Best of European Technical Coating Congress 2026

Belgian Association of Technicians from the Paint and Related Industries

www.atipic.be



We would like to invite you to the
Scientific & Academic Webinar« Best of European Technical Coating Congress 2026 »
Thursday December 3rd 2026

For whom?

- Technical experts and engineers in R&D coating developments
- Managers in research and innovation
- Professors and students from high school and universities
- Project managers in coating developments
- Lab specialists in paint research
- Research & technical service specialists from companies producing raw-materials for the coating industry.

Program

Time	Subjects/Speakers
14:00 hrs.	Opening & presentation of ATIPIC activities Dr. Jacques Warnon
14:15 hrs.	100% Bio-Based 1,3-Propane diol as a Sustainable Building Block for High-Performance Coating Resin Dr. David Löf and Patrick Van Waes (Primient)
14:50 hrs.	The world's first hollow glass spheres for high-performance technical coatings Daniel Weber (Poraver Gmbh)
15:25 hrs.	Break
15:40 hrs.	Towards light-activated iron-catalysed curing of acrylic Rik Bennis (University of Amsterdam)
16:15 hrs.	Surface preparation and durability of paints for steel protection in crude oil Tomas Prosek (University of Chemistry and Technology Prague)
16:45 hrs.	Closure by Dr. Jacques Warnon

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Price

Participation is free for ATIPIC members and non-members.
Registration before 26/11/26 required.

After registration you will receive an invitation with the link to the webinar.

Registration form

Coming ATIPIC.BE events in 2027

- ATIPIC General Assembly & Technical & Scientific Symposium February 2nd in Tubize
- ATIPIC/NVVT Symposium March 24th in Brasschaat
- Visit to Allnex May
- ATIPIC/BPG Academic and Scientific Workshop September 30th in Heverlee
- ATIPIC cultural excursion October
- ATIPIC/AFTPVA Symposium December

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14:15 hrs. **100% Bio-Based 1,3-Propane diol as a Sustainable Building Block for High-Performance Coating Resin**

Dr. David Löf and Patrick Van Waes (Primient)



Bio: *David Löf has a PhD in physical chemistry. Spend a decade working for the coating industry with the base in Copenhagen. Worked globally for companies like Dyrup, PPG and Hempel, mainly with R&D and innovation. Spend 7 years at Perstorp AB as senior market development manager supporting big chemistry manufacturer all over the world, entering more sustainable solutions for their resin technology. Joined Primient Covation LLC (Primient 2026) in 2023 as senior market/business development manager, globally supporting the chemical manufacturing industry all along the value chain.*

Abstract: Bio-based 1,3-propanediol (1,3-PDO) is emerging as a versatile platform molecule that enables resin and coating manufacturers to combine high performance with improved sustainability. Derived from 100% renewable feedstocks, bio-based 1,3-PDO offers a significantly reduced carbon footprint compared with fossil-based alternatives while also providing unique performance advantages arising from its distinctive odd-carbon and linear molecular structure. Recent third-party, peer-reviewed life cycle assessment (LCA) studies demonstrate substantial greenhouse gas (GHG) emission reductions versus conventional petrochemical polyols and diols, creating opportunities for coating and resin producers to reduce Scope 3 emissions and accelerate progress toward sustainability targets.

This work reviews both the sustainability benefits and the technical performance of bio-based 1,3-PDO across a wide range of resin technologies, including polyesters, alkyds, UV-curable coatings, polyurethane acrylates, epoxy systems, and fiber-reinforced composites. Emphasis is placed on the functionalization of 1,3-PDO into high-performance reactive diluents, including 1,3-PDO diacrylate (PDDA), 1,3-PDO dimethacrylate (PDDMA), 1,3-PDO diglycidyl ether (PDODGE), and polytrimethylene ether glycol diacrylate (PO3GDA). These materials were evaluated against conventional fossil-based, even-carbon analogues such as propylene glycol, 1,4-butanediol and 1,6-hexanediol derivatives.

