



TRAINING PROGRAM ON

VALUE DRIVEN RELIABILITY



28-29 May 2018



Hotel Babylon Inn
Raipur, India

www.arrelic.com



ABOUT ARRELIC TRAINING INSTITUTE

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

Arrellic 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.

Arrellic 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



www.arrellic.com/offerings/training-and-development



ARRELIC AWARDS & RECOGNITION

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.



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



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

#startupindia

Startup India Recognize



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.



Selected and presented in 1000 open startups.



KEY TAKE AWAY

1	“Known Best Practices in Maintenance and Reliability” from around the world.
2	To develop an equipment criticality matrix for effective maintenance strategies.
3	Maintenance Strategy Development & Reliability Centered Maintenance (RCM).
4	Barriers and Solutions to Effective RCM.
5	A process for establishing an effective RCA Program to eliminate repeat failures.
6	Types of Predictive maintenance tools and it’s uses.
7	Designing Reliability Asset Life Cycle Cost and DFR (Design for Reliability).
8	M & R tools such as FMEA and various Lean Manufacturing tools.
9	Roles and responsibilities that impact reliability strategy effectiveness.
10	Leading & Lagging KPIs, Benchmarking for Proactive Maintenance.

WHO SHOULD ATTEND ?

The workshop is structured for the professionals who are involving in Maintenance and Reliability Domains.

- ✓ *VP - Operation, Engineering*
- ✓ *GM - Maintenance/Mechanical/Projects*
- ✓ *Maintenance Section Heads*
- ✓ *Operation Section Heads*
- ✓ *Maintenance Managers*
- ✓ *Maintenance/Reliability Engineers*
- ✓ *Maintenance Consultants*
- ✓ *Production/Operations Professionals*
- ✓ *QA/QC Professionals*





AGENDA – VALUE DRIVEN RELIABILITY

COURSE OVERVIEW

This is a two day workshop designed to discuss and elaborate on the M&R (Maintenance & Reliability) issues from a business perspective.

It will provide an insight in best practices of the Maintenance and Reliability from around the world, review the basic skills of the maintenance & Reliability Engineers, to develop an equipment criticality matrix for effective maintenance strategies and types of predictive maintenance tools and it's uses.

By end of the training program the participants will have clear understanding of Reliability Centered Maintenance (RCM), Designing Reliability Asset Life Cycle Cost and DFR (Design for Reliability), Leading & Lagging KPIs, Benchmarking for Proactive Maintenance.

PROGRAM SCHEDULE

(Day 1 & Day 2)

09:00 - 10:30	Morning Session 1
10:30 - 11:00	Refreshments & Networking Break
11:00 - 12:30	Morning Session 2
12:30 - 13:30	Lunch
13:30 - 15:00	Afternoon Session 1
15:00 - 15:30	Refreshments & Networking Break
15:30 - 17:00	Afternoon Session 2

M01 – Introduction to VDR

- Introduction
- Pre-assessment Test
- Definition of modern maintenance management
 - Key terms and definitions
 - Maintenance Managers/Supervisors roles, Objectives
- Operator Driven Maintenance (ODM/ODR)

M02 – Predictive Maintenance

- Maintenance Strategies
 - Understanding of PF Curve
- Introduction to predictive maintenance
 - CBM/PdM Technologies
 - Vibration Analysis
 - IR-Thermography
 - MCSA – Motor Current Signature Analysis
 - Balancing
 - Oil Analysis
 - Ultrasonic
 - NDT techniques
- PdM Case Study



Training Conducted at GAIL (India) Limited by Arrelic at GTI-Noida | 25 -27th February 2018



AGENDA – VALUE DRIVEN RELIABILITY

M03 – Maintenance Excellence

- **Lean Manufacturing in maintenance**
- **TEEP & OEE Calculations**
- **Best Practice & Managing Performance**
 - Leading and Lagging Indicators
- **Benchmarking in Maintenance**
- **Maintenance and Reliability Tools**
 - Root Cause Analysis
 - Failure Mode Effect Analysis
 - Six Sigma, Lean Tools
 - Pareto Analysis – 80/20 rules

