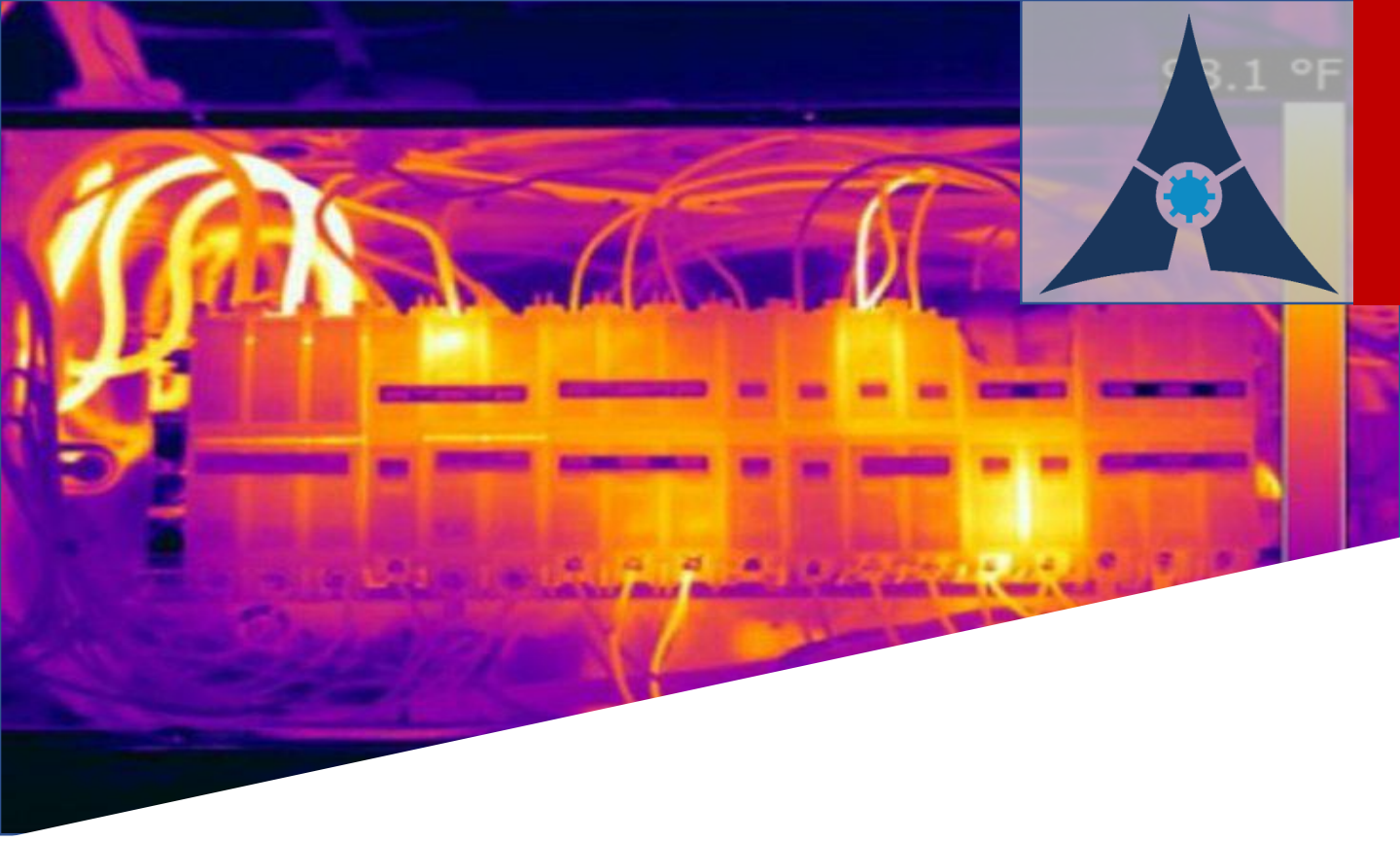
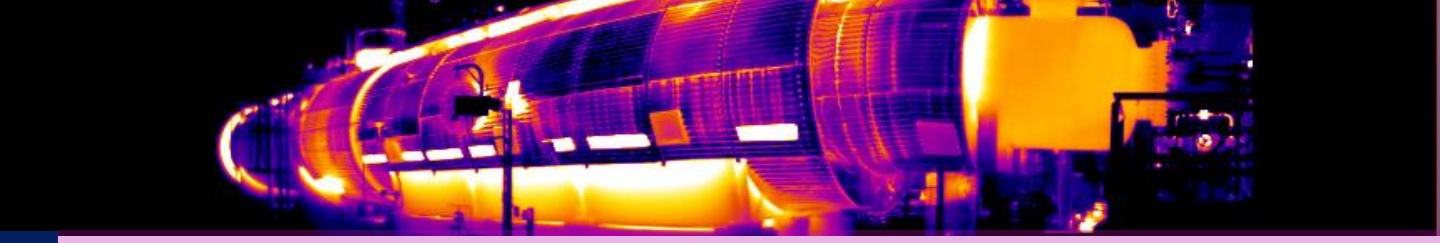


TRAINING PROGRAM ON

Infrared Thermography



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.

