

NEWSLETTER

7TH ISSUE NOVEMBER 2024



LIGNICOAT

SUSTAINABLE COATINGS BASED ON LIGNIN RESINS AND BIO-ADDITIVES
WITH IMPROVED FIRE, CORROSION AND BIOLOGICAL RESISTANCE

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Join us on:

@LIGNICOAT



This project has received funding from the Bio-based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 101023342. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio-based Industries Consortium.



Bio-based Industries
Consortium



Horizon 2020
European Union Funding
for Research & Innovation



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1. WELCOME

Dear LIGNICOAT Community,

As we have reached the conclusion of our 42-month LIGNICOAT project, we reflect on the incredible journey of collaboration, innovation, and progress it was. This final newsletter aims to summarize and highlight our recent work progress, update you on the latest activities and achievements, and celebrate the effort and dedication of all consortium members in developing and advancing the bio-based coatings industry.

As you may already know, we focused on integrating lignin feedstock in our resin formulations and increasing the bio-based content of such formulations with more sustainable solutions throughout the project. In addition to technological advancements and creating a new value chain that connects lignin suppliers, RTOs, and coating manufacturers, our efforts led to numerous publications, successful training, and workshops for disseminating and exchanging information and knowledge in the bio-based community. As we prepare for our final general assembly in San Sebastian, we invite you to explore the highlights of our journey in this newsletter.

Thank you for supporting and following the LIGNICOAT project.

Warm regards,

The LIGNICOAT Team



LIGNICOAT gathering at the M36 project meeting in Stavanger, Norway (NORCE).



2. PROJECT UPDATE

CURRENT PROGRESS

100%



14 PARTNERS



42 MONTHS



8 COUNTRIES



8 WORK PACKAGES



EUR ~5 MILLION

TIMELINE

M36 Project Meeting and visit to NBioC

Stavanger, Norway

19-20 June 2024



LIGNICOAT Joined ExpandFibre

June 2024

LIGNICOAT Workshop with THERMOFIRE

and VIABLE projects

Online

15 October 2024



LIGNICOAT LCA Training with ALIGNED

Online

17 September 2024



M42 Final Project Meeting

San Sebastian, Spain

19-20 November 2024



2. PROJECT UPDATE

Submitted Deliverables

In the recent months, several significant deliverables have been submitted. We have delivered lignin-based epoxy resins, final reports on life cycle assessments (LCA), and the yearly key performance indicator questionnaires. Here is the list:

Number	Title	Lead Beneficiary	Nature
D2.3	300-500 grams of at least 3 lignin based epoxy resin for task 4.4 (M20) and 1-2Kg of 1-2 lignin based epoxy resin for task 4.4 (M36)	WESTLAKE	Demonstrator
D5.3	Preliminary report of SLCA of coating solutions.	ARDITEC	Report
D5.5	Final report of LCA, LCC and SLCA of coating solutions.	ARDITEC	Report
D6.10	KPI and Impact questionnaire v4 (2024)	AXIA	Report

Deliverables submitted in the last months



We conducted different preliminary tests on our lignin-based coatings to evaluate the main coating parameters (hardness, gloss, transparency, adhesion, durability), preliminary fire-reaction performance, and charring formation.

The pre-selected material was then assessed through the cone calorimeter test.



3. WORK PROGRESS & RESEARCH HIGHLIGHTS

CONSORTIUM PROGRESS

In this last period, our project coordinator and leader of WP4 on biocoatings formulation worked along with **IRIS Coatings** on the selection of the best flame-retardant (FR) wood coatings (taking into account the results of cone calorimeter tests and general coating properties) for passing the final fire validation tests.

In particular, the following bio-coatings were developed:

- **Water-borne FR biocoatings with B_{fl-s1} floors.**
- **Solvent-borne FR biocoatings with $B-s1, d0$ for walls and ceilings**

In Task 4.3, final bio-paints for metal surfaces with good antibacterial and antiviral properties were validated and characterized. Related to this task, TECNALIA will submit D4.3, Development of bio-coatings for antiviral-antimicrobial protection, for the end of the project.



