



# AdvanceTech Nuclear Technology Solutions

One stop Solution

Nuclear Monitoring and Controls

Measure : Monitor : Control



# Group Companies Profile

Advancetech Group offers a comprehensive range of technology-driven solutions from concept to commissioning. Their services cover software, hardware systems, and design engineering across their group of companies. They cater to various verticals such as nuclear, defense, industrial automation, oil and gas, and water industries, utilizing technology across multiple platforms in both hardware and software domains.

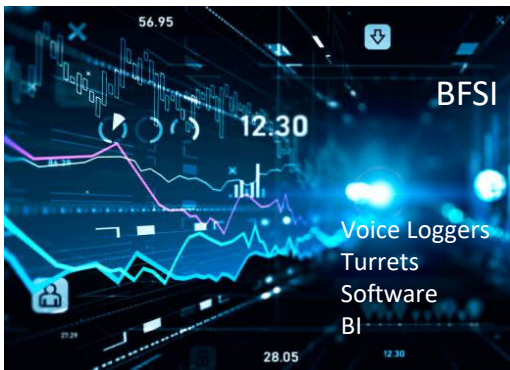
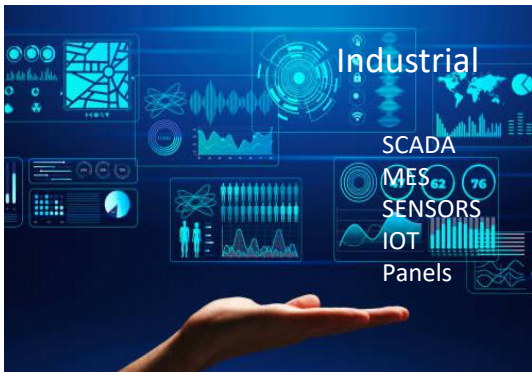
Their offerings include:

1. **Software Solutions:** Advancetech Group develops customized software solutions tailored to meet the specific requirements of their clients. This includes applications, databases, and software integrations designed to enhance operational efficiency and optimize processes.
2. **Hardware Systems:** They provide hardware solutions that encompass the design, development, and implementation of robust systems. This may include hardware components, equipment, and devices tailored to suit the needs of different industries and applications.
3. **Design Engineering:** Advancetech Group specializes in design engineering services, assisting clients in creating innovative and efficient solutions. They employ cutting-edge design tools and methodologies to conceptualize, prototype, and refine products and systems.
4. **Cross-Platform Technology:** With expertise in both hardware and software domains, Advancetech Group excels at integrating technology across platforms. They ensure seamless interoperability and compatibility between different technologies, enabling efficient communication and collaboration between systems.
5. **Project Management:** Advancetech Group offers comprehensive project management services, overseeing the entire lifecycle of a project. This includes project planning, resource allocation, risk management, and quality control to ensure successful project execution.

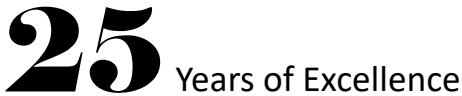
Overall, Advancetech Group strives to deliver technology-driven solutions that empower their clients to achieve their goals. Whether it's implementing automation in industrial processes, developing cutting-edge defense systems, or optimizing operations in the oil and gas sector, Advancetech Group provides end-to-end support to turn concepts into reality.



# Business Domains



# Group Companies



1995

Founded by  
Technocrats

Mumbai

HQ, with offices in Bengaluru,  
Hyderabad. Kolkata, Delhi ,Dubai  
UAE

150+

Employees.  
(and growing!)

## Industries



Pharma



A&D



Automotive



Heavy Industry



High-Tech



Medical Devices



BFSI



Nuclear

## Management Team



Pradip Kulkarni  
Group chairman and MD



Nijesh Parmar  
Director and CTO



Arindam Gupta  
Director and COO



Jagan  
Head Mil Aero



Vaishali Singh  
Director



Rajesh  
IIOT Head



Prasad  
Delivery Head



Ramkrishna  
E &R Head



Rahul  
Head Industrial

## Partners

NAII  
MIRION  
IDEAL  
CORMET  
ASCON  
REDLION

## Nuclear Research

Radiation  
Detection  
Monitoring  
Corrosion

## Mil Aero

Rugged CPU  
I/O  
!553  
VPX VME

## Products

### Industrial

SCADA  
MES  
SENSORS  
IOT  
Panels

### BFSI

Voice Loggers  
Turrets  
Software  
BI

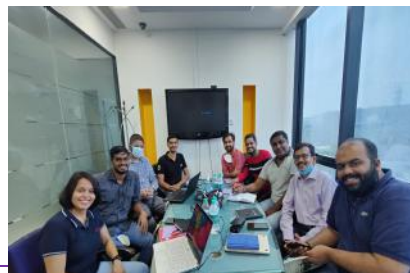
### Education

Teaching  
Equipment

## Services

Hardware Software  
Development  
Offshore SLA and MSA  
Design engineering  
L1 ,L2,L3 Support  
Managed Services

## Excellence Center Mumbai



## Excellence Center Bengaluru



## Excellence Center Vadodara



## Group Companies

INVANSYS  
INNOVATION TO THE CORE

advancetech  
KEEPS YOU AHEAD

DigiConics  
INTELLIGENCE DELIVERED

advancetech  
INTERNATIONAL

## Joint Ventures History

ICONICS  
Make the Invisible Visible™

kontron

CYBERTECH  
INTERNATIONAL



## Measurement Systems for Fuel Cycle, Safeguards and Decontamination & Decommissioning

- [NDA Safeguards & Applied Systems](#)
- [Criticality Systems](#)