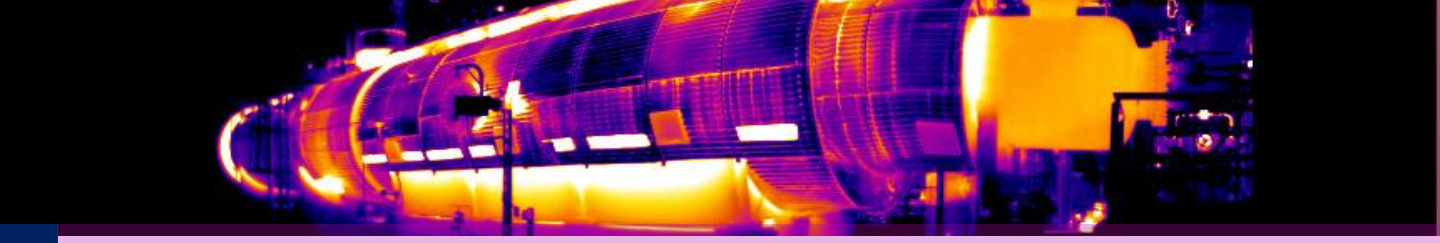
Arrelic Institute provides over 75 different type of customized training programs in the field of Reliability Engineering, Asset Management, Best Practice, Operation & Maintenance, Predictive Maintenance, NDT, Predictive Analytics, Quality, Risk & Safety.

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
- **40+** Global Experts
- **06** Industry Specific Domain
- **15** Types of Industries
- **5+** Associations
- **02** University Program
- **38** locations in India
- **15** Global Locations
- **75** Training Modules

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



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

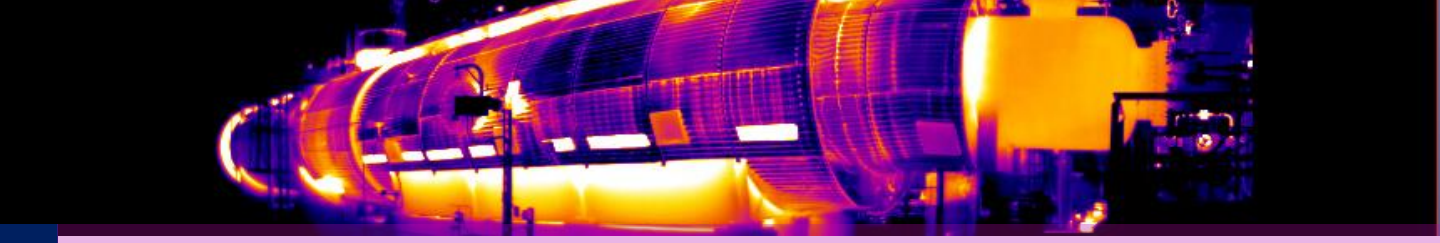
Selected for Web summit - Lisbon

hello tomorrow

Selected for Hello tomorrow, Paris Summit.

100 open startups

Selected and presented in 1000 open startups.



