Tri-angle simulation pvt. ltd.

"AN ISO 9001 : 2008 CERTIFIED COMPANY"

deliver

We design and distinctive Training Processes

PC Based "LAB-SCALE Equipments"

"Process Control through SCADA / DCS / PID / PLC "

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Telefax: +91 22 2409 5682 E-mail : enquiry@trianglesimulation.com / triangle_simulate@yahoo.com

COMPANY PROFILE - TRI-ANGLE SIMULATION PVT. LTD.

We take great pleasure in introducing ourselves as the leaders in the field of Computer Based Training Simulator. With our pioneering efforts we have built some of the most prestigious simulators in India and around the Globe.

Founded in 1979, Tri-angle Simulation Pvt. Ltd., was the first Indian process simulation company, and it has maintained this leadership position by executing various high fidelity complex simulation projects for some of the largest organizations in India and around the Globe.

VISION

- To be the preferred supplier of competitively priced high fidelity simulation software and training equipments for Refineries, Power Plants, Fertilizer plants and Academic Institutions.
- To consistently meet customer delivery, support and value expectations.
- To be a preferred company with which employees want to build a long-term career.

MISSION

- To be an innovative and consistently reliable supplier.
- To always display the best working standards and values in all we do.

GOALS

- Continuously improve our products, practices, technologies and services.

MAJOR ACHIEVMENTS

- Received Order for Pneumatic Trainer Kit with Siemens PLC from I. I.T, Kanpur – 2015
- Delivered Generic DCS Based Multi-op animated Simulation Package to GSFC Ltd., Baroda – 2015
- On-Site Training Conducted at CRISP, Bhopal (M.P.) on Simulator For Unit Operation related to Thermal Power Plant Operation – 2015
- Delivered Lab-Scale Equipment pH Control System to NIT Warangal – 2015
- On-Site Training at ITM / Sangam University, Bhilwara (Rajasthan) for 210 MW Power Plant Operation – 2014
- Successfully Completed training on “210 MW Thermal Power Plant Simulator” at Dr. NTTPS Training Centre of APGENCO , Vijayawada (A.P) – 2014
- Delivered Bubble Cap Distillation Pilot Plant (Computerized) to RCF Ltd. Chembur, Mumbai – 2014
- Delivered Lab-Scale Equipments to B.I.T. Sindri, Jharkhad & Government Engineering College, Ajmer – 2014
- Delivered PLC Trainer Kit to Instititute of Textile Technology, Cuttack – 2014
- Successfully Completed Training on “Refinery Process Simulators” at Bharat Oman Refinery Ltd., Bina (M.P.) – 2013
- Delivered “Innovative Coiled type Heat Exchanger Control System” to G. G. S. Indraprastha University, New Delhi – 2013
- Delivered “Solid-Liquid Extraction Setup (Computer Controlled)” to Guru Ghasidas University, Bilaspur – 2013
- Supply, installation, commissioning & training of Process Training Simulator to Bharat Oman Refineries Ltd., Bina - June 2009.
- Installed Commissioned & Customized 500 MW Power Plant Simulator at MAHAGENCO (CSTPS), Chandrapur- 2008
- Delivered PC based Generic 210 MW Thermal Power Plant Simulator to Gujarat Electricity Board at the Wanakbori - 2013
- Delivered PC based Generic 210 MW Thermal Power Plant Simulator to Chattisgarh State Electricity Board, Korba (W) - 2003.
- Delivered PC based Generic 210 MW Thermal Power Plant Simulator to Punjab Electricity Board at the Ropar - 2001
- Delivered one PC based process training simulator with DCS – Emulation of Tata Honeywell TDC –3000 with process models for FCCU, CDU & VDU on hire basis to BPCL, Since 2000 upto 2006
- Successfully completed a simulator based on Direct Connect using TDC-3000 console & DEC Alpha for HPCL-Mumbai in year 1999.
- Successfully completed in collaboration with ASI, USA. The “State of the art” Simulator, on Fluidized Catalytic Cracking Unit, Unit for Hindustan Petroleum, India having Emulated TDC – 3000 console. Year of completion 1997.
- Successfully completed in joint collaboration with CMC Ltd. Simulation of crude distillation Unit for IOCL, Baroda Refinery - 1996.
- Successfully completed in collaboration with ABB-Simcon Project in USA simulation for Lube Refinery - 1995.
- Successfully completed in collaboration with ASI, USA. Project in Saudi Arabia for the Design, Development and Supply of Ammonia and Urea plant Simulation Based on Yokogawa DCS Console -1995.
- Delivered one to One Emulated Panel base 210 MW Thermal Power Plant Simulator to Maharashtra State Electricity Board at the NASIK & KORADI Training Centre - 1996.
- Delivered the first digital computer simulator in India to Bharat Petroleum Refinery in 1985.
- Developed and Installed the first process simulator at Advanced Training Institute, Madras in 1983.