### Camera Systems

- [High Temperature Cameras](#)
- [Radiation Tolerant Cameras](#)

### Physical and Cybersecurity

- [Security Systems](#)
- [Life Cycle Management](#)

### Mirion Technologies Services

- [Managed Services & Customer Support Agreement](#)
- [Professional Services & Training](#)
- [Measurement & Expertise \(M&E\)](#)

### Defense & Security

- [Defense \(CBRNe\) Instruments](#)
- [Security & Search Systems](#)

### Radiation Monitoring Systems

#### [RAMSYS](#)

#### [CAMSYS](#)

#### [Tritium Monitoring](#)

#### [proTK - Radiation and Process Monitoring Systems](#)

#### [Reactor Instrumentation & Control](#)

#### [Neutron Flux Monitoring Systems](#)

#### [Nuclear Containment Seals](#)

### Spectroscopy & Scientific Analysis Systems

#### [Gamma Spectroscopy](#)

#### [Alpha Spectroscopy](#)

#### [Alpha/Beta Counting](#)

#### [In Vivo Systems](#)

#### [Research, Education and Industrial Solutions](#)

#### [Health Physics & Radiation Safety Instruments](#)

#### [Dosimetry & Telemetry Systems](#)

#### [Environmental Monitors](#)

#### [Contamination & Clearance](#)

#### [Portable Radiation Measurement](#)

#### [Training & Simulation Devices](#)



# Nuclear Plant Camera Uses



**MIRION**  
TECHNOLOGIES

INSPECTION	EQUIPMENT
<b>1 BWR Fuel Pool Applications</b>	
Inspect condition of fuel	R93, R941, HYPERION, HD-RAD, R981, RC915
View serial numbers	
Monitor fuel pool operations	

<b>2 BWR</b>	
Drywell CRDM inspections	R981TR, HYPERION
Shroud cracking	R93, R941, HD-RAD
.0005 wire @ 6"	
Torus inspection	HD-RAD, R941, R981
Core shroud inspection	

<b>2 BWR Containment</b>	
Post Event Management	R981TR, HYPERION SC985
Torus Inspection	R981TR, HYPERION

<b>3 PWR Fuel Pool Applications</b>	
Inspect condition of fuel	R93, R941, HYPERION, HD-RAD, R981, RC915
View serial numbers	
Monitor fuel pool operations	
Transfer canal monitoring	
Loose parts retrieval (FOSAR)	

INSPECTION	EQUIPMENT
<b>4 PWR Containment</b>	
Post Event Management	R981TR, HYPERION
Polar Crane Surveillance	HD-RAD, SC985

<b>5 PWR - In-Vessel Inspection</b>	
Internal Inspection	R93, R941, HYPERION
Core barrel inspection	
Monitor underwater maintenance activities	HYPERION, HD-RAD
CRDM reactor canopy seal welds	R93, R941, HYPERION
Loose parts retrieval (FOSAR)	R93, R941, HYPERION, HD-RAD, R981, RC915

<b>5 Steam Generator/RCP Applications</b>	
Inspect tube weld/tube cut	HD-RAD, HYPERION, SC985, DOTCAM - HR
Monitor maintenance activities	
Leak Detection/Identification	
Robotics/Remote Handling	

INSPECTION	EQUIPMENT
------------	-----------

<b>6-7 Turbine Deck Applications</b>	
Inspect Turbine Blades	DOTCAM, MINI PTZ MK2
Loose Part Retrieval (FOSAR)	
Inspect Tubes & Piping	
Leak Detection/Identification	C981, MINI PTZ MK2
Turbine Hall Surveillance	

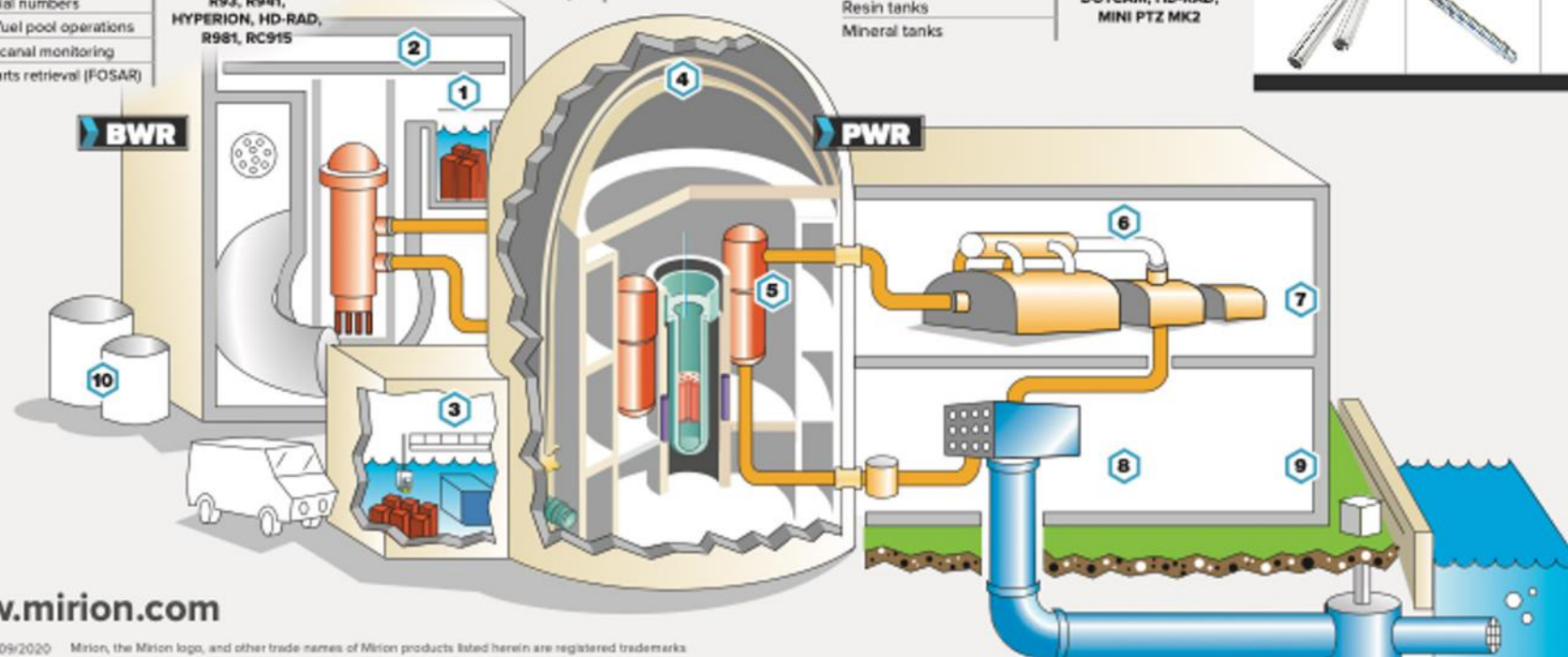
<b>8 Condenser</b>	
Tube inspections	DOTCAM
Boiler feedwater pump	