The single burning item test (EN 13823) involves applying a heat flux of 40-50 kW/m² to a limited area of the tested material. Our bio-coatings successfully reached B-s1, d0 classification.



Floor radiant panel test (EN ISO 9239-1). A heat flux of 0 to 11 kW/m² is applied along the specimen. Our bio-coatings reached the B_{fl-s1} classification.



VITO completed all research activities planned in M36 (May 2024), and recently published an article on ACS Sustainability Chemistry & Engineering (see more in the 4. News section).



3. WORK PROGRESS & RESEARCH HIGHLIGHTS

CONSORTIUM PROGRESS

VTT, the Technical Research Centre of Finland, published and presented the main results of its tasks within the project. The disseminated results aimed to illustrate the progress achieved in **developing anti-corrosion coatings** from bio-alkyd resin in terms of characterization of **kraft lignin fractionation** and **production of dispersants** for special carbon black.

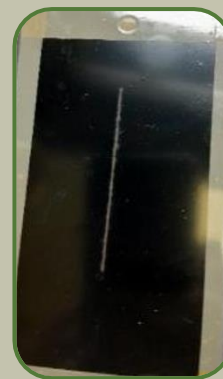
VTT

BARPIMO
COATINGS

BARPIMO, leader of WP2 on bio-resins based on lignin, utilized low molecular weight fractionated lignin provided by VTT in their formulations. They experimented with varying concentrations (10%, 15%, 20%, and 25%) of lignin in the alkyd resin. The **15% lignin formulation** was identified as optimal, achieving a balance between drying time, gloss, and overall performance. Higher concentrations resulted in longer drying times and were deemed unsuitable for practical applications.

In particular, the 15% lignin composed of **50% bio-based content** exhibited a drying tack-free time of approximately 144 minutes (standard alkyd 126 min), gloss 60° levels around 90 (standard alkyd 89), a solid content of 42%, and an oil content of 38%. The main challenge is the dark brown color of the lignin-modified resin. Future work is necessary to optimize formulations and scale up production for industrial applications, and aim to develop a formulation with up to 95% biobased content by further substituting petrochemical components with biobased materials.

LIGNICOAT bio-alkyd resin with 51% bio-based content and 15% lignin polyacids show moderate flow and rich dark brown color.



LIGNICOAT bio-alkyd coating cured at 150°C for 1 hour. From left to right, the samples represent no test, salt-spray test, and adhesion, impact, blending, and cupping tests.



3. WORK PROGRESS & RESEARCH HIGHLIGHTS

CONSORTIUM PROGRESS

For AEP Polymers the main goal for this last part of the project was to complete the design of a model formulation based on the lignin-epoxy resin developed by Westlake, which is to be used in coil coating on aluminum. Results show that lignin-epoxy can be used in designing long pot-life, two-component formulations based on melamine crosslinkers.

Performances seem to be similar to commercial benchmarks, with a reduction of the curing temperature (a.k.a. Peak Metal Temperature, PMT) of 30-35°C with respect to the two benchmarks. AEP will include these last results in D4.4 Development of biocoatings for metal film coating applications.

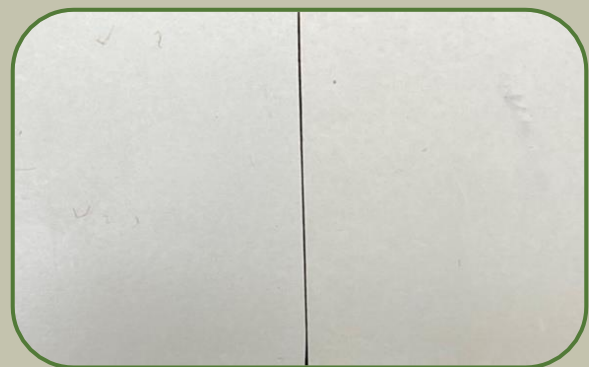


FORESA has been working on WP4 "Biocoatings formulation", preparing **wood coating formulations using the sugar-modified melamine-formaldehyde (MF) resin** developed in WP3 "Bioadditives for coatings" and bio-additives (thymol or soft hop resins), which provide **antimicrobial efficacy** to the bio-coating. The product prepared with thymol shows good

aspects, while the soft resin gives a light yellow color on the white surface. Both alternatives have similar surface properties regarding adhesion and chemical and mechanical resistance to standard fossil-based alternatives.



