

Industry 5.0 & Smart Manufacturing Engineering

ASSIST Software designs and delivers Industry 4.0 and 5.0 solutions that connect machines, data, and people into scalable, secure, and production-ready smart manufacturing systems.

ASSIST
Innovative Minds



What We Enable

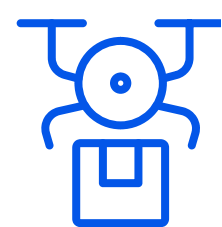
We help manufacturers modernize operations by turning fragmented production environments into **connected, intelligent, and continuously optimized factories** – while preparing them for the next phase of industrial evolution.

Our approach spans Industry 4.0 and Industry 5.0:

Industry 4.0 connectivity, automation, data-driven efficiency

Industry 5.0 human-centric, resilient, and sustainable industrial systems

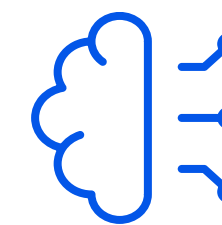
Our solutions integrate:



**Industrial IoT and
machine connectivity**



**Automation
and robotics**



**Digital twins
and simulations**



**AI-driven analytics
and decision support**



**Future-ready manufacturing that
puts people and sustainability first.**

The Smart Factory System



1. Machine & System Connectivity

Integration of legacy and modern equipment, PLCs, sensors, and enterprise systems.

2. Industrial Data Platforms

Reliable, real-time data pipelines from production floor to the cloud.

3. AI & Advanced Analytics

Predictive, prescriptive, and diagnostic insights for production, quality, and maintenance.

4. Automation & Robotics

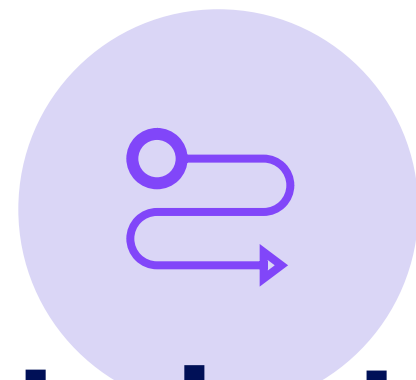
Intelligent automation embedded directly into manufacturing workflows.

5. Continuous Optimization

Closed feedback loops enabling performance monitoring and improvement at scale.



Core Industry 4.0 & 5.0 Capabilities



Industrial IoT & Device Integration

- Legacy and modern equipment connectivity
- Secure data ingestion from PLCs and sensors
- Scalable IIoT architectures



Digital Twins & Simulations

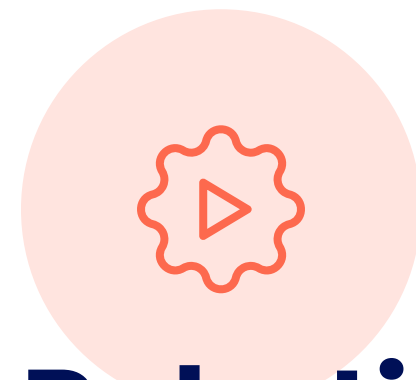
- Virtual commissioning and system validation
- Performance optimization before deployment
- Predictive maintenance modeling



AI & Predictive Analytics

- Demand forecasting and production planning
- Defect detection and quality analytics
- Downtime prediction and root-cause analysis

Core Industry 4.0 & 5.0 Capabilities



Robotics & Industrial Automation

- Integration of robotic systems into production lines
- Human-machine collaboration
- Workflow automation aligned with factory constraints



Custom Industrial Software

- MES, monitoring, and control platforms
- Tailored dashboards and operational tools
- Secure integration with ERP and enterprise systems



Industries We Support

- Smart Manufacturing & Logistics
- Automotive & E-Mobility
- Industrial Machinery & High-Tech Equipment
- Energy & Green Technology

HOW WE WORK



Factory-Driven Engineering

We design solutions around real production environments, not generic templates.