Products

SIMULATIONS SOFTWARE FOR ACADEMIC INSTITUTION

- Level & Flow Control
- Temperature & Pressure Control
- Level Control In Coupled Tanks
- Three Element Boiler Control
- Stirred tank Reactor
- Centrifugal Pump
- Multi Effect Evaporator
- Pressure Control in Different Sized Vessel
- Heat Exchanger
- Filtration
- Compressor Utilities
- Super Heated Steam Generator
- Absorption
- Binary Distillation for Benzene & Toluene
- Rotary Drier
- Catalytic Reformer
- Crystallizer
- Cyclone Separator
- Multi Component Flash Calculation (6 Components)
- Furnace Modules (FBC)
  (Circulating Type Fluidized Bed Boiler)

PC BASED LAB - SCALE EQUIPMENTS

- Temperature (Thyristor) Control Trainer
- Distributed Control System(DCS)Trainer
- Heat Exchanger Control Trainer
- Distillation Column Control Trainer
- Extraction/Leaching Column Trainer
- Multi-Process Control Trainer
- Evaporation (Single/Multi Effect) Trainer
- PLC Kit / PLC Application Trainer
  (with Different Modules)
- Level Control Trainer
- Flow Control Trainer
- Cascade Control Trainer
- Ratio Control Trainer
- pH Control Trainer
- Pressure Control Trainer
- Batch Reactor Control Trainer
- Multi-variable Level Control Trainer
- Control Valve Characteristics Trainer
- Interacting & Non-Interacting Trainer
- Continuous Stirred Tank Reactor Trainer
- Packed Bed Reactor Trainer
- I to P & P to I Convertor Trainer
- Hydraulic Trainer
- Pneumatic Trainer
- PID Controller Trainer
  - COMPUREC ST-2001

PC BASED PILOT PLANT - CUSTOMIZED

- Innovative Coiled Type Heat Exchanger Control System
- Solid-Liquid Extraction (Leaching) Column Setup
- Bubble Cap Distillation Column Setup
- Packed Bed Column

ELECTRONIC TRAINING KIT

- SCR Trainer Kit
- Temperature Calibration Trainer Kit
- ARMATURE Controlled D. C. Servo Motor
- FIELD Controlled D. C. Servo Motor
- SECOND ORDER Trainer Kit
- SYNCHRO Transmitter & Control Transformer Trainer Kit

Pilot Plant Customized Project

BUBBLE CAP DISTILLATION COLUMN SETUP

Objectives:

1. Familiarization of DCS / SCADA Controlled Operation.
2. Detailed Study of Batch Distillation Process Plant.
3. Overall Material Balance.

Experiments:

1. To study the response of the P, PI, PD, PID Controllers,
2. Response of Auto, Manual, Direct, Reverse mode of controllers, study of PID tuning parameters.
3. Study of performance of, pressure sensor, RTD, Dozing pumps, level sensor, I/P, Control valves etc…
4. Total seven control loops at one time.

INNOVATIVE COILED TYPE HEAT EXCHANGER CONTROL SYSTEM

DDC System in which signal is transmitted through the interface card which is connected through serial port to computer software (SCADA). PID control action is done by the software installed in computer

SOLID - LIQUID EXTRACTION (LEACHING) COLUMN SETUP

Distributed Control System model, in which PID controlling is by digital indicating controller which is mounted on the control panel. The computer is connected to controller through communication port in supervisory mode to computer software (SCADA).

Lab Scale Equipments

LEVEL CONTROL TRAINER

Level Control System Designed to Teach Basic Principle of Level Control.

Hardware: The process setup consists of supply water tank fitted with pump for water circulation. The level transmitter is fitted on transparent process tank senses level in the tank and transmits the signals to the controller and depending on the set-point it transmit the signal to I/P converter which regulates the Pneumatic Control Valve. The process parameter (Level) is controlled through computer or PID controller by manipulating control valve. Computer P-IV & Compressor are optional.

