TRAINING PROGRAM ON

RISKED BASED INSPECTION (RBI) - Basic

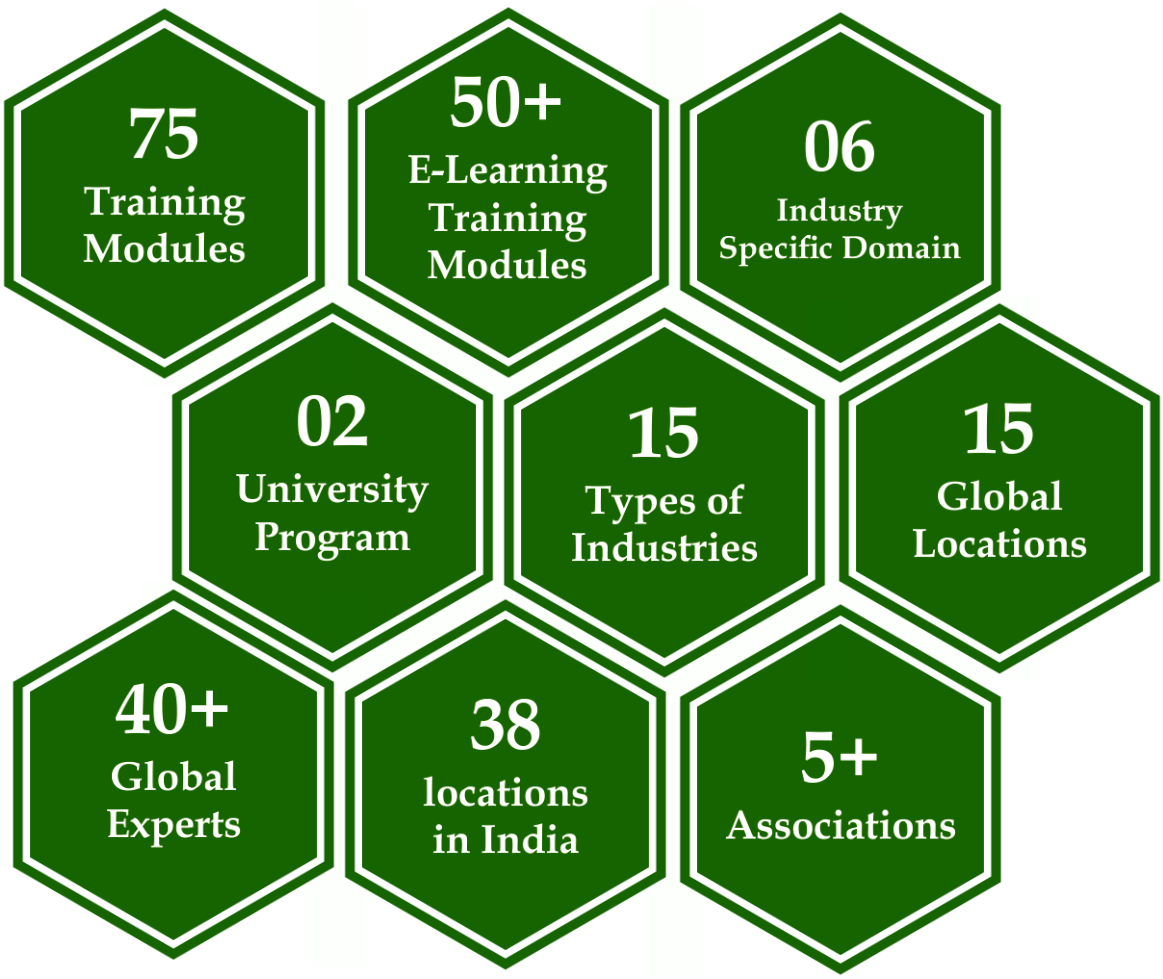
ABOUT ARRELIC TRAINING INSTITUTE

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



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ARRELIC AWARDS & RECOGNITIONS

NASSCOM®

TOP5

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

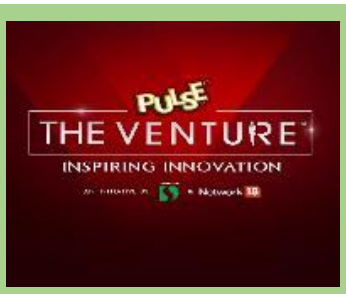
GLOBAL ENTREPRENEURSHIP SUMMIT INDIA 2017

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



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

RISKED BASED INSPECTION (RBI) - Basic

In today's highly competitive market, it has become a priority for heavy duty industrial companies, particularly in the Oil & Gas sector, to avoid any unplanned shutdowns.. Additionally, worldwide regulatory incentives are also pushing for improved risk management aimed at protecting the environment and citizens from major industrial hazards. Companies must therefore ensure that their equipment is safe, reliable and does not pose a risk to the surrounding environment.