Sugar-modified resin with thymol (left) and sugar-modified resin with hop resin (right).



Hop resin (left) and sugar resin (right) were applied to particleboards.

VENCOREX has not performed any additional work as the task on the development of bio-isocyanates was completed last year.





3. WORK PROGRESS & RESEARCH HIGHLIGHTS

CONSORTIUM PROGRESS

In the last period, AXIA focused on organizing and **moderating two online clustering activities** that attracted more than **200 participants**. AXIA continued to communicate and disseminate the project on the project communication channels and participated in different activities such as the **ExpandFibre final event**, where it presented the project to over 150 stakeholders of the lignin, fibers, and bio-based industry in general. Internally, AXIA developed **individual business plans** for each industrial partner and conducted strategic market analysis for the LIGNICOAT solution, aligning with the LCC analysis of ARDITEC.



Regarding deliverables, with the help of partners and the project coordinator, AXIA drafted the **D6.10 KPI & Impact Questionnaire** (v4). This yearly questionnaire submitted in Sept. 2024 provides an overall assessment of the project related to some key performance indicators, including expected impacts on socio-economic and environmental outcomes. Upcoming deliverables are related to the clustering activities and the final Final Plan for Exploitation and Dissemination of Results (PEDR). Building on the various activities that the project took part in and organized within its timeline, AXIA drafted a report assessing the impact of such activities on the bio-based community, which will be included in **D6.4 Report on Clustering Activities**. Besides, the project exploitation strategy (and its connected milestone on post-project scalation) and the overall communication and dissemination plan are included in the upcoming **D6.6 Final PEDR**, which updates and builds on the previous mid-term PEDR.



NORCE's work in the last months has been focused on testing and **validating the antiviral properties** of the new resin formulations enriched in bio-additives, following standard procedures (**ISO norm**). NORCE has demonstrated effective viral load reduction for some of the formulations. Results are currently being compiled for a joint publication.

ITACyL is currently testing the biocoatings received from TECNALIA for **antimicrobial properties**. In addition, ITACyL is working to submit a paper on the results recently obtained.



ECOAT has not performed any additional work, as the task of developing bio-based polyurethane dispersion was completed already completed.



LIGNICOAT

3. WORK PROGRESS & RESEARCH HIGHLIGHTS

CONSORTIUM PROGRESS

IRIS Coatings is leading the task on biocoatings for fire protection of wood substrates. In this last period, IRIS focused on developing and carrying out **flame retardancy tests**, such as the cone calorimeter test, the floor radiant panel, and the single burning item. Although the dark color of the developed lignin-based coatings, technical parameters, and flame retardant properties were satisfactory. The developed **LIGNICOAT PU coatings with bio-based content up to 50%** (lignin content up to 30%) **passed** all the standard reactions to **fire tests**.



Final coatings prototypes for two target classes: flame retardant coatings reaction to fire $B_{fl}-s1$ (left), and intumescent coatings reaction to fire $B-s1, d0$ (right).



LIGNICOAT coatings colors (upper row) and typical wood stain color palette (bottom row).



