**APR 17
2026**

Seminar day for PhD students at Poznań University of Technology held by Maria Laura Di Lorenzo



Maria Laura Di Lorenzo, BORN Coordinator, held a Seminar Day for PhD students on BORN Project during her Visiting Professorship at Politechnika Poznańska – Poznań University of Technology (PUT), in Poznań, Poland.

The Seminar Day, titled “Horizon EIC-Pathfinder BORN Project: Tailoring polymer crystallization to develop a biobased thermal resistant food packaging” was held on April 17. It provided valuable insights into the project’s objectives, interdisciplinary approach, and its impact on advancing research and innovation in the field. The Seminar Day also offered an excellent opportunity for PhD students to engage in discussion and exchange ideas.

CONFERENCES



BORN at Polymer Processing Society 2026 May 31 - June 4 – Paestum (Italy)



BORN Project Coordinator, Maria Laura Di Lorenzo, presented the oral contribution “Enhancement of Crystallization Kinetics of Poly(L-lactic Acid) by Reactive Processing” showcasing results generated within the BORN project, focusing on reactive processing strategies to enhance the crystallization kinetics of poly(L-lactic acid) (PLLA). These findings contribute to improving the performance and processability of sustainable polymeric materials, supporting the transition toward more environmentally friendly solutions.



BORN at AIM Macrogiovani 2026 June 10-12 – Rome (Italy)



Aniello Staiano (CNR) presented his research work: “*Enhancement of crystallization kinetics and thermal stability of poly(L-lactic acid) via peroxide-initiated melt reaction with triallyl phosphate*” during AIM Macrogiovani, an important event bringing together young researchers and experts in polymer science. The study explores innovative strategies to improve the crystallization behavior and thermal stability of poly(L-lactic acid) (PLLA), contributing to the development of more performant and sustainable polymeric materials.

CONFERENCES



BORN at Milan Polymer Days 2026
July 1-3 – Milan (Italy)



**MARIA LAURA
DI LORENZO**
 Italian National Research Council (CNR-IPCB),
 Pozzuoli, Italy

*Tailored crystallization kinetics: a tool to engineer
 properties of poly(L-lactic acid)*

KEYNOTE SPEAKERS

Maria Laura Di Lorenzo (IPCB-CNR) presented BORN project as keynote lecture:
 Tailored crystallization kinetics: a tool to engineer properties of poly(L-lactic acid)



BORN at IWA World Conference on Anaerobic Digestion
June 9-13 – Valencia (Spain)



Stefania Angelini (CNR) presented her research titled “No Time to Waste: Biorefining of Bioplastic Waste via Chemical and Microbial Recycling”. Driven by the motto “No time to waste”, this study explores novel chemical-microbial recycling strategies to recover building blocks from bioplastics waste to be upcycled up to value-added products, like volatile fatty acids. The study provides insights into how chemical and microbial recycling routes can act synergistically and be integrated into a novel biorefinery platform where waste is conceived as a resource.

CONFERENCES



BORN at EuChemS Chemistry Congress 2026 July 12-16 – Antwerp (Belgium)



Speaker:
Dr. Stefan Hahn



July 13, 2026, 16:45, in Session EE5 - D1 - O20
**Applying the SSbD concept
in the development of
biobased biodegradable
polymers**

Stefan Hahn (Fraunhofer ITEM) delivered a presentation on the application of Safe and Sustainable by Design (SSbD) principles in the development of innovative polymer materials.

The presentation, titled “Applying the SSbD concept in the development of biobased biodegradable polymers,” highlighted how integrating SSbD principles from the earliest stages of material development can support the creation of biobased, biodegradable polymers that combine innovation with sustainability and safety.



BORN at AIM 2026 September 6-9 – Turin (Italy)



Alessandra Longo (CNR) presented her research work: “Tuning PLLA Crystallization Kinetics via Reactive Extrusion Branching Strategies” during the Italian Association of Macromolecular Science and Technology (AIM) annual meeting. The study explores innovative pathways for the enhancement of poly(L-lactic acid) (PLLA) crystallization behavior and thermal stability based on branching strategies.

EIC PORTFOLIO



**EIC Circular BioPlastic
Portfolio Website is online:**
<https://www.eiccircularbioplastics.eu/>



The EIC (European Innovation Council) Circular Bioplastics is a collaborative portfolio of six PATHFINDER projects funded under Horizon Europe. The initiative focuses on producing safe, high-performance biopolymers from natural waste instead of fossil fuels, while advancing new recycling systems, antimicrobial materials, and soil-biodegradable packaging.

The portfolio aims to translate these early-stage research innovations into scalable, market-ready solutions by aligning exploitation strategies, addressing regulatory hurdles, and strengthening connections with industry stakeholders.

The six pioneering participant projects include:



Nature-inspired food packaging and agricultural films.



Biodegradability by design and upcycling strategies.



Agricultural and specialized bio-based polymer pathways.



End-of-life strategies and biodegradation pathways from biorefinery feedstocks.



Composting and recycling pathways designed for bio-based packaging.

