



Industrial Internet of Things (IIOT)

www.cognixia.com

About Cognixia

Cognixia- A Digital Workforce Solutions Company is dedicated to delivering exceptional trainings and certifications in digital technologies. Founded in 2014, we provide interactive, customized training courses to individuals and organizations alike, and have served more than 130,000 professionals across 45 countries worldwide.

Our team of more than 7000 industry experts facilitate more than 450 comprehensive digital technologies courses, along with state-of-the-art infrastructure, to deliver the best learning experience for everyone. Our comprehensive series of instructor-led online trainings, classroom trainings and on-demand self-paced online trainings cover a wide array of specialty areas, including all of the following:

- IoT
- Big Data
- Cloud Computing
- Cyber Security
- Machine Learning
- AI & Deep Learning
- Blockchain Technologies
- DevOps

Cognixia is ranked amongst the top five emerging technologies training companies by various prestigious bodies. We're also RedHat Enterprise Partner, Microsoft Silver Learning Partner and an authorized training partner for ITIL, Automation Anywhere and ISC2.





OUR AWARDS & AFFILIATIONS

 **Best Workplace Amongst Emerging Enterprises** Awarded By **Great Indian Workplace Awards – 2018** Mumbai, India



 **Best Training Provider of the Year** Awarded By **The Golden Globe Tiger Awards – 2018** Kuala Lumpur, Malaysia



  **World HRD Congress** has awarded for Excellence in Training (Asia)

  **WORLD HRD CONGRESS** Cognixia is awarded as Training Company of the Year, 2018

  **ISO 9001:2015 CERTIFIED** ISO 9001:2015 Certified Quality Management System



  **ISO/IEC 27001:2013 CERTIFIED** ISO/IEC 27001:2013 Certified Information Security Management System

  **AFRICA LEADERSHIP EXCELLENCE** Best Emerging Technology Training Organization at the Middle East Training & Development Leadership Awards 2018

 **TOP 5 CLOUD TRAINING INSTITUTIONS INDIA 2016**  **HIGHER EDUCATION REVIEW**

 **TOP 5 Big Data TRAINING INSTITUTES 2017**  **siliconindia**

 **TOP 10 PROMISING INSTITUTE IN INDIA 2017**  **HIGHER EDUCATION REVIEW**

 Top 10 IoT Training Companies for the Second consecutive year.  **2017 IoT India MAGAZINE**

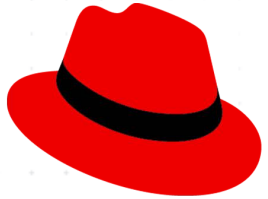
  **siliconindia** BEST TRAINING PROVIDER **BIG DATA HADOOP DEVELOPER OF THE YEAR 2016**

 Top 10 IoT Training Institutes – 2016  **Analytics India MAGAZINE**

  **Asian Training & Leadership Award, Dubai**

 **TOP 5 Emerging Technologies 2016 TRAINING COMPANIES**  **siliconindia**

AUTHORIZED TRAINING PARTNERS FOR



Red Hat



**AUTOMATION
ANYWHERE**



Silver
**Microsoft
Partner**



Industrial Internet of Things Market Outlook

According to M&M research, the global IIoT market is expected to reach USD 110.6 billion, growing at a CAGR of 7.4%.

Of all the territories, the APAC region holds the largest share and potential in the IIoT market, being a major manufacturing hub and a global focal point for significant investments.

According to a study by Microsoft, 87% of the manufacturing industry's decision-makers are in favor of the adoption of IIoT.

58% of manufacturers feel that IIoT will be essential for digitally transforming industrial operations, according to a study by GE.

Cognixia's Industrial Internet of Things Certification Course

Cognixia's IIoT online training covers important concepts of industrial automation – both PLC and SCADA. It discusses sensor data mining, wireless sensor area networks (WSAN), smart factories, industrial cloud platforms, while also shedding light on Industrial IoT security. The IIoT certification course also gives participants hands-on experience in the field with practical assignments and labs, ensuring they gain a thorough understanding of all concepts discussed during the sessions.