<b>9 Service Water Lines</b>	
Service water pump	DOTCAM
Service water line condition	
Inlet condition	

<b>10 Tanks</b>	
Waste storage tanks	DOTCAM, HD-RAD, MINI PTZ MK2
Resin tanks	
Mineral tanks	

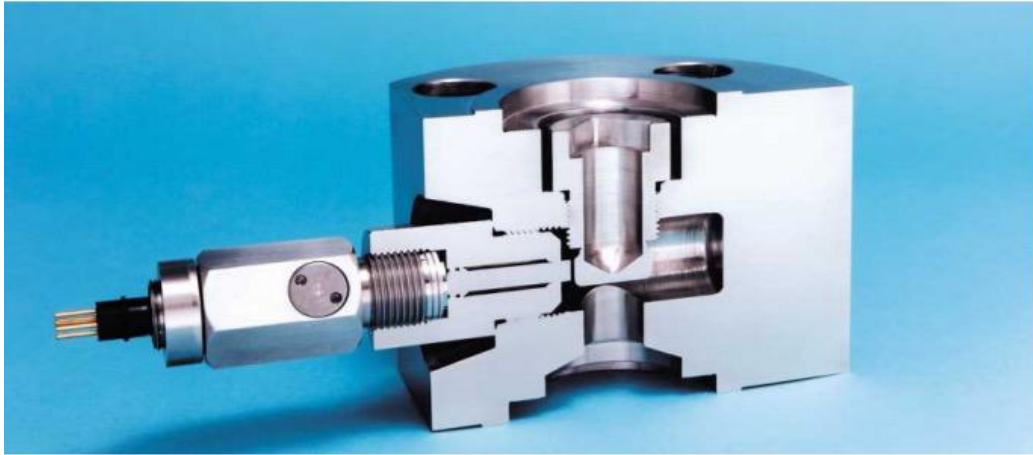
MIRION'S RADIATION TOLERANT CAMERAS		
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<b>DOTCAM</b>	<b>C981</b>	<b>MINI PTZ MK2</b>
<b>HD-RAD</b>	<b>SC985</b>	<b>DOTCAM - HR</b>
<b>RC915</b>	<b>R981TR</b>	<b>R981 COMPACT</b>
<b>R941</b>	<b>R93</b>	<b>HYPERION</b>



[www.mirion.com](http://www.mirion.com)

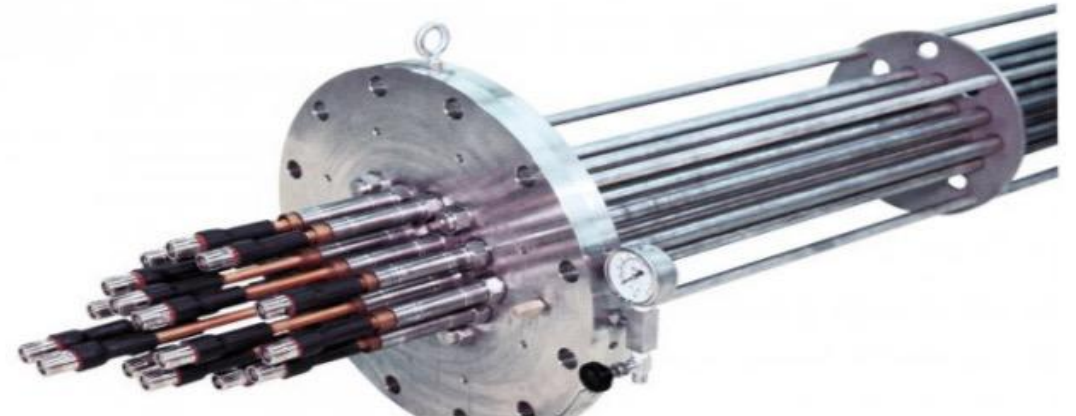
# Reactor In-Core & Ex-Core Detectors and Electronics