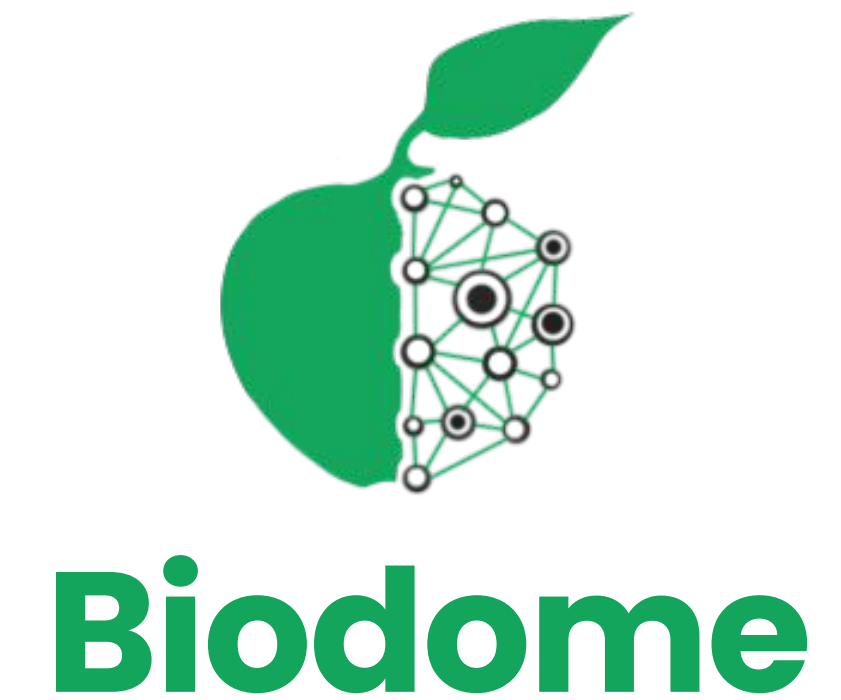
Incremental Transformation

Industry 4.0 and 5.0 adoption is delivered in measurable phases, minimizing disruption and risk.

Success Stories

Discover How We Did It

Fueling Industry 4.0 with IoT, AR/VR & Automation



