

The InnoGlobal Way Digital Lab Infrastructure

SmartLabs: Scalable, Real-World Digital Skills for High-Tech Industry

InnoGlobal has a strong track record of developing cutting-edge analytical and automation technologies focused on practical digital skills that reflect the realities of modern high-tech industry. Our latest proprietary innovation, *SmartLabs*, offers learners the opportunity to engage directly with digital manufacturing environments—remotely, safely, and at scale.

Bridging Learning and Industry: The SmartLabs Ecosystem

At the heart of our approach is *SmartLabs*, a Microsoft Azure-powered learning platform delivered through our *SmartX* engine. It enables students to interact with real and simulated manufacturing environments, supporting digital upskilling across all levels of the National Framework of Qualifications (NFQ):

- EQF Level 5 – Process digitisation
- EQF Level 5 – Digitalisation
- EQF Level 6 – Smart manufacturing
- EQF Level 7 – Full digital transformation

This structured progression ensures learners can build their skills step by step, from foundational knowledge to advanced systems integration and automation.

Three SmartLabs Delivery Modes

1. SmartLabs Live

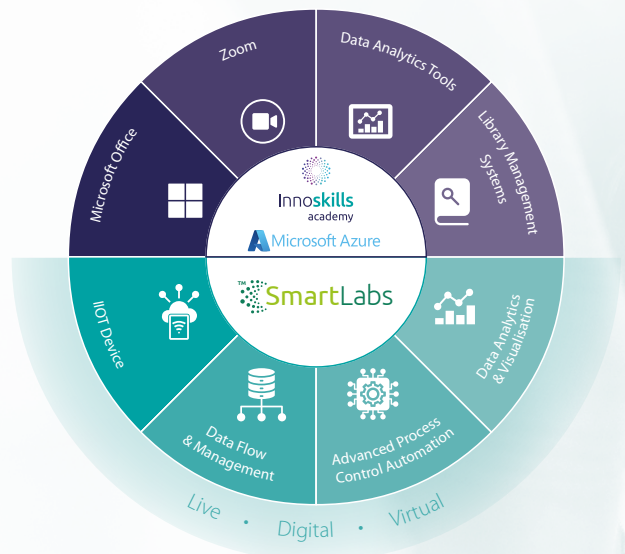
- Interactive, live-streamed sessions with tutors performing real-time experiments
- Enables expert-led delivery of specialist content
- Supports scalable, sustainable remote teaching using real lab equipment

2. SmartLabs Digital Laboratory

- Students access and control real industrial equipment remotely
- Asynchronous learning mode with real-time data monitoring
- Encourages independent experimentation and practical application

3. SmartLabs Virtual

- Digital Twin simulations of industrial processes
- Learners model, simulate, and automate manufacturing operations
- Ideal for developing advanced automation strategies and control systems



SmartLabs – InnoGlobal’s Microsoft Azure-powered learning platform delivered through our **SmartX** engine.

Real-World, Industry-Aligned Skills

SmartLabs gives students practical experience with:

- **Industrial Internet of Things (IIoT)** – e.g. connecting temperature sensors in crystallisation reactors to the cloud
- **Data analytics and visualisation** – turning raw data into process insights and storytelling
- **Simulation and modelling** – testing the impact of process parameters and interactions
- **Automation** – integrating sensors and real-time equipment through **SmartX**
- **Digital Twins** – designing and executing fully automated, simulated manufacturing processes

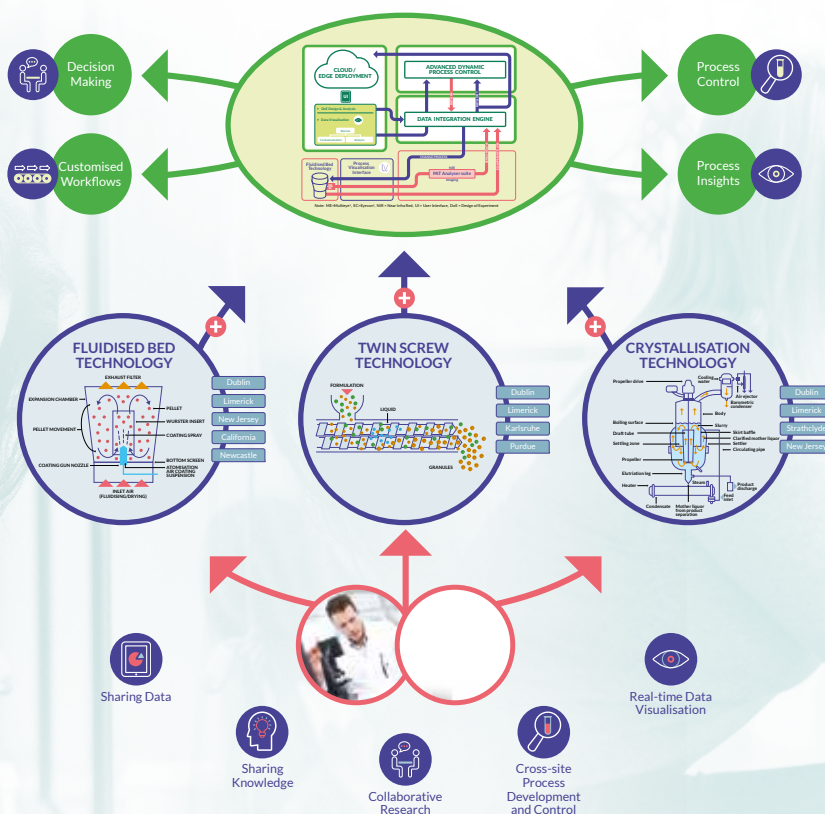
This approach allows students to understand not just the technology, but the operational impact of digital transformation within manufacturing contexts.

Scalability, Flexibility and Relevance

SmartLabs is designed to support large-scale deployment across member states, offering a high-quality learning experience that is both:

- **Scalable** – suitable for national roll-outs and cross-border collaboration
- **Flexible** – accessible on-site, remotely, and across multiple learning levels
- **Integratable** – fits into public and private education systems to support national and institutional goals
- **Plug-in Faculty** – ready-made, industry-aligned modules - Courses can be deployed as modular content, acting as a plug-in faculty without the need for internal development.

It enables consistent delivery of digital skills while adapting to local needs and infrastructure.



SmartX – proprietary Advanced Data Platform for Automating Fluid Bed Pharma Processes.