Across all investigated resin platforms, 1,3-PDO-derived materials delivered effective viscosity reduction while becoming an integral part of the cured polymer network. Formulations containing these renewable reactive diluents exhibited increased crosslink density, enhanced hardness, improved mechanical strength, and superior chemical and solvent resistance. In epoxy resins and glass-fiber composites, PDODGE provided glass-transition temperatures comparable to conventional alternatives while improving fiber-matrix interaction and composite strength.

The combination of measurable carbon-footprint reduction and enhanced material performance highlights the unique value proposition of bio-based 1,3-PDO. Its renewable origin, coupled with molecular features that influence the molecular network architecture, enables the development of next-generation resins and coatings that do not require trade-offs between sustainability and technical performance. Together, the sustainability data, renewable feedstock story, and application results demonstrate that bio-based 1,3-PDO is a powerful building block for advanced resin systems, enabling coating and composite manufacturers to meet increasingly demanding performance requirements while supporting decarbonization and circular-economy objectives.

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14:50 hrs. **The world's first hollow glass spheres for high-performance technical coatings**
Daniel Weber (Poraver Gmbh)



***Bio**: under construstion*

Abstract: PORASPHERES® represent a new generation of functional lightweight fillers designed to significantly enhance the performance, stability, and sustainability of modern technical coatings. Manufactured entirely from post-consumer recycled soda-lime glass, these innovative hollow glass spheres unite ecological responsibility with exceptional material characteristics. Their structure - a closed, robust glass shell enclosing a single internal cavity - results in a remarkably low density combined with high mechanical strength. This makes them particularly well-suited for formulations in which weight reduction, improved workability and long-term stability are essential.

In coatings and pasty systems, PORASPHERES demonstrate low water absorption and excellent dimensional stability. This ensures that even liquid or ready-mixed products remain stable over longer storage periods without swelling, densifying, or separating. The spherical geometry promotes uniform dispersion throughout the binder, resulting in consistent viscosity, smooth application, and improved surface characteristics. These rheological advantages help formulators achieve a more controlled and predictable coating process while maintaining high product quality.

Beyond improved handling, PORASPHERES also contribute to mechanical and functional enhancements in the finished coating. The mineral, non-combustible glass composition provides intrinsic fire resistance, chemical durability, and temperature stability. Because the spheres exhibit a significantly lower Young's modulus than many conventional fillers, they can impart improved elasticity, reduced brittleness, and enhanced crack-bridging capability. These properties are particularly beneficial for demanding industrial applications where coatings must withstand dynamic stresses, thermal fluctuations, or mechanical wear.

The broad grain-size spectrum available — ranging from fine fractions suitable for smooth, thin coatings to larger fractions designed for structured surfaces or specialty systems — allows formulators to tailor density, texture, and performance to specific application requirements. The recently introduced larger fractions further expand the design flexibility for manufacturers seeking customizable lightweight solutions with precise functional behavior.

Sustainability is at the core of the PORASPHERES concept. By using 100 % recycled glass sourced from post-consumer waste streams, the material supports circular-economy principles while reducing the consumption of virgin raw materials. This ecological value, paired with high and consistent technical performance, makes PORASPHERES an attractive option aiming to combine environmental responsibility with advanced material engineering.

With their easy handling, improved processing behavior and long-lasting material benefits, PORASPHERES offer a compelling route to lighter, more efficient and more sustainable technical coatings. They open new formulation possibilities for industrial coatings, mortars, plasters, adhesives, resin systems and numerous specialized applications where reduced weight, enhanced durability and optimized rheology are decisive. For manufacturers, PORASPHERES deliver not only performance advantages but also a future-oriented contribution to environmentally responsible product development.