Experiments:

1. To study the of P, PI, PD, PID Controllers,
2. Response of Auto, Manual, Direct, Rev mode of controllers,
3. Study of the PID controller tuning
4. To study the response of the instruments Pneumatic Control Valve, Level Sensor, I/P Converter

FLOW CONTROL TRAINER

Flow Control System is designed to teach basic principle of Flow Control.

Hardware: The process setup consists of supply water tank fitted with pump for water circulation. A DP transmitter senses differential pressure across orifice meter and transmits the signals to the controller and depending on the set-point it transmits the signal to I/P converter which regulates the Pneumatic Control Valve. The process parameter (Flow) is controlled through computer or PID controller by manipulating control valve. Computer P-IV & Compressor are optional.

Experiments:

1. To study the of P, PI, PD, PID Controllers,
2. Response of Auto, Manual, Direct, Reverse mode of controllers,
3. Study of the PID controller tuning
4. To study the response of the instruments Pneumatic Control Valve, DPT, I/P Converter

CASCADE CONTROL TRAINER

A Complete setup to study the cascade control (master-slave) of a Level & Flow control system using PC based control or panel based control.

Hardware: The process setup consists of supply water tank fitted with pump for water circulation. Level transmitter is fitted on transparent process tank. Flow transmitter fitted across orifice meter senses the water flow to the tank. The water flow (secondary loop) to the process is controlled by pneumatic control valve to maintain .Computer P-IV & Compressor is optional.

Experiments:

1. To study the of P, PI, PD, PID Controllers,
2. To Study of the Cascade control Logic of controllers
3. Response of Auto, Manual, Direct, Reverse mode of controllers,
4. Study of the PID controller tuning

DDC System in which signal is transmitted through the interface card which is connected through serial port to computer software (SCADA). PID control action is done by the software installed in computer

Distributed Control System model, in which PID controlling is by digital indicating controller which is mounted on the control panel. The computer is connected to controller through communication port in supervisory mode to computer software (SCADA).

Lab Scale Equipments

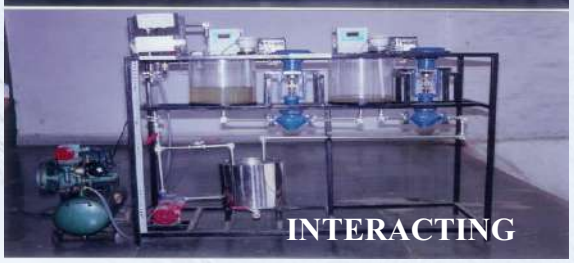
INTERACTING & NON-INTERACTING SYSTEM

A Complete Setup to Study the Level Control in Interacting & Non-Interacting Systems

Hardware: The Process setup consist of One Water Supply Tank fitted with One Pump for Water Circulation, then it's Consist Rotameter for Flow measurement and , Consist I to P convertor which converts Current to Pressure to operate Pneumatic Control Valves. Pneumatic Control Valve with two Water Tank and Level Probe to Measure Level of Liquid in water Tank.
Computer P-IV & Compressor are Optional.

Experiments:

1. To Study the response of the P, PI, PD, PID Controllers.
2. Study of PID Tuning Parameters.
3. To Study Level response in both Interacting & Non-Interacting Tank System.
4. To Study response in AUTO, Manual, Direct, Reverse Mode of Control.
5. To Study the response of the Instruments Pneumatic Control Valve, Level Sensors, I/P Convertors.
6. To Study Level Controller Characteristic in case of Interacting & Non-Interacting Systems



pH CONTROL TRAINER

pH Control System is designed to teach basic principle of pH transmitter which includes the basic nature of the Acid and Base solution.

Hardware: The process setup consists of two tanks for Acidic & Basic solutions and one Product tank which is connected to the ph Sensor & transmitter, the basic solution is controlled by the hand valve and the acidic solution is controlled thorough pneumatic vale through the PID controller. Computer P-IV & Compressor are optional.

Experiments:

1. To study the response of the P, PI, PD, PID Controllers,
2. Response of Auto, Manual, Direct, Reverse mode of controllers, study of PID tuning parameters.
3. Study of Acidic & Basic Nature of the solutions.
4. To study the response of the instruments Pneumatic Control Valve, pH Sensor, I/P Converter

PRESSURE CONTROL TRAINER

Pressure Control System is designed to teach basic principle of Pressure Control, Pressure Sensor.

Hardware: The process setup consists of pressure vessel fitted with Pressure transmitter, Pressure gauge, safety vale and Pneumatic valve with I/P converter. The pressure transmitter senses the pressure in the vessel and transmits the signals to the controller and depending on the set-point it transmits the signal to I/P converter whi Compressor are optionach regulates the Pneumatic Control Valve. Computer P-IV & Compressor are optional..

