Digit-T

DIGITAL MANUFACTURING TRAINING

INTRODUCTION TO DIGIT-T

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WHAT IS DIGIT-T?

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DIGITAL MANUFACTURING TRAINING

Digit-T: Digital Manufacturing Training System for SMEs

Aims to provide an overview of Digital Manufacturing to help SMEs understand:

- What is Digital Manufacturing?
- The associated terminology
- The expected benefits
- How they can start adopting it in their own companies

Focussed on professionals working in the manufacturing industry

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WHAT IS DIGIT-T?

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DIGITAL MANUFACTURING TRAINING

Comprises two key elements

- Free online training course (available at training.digit-t.eu)
- Free online book (available at digit-t.eu)

Topics covered

- Management in I4.0
- Advanced Manufacturing Systems
- Intelligent Robotics

Languages: English, Spanish, Italian

The contents of the programme have been developed by experts in the field following a peer review process to ensure final quality.

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USER SURVEY

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Survey of representatives of different companies

- Different countries (Italy, Spain, UK)
- Different people in companies (technical, middle and upper management)

Questions covered

- Training topics required (essential, important, interesting, not interesting)
- Duration of training (module and session level)
- Language preference

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USER SURVEY - RESULTS

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- A list of preferred training areas
- Modules with an average duration of 1 to 5 hours
- Each one of the modules should be:
  - 2 to 5 sessions
  - 30-60 minutes per session
- Contents should be mix of theory and practice
- Course should be 80-20% ratio between training material and practical exercises.

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ONLINE TRAINING PROGRAMME

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Management in Industry 4.0	Advanced Manufacturing Systems	Intelligent Robotics
Fundamental concepts of Industry 4.0	Manufacturing systems strategies	Industrial and collaborative robots
Towards an intelligent and connected industry	Manufacturing systems modelling and simulation	Sensors, actuators and control systems
Human resource management in Industry 4.0	Sensing and data collection	Advanced robotics
	Manufacturing data analysis and decision making	

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ONLINE TRAINING PROGRAMME

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Fundamental concepts of Industry 4.0

Introduction to Industry 4.0

Digital transformation: why so much hype?

Key enabling technologies related to Industry 4.0

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Digit-T: Online Course Structure

Management in I4.0

1. Fundamental Concepts of I4.0

1.1 Introduction to Industry 4.0
1.2 Digital Transformation: Why so much hype?
1.3 Key Enabling Technologies Related to I4.0

2. Towards an Intelligent and Connected Industry

2.1 Challenges and Keys for a Successful Digital Transformation
2.2 What is Technology Roadmapping?
2.3 Diagnostics for Digital Transformation, Technology Maturity Level
2.4 Opportunities and Challenges, Strategy Definition
2.5 I4.0 Roadmap: Implementation and Refinement

3. Human Resources Management in I4.0

3.1 Workforce Evolution in I4.0 + Skills 4.0 Key Professional Competencies
3.2 Team Management and Collaborative Teamwork in the Connected Industry
3.3 Life Long Learning Strategies, Paradigms for I4.0

Advanced Manufacturing Systems

1. Manufacturing Systems Strategies

1.1 New Product Introduction Strategies
1.2 Characteristics and Enabling Technologies for Reconfigurable and Flexible Assembly Systems
1.3 Large Scale Assembly

2. Manufacturing Systems Modelling and Simulation

2.1 Manufacturing Systems Analysis
2.2 Queueing Theory
2.3 Digital Twin Concept
2.4 Modelling Tools and Software

3. Sensing and Data Collection

3.1 Sensors and Sensor Networks in Digital Manufacturing
3.2 Product Tracking (Performance and Regulatory Aspects)
3.3 Preventative, Corrective and Predictive Maintenance Systems
3.4 Metrology Assisted Assembly

4. Manufacturing Data Analysis and Decision Making

4.1 Quality Strategies and Technologies in Digital Manufacturing
4.2 Intelligent Decision Making
4.3 Data and Data Analysis
4.4 Process Optimization by Data Mining and Machine Learning

Intelligent Robotics

1. Industrial and Collaborative Robots

1.1 Cyber Physical Production Systems and Industrial Robots
1.2 Human-Robot Collaboration
1.3 Safety: Industrial Standards and Equipment
1.4 Robotic Applications (including Robotic Assembly)

2. Sensors, Actuators and Control Systems

2.1 Sensing Systems for Robotics
2.2 Actuators for Robotics
2.3 Robot Motion Planning and Programming
2.4 Robot Control

3. Advanced Robotics

3.1 Micro-Robotics
3.2 Mobile Robots
3.3 Robotics and Artificial Intelligence
3.4 Ethical Issues in Robotics

Access the training course at training.digit-t.eu

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E-BOOK

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Management in Industry 4.0	Advanced Manufacturing Systems	Intelligent Robotics
Fundamental Concepts of Industry 4.0	Manufacturing Systems Analysis	Industrial Robots 4.0
Technology Strategy	Digital Modelling and Simulation of Manufacturing Systems	Robot Components
People at the Centre of I4.0	Digital Twins and Intelligent Decision Making	Industry 4.0 in Robotics

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