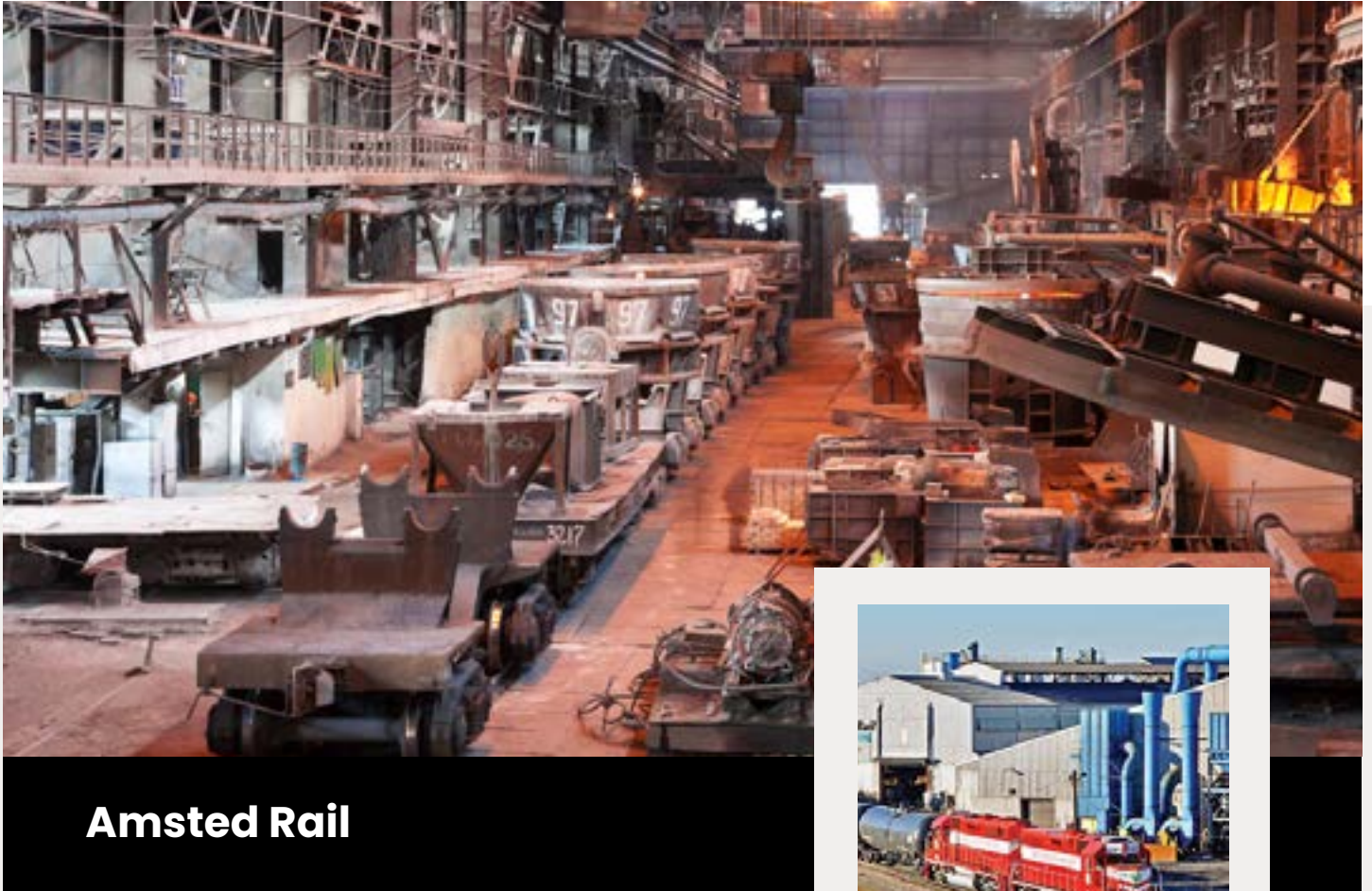


Case Study

Paving a new way in health and safety training in the manufacturing space



Amsted Rail

The story of Amsted Rail

For nearly 150 years, the heavy haul world has turned to Amsted Rail to keep their railcars rolling in the world's most challenging environments. With a track record of innovating performance-driven solutions that continues to push the limits for reliability, today, Amsted Rail enables railroads to haul heavier loads over greater distances.

