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**Q: Why are events such as Bridges Conference 2025 important to the industry?**

**A:** Bridges Conferences are essential events for both industry and academia, providing a valuable platform for exchange between the two sectors. Industry professionals benefit from presentations by leading researchers, gaining insights into the latest technological advancements and innovations that enhance bridge management throughout its lifecycle—design, construction, and maintenance. Conversely, researchers have the opportunity to learn from top engineers, bridge owners, and specialists, receiving valuable feedback on industry needs, objectives, and challenges. Moreover, these cross-sector conferences foster networking, enabling professionals and researchers to connect, share insights, and explore future collaborations.

**Q: What important insights will attendees gain from your session?**

**A:** I will present BRIDGITISE, a Horizon Europe Industrial Doctoral Network that I am currently coordinating. This project focuses on the digitalization of bridge integrity management, integrating digital technologies to enhance the way we manage bridge structures throughout their lifecycle—from design and construction to maintenance and beyond.

At its core, BRIDGITISE aims to bridge the gap between academia and industry by training 16 PhD researchers in cutting-edge technologies, including:

- Innovative data collection methods for bridge monitoring,
- AI and IoT solutions for efficient data processing and sharing, and
- Digital decision support tools to optimize bridge integrity management.

By combining expertise from leading research institutions, industry partners, and infrastructure owners, BRIDGITISE seeks to develop next-generation solutions that will transform bridge management practices and improve the resilience and sustainability of our transport infrastructure.

### **Q: What major changes do you predict will reshape/impact Bridges industry in the next 5 years?**

**A:** I believe digitalization will be the key driver of change in the bridge industry. It offers significant advantages in productivity, quality, and innovative services. In the construction sector, digitalization is estimated to reduce costs by 17% to 21% across the entire value chain, from design to operation. Emerging technologies such as distributed sensors, drones, crowdsensing, satellite radar, Building Information Modelling (BIM), digital twins, the Internet of Things (IoT), and Artificial Intelligence (AI) can generate vast amounts of data to support informed decision-making. By integrating digital insights with existing engineering expertise, we can foster a resource-efficient approach to construction and Bridge Integrity Management (BrIM), paving the way for more sustainable and resilient infrastructure.

### **Q: What are the biggest challenges in maintaining aging bridge infrastructure, and how can they be addressed?**

**A:** A significant number of European bridges, constructed in the 1950s and 1960s, are now approaching or exceeding their design life. Many are operating under conditions that differ significantly from their original design assumptions, exacerbated by accelerated deterioration linked to climate change.

Across Europe, investment needs for transport infrastructure are estimated at 0.6% of GDP on average. To ensure the continued functionality and resilience of Europe's transport network, effective management is crucial in preparing infrastructure for future social, economic, and environmental challenges.

Digitalization and advanced information management can play a key role in mitigating risks, extending the service life of bridges, and enhancing both safety and sustainability.



## About Bridges Conference 2025

Join **Bridges Conference 2025** on 12-13 March at CBS Arena to learn more about:

- Innovative problem-solving in bridge design, renovation, construction and maintenance
- How collaboration across disciplines (material and data science, engineering, construction) can be harnessed to achieve better outcomes
  
- The changes that are needed across the bridge sector and what will help us achieve them, and much more

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