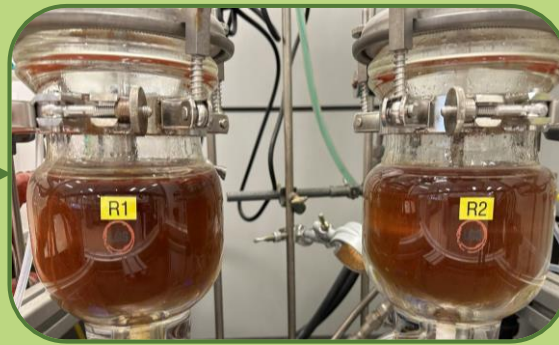
During the last months, ARDITEC concentrated on completing three sustainability assessments—Life Cycle Assessment (LCA), Life Cycle Costing (LCC), and Social Life Cycle Assessment (SLCA). These evaluations focused on four bio-coating end-products, each designed for a specific application: fire protection, anticorrosion, antimicrobial, and metal protection. The goal was to highlight each innovative bio-coating's environmental and socio-economic benefits and benchmark them against their petroleum-based counterparts. The final deliverable, **D5.5: Final Report on LCA, LCC, and SLCA of Coating Solutions**, was submitted in September 2024 (M40), advancing LIGNICOAT's sustainability objectives by addressing carbon footprint, fossil resource use, human toxicity, water depletion, and more.



3. WORK PROGRESS & RESEARCH HIGHLIGHTS

CONSORTIUM PROGRESS

After facing challenges in adapting technical resins into epoxy production, Westlake Epoxy successfully **integrated aromatic epoxy resins into its formulations**. The development process involved testing new substrates in small-scale reactors, progressively moving to larger reactors before pilot testing. In particular, inline analysis and characterization were performed using methods like NMR and GPC to ensure the safety and efficacy of the processes.



Development of coil coatings formulation and ambient cure system from epoxy resins starting from VITO's depolymerized lignin (left), 250 mL parallel reactors (middle), and application (right).



4. NEWS

M36 Consortium Meeting in Stavanger, Norway

The M36 Consortium Meeting of the LIGNICOAT project took place in Stavanger, Norway, on June 19–20, 2024. Hosted by our partner, NORCE, the Norwegian Research Centre, this two-day meeting included a **visit to the Norwegian Bioprocessing and Fermentation Centre (NBioC)** and presentations from various partners focusing on the development of lignin biocoatings formulation, environmental and economic assessment, and dissemination and exploitation strategy. As the project enters its final six months, this meeting was essential for aligning efforts and ensuring a successful conclusion.



LIGNICOAT Publication in ACS Sust. Chem. & Eng.



Article Publication

Hardener-dependent properties of twice renewable epoxy resins combining tailored lignin fractions and recycled BPA



Our partner VITO (Flemish Institute for Research and Technology) has published a research paper titled **"Sustainable Coatings Based on Lignin Resins and Bio-additives with Improved Fire, Corrosion, and Biological Resistance"** in the prestigious journal ACS Sustainable Chemistry & Engineering. This article presents the potential of combining recycled and bio-based components, like lignin and

recycled BPA, to create high-performance, renewable epoxy resins. To download and read the full article, click [here](#).



4. NEWS

Joint Training on LCA

On September 17, 2024, we successfully hosted a joint online training session on "**Life Cycle Assessment (LCA) for Bio-based Products**" in collaboration with the ALIGNED project. This training aimed to provide participants with a comprehensive understanding of LCA methodologies specifically tailored for bio-based materials and coatings. The training comprised three sections that combined theory with practical examples and ample Q&A discussions after each session. Designed for professionals and stakeholders in the bio-based sector, the training addressed critical aspects of LCA, including: **Scale-up from lab-, pilot-, to industrial scale; Calculation methods; Accounting of carbon** (static/dynamic and biogenic-fossil). The event attracted more than 160 attendees. Watch the recordings on YouTube [here](#). Download the slides in PDF format [here](#).



Joint Online Workshop



On October 15, 2024, LIGNICOAT, in collaboration with the [THERMOFIRE](#) and [LIFE-VIABLE](#) projects, hosted a successful online workshop focused on "**Bio-resins and Flame-retardant Additives for Coatings.**" This event brought together experts and stakeholders from various sectors, including bio-based materials, coatings manufacturers, and fire safety specialists.

