

intelitek

INDUSTRY 4.0

SmartCIM 4.0 Manufacturing



SMART MANUFACTURING SIMULATION FOR INDUSTRY 4.0 TRAINING AND EDUCATION

SmartCIM4.0 is an advanced flexible lab environment implementing a real industry 4.0 manufacturing process for educating and training professionals and students in the principles and technologies of computer integrated manufacturing built with Industry 4.0 capabilities.

SMARTCIM 4.0 IS:

- An integrated manufacturing plant for training and education
- A capstone project for advanced manufacturing and Industry 4.0 programs
- A real application of advanced industrial technology in an internet enabled manufacturing environment
- *Industry 4.0 enabled* including smart sensors, advanced communications, industrial software and internet connectivity

SmartCIM 4.0 is a modular and flexible solution for educating and training students in the principles and technologies of Industry 4.0 computer integrated manufacturing



UPSKILLING THE WORKFORCE

Intelitek offers educational solutions to train students and veteran employees in the technologies of advanced manufacturing. For over 40 years, Intelitek has been closing the gap between education and industry.



PLATFORM FOR INDUSTRY 4.0

The flexible and integrated lab environment for Industry 4.0 training can include multiple stations, manufacture real products and integrate a variety of technologies.

Features:

- Supports cross-disciplinary programs to learn mechatronics, informatics, industrial engineering and more
- Versatile cell enables the design, development and production of real products
- Stations equipped with fully automated, real industrial hardware components
- Software integration to design, control, monitor industrial process locally or via the cloud

SKILLS YOU CAN LEARN:

- Manufacturing process and resource planning
 - Flexible Mass Production
 - Predictive Maintenance
 - Operational Efficiency
- Design and production of multiple parts using a variety of production and assembly techniques
- Robotics, Machining, Automation, Electrical, Mechanical, Pneumatics, PLCs, Smart Sensors, Networking & Communication, Cyber Security, Machine Vision, Robotics Welding, ERP, MES, and more
- Skills for industrial process maintenance, installation, design, operation and optimization

SMARTCIM 4.0 STATIONS

Flexible manufacturing stations include:

- Machining and Robotics - Milling
- Machining and Robotics - Turning
- Assembly Stations with Collaborative Robots
- Automated Storage and Retrieval
- Robotic Welding
- Additive Manufacturing
- Quality Control Stations
- 3rd Party Vendor Stations like Laser Engraving

Additional capabilities:

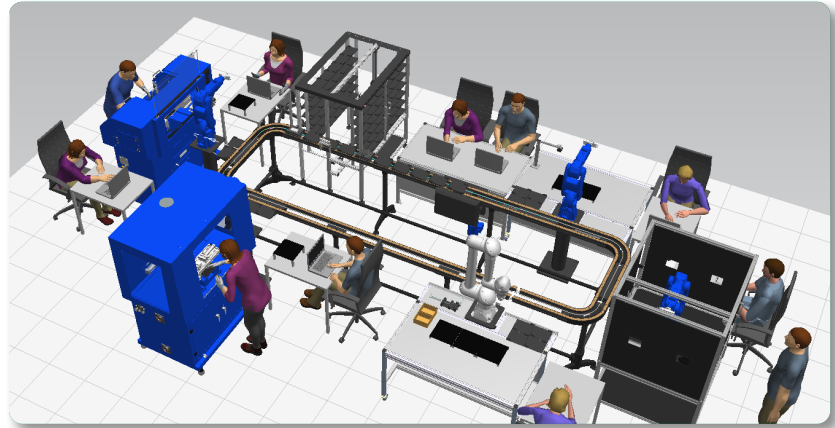
- RFID enabled conveyor for parts mobility
- Control station with PLC, and MES
- Smart sensors throughout for data collection

SmartCIM 4.0 prepares trainees for the transition into industry by providing a high quality lab experience in automated manufacturing technologies and management methodologies

EDUCATIONAL TOOLS FROM INTELITEK

The SmartCIM 4.0 Lab is a complete solution that includes theory, practical and system level learning experiences for the classroom

- Curriculum – instructor led or self-paced courseware
- Exercises - student lab activities for hands on learning
- Software tools – to setup, configure, monitor the system



Digital twin simulation of typical five station SmartCIM 4.0 lab

REAL INDUSTRIAL HARDWARE

- Built with Intelitek and industry vendor hardware
- Full size, real industrial equipment from end-to-end
- Manufacturing line produces real products

INDUSTRY 4.0 ENABLED

- Smart Sensors and all components report real-time cell status
- Multi-tiered IP and IIoT communications network to all elements
- Central management, cloud connectivity and data analysis integrated

MULTI STATION, FLEXIBLE DESIGN

- Industrial conveyor system links workstations with a variety of manufacturing capabilities
- Choose machining, welding, assembly, storage, additive, or 3rd party machines
- Industry 4.0 sensors and communications link to central manager

INDUSTRY 4.0 SOFTWARE INTEGRATION

- Intelitek OpenMES for central control and manufacturing operation management
- Cloud enabled monitoring and control capabilities
- Integration with 3rd party design, simulation and operation applications