VALVES



ELECTRICAL CONDUCTOR SEAL ASSEMBLIES



ELECTRICAL PENETRATION ASSEMBLIES

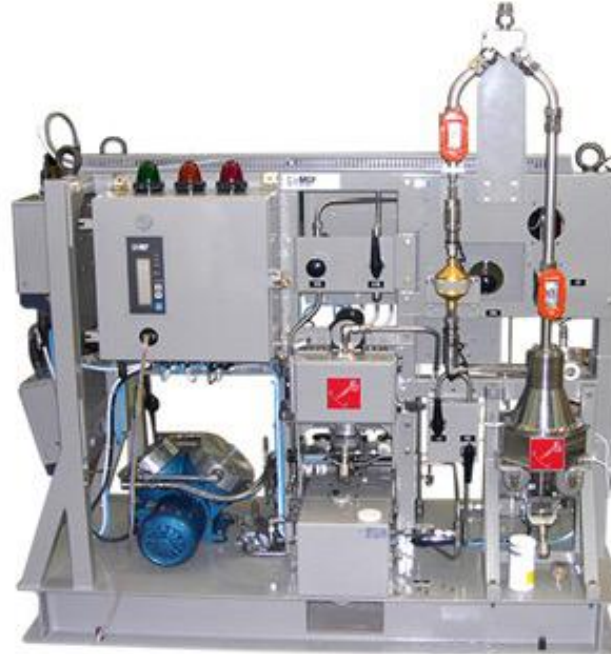
# Radiation Monitoring Systems for Nuclear Power Plants



Mobile Iodine Monitor



Noble Gas Monitor



Effluent Release Monitors

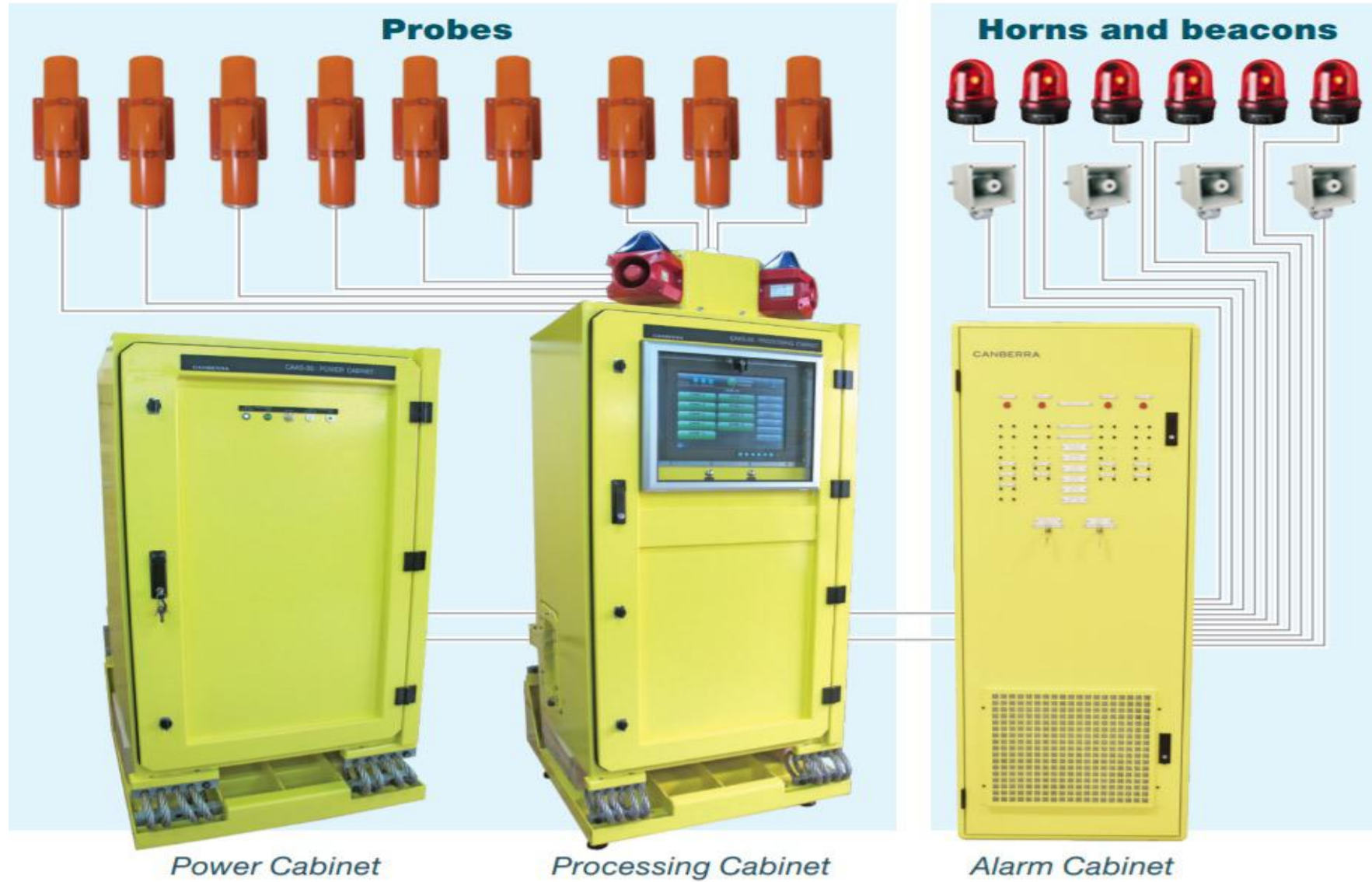


PING Monitors

- Typical Measurement Ranges:
  - ❑  $^{85}\text{Kr}$ :  $3.7 \cdot 10^4$  to  $3.7 \cdot 10^{14}$  Bq/m<sup>3</sup> ( $10^{-6}$  to  $10^{+4}$   $\mu\text{Ci/cc}$ )
  - ❑  $^{133}\text{Xe}$ :  $3.7 \cdot 10^4$  to  $1.8 \cdot 10^{13}$  Bq/m<sup>3</sup> ( $10^{-6}$  to  $5 \cdot 10^{+2}$   $\mu\text{Ci/cc}$ )
- Nuclear: IEC60761-1-2-3-4

- EMC: 2014/30/EU and 2014/35/EU, EPRI 102323, RG1.180, IEC61000-6-2 and IEC61000-6-4
- MTBF: > 20 000 hours
- TID (processing unit): 100 Gy ( $10^{+4}$  rad)
- Local processing and display unit (LPDU) equipped with Modular Cards for Maintenance free Operation.

