

Regional Innovation Valley

Aurelian Manufacturing

High precision
“Lights Off Manufacturing”

 **Speed:** Game changing production velocities that redefines manufacturing timelines.

 **Cost Efficiency:** Deliver exceptional cost performance through autonomous precision with superior quality.



The Idea

- **High-precision manufacturing**, exclusively made-to-order machined components.
- **Supply Chain Sovereignty** Reduce critical dependency on distant manufacturing hubs by establishing resilient, automated production capabilities
- **Regional Economic Transformation** - Create a high-value manufacturing ecosystem that attracts global tech talent, R&D investments, and advanced manufacturing companies
- **Future-Proofing Industrial Competitiveness** - Capture first-mover advantage in the inevitable shift toward fully autonomous manufacturing, securing Østfold's position as a leader in advanced production technologies
- **Human-Level Physical Intelligence** – Applying humanoid robots with advanced tactile sensing, computer vision, and adaptive manipulation capabilities represent the missing link for achieving true lights-out manufacturing, enabling complex assembly tasks, quality inspections, and exception scenarios that currently require human workers.



Supply Chain Resilience: Eliminate global supply chain vulnerabilities through on-demand local production of critical components.



Flexibility: Customer-controlled manufacturing agility that adjusts specifications, schedules and cost in real-time.



Quality Assurance/Control: Meet highest international standards for offshore, aerospace and defense industries through automated precision that eliminates human error.

Strategic Partnership & Scale Opportunity - Establishing Aurelian Manufacturing creates a unique symbiotic relationship with Physical Robotics AS as their primary development and deployment partner for physical intelligent humanoid robots, while simultaneously capturing the component manufacturing opportunity for 100,000+ humanoid robots by 2035, positioning Østfold and Norway to both pioneer and produce the physical intelligence systems that will define next-generation autonomous robotics and manufacturing facilities globally.

Scalable Deployment & Regional Innovation Impact - The project will generate cascading opportunities to deploy proven humanoid robotics solutions across diverse manufacturing sectors, process industries, food processing facilities, and circular economy applications, leveraging the trained robotic systems and operational expertise developed at Aurelian. These efficiency-driven spin-offs will amplify the transformative impact of Østfold's Regional Innovation Valley initiative, creating a multiplier effect that extends autonomous manufacturing capabilities throughout the regional industrial ecosystem.

PROJECT: **NEXUS_9**





Industrial Symbiosis

Positioning the Østfold region as a hub for advanced manufacturing and industrial symbiosis, with a strong emphasis on **digital transition and circular economy**, to drive regional growth. By fostering collaboration between machining, welding, and metal 3D printing companies and prioritizing education and skills development, the region can build a solid foundation for sustainable growth, innovation, and long-term competitiveness.

Examples of Symbioses

- Competence Symbiosis for Advanced Manufacturing
- Digital Twin Network for Production Optimization
- Production Network with AI Coordination and Capacity-Based Task Sharing
- Data-Driven Quality Network
- Enabling Full “Lights-Off” Manufacturing through Intelligent Physical Humanoid Robots
- 100% Traceability of Residual Materials through Digital Material Passports and a National Materials Exchange

NECIA Tech Cluster

- [7Waves](#)
- [Disruptive Engineering](#)
- [Krescado](#)
- [Incrementi](#)
- [Ezone Energy](#)
- [Energy AI](#)
- [Aker Solutions](#)
- [BEWI](#)
- [CodeIT](#)
- [Dynatec Engineering](#)
- [Gundersen & Løke AS](#)
- [MHTech](#)
- [MNU](#)
- [Norsk Elektro Optikk AS](#)
- [Physical Robotics AS](#)
- [Pronofa](#)
- [Servi Group](#)
- [Sew Eurodrive](#)
- [Skolt](#)
- [Slåttland](#)
- [StepSolutions](#)
- [Techni](#)
- [Tronrud Engineering](#)
- [Vulkan Engineering](#)
- [Wärtsilä](#)
- [Zebra](#)
- [Zephyr](#)

Other stakeholders

Environments and companies that will benefit from this project

- Regional industry clusters.
- Technology providers with expertise in sensor technology and data analysis
- All mechanical companies in Østfold
- Høgskolen i Østfold
- Fagskolen Viken
- Industrifagskolen
- Upper secondary schools offering technology and industrial subjects
- Municipalities and the county authority
- Technology providers with AI expertise
- Universities and strong national and international academic communities connected to the region
- MNU/ITS enywre

Enablers: Regional Clusters and their members.