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15:40 hrs. **Towards light-activated iron-catalysed curing of acrylic**

Rik Bennis (University of Amsterdam)



Bio: *Rik Bennis is a PhD researcher in the Homogeneous catalysis group at the University of Amsterdam, where he has been working since January 2024. He holds an MSc in Molecular Sciences from the same university, with a background in iron catalysis and C–H functionalisation. Before starting his PhD, he gained experience in applied research at TNO, working on carbon capture and CBRN protection, and at Plantics, where he contributed to scaling up the production of biobased polymers. His current research focuses on light-activated iron catalysis for more sustainable coating applications.*

Abstract: The development of safer and more energy-efficient curing strategies is an important challenge in the coatings industry. Conventional curing of hydroxyl-functional acrylic coatings often relies on isocyanate- or melamine-based crosslinking in the presence of heat and a metal catalysts. Developing alternatives could reduce the use of hazardous components and enable lower curing temperatures, while addressing increasing legislative pressure on existing technologies. Here, we explore a fundamentally different approach based on iron-catalysed O–H insertion reactions activated by visible light.

We demonstrate that a photoactive iron catalyst catalyses the reaction of diazo compounds with a broad range of alcohols under mild conditions, including room temperature, under air, and at low catalyst loadings. Based on this reactivity, multifunctional diazo compounds are investigated as potential crosslinkers for hydroxyl-functional acrylic binders. This provides a direct route from molecular O–H insertion chemistry towards the formation of polymer networks.

Initial coating studies show that this approach can induce network formation in acrylic coating formulations upon light irradiation. The influence of crosslinker structure and irradiation conditions on curing behaviour and coating properties is investigated, with particular interest in low-intensity visible light and daylight as practical activation sources. Together, these results demonstrate the potential of iron-catalysed O–H insertion as a new concept for light-activated curing of acrylic coatings and provide a basis for the development of lower-temperature and more energy-efficient coating technologies.

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16:15 hrs. **Surface preparation and durability of paints for steel protection in crude oil**

Tomas Prosek (University of Chemistry and Technology Prague)



Bio: *Tomáš Prošek leads the Department of Metallic Construction Materials in Technopark Kralupy of the University of Chemistry and Technology in Prague. His group focuses on corrosion protection in building and automotive industries and material safety in presence of hydrogen. His research activities are aimed at understanding into principles of atmospheric corrosion, degradation mechanisms of coated steel materials, development of coatings, outdoor and accelerated corrosion testing, corrosion monitoring and hydrogen embrittlement.*

Tomáš Prošek graduated at the University of Chemistry and Technology in Prague in 1996. From 2001 until 2015, he worked at RISE in Stockholm, Sweden and Brest, France. He authored over 150 conference and journal papers. He is the immediate past president of the European Federation of Corrosion and vice-president of the Association of Czech and Slovak Corrosion Engineers.

Abstract: The internal side of steel pipelines in contact with flowing crude oil shows good corrosion stability. However, water can separate at the bottom of the pipeline under stagnant conditions, triggering a series of processes that lead to an increase in the corrosion rate of steel of up to 4 orders of magnitude, reducing the pipeline lifetime to as little as 8 years [1]. After considering numerous mitigation techniques, protection of the inner pipeline with a two-layer commercially available paint system designed for protection of crude oil tanks was selected. This work examined limit conditions of the surface state prior to protective organic paint application. The effects of the presence of sandblasting medium, oil remnants, soluble salts, flash rust and condensed water, over- and under-blasting, and high-temperature oxidation were systematically investigated under immersion in a mixture of water and crude oil and using the neutral salt spray test according to ISO 9227 for 3000 hours. Particularly critical was the presence of chloride- and sulphate-based soluble salts, which led to blistering and acceleration of paint delamination from defects. The safe limit of salt contamination was established in experiments with controlled deposition of sodium chloride and sodium sulfate solutions on steel prior to primer application. The results were expressed in view of the maximum time of exposure of clean steel surface in atmospheres characterized by different deposition rates of SO_2 and chloride ions. In parallel, the applicability of Scanning Kelvin Probe (SKP) [2] and Field Kelvin Probe techniques was investigated for detection of surface contamination under paint films before exposure to corrosive environment. It was proved that both techniques can detect the presence of soluble salts.