Participants gained insights into the latest research findings, innovative formulations, and real-world applications of flame-retardant additives in bio-coatings and bio-based composites. The workshop concluded with an insightful roundtable discussion around the main benefits of these bio-based materials, their potential barriers, the role of policymakers in increasing adoption, and the possible future scenarios.

Watch the recordings on YouTube [here](#). Download the slides in PDF format [here](#).



4. NEWS

5th Press Release

The project was covered in the magazine **Pittura e Vernici—European Coatings** (Issue 5, January/February). The press release highlighted the recent highlights and activities of our project.

For the complete press release, please access it [here](#).

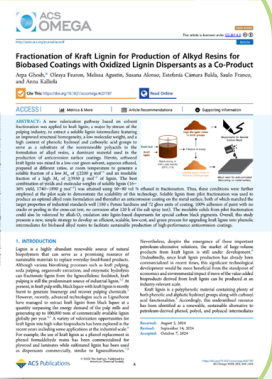


Article Publication in ACS Omega



Article Publication

Fractionation of Kraft Lignin for Production of Alkyd Resins for Biobased Coatings with Oxidized Lignin Dispersants as a Co-Product



Our partners, VTT (Technical Research Centre of Finland) and BARPIMO Coatings published a research article titled **“Fractionation of Kraft Lignin for Production of Alkyd Resins for Biobased Coatings with Oxidized Lignin Dispersants as a Co-Product”** in ACS Omega.

The article details a novel approach to valorizing kraft lignin into high-performance, bio-based coatings. Access the article [here](#).

6th Press Release on Korean Magazine

The project featured in the Korean magazine ‘LigninPLUS’ (Lignin Valorization Part 7 – 12.07.2024). The article showcases our project: the consortium, our goal, our main technologies, and our recent news.

The full press release can be accessed [here](#).





5. EVENTS

ATTENDED EVENTS



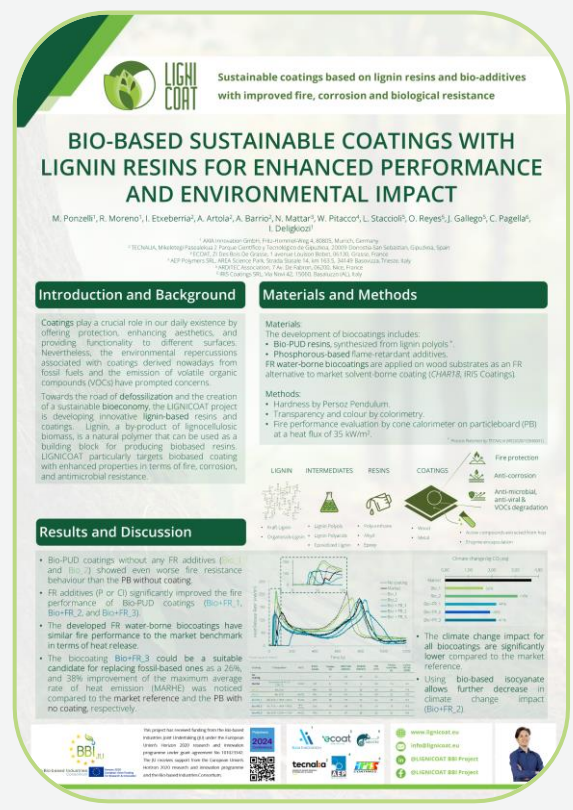
LIGNICOAT at Polymers MDPI 2024 28-31 May 2024, Athens (Greece)

On May 28-31, 2024, our Dissemination and Exploitation leader, AXIA Innovation, participated in the **Polymers 2024 Conference** in Athens (Greece). AXIA Innovation was also the event chair. This event attracted around **300 participants** and provided a platform for discussing advancements in polymer science and sustainable solutions.

In addition to being the event chair, AXIA Innovation presented a poster titled **“Bio-Based Sustainable Coatings With Lignin Resins for Enhanced Performance and Environmental Impact.”** This poster showcased the performance of our LIGNICOAT bio-based coatings in terms of fire resistance performance with cone calorimeter tests and climate change impact from LCA analysis.