Amsted Rail has set the bar for technology in the manufacturing industry with a commitment to continuous improvement and innovation. By embracing the potential of Industry 4.0 technologies, the company not only enhances its own competitiveness but also contributes to the overall advancement of the rail industry. With a relentless pursuit of cutting-edge technologies, Amsted Rail remains at the forefront of the digital revolution, shaping the future of manufacturing and delivering value to its customers worldwide.

Amsted Rail Chief Operating Officer, Matt Cook, says that the post-COVID world demands an open-minded and innovative approach to manufacturing. Cook saw the potential of tools like automation, artificial intelligence, and digital twins to transform Amsted Rail's operations, drive efficiency, and create a competitive edge.



Benefits generated from using Prevu3D

Enhancing workplace modification with digital twin technology

Amsted Rail's manufacturing engineering department wanted to relocate a product line to another facility on their campus. Before using Prevu3D, the process for modifying their workspaces relied on AutoCAD modeling and manually recreating sections of the facility. This approach was time intensive and came with inherent risks, such as overlooking crucial structural or utility elements. Even with traditional facility drawings (2D), they only provide a limited view of specific areas and require engineers to be hands-on measuring, photographing, and documenting these locations to ensure they have a current view. Things like conduit, utilities, drains, floor surfaces, and material flow can cause significant interruptions to a project.

By embracing the use of a digital twin, Amsted Rail was able to introduce a new perspective to project visualization. They can now measure, visually understand, and even import project models into physical space to conduct real-time simulations at proper scale. Using digital twin and 3D scanning technology offers enhanced accuracy, comprehensive visualization, and the ability to efficiently assess and optimize designs.

Seamless digital twin implementation

Amsted Rail's decision to partner with Prevu3D for this endeavor was driven by the platform's ease of use, speed, and accessibility. Additionally, Amsted Rail sought a long-term partner with a solid technological foundation, and Prevu3D demonstrated their leadership with best-in industry point cloud to mesh processing, and high performance display capabilities.

Prevu3D's standout features also include their easy-to-use interface, and patented asset cutting tool. This addressed Amsted Rail's crucial requirement of enabling business users to leverage the digital twin without the need for extensive software training or extended support.

The exceptional talent and dedication of the Prevu3D team was also a key factor. Prevu3D's team provided valuable guidance, welcomed feedback, and promptly addressed any questions, setting an example of ideal customer service.

The initial implementation of Prevu3D has been a success. Amsted Rail and Prevu3D were able to scan buildings of over 300,000 sq ft and process that data into Prevu3D in just a few weeks. The Capital Projects team from this business can now move these product lines from facility to facility with a drag-and-drop experience. By importing their custom models, and being able to create models from existing scanned assets, the Amsted Rail teams have confidence that the product line will be installed in the optimal location, eliminating wasted resources from a trial-and-error approach.

Prevu3D empowers us to optimize our manufacturing processes without any tangible work," says Cook. "We can virtually commission static testing of an entire facility, including production line clearances. The significant part is that we can do this in a fraction of the time that traditional 2D design requires."

Benefits generated from using

Paving a new way for health, safety, and sustainability in manufacturing

Cook says the entire organization showed interest in Prevu3D when they saw the technology's ability to virtual commission assets and facility spaces. Modeling and camera capabilities inside of Prevu3D make it easy to understand the overall vision for the space in 3D. This sparked a new initiative that will leverage digital twins to enhance Amsted Rail's health, safety, and sustainability practices. Amsted Rail's strategy as a business begins and ends with safety. It only made sense that their Industry 4.0 technologies should too. That is exactly what they did. Spearheaded by Cook, Amsted Rail teams have been tasked with connecting their safety information to their digital twins. The integration of Prevu3D's realistic 3D environments allows Amsted Rail to create an immersive training experience for their employees.