M04 - RCM

- **Reliability Centered Maintenance**
 - RCM Concept
 - RCM Principle and Processes
 - Cause and Implementation
- **RCM Analysis**
 - Planning & Preparation
 - Selecting Facilitator
 - System & Subsystem
 - Roles & Responsibilities
 - Case Study
- **FMEA & FMECA**
- **Types of Abnormality**

M05 – Reliability Excellence

- **Reliability Design**
 - Reliability Block Diagram
 - The Bathtub curve
 - Asset Life Cycle cost
- **ALA - Asset Life Assessment (ALA)**
 - Remaining Life Assessment (RLA)
- **Post Assessment**
- **Overall program review**

PEDAGOGY

Assessment:

All assessments will be conducted during the course. Assessment tasks consist of e.g: quizzes, practical discussions, case studies, role plays, on-site exercises, hands-on.

Certificates:

Certificates will be awarded to the learners who completed and pass in the assessments and who completed at least 75% of the attendance report.

Course Language: English

SUGGESTED BOOKS

- *Maintenance & Reliability Best Practices* by **Ramesh Gulatti**
- *Maintenance Strategy* by **Anthony Kelly**
- *Toyota Way* by **Jeffery Liker**
- *World Class Manufacturing* by **Richard Schonberger**
- *Making Common Sense Common Practice* by **Ron Moore**
- *Gateway to World Class Maintenance* by **Anthony M. Smith**
- *Planning & Scheduling* by **Doc Palmer**
- *Computerized Maintenance Management Systems* by **Terry Wireman**
- *Successfully Implementing TPM* by **Edward Hartmann**



WORLD CLASS TRAINERS



Irfan Khan

Mr. Irfan Khan is an expert in Reliability(R), Availability (A), Maintainability (M) and Safety (RAMS), Reliability Centered Maintenance (RCM) and Life Cycle Costing (LCC), Project Management and Control of Engineering, Procurement, Construction and Maintenance (EPCM) type contracts as applied to nuclear facilities, power plants, international airports, mining industries, and metro rails.

He did MSc. Engg. Degree in Power Systems (British Commonwealth Scholar) from Royal College of science and Technology, UK. One year post graduate course at Bhabha Atomic Research Center (BARC), India in Nuclear Physics, Reactor Engineering, Nuclear Power Plants, Advanced Maths, Advanced Electronics etc. and B.Tech (Honors) Degree in Electrical Engineering, Indian Institute of Technology (IIT) Kharagpur, India



Dr. Tarapada Pyne

Served over 37 years in Defence Services (Indian Air Force), large process plants, petrochemicals, oil-refinery, metal industries in the field of Asset Management, Reliability Management, Machinery Diagnostics (Condition Monitoring, Vibration, NDTs), Rotary Equipment, Energy Management, Technical Training etc.

Chartered Engineer and Certified Reliability Professional (CFR, Chennai, India), Certified Reliability Professional (Reliasoft, USA), Certified Energy Auditor (BEE, Govt. of India), Certified Vibration Specialist (Emerson), Certified in CBMS (IIPM, Rourkela).

Delivered key-note/ invited talks and associated with a number of professional bodies as Life Fellow/ Members. More than 18 publications in journals/ conferences, a Reviewer/ Editor of International Journals.



Deepak Sahoo, CRL, CMRP

Certified Maintenance & Reliability Professional - CMRP, Certified Reliability Leader(CRL), Six Sigma Black Belt, TPM facilitator and Lean Expert. Post Graduate in Engineering Management (RCM, TPM, CBM), Bachelor of Technology in Mechanical Engineering having 9 years experience in the field of Reliability Improvement, Operational Excellence and Asset Management domain.

Worked in multiple industries such as Petrochemicals, Steel, Ferro-Alloys, FMCG, Facilities Management sectors in Asia Pacific, Middle-East, Eastern Europe and North Africa regions.



DATE & LOCATION



Check the weather before coming
[CLICK HERE](#)



HOTEL BABYLON INN

Jail Road Devendra Nagar,
Raipur, India - 492001

28-29 May, 2018

Raipur, India

REGISTRATION, BOOKING & PAYMENT

TERMS & CONDITIONS

PAYMENT POLICY:

Payment is due in full at the time of registration and it includes lunches, refreshments and detailed conference materials. Your registration will not be confirmed until payment is received and may be subjected to cancellation.