Experiments:

1. To study the of P, PI, PD, PID Controllers,
2. Response of Auto, Manual, Direct, Rev mode of controllers,
3. Study of the PID controller tuning
4. To study the response of the instruments Pneumatic Control

DDC System in which signal is transmitted through the interface card which is connected through serial port to computer software (SCADA). PID control action is done by the software installed in computer

Distributed Control System model, in which PID controlling is by digital indicating controller which is mounted on the control panel. The computer is connected to controller through communication port in supervisory mode to computer software (SCADA).

Lab Scale Equipments

MULTIPROCESS CONTROL TRAINER

The setup is designed to study advanced control methods used for complex processes in industries. With this setup we studies the different experiments like Temperature, Flow, Level, cascade, feed forward, Feed back, on/off and ratio control systems.

Hardware: It consists of Hot water tank, Cold water tank and Process tank which are fitted with pump for water circulation, level transmitter is fitted t process tank, orifice meters with differential pressure transmitters, Rotameters, heat exchanger with four temperature transmitter at the inlet and outlet side. Three Pneumatic control valves connected to I/P converter and interfacing unit. These units along with necessary piping are mounted on stand-alone type structure.

Experiments:

1. To study the response of the P, PI, PD, PID Controllers
2. Study of Level, Flow & Temperature control in one time.
3. Study of Cascade, Feed back, feed forward, Ratio and On/Off Controllers in single system.
4. Response of Auto, Manual, Direct, Reverse mode of controllers, study of PID tuning parameters.

HEAT EXCHANGER CONTROL

A complete setup to study the control of temperature in a heat exchanger by controlling the flow rate.

Hardware: The Process setup consists of Hot water tank & Cold water tank fitted with pump for the water circulation & Rotameters, four temperature transmitter fitted on inlet and outlet side of the heat exchanger, Pneumatic valve is connected with I to P converter to control the flow rate of hot water.

Experiments:

1. To study the response of the P, PI, PD, PID Controllers,
2. Response of Auto, Manual, Direct, Reverse mode of controllers, study of PID tuning parameters.
3. Study of performance of Heat Exchangers, and sensors like RTD

TEMPERATURE CONTROL SYSTEM

Temperature Control System is designed to teach basic principle of Temperature Control, Temperature Sensor (RTD).

Hardware: The process setup consists of supply water tank fitted with pump for water circulation. Temperature sensor (RTD Pt-100) senses temperature of the water in geyser & transmit the signals to the controller and depending on the set-point it transmits the signal to Triac Triggering Card which regulates Ac voltage supply to the heater. Computer P-IV.

Experiments:

1. To study the response of the P, PI, PD, PID Controllers,
2. Response of Auto, Manual, Direct, Reverse mode of controllers, study of PID tuning parameters.
3. Study of performance of, and sensors like RTD Pt-100.

DDC System in which signal is transmitted through the interface card which is connected through serial port to computer software (SCADA). PID control action is done by the software installed in computer

Distributed Control System model, in which PID controlling is by digital indicating controller which is mounted on the control panel. The computer is connected to controller through communication port in supervisory mode to computer software (SCADA).

Lab Scale Equipments

DISTILLATION COLUMN TRAINER

This setup of the distillation column is design to study the working of Distillation Column with 7 control loops which are Reboiler Level, Reboiler Temperature, Reflux Ratio, Pressure of the column, Reflux Level, Column Temperature, Feed Flow etc.

Hardware: The process setup consists of a Reboiler tank fitted with RTD, Level Transmitter & Feed Tank, reflux tank, feed tank & feed pump and it is connected to the glass/steel column condenser cooling water tank reflux bottom tank, pneumatic valve, I to P converter, centrifugal pumps.
Computer P-IV & Compressor are optional.

Experiments:

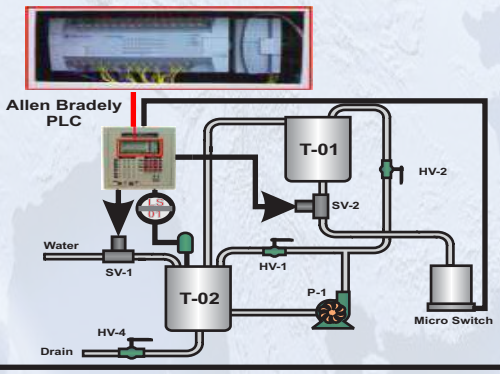
1. To study the response of the P, PI, PD, PID Controllers,
2. Response of Auto, Manual, Direct, Reverse mode of controllers, study of PID tuning parameters.
3. Study of performance of, pressure sensor, RTD, Dozing pumps, level sensor, I/P, Control valves etc…
4. Total seven control loops at one time.