# Criticality Accident Alarm Systems



# Radiation Monitoring Systems for Nuclear Power Plants



**Specific Noble Gas Stack Monitor**



**Mobile Alpha Beta Particulate Monitor**

## The C&C monitors portfolio includes the following Product Lines:

- Whole Body Contamination Monitor
- Hand Foot Monitor
- Gamma Portal Monitor
- Tool & Object Monitor
- Vehicle Monitor
- Conveyor Monitor
- Large Item & Clearance Monitor
- Supervisory System



## Dosimetry Telemetry Systems

- Electronic Dosimetry
- Passive Dosimetry
- Telemetry Solutions
- Health Physics and Access Control Software



DMC 3000™ Electronic Dosimeter

## Military CBRNe Instruments

- Military Dosimeters
- Survey and Handheld
- Naval Shipboard Systems

## Portable Radiation Measurement

- Handheld Health Physics
- GM Tube Detectors
- Gamma Imaging Systems
- Dose Modeling Software
- Training Simulators



RDS-32

## Security and Search Instruments

- Personal Radiation Detector
- Handheld Radio Isotope Identification Device (RID / RIID)
- Backpack Radiation Detection System
- Mobile Systems
- Spectroscopic Portal
- Supervisory Software



AccuRad™ Personal Radiation Detector

# Steam generator leak monitors

Mirion designed a detector assembly based on NaI(Tl) scintillation detector coupled to a photomultiplier tube specifically developed to perform 16N monitoring under severe environmental conditions. The SGLM (with or without shielding) is a non-intrusive system, providing fast measurements and minimizing the need of taking frequent samples for laboratory analysis. The estimation of the leak rate is then given by either a LPU, LPDU or DAK that processes the signal coming from the detector.



**SGLM 202K™**  
**Steam Generator Leak Rate Monitor**



**SGLM 201K™**  
**Steam Generator Leak Rate Monitor**

# Radiation Monitoring Systems for Nuclear Power Plants



Whole Body  
Monitors



Scintillation  
Detectors



Electrically Cooled HPGe

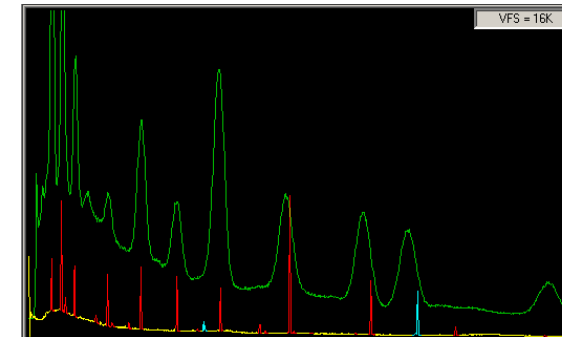


Portable HPGe



## Standard HPGe Detectors

- Wide variety of High Purity Germanium (HPGe) detectors for Gamma Spectroscopy
  - ▶ **SEGe** P-type Standard Coaxial
  - ▶ **REGe** N-type Reverse Electrode
  - ▶ **XtRa** Extended Range
  - ▶ **BEGe** Broad Energy
  - ▶ **Ultra-LEGe** & **LEGe** Low Energy
  - ▶ **SAGe** Small Anode Germanium Well
    - All environmental counting needs served by a single detector
  - ▶ **Standard Ge Well** Germanium Well
- HPGe Detectors offer sharp, highly resolved spectral data
  - ▶ Best available detector technology for identification and quantification of complex gamma spectra
    - Lower **Red/Blue** Spectrum – HPGe
    - Upper **Green** Spectrum – NaI(Tl); another commonly used gamma detector technology
- Variety of Cryostats
  - ▶ Laboratory – Vertical or Horizontal with 30-liter or smaller Dewars
    - LN<sub>2</sub> or Electrically cooled
  - ▶ Portable – All-attitude **MAC** & **Big MAC**
- Ultra Low Background (ULB) options for HPGe detectors via:
  - ▶ Special cryostat materials
  - ▶ Remote Detector Chamber (RDC) to separate the preamplifier from detector crystal and allow back-shielding



## **INDUSTRIAL AUTOMATION AND CONTROL**

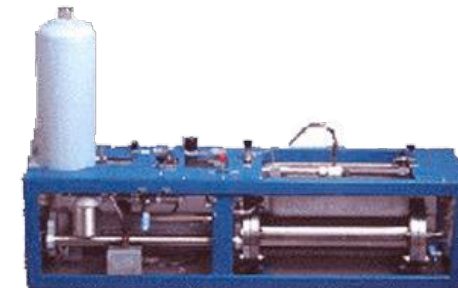
### **The product offering are as follows:**