CANCELLATION & SUBSTITUTIONS:

You may substitute delegate at any time. Arrelic does not provide refunds for cancellations. For cancellations received in writing more than seven (7) days prior to the conference, you will receive a 100% credit to be used at another Arrelic conference for up to one year from the date of issuance. For cancellations received seven (7) days or less prior to an event (including day 7), No credits will be issued. In a scenario that Arrelic cancels an event, delegate payment at the date of cancellation will be credited to a future Arrelic event. This credit will be available for up to one year from the date of issuance. In a scenario that Arrelic postpones an event, delegate payment at the postponement date will be credited towards the rescheduled date. If the delegate is unable to attend the rescheduled event, the delegate will receive a 100% credit representing payments made towards a future Arrelic event. This credit will be available for up to one year from the date of issuance. No refunds will be available for cancellations or postponements. Arrelic is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. Arrelic shall assume no liability whatsoever in the event that conference is cancelled, rescheduled or postponed due to a fortuitous event, act of God, unforeseen occurrence or any other event that renders performance of this conference impracticable or impossible. For purposes of this clause, a fortuitous event may include, but not limited to: war, fire, labour strike, extreme weather or other emergencies.

PROGRAM CHANGES POLICY:

Please note that speakers and topics are confirmed at the time of publishing; however, circumstances beyond the control of the organizers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. As such, Arrelic reserves the right to alter or modify the advertised speakers and/or topics if necessary. Any substitutions or alterations will be updated on our web page as soon as possible.

DETAILS:

Please email our Database Manager at training@arrelic.com and inform him/her of any incorrect details which will be amended accordingly.

PAYMENT METHOD

CREDIT/DEBIT/ ONLINE PAYMENT LINK:

<https://pmny.in/9IhLeRMYRGez>

[PAY HERE](#)

BANK TRANSFER:

ACCOUNT NAME: ARRELIC RELIABILITY PRIVATE LIMITED
A/C NUMBER: 006105021542
IFSC CODE: ICIC0000061
RTGS CODE: ICIC0000061
MICR CODE: 751229002
BANK: ICICI Bank Limited
BRANCH: Bhubaneswar Main Branch, Odisha, India

PRECOURSE PREPARATION

A pre-workshop survey is forwarded to each delegate before the course initiates and the results are analysed by the training team prior to the event. This allows us to focus on more customising the training program which helps to reinforce learning and achieving training objectives.

REGISTRATION

<http://bit.ly/2Hq8ZoG>



Scan me

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dkmishra@arrelic.com

TRAINING PRICES

COURSE NAME:

VALUE DRIVEN RELIABILITY

COURSE CODE: 1150

TRAINING FEE: INR 25,000/-

DISCOUNT

SMRP Members: INR 2,500.00

GSMR Members: INR 2,500.00

ARRELIC CAs: INR 5,000.00

GROUP REGISTRATION:

5 Delegates = INR 99,999.00

PLEASE NOTE:

- Accommodation and Travel costs are not included in the course fees.
- Only Lunch, Snacks and studies materials are included in the program fees.
- Arrelic Campus Ambassadors (Arrelic CA) is a initiatives for Industry Academic interaction and building next generation industry ready skilled engineers.



ABOUT ARRELIC

www.arrellic.com



**Industrial IoT
Sensors**



**Machine
Analytics**



**Predictive
Maintenance**



**Reliability
Consulting**



**Education &
Training**



**Talent
Acquisition**

Arrellic is a fast-growing deep technology firm aiming to bring the next level of IoT based sensor technology to transform the mode of manufacturing operation and maintenance practice of various industries with extensive expertise in Reliability Engineering, Predictive Maintenance, Industrial Internet of Things (IIoT) Sensors, Machine Learning and Artificial Intelligence.

We provide a single ecosystem for catering all industry needs from Consulting to IoT and Analytics as well as providing Training and Development courses for different stakeholders.

We aim to help manufacturing industries to improve their overall plant productivity, reliability and minimize total production cost by 25-30% by eliminating machine downtime, lightening management decisions by analysing the machine data with right mind and expertise; for a worry free operation.

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