Training program on

IIoT

Introduction to Industrial Internet of Things

ABOUT ARRELIC TRAINING INSTITUTE

Arrelic Institute is focused to equip both industry professionals and college graduates with the skills and knowledge required for bridging the desire stare of workforce which industry needs to compete globally.

Arrelic Institute provides over 75 different type of customized training programs in the field of Reliability Engineering, Asset Management, Best Practice, Operation & Maintenance, Predictive Maintenance, NDT, Predictive Analytics, Quality, Risk & Safety.

Arrelic Institute conducts public trainings and workshops in 38 locations across India and 10+ International locations. We are working for large corporate house from 15 different types of industries ranging from Airlines, Automobiles, Cement, Defence Manufacturing, FMCG, Glass, Marine, Metals, Mining, Oil & Gas, Power, Pulp & Paper, Facility Management and Fertilizer.

ARRELIC INSTITUTE: AT A GLANCE

50+
E-Learning Training Modules

75
Training Modules

06
Industry Specific Domain

15
Global Locations

02
University Program

15
Types of Industries

40+
Global Experts

38
locations in India

5+
Associations

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ARRELIC AWARDS & RECOGNITIONS

NASSCOM® TOP5

Won the Top 5 Startups in eastern India in Thieve 30 by NASSCOM

GLOBAL ENTREPRENEURSHIP SUMMIT INDIA 2017

Selected for GES – 2017, Hyderabad and showcased among top 100 Start-ups from India.

SMART FIFTY 50 Solutions to Transform India

TOP50

Emerged as one of the top 40 startups in #Smartfifty' – a search for solutions to transform India

PULSE THE VENTURE INSPIRING INNOVATION

Top 24 Start-ups selected over 1850 startups across India By CNBC.

NASSCOM® PRODUCT CONCLAVE

Selected for NPC – Bangalore and NPC – Kolkata for Product showcase.

TiE CON DELHI-NCR

Product showcased in TIECON – 2017 and selected through Govt. Of Odisha.

#startupindia

Startup India Recognize

Startup Odisha

STARTUP ODISHA recognised.

birac Ignite Innovate Incubate

BIRAC finalist in SPARCH - 2017

web summit LISBON, NOVEMBER 6-9, 2017

Selected for Web summit - Lisbon

hello tomorrow

Selected for Hello tomorrow, Paris Summit.

100 open startups

**Selected and presented in 1000 open startups.**

ABOUT THE TRAINING COURSE
Introduction to Industrial Internet of Things (IIoT)

The Industrial Internet of Things (IIoT) applies Internet of Things technology to the industrial sector. The industrial internet of things encompasses machine learning (setting up algorithms to obtain predictive analyses) and Big Data by exploiting data sensors and machine to machine communication (between machines without human intervention), which have existed in the industrial sector for many years.