LIGNICOAT at the Polymers 2024 Conference in Athens





5. EVENTS

ATTENDED EVENTS



LIGNICOAT at the Bio-Based Coatings Europe 2024 5-6 June 2024, Valencia (Spain)

Our partner, VITO, represented LIGNICOAT with a presentation titled “Bioaromatic Based Materials from Lignin for Industrial Coatings with High Performance” at the past Bio-based Coatings Europe 2024 conference. The conference gathered more than 400 attendees. LIGNICOAT’s talk was part of the “Further Research into Alternative Coating Chemistries: Part 2” session on June 6th.



In its presentation, VITO highlighted the innovative use of lignin-derived bio-aromatics in developing high-performance industrial coatings. The presentation emphasized the advantages of lignin-based chemistries, including epoxies, acrylates, and polyurethanes, which offer enhanced functional performance.



5. EVENTS

ATTENDED EVENTS

VTT

LIGNICOAT at the RRB 2024 5-7 June 2024, Brussels (Belgium)

The LIGNICOAT project participated in the Renewable Resources and Biorefineries (RRB) Conference 2024, which had 238 participants from 31 countries.

Our partner, VTT, the Technical Research Centre of Finland, represented the project with two key contributions:

- The presentation **“Fractionation of Kraft Lignin for Production of Alkyd Resin Coatings”** showcased Kraft lignin’s fractionation for producing high-performance alkyd resin coatings, developed with our coating manufacturer, BARPIMO Coatings (download [here](#)).
- The poster **“Production of Dispersants for Special Carbon Black by Oxidization of Fractionated Kraft Lignin”** detailed the production of dispersants for special carbon black through oxidizing fractionated Kraft lignin, emphasizing the versatility and industrial value of lignin derivatives (download [here](#)).



20th International Conference
on Renewable Resources & Biorefineries

5-7 June 2024, Brussels, Belgium
www.rrbconference.com



5. EVENTS

ATTENDED EVENTS

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MEMBER OF BIOMASS RESEARCH
& TECHNOLOGY ALLIANCE

LIGNICOAT at the RMC 2024

11-13 June 2024, Cologne (Germany)

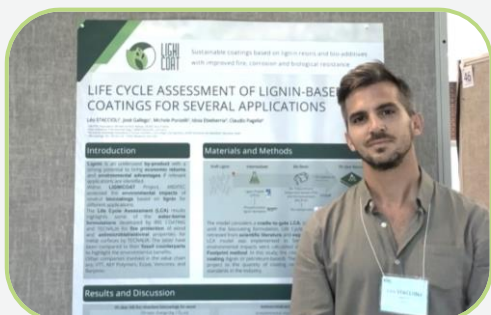
LIGNICOAT attended the Renewable Materials Conference 2024, with around 425 industry professionals attending, making this event an excellent opportunity to showcase advancements in sustainable coatings. TECNALIA presented a poster titled **“Lignin Polyols for Polyurethane Coatings.”** The poster highlighted the innovative use of lignin, detailing the synthesis of lignin polyols and the properties of both

polyurethane (PU) and non-isocyanate PU. The positive feedback and engaging discussions underscored the industry’s interest in their work. To download the poster, click [here](#).



LIGNICOAT at the Lignin Gordon Research Seminar

13 July 2024, Easton (USA)



The ARDITEC Association presented their latest research at the renowned Lignin Gordon Research Seminar (GRS) in Easton, USA on July. The poster, titled **“Life Cycle Assessment of Lignin-Based Coatings for Several Applications,”** detailed the environmental impact and sustainability of our LIGNICOAT lignin-based coatings.

