



The InnoGlobal Way Stackable Skills Programmes Designed for Global Tech Industry and Future Skills Demands

We work closely with public and private stakeholders to develop programmes tailored to their specific needs. Below is a sample of the advanced, industry-aligned digital learning InnoGlobal delivers with in-country and complementary partners. This illustrates the practical structure, content, and impact designed to meet evolving workforce and sector skills needs.

This advanced digital programme is designed to develop a high-impact, industry-ready workforce capable of driving innovation, efficiency, and sustainability across modern manufacturing environments. Through a strong focus on hands-on learning and exposure to cutting-edge Industry 4.0 technologies, it prepares learners to meet the demands of an evolving industrial landscape and to contribute meaningfully to strategic transformation initiatives.

Programme Objectives and Educational Philosophy

The programme equips learners with both **advanced theoretical knowledge** and **practical capabilities** in modern manufacturing technologies. Its key aim is to enable participants to:

- Implement efficient and safe manufacturing processes
- Promote sustainability within industrial operations
- Drive innovation using Industry 4.0 tools

The educational approach is **experiential**, integrating hands-on learning with real-world tools such as IoT, AI, robotics, and data analytics. This ensures learners are not only conceptually well-informed but also confident and capable in applying their skills directly within industrial contexts.

Foundational Concepts and Core Technologies

Workshops begin by situating learners in the broader landscape of Industry 4.0, with a structured exploration of:

- The **Automation Pyramid (ISA-95)**, introducing the layered architecture of manufacturing systems
- How **Industry 4.0 technologies** are reshaping traditional automation structures
- The progression towards **Industry 5.0**, with a human-centric and sustainable approach to industrial development

This foundation ensures learners understand not only the current operational realities but also the direction of travel for future industrial systems.

Industrial IoT (IIoT) in Practice

A dedicated workshop offers learners the opportunity to:

- **Configure IoT devices** and securely publish real-time data online
- Interact with cloud-based data services such as **HiveMQ** for data subscription
- Apply these tools to real manufacturing scenarios

This practical exposure is critical to understanding how IIoT enables **data-driven process optimisation** and enhanced operational visibility in smart factories.

Data Management and Visualisation for Manufacturing

This part of the programme addresses the full **data journey** in the manufacturing context:

- Defining, gathering, cleaning, and modelling industrial data
- Understanding structured vs. unstructured data formats
- Using no-code/low-code tools such as **Excel** to visualise and analyse information

Workshops provide exposure to:

- Conditional formatting
- Multiple series plots, box plots, dot plots, histograms
- Key statistical concepts: standard deviation, normal distribution
- **Regression analysis:** linear, polynomial, and multivariate methods

These sessions focus not just on the techniques but also on how to **translate data into actionable business intelligence**—a core requirement for modern manufacturing leadership.

Data Storytelling and Analytics

Building on foundational data work, this module trains learners to:

- Apply summarisation and aggregation techniques
- Avoid common analytical pitfalls
- Communicate findings clearly and persuasively for operational decision-making

The aim is to foster **data-literate professionals** who can integrate analytics into strategic industrial workflows.

Programming, Automation, and Generative AI

To deepen learners' technical capacity, the programme includes:

- An **introduction to Python** and the use of **Jupyter notebooks**
- Training in **robotic process automation (RPA)** for task streamlining
- Practical application of **no-code/low-code automation platforms**
- Introduction to **Generative AI** tools that can enhance design, quality assurance, and workflow documentation

This ensures that learners can adopt and implement advanced automation solutions with immediate relevance in industrial settings.

Digital Maturity, Sustainability and Strategic Planning

In response to twin transition goals (digital and green), this section explores:

- Concepts such as **Porter's Value Chain**, process efficiency, and sustainability metrics
- How to assess digital maturity levels and identify gaps and opportunities
- Roadmap development based on **real-world data from global manufacturers**

These tools prepare learners for strategic roles, supporting long-term industrial transformation aligned with ESG (Environmental, Social and Governance) standards.

Simulation for Process Optimisation

The final module focuses on:

- Building and testing **digital simulations of manufacturing systems**
- Exploring the benefits of virtual modelling, particularly for costly, complex, or hazardous scenarios

Simulation is positioned as a critical capability for **risk reduction, process improvement, and innovation**, especially in highly regulated or capital-intensive industries.

Conclusion

This programme provides a comprehensive, forward-looking education in sustainable manufacturing and digital innovation. By merging robust technical training with strategic insight, it produces graduates who are **immediately effective in industry** and capable of **leading transformation** in line with digital and green objectives. It is particularly well-suited for learners seeking roles in smart manufacturing, industrial automation, or digital strategy within high-value industrial sectors.