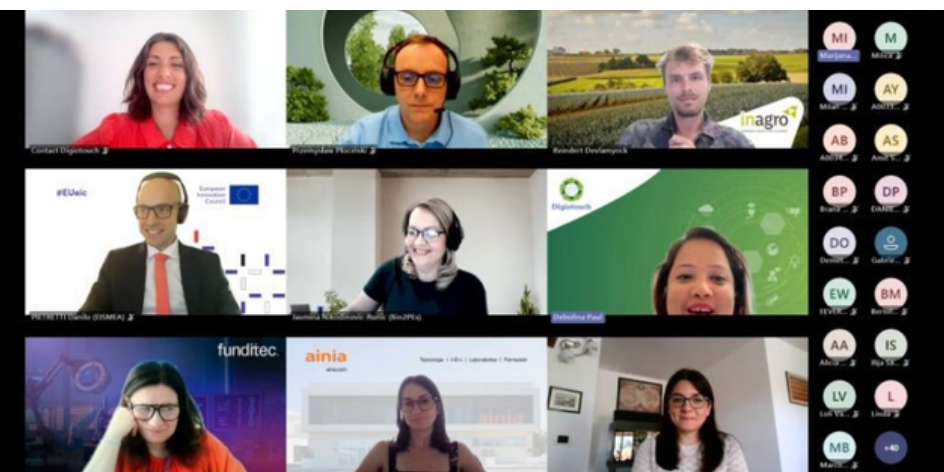


Safe-and-sustainable-by-design (SSbD) frameworks.

PORTFOLIO EVENTS

**JUL 13
2026**

Webinar: Recycling Biopolymers — Exploring the End-of-Life of Bio-Based Plastics



Bio2Pes organises “Recycling Biopolymers”, a webinar bringing together six projects from the EIC Circular Bioplastics Pathfinder to discuss recycling, biodegradation and end-of-life strategies for bio-based materials.

Stefania Angelini (CNR) presented BORN Project at the webinar “Recycling Biopolymers” organized by the Portfolio Project Bio2PEs

**13
JULY
12:00**

MEET THE
SPEAKER



**Safe and Sustainable
Design to Circular
Fate: Integrating
Recycling and
Biodegradation
of Thermally
Resistant Bio-Based
Materials**

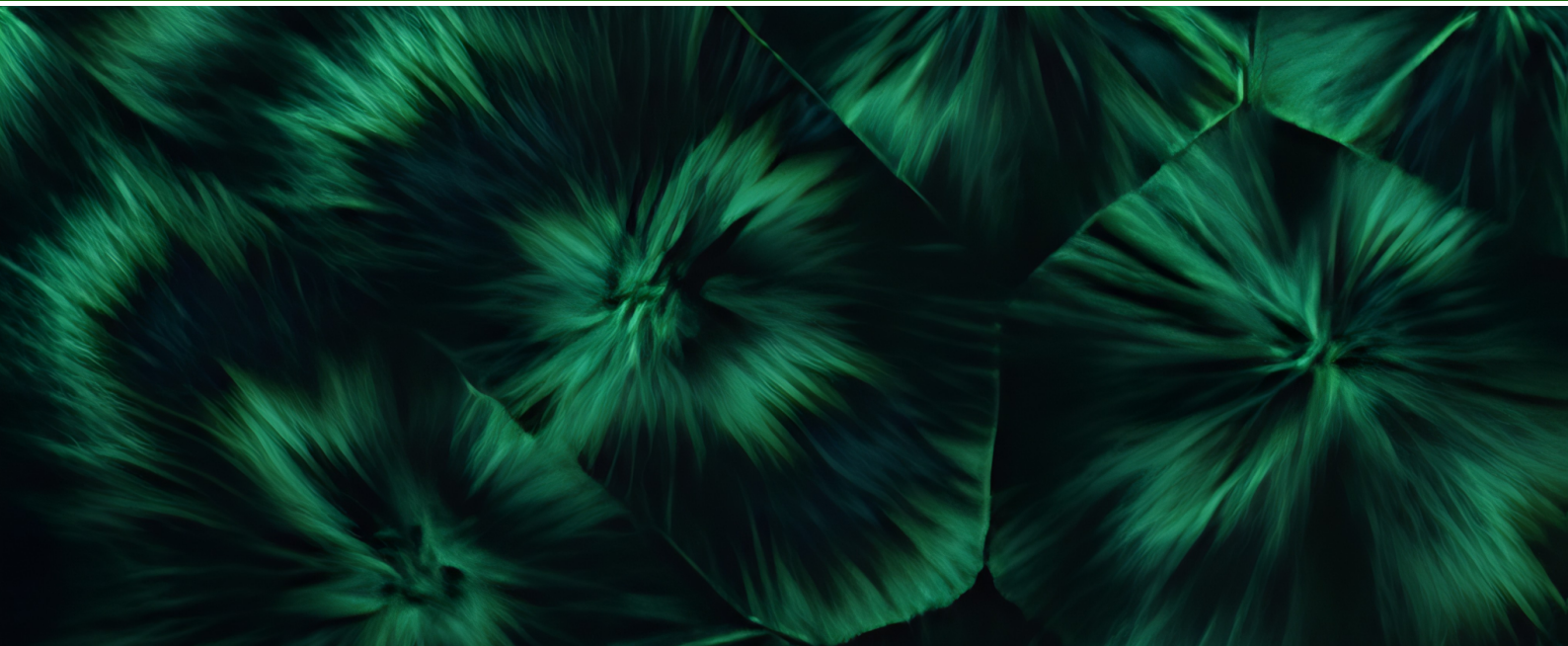


**STEFANIA
ANGELINI**

*Researcher at the Water
Research Institute
of National Research
Council (Italy)*



Funded by
the European Union



**BiObased theRmal resistaNt food packaging (BORN), EIC Pathfinder
GA 101223095 Oct 1, 2025 - Sept 30, 2028**

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BORN - EIC Pathfinder



***A sustainable
material's journey:
born to be heat
resistant***

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European
Innovation
Council



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