The Industrial IoT (IIoT) is much more advanced than the commercial IoT, primarily due to the prevalence of connected sensors in the industrial world, which are the "things" in the IoT. Hundreds of millions of connected wired and wireless pressure, level, flow, temperature, vibration, acoustic, position, analytical, and other sensors are installed and operating in the industrial sector, and millions more are added annually, increasing value with additional monitoring, analysis, and optimization. These sensors connect to a variety of higher level software platforms, both on- and offsite. On-site connections are often via a local intranet, creating an Industrial Intranet of Things. Offsite connections are usually made through the Internet, often via a cloud-based storage system
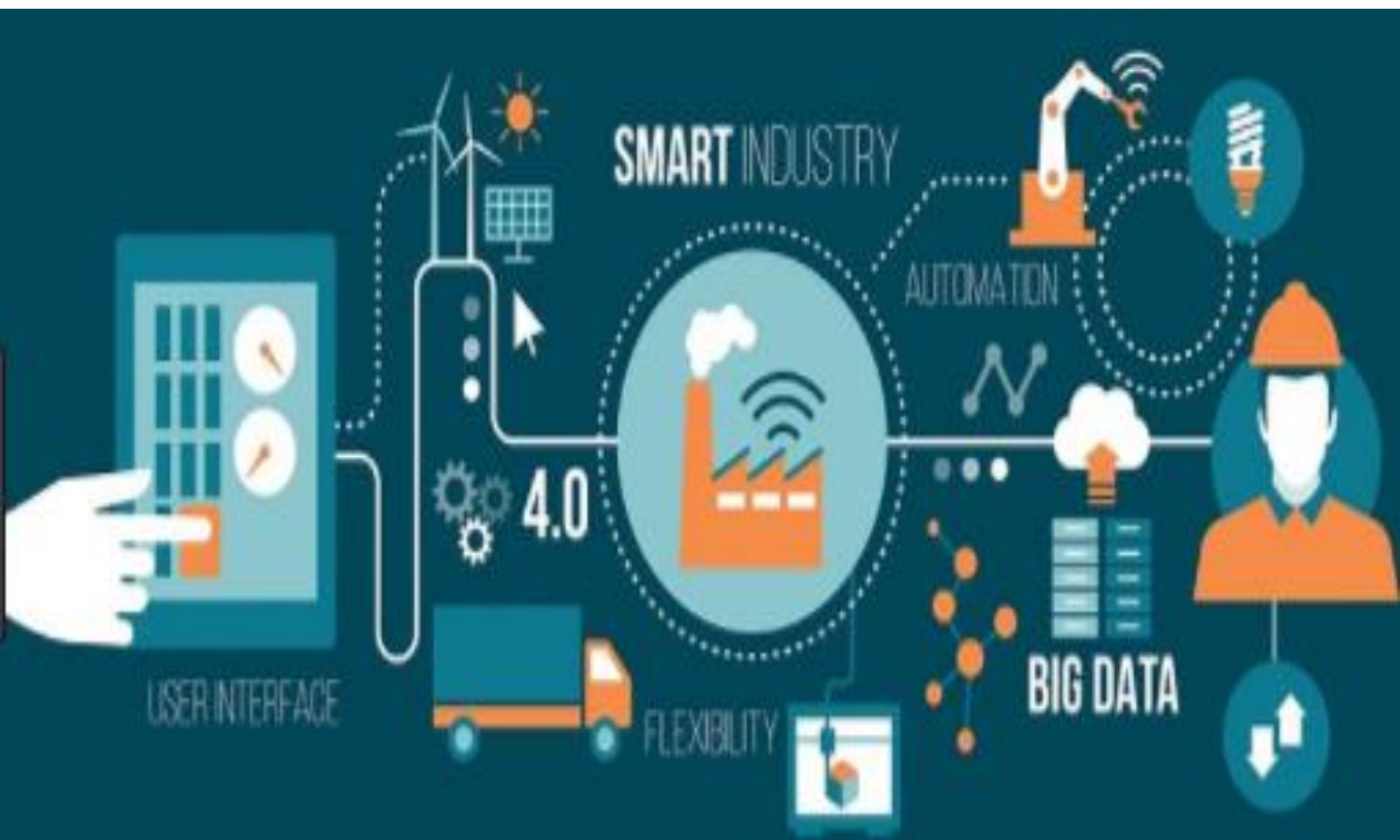
LEARNING OBJECTIVES &
KEY BENEFITS OF ATTENDING THE WORKSHOP

By attending this technical training on **"Introduction to Industrial Internet of Things (IIoT)"** delegates will be able learn and deliver the following things.

- ✓ **Expert level knowledge of Industrial IoT tools and trends**
- ✓ **Sound understanding of core concepts, background technologies, and sub-domains of IIoT**
- ✓ **To understand the implications of IIoT on Industrial Automation & how one can leverage the skills in the field of Industrial Automation**
- ✓ **Knowledge and skills to design and build network based on client-server and publish-subscribe to connect, collect data, monitor and manage assets**
- ✓ **Knowledge and skill to write device, gateway and server side scripts and apps to aggregate and analyze sensor data**
- ✓ **Knowledge and skills to select application layer protocols and web services architectures for seamless integration of various components of an IIoT ecosystem**
- ✓ **Understanding of deploying various types of analytics on machine data to define context, find faults, ensure quality, and extract actionable insights**

WHO SHOULD ATTEND ?