- Measurement and sensors – Pressure / Temperatures / Flow / LVDT / Vibration
- Control and Data Acquisition- Multiloop Controller, PID , Indicator , RTU , ETH IO
- Media Convertor & Networking- Protocol Convertor , Rugged ETH Switch, Routers
- Visualization – HMI and Rugged Display , IPC , Box PC , Large Display
- Analysers and Gas detector- H<sub>2</sub>S , VOC , CO analyser / detector
- Digital Transformation solutions – SCADA/ERP/Historian / Analytics/IoT

SCADA , Historian , Analytics and IoT with

# Measurement & sensing

- Flow – Turbine , Mass, Thermal Mass
- Pressure sensors, Temp , Combined Pr & temp
- Vortex , Coriolis
- Rotameter – single / multi tube
- LVDT , Vibration
- Dosing Flow meter
- Primary Flow Calibrator/Prover





**advantech**  
KEEPS YOU AHEAD

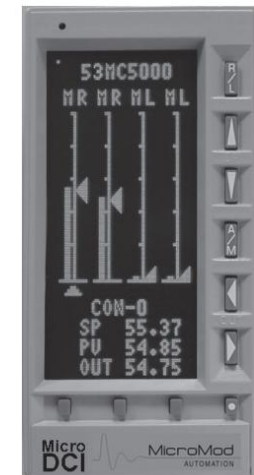
- PID Controller , Indicator
  - Multiloop Controller/ Multifunction
  - ETH IO control system
  - Semi Rugged DAS
  - Signal Conditioner
  - Rugged IO with Integrated HMI
  - RTU & remote IO
- 
- The collage features several industrial automation components: a large grey MicroMod Automation 53HC5000 multiloop controller with three vertical bar graphs and digital readouts; a small black digital display showing '350', '450', and '100'; a black digital display showing '1406' and '772'; a rugged black display unit with a blue screen; a small grey signal conditioner; a larger grey signal conditioner; a black rugged I/O module with a red display; a black rugged I/O module with a red display; a black rugged I/O module with a red display; and a black rugged I/O module with a red display.

## Multiloop Controllers



**MicroMod controllers have been proven in nuclear power generation plants worldwide, in a host of applications including:**

- Feedwater control systems (FWCS)
- Heater drain controls
- Moister separator heaters
- Reactor Coolant System (RCS) makeup operations
- Chemical and Volume Control systems (CVCS)
- Startup feedwater heater controls
- Cooling water temperature control
- Steam generator controls
- Sump level controls
- Bleed condenser and cooling water controls
- Recirculation flow controls
- Main generator hydrogen cooling system
- Moderator temperature control
- Training simulators



# Networking & Media Convertors

- Rugged / Semi Rugged ETH SW
- Gigabit ETH MIL Cert ETH SW
- Media / protocol Convertor
- Multi Protocol Convertor
- RTU
- Signal Conditioner



# Visualisation / HMI / SCADA -Historian

- Rugged and Indoor HMI
- HMI with ATEX/ PESO cert
- HMI with Semi Rugged Onboard IO
- Large Display
- SCADA and OPC Server
- Process Historian
- Dashboard & Analytics
- IoT
- Electrical Scada



# Project management and Software development

- Qualified Project Management Team
- Turnkey Automation Solutions
- Technical Support & training
- Consultancy
- Installation & Commissioning
- Software Development & QA

Technical  
Support

Quality  
Professional  
Services (QPS)

Training

Project Management -PMO



# IoT - Edge Device Designed ..Bespoke



- Engage & Enable your IoT Journey
- Evaluate your current Product & Service Portfolio and identify needs
- Architect your IoT Solutions
- Create the roadmap for your successful IoT Transformation Journey
- Build & Deploy your IoT Solutions
- Select the right technology platform solution
- Build and Integrate Applications, IoT platforms
- Integrate, Deploy & Manage Platform & Applications
- Manage, Analyze & Correlate
- Collect, Store and Manage multi-faceted data from variety of end points
- Transform data into customer, product, service insights
- Use analytics to create self aware, auto healing, intelligent systems and optimize performance
- Institutionalize & Optimize
- Transform Support services from reactive to predictive preventive
- Institutionalize remote product management, predictive and preventive maintenance
- Optimize Operations continually

# IIOT CLOUD APP

Sensors

Sensors

+

Q

Sensor name	Active	Radiation	Temperature	Latitude	Lon
Sensor R1	<div></div>	21.8 $\mu$ R/h	26.0 $^{\circ}$ C	13.0031476	77.1

Items per page: 10

1 - 2 of 2

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Alarms

🕒

Realtime - last 7 days

Created time	Originator	Type	Severity	Status
2021-09-21 06:46:20	Sensor R1	High Temperature	Major	Active Unacknowledged
2021-09-20 18:30:16	Sensor R1	High Radiation	Critical	Cleared Unacknowledged

Items per page: 30

1 - 3 of 3

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Sensor R2

Sensor R1

Radiation: 21.8  $\mu$ R/h

Temperature: 26  $^{\circ}$ C

[Sensor details](#)

<https://bit.ly/2VTGYCq>

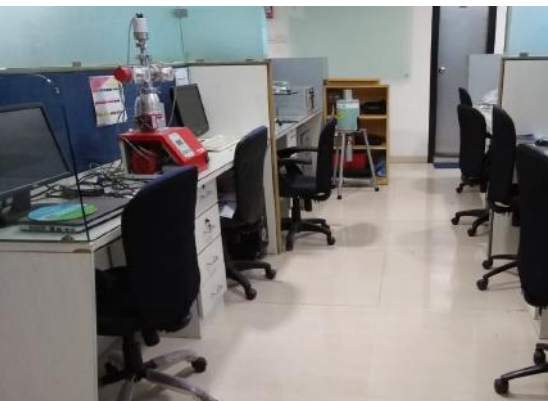
Leaflet

© OpenStreetMap contributors, Tiles style by Humanitarian OpenStreetMap Team hosted by OpenStreetMap France