Personnel can practice and refine their skills in a safe and controlled setting without exposing themselves to any real-world risks. Virtual 3D avatars act as representations of employees, allowing for realistic role-playing scenarios and collaborative training exercises. This level of realism not only enhances the effectiveness of their training programs, but also contributes to increased engagement of the workforce. Implementing digital twins also allows Amsted Rail to bolster their sustainability efforts.

In addition to being able to more swiftly and effectively upgrade their facilities with the latest sustainable technology, the efficiency and accuracy of the technology ensures the most sustainable choices are made throughout the organization.

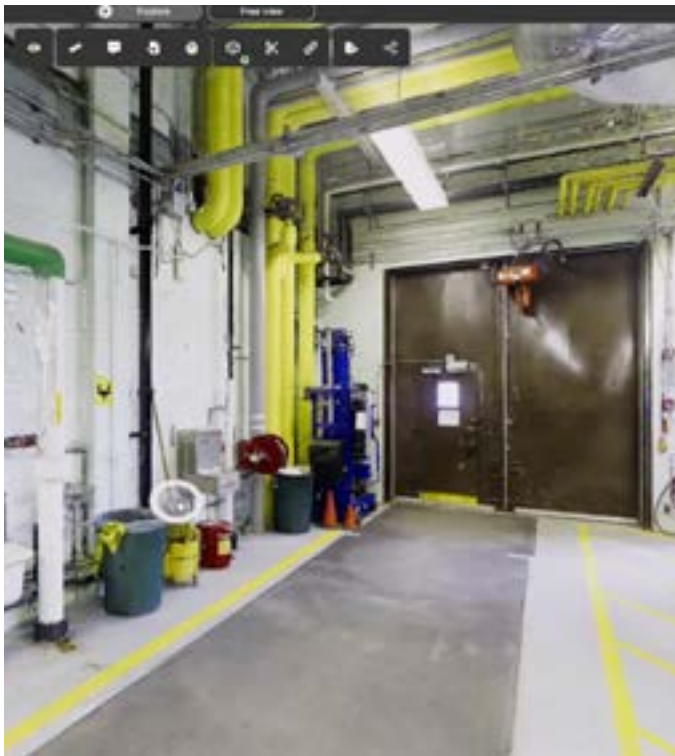
Amsted Rail's forward-thinking approach in embracing Prevu3D's innovative technology showcases their dedication to fostering a culture of continuous improvement, where health, safety, and sustainability remain at the forefront of their operations. With Prevu3D, they have unlocked a new era of immersive training and operational practices, propelling them towards even greater success in these critical areas.

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Prevu3D empowers us to optimize our manufacturing processes without any tangible work. We can virtually commission static testing of an entire facility including production line clearances in a fraction of the time we can draw it in 2D.

Matt Cook
CEO, Amsted Rail

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The Prevu3D digital twin approach

Prevu3D digital twin solution effectively addresses the pain points of the manufacturing industry health, safety, and sustainability practices through its key features:

- Enhanced education and training through immersive 3D simulations for health and safety procedures.
- Streamlined workplace modification and project visualization
- Improved manufacturing processes through virtual commissioning, testing, and a commitment to continuous improvement.
- Contribution to sustainability through facility upgrades, sustainable choices, and efficient resource utilization.

Results

Prevu3D lets users of all levels of expertise design, edit, and share 3D environments in real-time. It centralizes data—placing it in the right place at the right time.

Today, the global dairy producer leverages Prevu3D for over 18 of their facilities, using innovative digital twin technology to secure their place as industry leaders as they become more agile, efficient, and sustainable in the face of increasing demand and evolving consumer preferences.

Working with Prevu3D, Agropur improved efficiency and collaboration in many ways:

01

Minimizing site visits with real-time collaborative software, which saved travel costs

03

Improved health and safety measures with precise onboarding across various teams

02

Closing the documentation gap with a single-source data platform for better efficiency

04

Improve health and safety measures

Improve design process, reduce costs, and implement faster production line changes for your business with Prevu3D digital twin software.

Talk to an expert: sales@prevu3d.com

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