1. Challenge

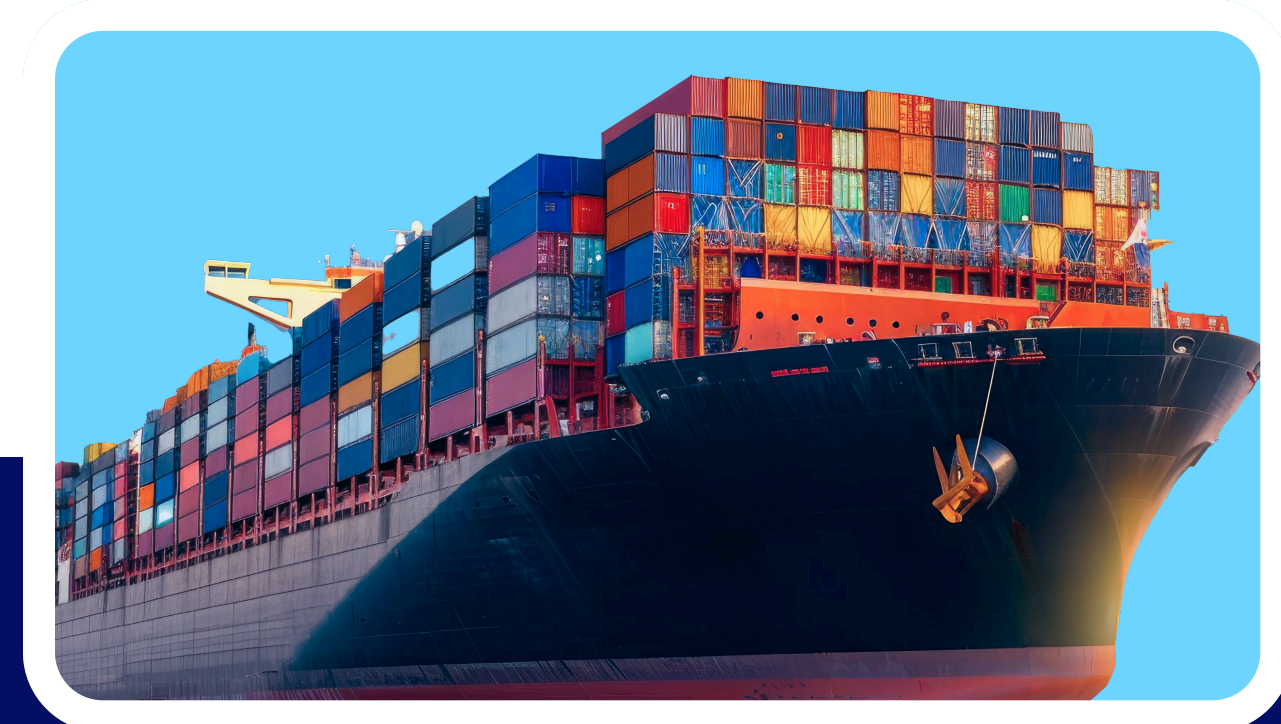
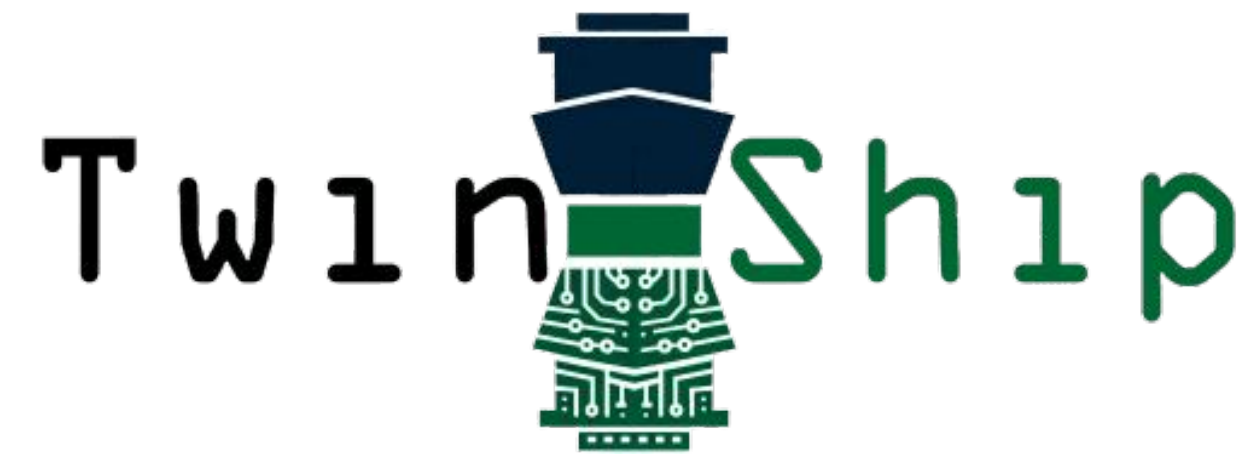
Manufacturers struggled to unify real-time production data, immersive training, and automated workflows into one scalable system.

