The Latest from NetCastPL4.0: Progress, Partnerships, and Momentum!

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Newsletter - NetCastPL4.0

Project in Motion

Welcome to our latest update! We're thrilled to share highlights from our recent events, new project developments, and an overview of our expanding network.



NetCastPL4.0 Seminar Series: Expert Insights

Our seminar series in May showcased cutting-edge research from leading experts in casting and metallurgy.

Giuliano Angella presented his groundbreaking work on A New Material Integrity Index (MII) for foundry castings. His research proposes a new way to assess ductile iron quality, even in defective materials, by analyzing tensile-flow curves. This "Defects-Driven Plasticity"; approach provides a novel method for evaluating material integrity.

Stefano Masaggia discussed The Influence of wall thickness on the fatigue limit of ductile irons. He presented an unconventional fatigue design procedure and showed how the size of graphite nodules influences a material's fatigue strength. His findings suggest that materials with small nodules are best for defect-free designs, while those with coarse nodules are more effective for a defect-tolerant approach.

Knowledge Exchange in Action: School & Workshop

SCHOOL ON S&T MECHANICS, METALLURGY GREEN PROCESSING

- **iii** From June 30 to July 2, 2025
- The Faculty of Foundry Engineering at AGH University

The event was a key component of the NetCastPL4.0 project, focusing on "Green Casting"—modern, low-emission technologies for thin-walled components. Participants, including PhD students and early-career scientists, explored the full production process from materials to quality assessment. A highlight was the panel discussion on the impact of the European Green Deal on the foundry sector.

WORKSHOP ON LIGHTWEIGHT CASTINGS INNOVATION

- m From July 3-4, 2025
- Consolidated Precision Products (CPP)
- 📍 Zakład Metalurgiczny WSK Rzeszów

Following the school, a two-day workshop was held on July 3-4, 2025, with over 40 participants from universities, research institutes, and foundries. The workshop focused on innovative, lightweight casting solutions for the automotive and e-mobility sectors. The first day featured insightful site visits to Consolidated Precision Products (CPP) and Zakład Metalurgiczny WSK Rzeszów, where participants saw real-world implementations of the Foundry 4.0 idea.

Network and Outreach: Connecting the Industry

Our efforts to build a strong, collaborative network are paying off!

The NetCastPL4.0 Network Our "Networking Pole for Castings Foundry Innovation and Sustainability" has grown to 30 members. This strategically balanced network includes:

- **6 leading Polish universities and research units**, strengthening the academic foundation.
- **2 key industry associations** that serve as a crucial link between AGH and foundries across Poland.
- **10 direct foundries** involved in the hands-on production of both ferrous and non-ferrous castings.
- **15 major enterprises**, including global giants in the automotive (Stellantis, Brembo, Nemak), aerospace (CPP), and supplier sectors, ensuring a direct path for innovation to market.

This diverse group ensures the network addresses both theoretical advancements and the practical needs of the industry.



NetCastPL4.0: A successful showcase at ITM in Poznań

ITM INDUSTRY EUROPE 2025 - From June 3 to 6, 2025, the NetCastPL4.0 project was proudly represented at the FOCAST Foundry Salon in Poznań. Our team at stand no. 87 in Hall 5A presented the project's goals and achievements. A key highlight was a discussion panel on the "Future of Foundry" where experts debated the industry's development in the context of global trends.





NetCastPL4.0 goes digital: The YouTube channel is live!

Our official **YouTube** channel is now live! We've created this channel to share engaging video content from our events and activities. Catch up on our latest video a summary of the S&T School and more. Be sure to subscribe and turn on notifications so you don't miss a thing!

Upcoming Events

V International Conference of Casting and Materials Engineering ICCME 25 This conference is the fifth edition of a major event focusing on "Lightweight innovations for a better climate."

October 27-28, 2025, Kraków, Poland, at the 'Studio' Club on the AGH University Campus and the AGH Faculty of Foundry Engineering

Deadlines:

• Abstracts submission: October 5, 2025

• Participation fee payment: October 12, 2025

• For more information and to register, visit the official conference website: iccme.agh.edu.pl.



XXXII International Scientific Conference of Polish, Czech and Slovak Foundrymen "Wspolpraca 2026".

April 20-22, 2026, the Sulisław Palace in Grodków, Poland

The NetCastPL4.0 project conference: We are excited to announce that the NetCastPL4.0 project conference will be organized within the framework of XXXII International Scientific Conference of Polish, Czech and Slovak Foundrymen. This will significantly increase the dissemination of the project's results among representatives from Poland, Czechia and Slovakia.

Program: The full program schedule will be available **soon** under: https://www.konferencja-wspolpraca.agh.edu.pl/



NetCastPL4.0 Special Issue for Journal

To increase dissemination of the project Special Issue for Journal will be published in Journal of Casting & Materials Engineering (JCME). The journal is a peer-reviewed, academic e-periodical devoted to issues in engineering processes and casting materials. The periodical is published as a quarterly in the open access system by the AGH University of Krakow. The JCME publishes original research articles, as well as reviews and theoretical articles. The mission of the periodical is to contribute to the development of knowledge and new scientific ideas in the field of engineering processes and casting materials.

Special Issue 2026 NetCastPL4.0 Project will be opened from November 1, 2025 till October 31, 2026. It provides an opportunity to publish papers presented as part of the scientific panel of the project at the ICCME 25 conference and the project conference in the frame of the "WSPÓŁPRACA"



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