Successful reliability centered maintenance programs require the disciplined application of proven processes and interdepartmental partnerships. It is important for departments that are influenced and impacted by the processes to understand the processes. People in the following roles should participate in this training:

- ✓ **Professionals in Automation component manufacturers**
- ✓ **Professionals in Automation solution providers**
- ✓ **End users in manufacturing like automobile, consumer durables, pharmaceuticals, process industries etc.**
- ✓ **Professionals working in IT or ITES domain**
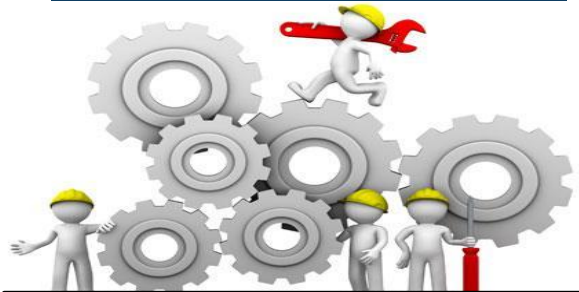- ✓ **Faculty and students related with automation programs**

INDUSTRIES THAT CONCERN ABOUT

LOW PRODUCTIVITY
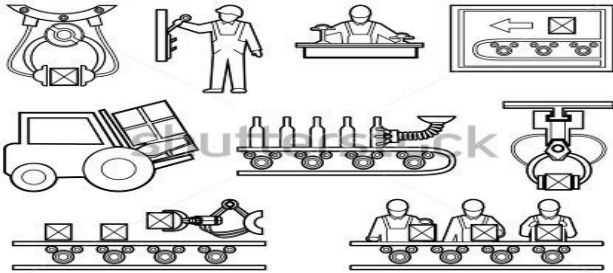
Conventional use of time-based approach for maintenance does not take into consideration the way assets are being utilized, their current condition and real world operating conditions.

HIGH DOWNTIME

Failure to curb unplanned downtime and lack of control over value chain processes lead to high costs , inefficiencies and poor compliance. These severely impacts the profit and industrial growth.

INADEQUATE ASSESS CONTROL

Industries lack the ability to interpret assets data and because of unavailability of proper predictive methods they are unable to predict equipment failures which leads to unplanned downtime.

HIGH MAINTENANCE COST

Increased competition, pressure to grow revenue & profit , tighter regulations, scarcity of raw material, fluctuation demand and obsolete technologies have impacted the way industries are being operated.

COURSE OUTLINE

DAY – 1

Introduction- Part-I
- ✓ Review of Industrial Automation
- ✓ Introduction to Internet of Things(IoT)
- ✓ Introduction to IoT Ecosystem
- ✓ Related terminologies used in the field of IoT
- ✓ Evolution of IIoT, core concepts and sub-domains of IIoT

Introduction- Part-II
- ✓ IoT Applications
- ✓ Introduction to Industrial IoT
- ✓ Implications of IIoT in the field of Automation
- ✓ Design & building of network on the server to collect data from the sensors

REVIEW & Q/A

DAY – 2

Industrial Application
- ✓ Introduction to Industry 4.0
- ✓ Introduction to Interoperability, OPC Fundamentals and Trends
- ✓ Introduction to basic fundamentals and analytics tools
- ✓ IIoT design constraints and issues in data handling from sensors

REVIEW & Q/A

DAY – 3

Data Handling & Analytics
- ✓ Introduction to IoT Platform
- ✓ IIoT protocols for Cloud
- ✓ Analysis of machine data, faults finding and extract actionable insights
- ✓ IIoT Platform Details and use case
- ✓ Introduction to Artificial Intelligence and Machine Learning

POST ASSESSMENT

PROGRAM SCHEDULE

Time	Session	Time	Session
09:00 - 10:30	Morning Session 1	13:30 - 15:00	Afternoon Session 1
10:30 - 11:00	Refreshments & Networking Break	15:00 - 15:30	Refreshments & Networking Break
11:00 - 12:30	Morning Session 2	15:30 - 17:00	Afternoon Session 2
12:30 - 13:30	Lunch	17:00 - 17:30	Day review & Q/A