Conference attendees (around 50), mainly from the scientific Community such as academia and research center, engaged with the ARDITEC team, gaining insights into the LCA methodologies and results. The poster is available for download [here](#)



5. EVENTS

ATTENDED EVENTS



Presentation at the ExpandFibre Final Seminar 19 August 2024, Tapiola, Espoo (Finland) & Online

AXIA Innovation presented the LIGNICOAT project at the final seminar of the ExpandFibre ecosystem. During the seminar, AXIA Innovation provided an overview of the LIGNICOAT project, highlighting its innovative aspects and potential impact on sustainable materials. Participation in the final **ExpandFibre** event follows the official

joining of the LIGNICOAT ecosystem in June 2024, a milestone that has significantly enhanced the LIGNICOAT visibility and reach. To download the LIGNICOAT presentation, click [here](#).

ExpandFibre's Final Public Seminar 2024

Anticipated Benefits

1. PU coating on wood based on lignin polyols
Ref: Lignin-based FR wood bio-coatings PU Ref: Bio-PU coating
2. Alkyd resins on metal based on lignin polyacids
Alkyd modified with lignin Lignin-based coating Alkyd paint Ref: Bio-Alkyd paint
3. Formulated epoxy lacquer for coil coating on aluminum
Ref: 1 Ref: 2 Lignin-based coating

✓ LIGNICOAT solution is poised to **reduce carbon emissions by 20-50%** to fossil-based market references.
✓ The **bio-based content** of LIGNICOAT bio-coatings ranges **between 10% and 50%**.

This project has received funding from the Bio-based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 101012242. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio-based Industries Consortium.

LIGNICOAT at Safety Expo

18-19 September 2024, Bergamo (Italy)



IRIS COATINGS showcased its work on bio-based coatings at the Safety Expo, which attracted over **4,000 attendees** and focused on **workplace safety and fire prevention**.

IRIS COATINGS booth attracted attention, with visitors eager to learn about the bio-based formulations developed within the LIGNICOAT project and their fire-resistant properties.

Throughout the expo, IRIS COATINGS distributed informative flyers detailing the benefits and applications of these sustainable coatings.



5. EVENTS

ATTENDED EVENTS

tecna:la
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& TECHNOLOGY ALLIANCE

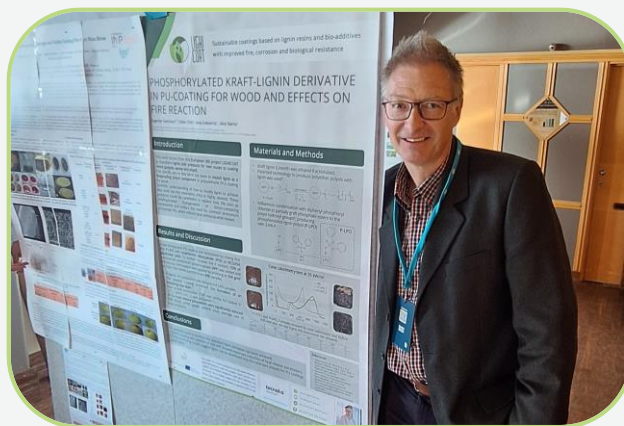
Poster at the NWBC 2024

15-17 October 2024, Örnsköldsvik, Sweden

Our project coordinator, TECNALIA, showcased our LIGNICOAT solutions at the Nordic Wood Biorefinery Conference 2024. The conference attracted a significant audience of approximately 200 attendees,

The poster, titled **“Phosphorylated Kraft lignin derivative in PU coating for wood and effects on fire reaction,”** showed a synthetic route to produce fire-retardant lignin and promising results in the fire-

retardant polyols for polyurethane dispersion (PU) coatings and foams. To download the poster, click [here](#).



LIGNICOAT at the 2024 AIChE Annual Meeting

27-31 October 2024, San Diego (USA)

VTT



VTT held an oral presentation titled **“Fractionation of Kraft Lignin for Production of Alkyd Resin for Bio-based Coatings”** at the 2024 AIChE Annual Meeting. The AIChE Annual Meeting, which took place in San Diego, California (USA), is a renowned conference that attracts chemical engineers, scientists, and industry professionals from around the world.

The VTT presentation focused on using lignin-based alkyd resins to coat metal surfaces based on the work of VTT and BARPIMO. To download the presentation, click [here](#).

