

# PEAK AIO

## SUCCESS STORY Breaking Barriers in Sustainable Medicine: PEAK:AIO Powers Strathclyde's MediForge Hub



### Industry Benefits @Glance

#### Efficiency & Speed

- Accelerates drug production cycles
- Enhances real-time decision-making
- Reduces time-to-market for new treatments

#### Sustainability & Cost Savings

- Cuts raw material usage and waste by 60%
- Lowers operational costs in pharmaceutical manufacturing
- Supports a greener, eco-friendly production approach

#### Advanced AI Integration

- Powers digital twin simulations for optimisation
- Enables seamless AI-driven automation
- Ensures scalable and future-proof infrastructure

## Transforming Global Pharmaceutical Manufacturing with AI-Driven Innovation

### Introduction

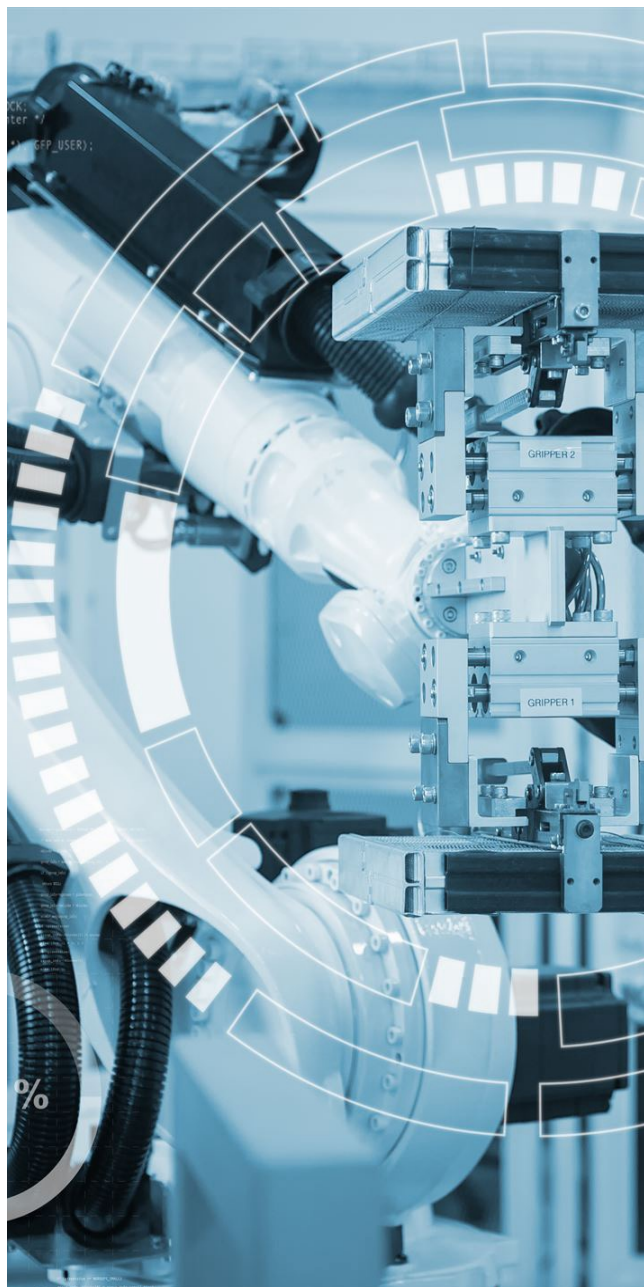
The pharmaceutical industry faces immense challenges, from the skyrocketing costs of drug development to the environmental impact of traditional manufacturing processes. The University of Strathclyde's MediForge Hub is at the forefront of tackling these issues, pioneering a transformative approach to drug production. At the heart of this revolution is PEAK:AIO's AI Data Server, which delivers real-time analytics, hyper-fast data insights, and seamless integration with cutting-edge digital twin and cyber-physical systems.

### The Challenge: Costs, Complexity, and Sustainability

Bringing a single drug to market can cost up to \$200 million, with traditional processes consuming excessive raw materials and generating substantial waste. The need for scalable, sustainable, and cost-effective pharmaceutical manufacturing has never been greater. MediForge, backed by an £11 million UK's Engineering and Physical Sciences Research Council (EPSRC) investment, is setting a new global benchmark by reducing raw material usage and waste by 60%, potentially saving the industry billions annually.



*Professor Alastair Florence, MediForge Project Lead and Director of CMAC, emphasised the project's global significance: "We are committed to accelerating patient access to cost-effective new treatments while ensuring that making medicines does not cost the Earth."*



## The MediForge Solution: Industry 5.0 in Action

The seven-year MediForge initiative is redefining pharmaceutical production through:

- **Cyber-Physical Infrastructure:** Combining AI, robotics, and automation for streamlined drug manufacturing.
- **Real-Time Digital Twins:** Simulating and optimising drug development to minimise waste and accelerate processes.
- **Sustainable Modular Systems:** A scalable approach that adapts to future pharmaceutical needs while reducing environmental impact.



## The Role of PEAK:AIO: Powering Data Acceleration

- **PEAK:AIO's AI Data Server** is the backbone of MediForge's data-driven infrastructure, enabling:
- **Hyper-Fast Data Processing:** Essential for real-time analytics and digital twin simulations.
- **Seamless AI Integration:** Ensuring interoperability between AI-driven manufacturing systems.
- **Next-Gen Compliance & Archival Solutions:** Set for deployment in 2025 to enhance regulatory compliance and data storage.



### PEAK:AIO Benefits @Glance

#### Unmatched Performance for AI & GPU Acceleration

- Optimised for high-speed, real-time data processing
- Maximises GPU efficiency for pharmaceutical AI workloads

#### Eco-Friendly & Energy Efficient

- Consumes 1/6th the power of traditional systems
- High-density design reduces environmental footprint
- Supports sustainable, low-energy AI infrastructure

#### Simplified, Scalable, and Future-Ready

- Intuitive design ensures effortless deployment and management
- Built for seamless expansion to meet growing data demands
- Aligns with Industry 5.0 principles for long-term adaptability



## About PEAK:AIO

PEAK:AIO delivers cutting-edge AI-driven data solutions tailored to high-performance environments. From life sciences to AI-driven research, PEAK:AIO accelerates innovation with unparalleled speed, scalability, and reliability. For more information, visit <https://peakaio.com>

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