The risk-based approach requires a systematic and integrated use of expertise from the different disciplines that impact plant integrity. These include design, materials selection, operating parameters and scenarios, and understanding of the current and future degradation mechanisms and of the risks involved.

Risk-Based Methodologies enable the assessment of the likelihood and potential consequences of equipment failures. RBI (Risk-Based Inspection) provides companies the opportunity to prioritize their equipment for inspection; optimize inspection methods, frequencies and resources and develop specific equipment inspection plans. This results in improved safety, lower failure risk, fewer forced shutdowns, and reduced operational costs.

With a heavy emphasis on API technology, learn how to apply RBI technology to processing equipment by determining the probability of failure, the consequence of failure, risk, and how to plan for the equipment's next inspection. Additionally, the instructors facilitate discussions on developing an RBI program using industry best practices to avoid common pitfalls and mistakes when implementing and maintaining your RBI program. Typical risk reduction and cost benefit analysis of RBI programs are also presented.

LEARNING OBJECTIVES &
KEY BENEFITS OF ATTENDING THE WORKSHOP

By attending this technical training on **"Risked Based Inspection (RBI) - Basic"** delegates will be able learn and deliver the following things.

- ✓ **Improved health and safety management**
- ✓ **Avoiding unnecessary inspection**
- ✓ **Cost saving**
- ✓ **Reliability and compliance with applicable Codes/ Standards**
- ✓ **Fundamental principles of risk analysis, using practical application through case histories and a step-by-step evaluation process for each type of damage mechanism**
- ✓ **Determine probability of failure of pressure equipment, analyze consequences of failure and develop an appropriate inspection plan**
- ✓ **Identify which RBI procedures and working processes comply with industry standards**
- ✓ **Assess the integrity of equipment and make projections about its remaining useful life**
- ✓ **Fundamental principles of component integrity, application of the API rules, material properties of strength and toughness, and the introduction to stress and fracture mechanics**
- ✓ **Quantitative methods for calculating the probability of failure (POF) for fixed equipment**

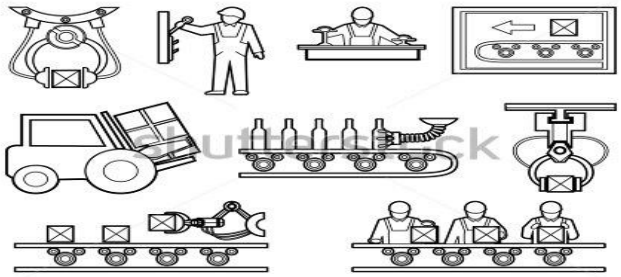
WHO SHOULD ATTEND ?

Successful risked based inspection 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:

- ✓ **Quality Managers**
- ✓ **Quality Engineers**
- ✓ **Lean practitioners**
- ✓ **Business Process Owners**
- ✓ **Process Improvement Managers**
- ✓ **System Implementers**
- ✓ **Management representatives**
- ✓ **System Coordinators**

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
- ✓ Purpose and Scope
- ✓ Terms and Definitions

INTRODUCTION TO MECHANICAL INTEGRITY AND RISK

SCOPE OF API

BASIC RISK ASSESSMENT CONCEPTS
- ✓ Definition of risk
- ✓ Risk Management and Risk Reduction
- ✓ Inspection Intervals and Due Dates
- ✓ Overview of Risk Analysis
- ✓ Inspection Optimization
- ✓ Relative Risk vs Absolute Risk

INTRODUCTION TO RISK-BASED INSPECTION
- ✓ Key Elements of an RBI Program
- ✓ Consequence and Probability for RBI
- ✓ Types of RBI Assessment
- ✓ Precision vs Accuracy
- ✓ How RBI Can Help to Manage Operating Risks
- ✓ Management of Risks
- ✓ RBI and Other Risk-Based and Safety Initiatives
- ✓ Relationship with Jurisdictional Requirements

REVIEW & Q/A

DAY – 2

RISK ASSESSMENT PROCESS
- ✓ Planning the RBI Assessment
- ✓ Data and Information Collection for RBI Assessment
- ✓ Damage Mechanisms and Failure Modes
- ✓ Assessing Probability of Failure
- ✓ Assessing Consequence of Failure
- ✓ Risk Determination, Assessment and Management
- ✓ Risk Management with Inspection Activities
- ✓ Other Risk Mitigation Activities
- ✓ Reassessment and Updating RBI Assessments
- ✓ Roles, responsibilities, training and qualifications
- ✓ RBI Documentation and Record-keeping

REPOTITORIUM, FOCUS ON RBI METHODOLOGY
- ✓ RBI Methodology review
- ✓ RBI- linking methodology and implementation
- ✓ Other tools and methodologies related to RBI and inspection planning
- ✓ Limits and extensions of the RBI methodology

POST ASSESSMENT

PROGRAM SCHEDULE

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