2. Our Solution

We built interconnected IoT platforms, AR/VR training modules, and automated data pipelines, creating a fully integrated Industry 4.0 ecosystem.

3. Results

Boosted operational efficiency, reduced training time, and delivered a future-ready production environment.



Success Stories

Discover How We Did It

TwinShip – AI-Powered Digital Twin for Maritime Sustainability

1. Challenge

The maritime sector faced inefficiencies and high emissions, with no safe way to test optimizations without disrupting operations.

2. Our Solution

We developed an AI-powered digital twin to simulate ship and port operations, integrating IoT data for accurate real-time modeling.

3. Results

Enabled predictive fuel optimization, significantly reduced emissions, and set a clear path toward net-zero operations by 2045.

Success Stories

Discover How We Did It



Digital Twins, Computer Vision & AI for Predictive Performance and Quality



1. Challenge

Manufacturers needed smarter ways to predict performance, prevent downtime, and ensure consistent product quality.

2. Our Solution

We built digital twins combining IoT, AI, and simulation. In parallel, we developed Alpha Laser, an AI-based computer vision system that detects issues on the production line.

3. Results

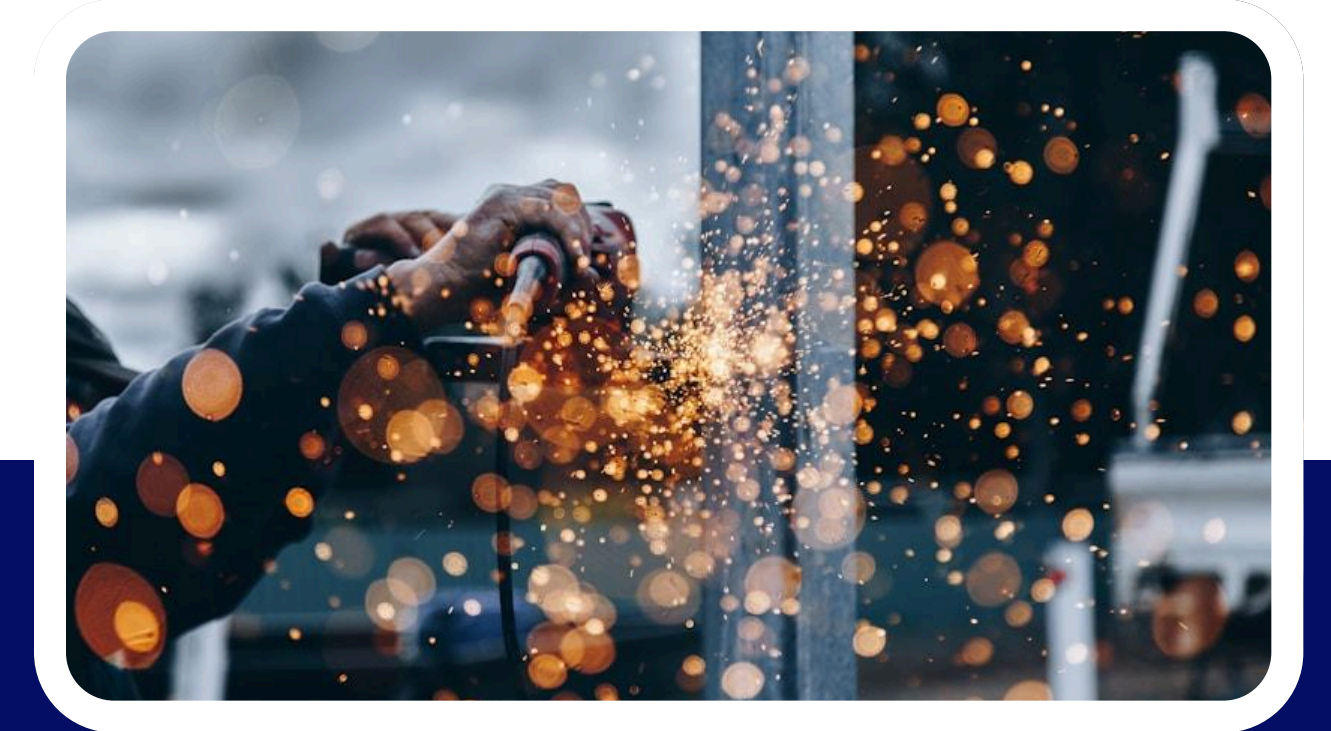
Improved production predictability, reduced unplanned downtime, and ensured flawless quality in high-precision manufacturing.

Success Stories

Discover How We Did It

VINBOT

IoT Integration for Connected Manufacturing



1. Challenge

A global manufacturer required seamless data collection from both legacy machinery and new smart devices.

2. Our Solution

We built a scalable IoT integration layer compatible with existing PLC systems, enabling centralized monitoring and analytics across the factory floor.

3. Results

Unlocked real-time operational insights, reduced unplanned downtime, and empowered faster, data-driven decision-making.



Industry 5.0 is where AI and robotics collaborate with people to build more resilient and sustainable industries.

Technology & Platforms

We combine industrial-grade technologies, including:

- IoT and automation platforms
- AI and machine learning frameworks
- Digital twin and simulation tools
- Cloud and edge architectures (Azure-centric)

Standards, Security & Trust

Certified Industrial Engineering

Our Industry 4.0 solutions are built in alignment with:

- ISO 9001 – Quality Management
- ISO/IEC 27001 – Information Security
- ISO 14001 – Environmental Management
- Enterprise Partnerships
- Microsoft Solutions Partner – Digital & App Innovation (Azure)
- Google Cloud Partner



Companies who trust us



Collaborating with ASSIST Software has been a highly rewarding experience. Their team demonstrated exceptional technical expertise, creativity, and dedication throughout our partnership. We presented them with a complex challenge: developing a cutting-edge wireless solution that would enhance the performance and usability of our high-precision laser systems. Their ability to successfully transmit 3D data over a wireless network with exceptional precision and reliability has been particularly impressive.

ASSIST delivered an innovative and robust solution that aligns perfectly with our core values of flexibility, ergonomics, and speed. Their professionalism and commitment to excellence have made them a trusted partner, and we look forward to continuing our collaboration as we advance our technology.

Georg Meyndt, CEO at **ALPHA LASER GmbH**



- Let's **Transform** Manufacturing
- Start your **Industry 4.0 or 5.0** initiative
- Discuss **smart manufacturing** and automation



1st
Place

Romania Top Profit 2023

Top for Romania, field 7219:
Research and development in other natural sciences and engineering.



2nd
Place

Top National Companies 2023

In Research, Development and High Tech



3rd
Place

Top National Companies 2024

Large Companies: Research, Development & High Tech

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Find out more