## Our Teams

- Young
- Dynamic
- Experienced
- Engineers
- MBAs
- Agile
- Competitive
- Wining Workforce



# Infrastructure

MECHANICAL ASSEMBLY

SYSTEM INTEGRATION

SOFTWARE DEVELOPMENT IMPROVISATION

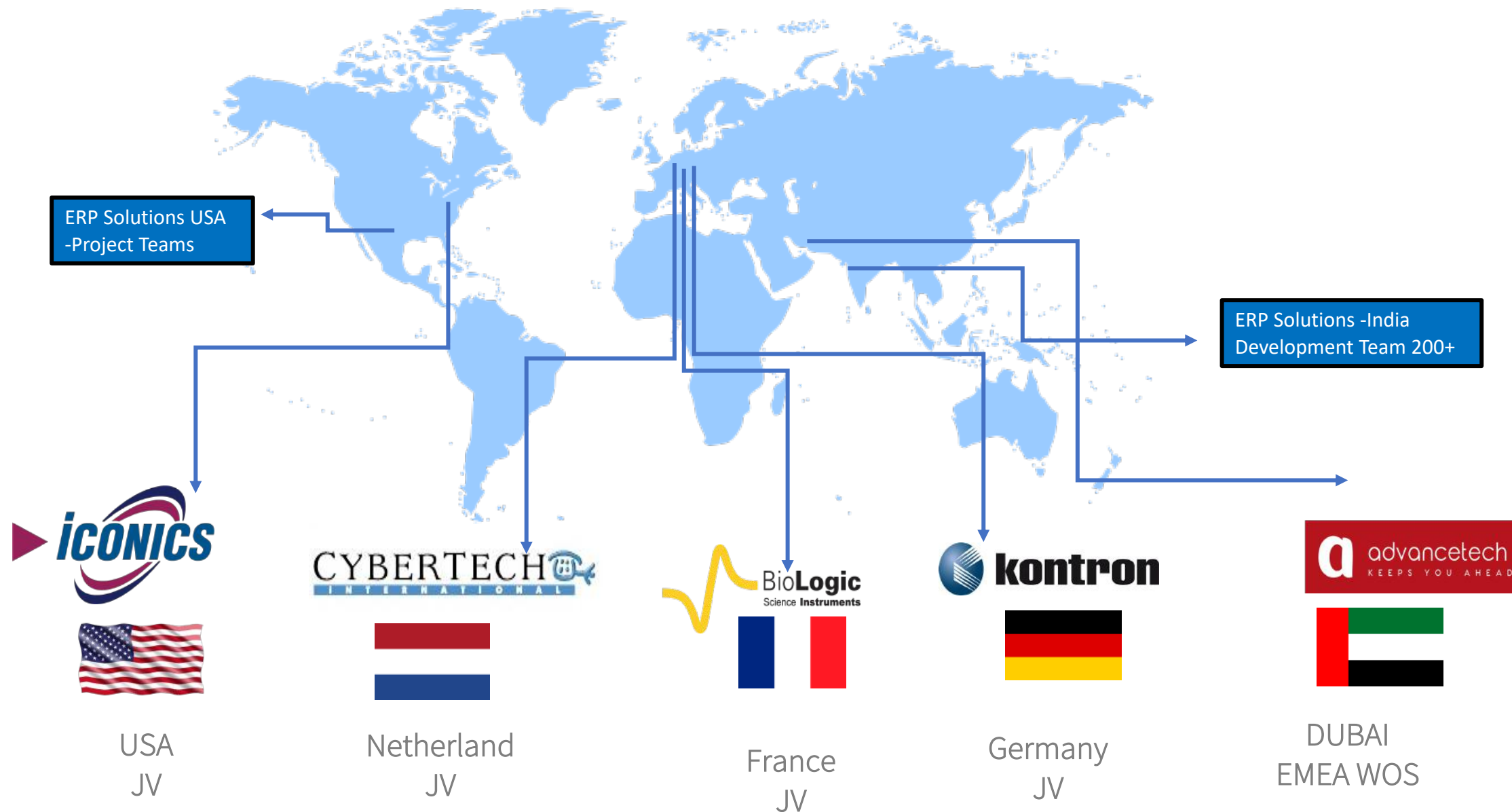
CALIBRATION

ACCEPTANCE TEST PLATFORM

HARDWARE DESIGN AND PROTO

SMD REPAIR FACILITY

# 25 Years of International Exposure



## Customers

### Automotive



### Smart city



### Food Beverages



### Defense



### Electronics



### Education



### Building Automation



Nishith Desai Associates



### Transportation



### Pharmaceutical



サンザイム Sanzyme



Redefining Healthcare



### Aerospace



### Biotech



### Electric Utilities



Indian Oil Corporation Limited



A Maharatna Company



### Metals & Mining



WELSPUN CORP  
PIPES AND PLATES

Government  
& Public sector



Energy  
Management



advancetech  
KEEPS YOU AHEAD

न्यूक्लियर पावर कॉर्पोरेशन ऑफ इंडिया लिमिटेड  
(भारत सरकार का उद्यम)

NUCLEAR POWER CORPORATION OF INDIA LIMITED  
(A Government of India Enterprise)