Who should take this course?

Anyone keenly interested in learning the concepts of IIoT and building a career in the field can enroll in this course.

Prerequisites

Anybody with basic computer skills will be eligible for this course.

Program Structure

- 48 hours of live online instructor-led training
- Industry experienced instructor
- 24x7 dedicated PoC support
- Multiple hands-on exercises and labs to ensure a thorough understanding of concepts

DETAILED CURRICULUM : MODULES

Module 1: Introduction to Industrial Internet of Things

- Embedded systems & computer networks
- Machine-to-machine (M2M) communication
- Internet of Everything (IoE)
- Machine learning & artificial intelligence
- Distributed computing
- Industrial automation
- Interoperability, identification localization, communication, and software-defined assets
- Evolution of IIoT – understanding the IT & OT convergence
- OT components like Industrial control systems, PLC, SCADA, and DCS
- IT components like hardware, software, and people processes
- Adoption of IIoT
- Market trends and opportunities in IIoT

Module 2: Industrial automation – PLC & SCADA

- History of automation – plants to parts
- Knowledge discovery process
- The DIKW (Data, Information, Knowledge, and Wisdom) pyramid and its relevance in IoT
- PLC vs. Microcontrollers
- Commercial microcontroller-based development boards
- Industrial networks
- Machine-to-machine networks

Module 3: Sensor data mining and analytics

- Transducers: Sensors & actuators
- Data acquisition, storage, and analytics
- Real-time analytics
- Understanding the differences between IoT and Big Data
- Improving operational efficiency with IoT
- Edge analytics & data aggregation

Module 4: Wireless Sensor Area Networks (WSAN)

- Sensor nodes
- WSN communication technology
- Fundamentals and applications of Bluetooth, Zigbee, and WiFi
- Fundamentals and applications of Cellular communication and LPWAN technology

Module 5: Design & development of IIoT systems

- IIoT reference architectures
- Standardization initiatives
- Interoperability issues
- Industrial internet reference architecture from Industrial Internet Consortium (IIC)
- IIoT design considerations
- Centralized vs. distributed architectures
- Industrial networks, communication technologies, protocols

DETAILED CURRICULUM : MODULES

Module 6: Industry 4.0 – Smart Factories

- Integration of products, processes, and people
- Smart factories and cyber-physical systems
- Design principles
- Challenges on the path to be a smart factory

Module 7: Industrial cloud platforms

- Industrial gateways
- Commercial gateways by Intel and Cisco
- Cloud-based gateway solutions
- IaaS, PaaS, and SaaS models
- Cloud components and services
- Device management, databases, visualization, and reporting
- Notification management
- Security management
- Cloud resource monitoring and management
- AWS IoT
- Microsoft Azure IoT
- GE Predix
- PTC Thingworx

Module 8: Industrial IoT Security

- Common vulnerabilities
- Attack surfaces
- Hardware & software solutions
- Open-source initiatives
- Device applications & OS hardening
- Network and protocol security features
- Cloud security

Labs:

- Real-time data acquisition of sensor data with backup in external memory
- Controlling industrial devices with IoT HTTP protocol using the IoT web portal control
- IIoT monitoring of industrial sensors with timestamp & data analysis to improve efficiency
- IIoT-based prepaid energy meters
- Data loss recovery system for IIoT data acquisition systems

Why choose Cognixia?



LIFETIME LMS ACCESS



24 x 7 SUPPORT



REAL-LIFE PROJECTS & CASE STUDIES



INDUSTRY EXPERTS AS TRAINERS



INDUSTRY STANDARD CERTIFICATE



POTENTIAL CAREER OPTIONS

IoT developers

Field engineers

Validation engineers

Front-end developers

Application engineers

Digital product owners

IoT solutions architects

Cloud solution architects

Embedded system specialists

Machine learning developers

IoT device management engineers



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To learn more visit
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