DISSEMINATION ARCHIVE

Here is our archive related to dissemination efforts, which showcases the large work and contributions of the LIGNICOAT project. This archive includes a variety of materials, such as research publications, conference proceedings, poster, videos, and presentations.

Type	Title/Description
Publication	Lignin Based Polyacids to Substitute Fossil-Based Materials in Coatings Formulations (NWBC 2022, Conference Proceedings)
Publication	Fractionation of High-Value Compounds from Hops Using an Optimised Sequential Extraction Procedure (Antioxidants, MDPI, 2023)
Publication	Hardener-Dependent Properties of Twice Renewable Epoxy Resins Combining Tailored Lignin Fractions and Recycled BPA (ACS Sust. Chem. & Eng., 2024)
Publication	Fractionation of Kraft Lignin for Production of Alkyd Resin for Bio-based Coatings with Oxidized Lignin Dispersants as a Co-Product (ACS Omega, 2024)
Video	Project video
Video	CBE JU Stakeholder event: Sample Exposition
Video	Lignin Bio-Coatings for Metal & Wood
Video	LIGNICOAT at Bio-based Innovation Event
Video	LIGNICOAT at Norwegian Bioprocessing Centre
Recordings	Joint Training: LCA For Bio-Based Products
Slides	Joint Training: LCA For Bio-Based Products
Recordings	Joint Workshop: Bio-Resins & Fire-Retardant Additives for Coatings



6. DISSEMINATION ARCHIVE

DISSEMINATION ARCHIVE

Type	Title/Description
Slides	Joint Workshop: Bio-Resins & Fire-Retardant Additives for Coatings - All slides
Poster	Clear Fire-Retardant Lignin-based Biocoatings (Bio-based Innovation event, CHAMPION & PERFECOAT)
Poster	Bio-Based Sustainable Coatings with Lignin Resins for Enhanced Performance And Environmental Impact (Polymers MDPI 2024)
Poster	Lignin Polyols for Pu Coatings (RMC2024)
Poster	Production of Dispersants for Special Carbon Black by Oxidation of Fractionated Kraft Lignin (RRB 2024)
Poster	Life Cycle Assessment of Lignin-Based Coatings for Several Applications (GRS2024)
Poster	Phosphorylated Kraft-Lignin Derivative in Pu-Coating For Wood And Effects On Fire Reaction (NWBC2024)
Presentation	LIGNICOAT at Italian Conference (Focus REACH, Sept. 2024)
Presentation	Webinar Participation: Bioeconomy For Change "Biobased Polymers in Europe: What's New?" (Feb. 2024)
Presentation	Stakeholder Event "Lignin-Based Clear Biocoatings for Fire Protection of Wood" (Apr. 2024)
Presentation	RRB 2024 "Fractionation of Kraft Lignin for Production of Alkyd Resin Coatings" (06 June 2024)
Presentation	Presentation Pitch at ExpandFibre Final Seminar (Aug. 2024)
Presentation	Fractionation of Kraft Lignin for Production of Alkyd Resin for Bio-based Coatings (AIChE 2024)
Newsletter	#1 – December 2021
Newsletter	#2 – June 2022
Newsletter	#3 – November 2022
Newsletter	#4 – May 2023
Newsletter	#5 – November 2023
Newsletter	#6 – May 2024



LIGNICOAT

6. CONTACT INFO

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FUNDACION TECNALIA RESEARCH &
INNOVATION**

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THE LIGNICOAT TEAM



Our Team is composed of a multidisciplinary consortium that constitutes an excellently balanced team in terms of knowledge, expertise and experience with a total of 14 partners from 8 countries across Europe. The consortium is counting on the participation of 9 industrial partners for ensuring the exploitation of the outcomes of the technological challenges of LIGNICOAT.

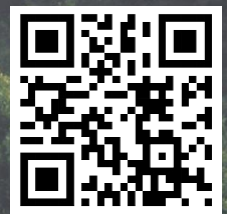


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