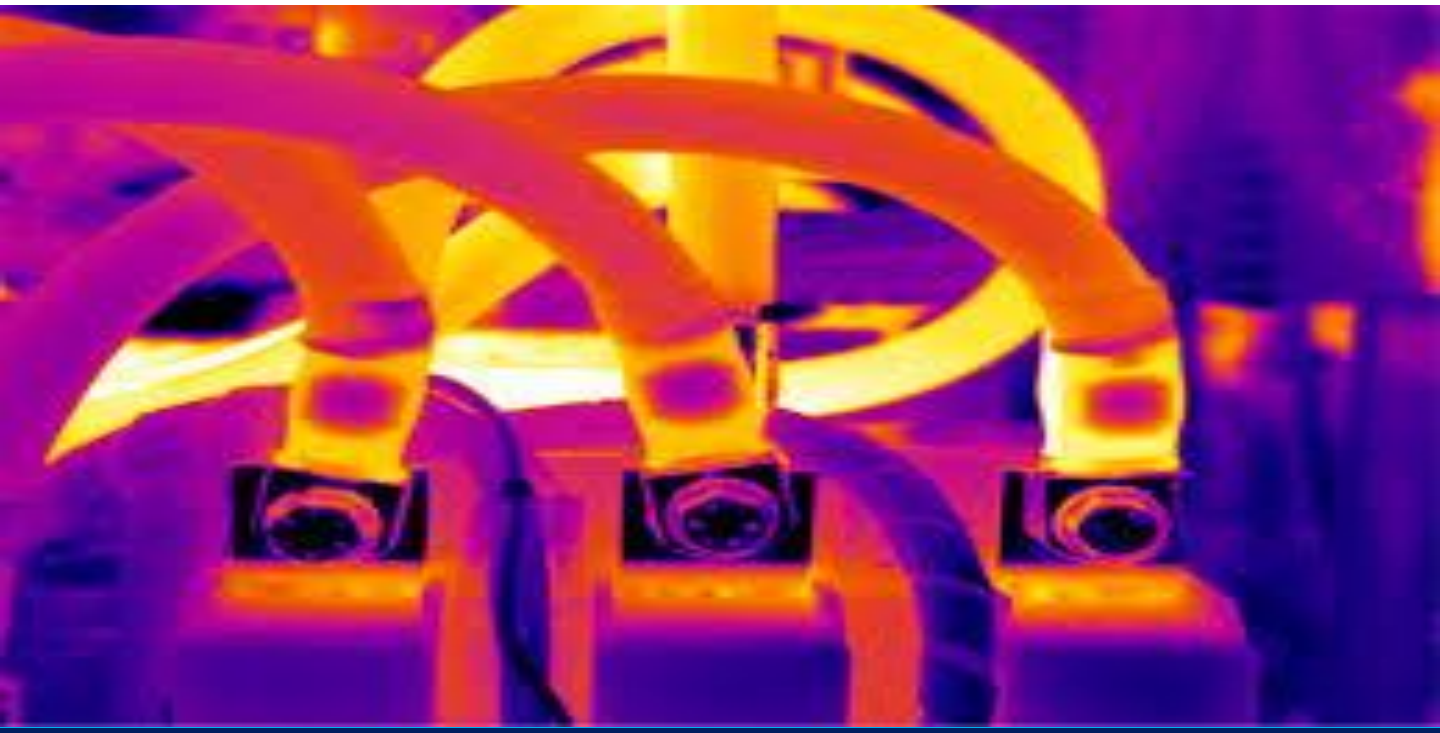
ABOUT THE TRAINING COURSE

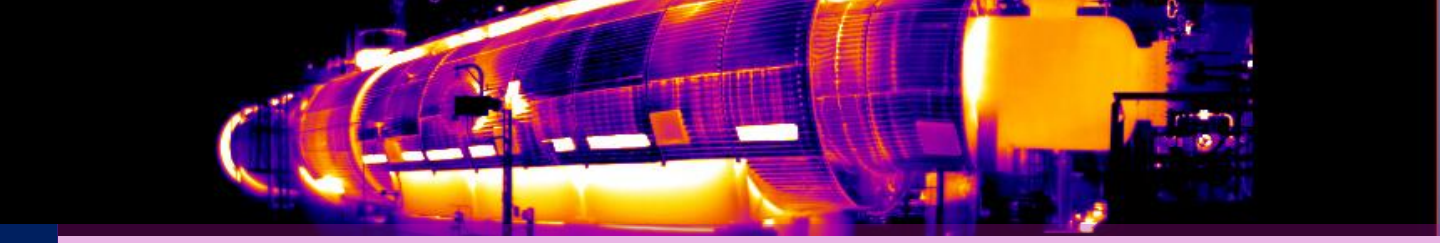
Introduction to IR-Thermography

The two-day (16 hours) Infrared Thermography course will focus on the application of qualitative thermal imaging for Predictive Maintenance, Condition Assessment, Condition Monitoring, Quality Assurance, Forensic Investigations, and Building Sciences. It also focuses on strengthening and improving thermography skills for condition monitoring and predictive and Preventive maintenance applications. Finally, it provides guidance for acquiring and developing the necessary people, resources and technologies to set up and run a successful condition monitoring thermography program.

Infrared thermography is equipment or method, which detects infrared energy emitted from object, converts it to temperature, and displays image of temperature distribution. To be accurate, the equipment and the method should be called differently, the equipment to be called as infrared thermograph .