Water &  
Wastewater



Technology



Renewable  
Energy



Chemical



Oil & Gas



Indian Oil Corporation Limited



Manufacturing



# AdvanceTech

**DISTRICT INDUSTRIES CENTER, VADODARA**  
(Government of Gujarat)  
FIRST FLOOR, RAMANGA BHAVAN, C BLOCK, JALIA, VADODARA,  
PIN - 390004/GUJARAT No. DISTRICT INDUSTRIAL SERVICE CENTRE (DISEC) No. 1  
ENTREPRENEUR MEMORANDUM FOR SETTING UP MICRO, SMALL OR MEDIUM ENTERPRISE

**ACKNOWLEDGEMENT FOR CASE B**

M/s. ADVANCE TECH CONTROLS PVT. LTD. FILED MEMORANDUM FOR A SERVICE ENTERPRISE AT THE ADDRESS BSA, GIDC RAMANGA BHAVAN, P.O. AT TALUKA - VADODARA, IN DISTRICT - VADODARA, PIN - 390004 FOR THE ITEMS/ITEMS INDICATED BELOW AS STATED IN FORM NO. TSM AND ALLOCATED ENTREPRENEUR MEMORANDUM NO. AS BELOW.

**MAIN TYPE OF SERVICE RENDERED/ OTHER BUSINESS ACTIVITIES N.E.C.**

Sl. No.	Type of service rendered	Capacity Per Annum Qty.	Unit	Valid date of establishment/commencement of service
1	REPAIR & MAINTENANCE OF ELECTRONIC INSTRUMENTS, DETECTION & INSTALLATION OF ELECTRONIC INSTRUMENT			22/10/1991

**DETAILS OF PLANT AND MACHINERY AND FIXED ASSETS WISE INVESTMENT (IN LAKH)**

Sl. No.	Investment in Plant and Machinery/Equipment	Date of investment
1	30.0000	01/10/1991

**NOTE:** THE VALUE OF THIS ACKNOWLEDGEMENT DOES NOT RESTORE ANY LEGAL RIGHT. THE ENTREPRENEUR IS REQUIRED TO KEEP REGISTERS, CLAIMS/INVOICES/RECEIPTS, INVENTORY, QUALITY EVALUATION UNDER THE LAWS OF CENTRAL GOVERNMENT/STATE GOVERNMENT/ADMINISTRATIVE COURT ORDERS.

**DATE OF ISSUE:** 28/03/2012

**NATURE OF ACTIVITY (MANUFACTURING & SERVICES-2)** 2

**CATEGORY OF ENTERPRISE (SMALL & MEDIUM-3)** 2

**ENTREPRENEUR MEMORANDUM NUMBER (PRINT - 16)** 24-019-22-05402

(Print last digit = State, Next three digit = District code, last digit = Nature of Activity, seventh digit = category of enterprise and last six digit are for Entrepreneur's Memorandum)

**DATE:** 20/03/2012

**PLACE:** VADODARA

**To:** M/s. ADVANCE TECH CONTROLS PVT. LTD.  
ADVANCE TECH CONTROLS PVT. LTD.  
BSA, GIDC RAMANGA BHAVAN,  
P.O. VADODARA, VADODARA, PIN - 390004

**OFFICE SEAL**

**GENERAL MANAGER**  
DISTRICT INDUSTRIES CENTER,  
VADODARA.

**Copy to:**  
1. District Industries Service Institute,  
Ramangra Chhatrapati, 4th Floor, Income tax circle, Ashram Road, Ahmedabad 380014



12/23/2019 <https://udyogadhar.gov.in/IAFPrintApplication.aspx>

**Udyog Aadhar**

**B**

Type of Enterprise: Micro, Small, Medium  
Manufacturing: A, B, C  
Services: D, E, F

**Udyog Aadhar Memorandum**

1. Aadhar Number: 07001801007  
2. PIN Number: VADODARA  
3. Name of Entrepreneur: ANIRAM GUPTA  
4. Social Category of Entrepreneur: GENERAL  
5. Gender: Male  
6. Physically Handicapped: NO  
7. Name of Enterprise: ADVANCE TECH CONTROLS PRIVATE LIMITED  
8. Type of Organization: Private Limited Company

9. Location of Plant Details:

Sl. No.	Plant/Shop/Office No.	Name of Premises/Building Village	Road/Street Lane	Area/Locality	City	Pin	State	District
1	83/A	GIDC	Por	Vadodra	391 243	GUJARAT	VADODARA	

10. Official Address of Enterprise:

Sl. No.	Plant/Shop/Office No.	Name of Premises/Building Village	Road/Street Lane	Area/Locality	City	Pin	State	District
1	83/A	GIDC	Por	Vadodra	391 243	GUJARAT	VADODARA	

11. Date of commencement: 22/10/1991  
12. Previous Registration details if any: 22/10/1991  
13. Bank Details: IFSC Code: CTT0000006, Bank Account: 0013042090

14. Major Activity:

Sl. No.	NIC 2 Digit	NIC 4 Digit	Activity Type
1	28	2810	Manufacture of other electronic components
2	26	2611	Manufacture of computer electronic and optical products
3	25	2511	Manufacture of measuring, testing, measuring and control equipment
4	35	3511	Manufacture of industrial process control equipment

15. Investment (Plant & Machinery / Equipment): 30.00, In Lakhs  
16. District Industry Centre: VADODARA

**Declaration**  
I hereby declare that information given above is true to the best of my knowledge. Any information, that may be required to be verified, shall be provided immediately before the concerned authority.

MyPhone Mobile App (beta version) is available now for download: <http://app.udyogadhar.gov.in/udyogadhar-chrome>

Qualified MSME , NSIC,ISO Registrations

Udyog Aadhar Registration with MSME



# India Locations