Arrelic's Infrared Electrical Inspection course discusses typical electrical problems and their potential impact on the operation of a facility. Learn how to perform infrared electrical inspections, document IR survey results and prepare reports.





LEARNING OBJECTIVES &
KEY BENEFITS OF ATTENDING THE WORKSHOP

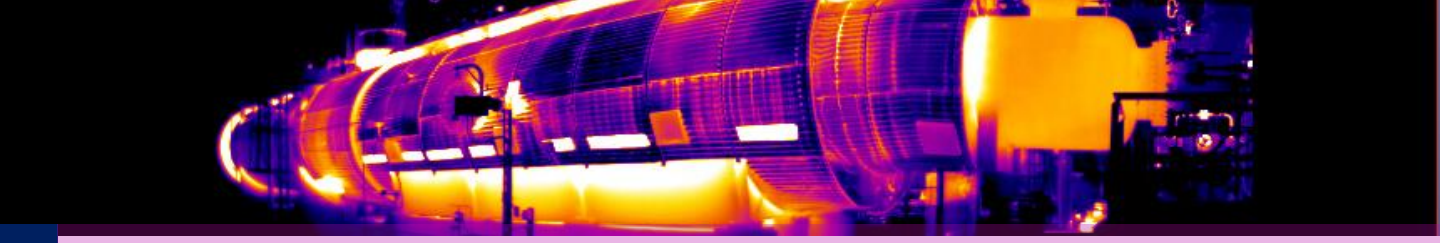
By attending this technical training on **"IR-Thermography"** delegates will be able learn and deliver the following things.

- ✓ **Define infrared thermography.**
- ✓ **Explain the three modes of heat transfer.**
- ✓ **State where infrared energy fits into the electromagnetic spectrum in relation to visible light.**
- ✓ **Identify the elements of conduction heat transfer and their effect on heat transfer rates.**
- ✓ **Describe how the intensity of emitted IR from a surface changes with temperature.**
- ✓ **Identify the elements of conduction heat transfer and their effect on heat transfer rates.**
- ✓ **Explain the difference between total radiation and emitted radiation.**
- ✓ **Identify a conduction thermal pattern.**
- ✓ **Describe the relationships between emissivity, reflectivity, and transmissivity.**

WHO SHOULD ATTEND ?

Predictive Maintenance attempts to detect the onset of a degradation mechanism with an aim of correcting the degradation prior to significant deterioration in the component or equipment. People in the following roles should participate in this training:

- ✓ **Participants must be affiliated with a manufacturing or service organization actively pursuing process improvement techniques, and should have a fundamental understanding of TPM and lean techniques they may be production Engineering, maintenance, setters, operators, team Leaders, middle managers.**

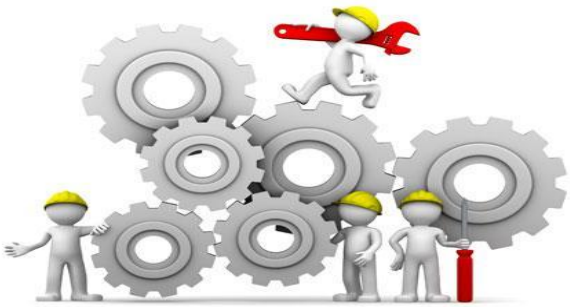


INDUSTRIES THAT CONCERN ABOUT

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 TO INFRARED THERMOGRAPHY

- ✓ Introduction to thermal imaging and measurement systems for predictive maintenance, building inspection, HVAC and other applications.
- ✓ Collect quality data, accurate temperature readings, and account for measurement effects such as distance and emissivity using infrared cameras.
- ✓ Interpret thermograms and make informed decisions using heat transfer concepts.

APPLICATION IN PREDICTIVE MAINTENANCE

- ✓ Advanced infrared theory, equipment calibration, error sources, cross-verification with contact thermometers
- ✓ Advanced equipment operation, use of windows and filters, assigning temperature limits and repair priorities, and quantitative report generation

DAY – 2

ADVANCED INFRARED THERMOGRAPHY

- ✓ Identify a conduction thermal pattern.
- ✓ Describe the relationships between emissivity, reflectivity, and transmissivity.
- ✓ Explain how emissivity and reflectivity can affect the IR image and temperature readings.
- ✓ Identify safety requirements for thermographers and accompanying personnel for IR surveys.
- ✓ Explain the process you would use to create an IR procedure for your own organization
- ✓ Explain the process you would use to create an IR thermography budget for your own organization

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