PLC TRAINER

PLC Trainer along with Various Application Modules.

Applications Modules:

1. Bottle Filling Plant
2. AC/DC Motor Speed Control Module
3. Density Based Traffic Light Control
4. Temperature Controller Module
5. Direct On Line Starter
6. Star Delta Starter
7. Lift Control System
8. Pneumatic Systems with Conveyor Belt



PLC TRAINER

SIEMENS / ALLEN BRADLEY / OMRON or Equivalent make PLC Trainer Kit

Hardware:

1. Switches Digital Inputs
2. LED Indication for Digital Outputs
3. Potentiometer for Analog Input feeding (0-10V/4-20mA)
4. DPM to Display Analog Output

Software: Ladder Programming Software.

Experiments:

1. Study of PLC Ladder Programming
2. Study of PLC timer / counter in PLC Programming

DDC System in which signal is transmitted through the interface card which is connected through serial port to computer software (SCADA). PID control action is done by the software installed in computer

Distributed Control System model, in which PID controlling is by digital indicating controller which is mounted on the control panel. The computer is connected to controller through communication port in supervisory mode to computer software (SCADA).

Lab Scale Equipments

CONTROL VALVE CHARACTERISTICS TRAINER

The Following Experiments Can Be Performed:

- Study of Characteristic of Linear Control Valve.
- Study of Characteristic of Equal % Control Valve
- Study of Characteristic of Quick Opening type Control Valve.
- Study of Hysteresis of Control Valve.
- Study of range ability of equal % control valves
- Study of Valve Positioner

I TO P & P TO I CONVERTER TRAINER KIT

Features:

- Accuracy: 0.5% FS
- Supply Sensitivity: 0.025% span per % supply pressure change
- Zero Adjustment: 5% FS, Span Adjustment: 20% FS
- Input Resistance: <300 Ω
- Media: Oil-free, clean, dry air filtered to 25 µm
- Recommended Supply Pressure: 25 to 30 psig (filtered air)
- Max Supply Pressure: 80 psig (for IP210-X120: 135 psi)
- Min Supply Pressure: 10 psi above maximum output pressure
- Failure Mode: Upon electrical failure, the signal pressure falls to bleed pressure
- Pressure Port: ¼ FNPT
- Electrical Connection: DIN 43650 with screw terminals included
- Input: 0.2 to 1Kg/cm2 or 3 to 15 PSI
- Output : 4 to 20 mA DC

PID CONTROLLER TRAINER COMPUREC (ST-2001)

The Three Simulation Process Control Loops are as Below:

- Pressure Control in Different Sized Vessels.
- Level and Flow Control In Different Sized Vessels.
- Temperature and Pressure Control System (Heat Exchanger System)

Training on Controller Feature:

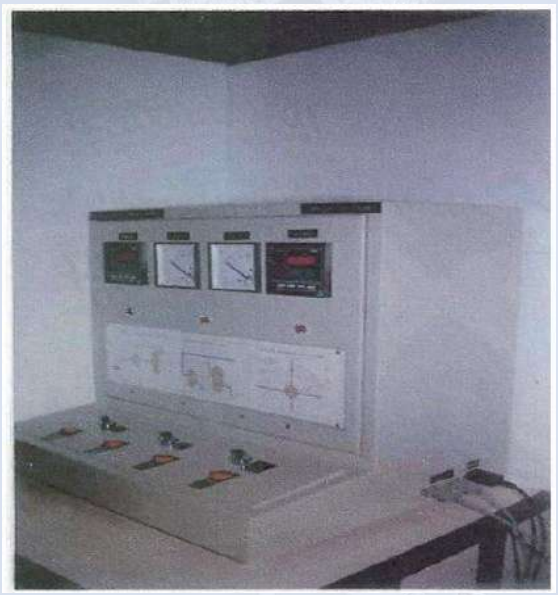
- Feedback - Remote / Local Control System.
- Tunning.
- Cascade Control.
- Bumpless Transfer.
- Open Loop / Closed Loop System

Study the effect of Malfunction

- Step change / Sinusoidal change in feed flow
- Effect of P, PI & PID
- Valve Characteristic
- Steam Leakage from Shell of HE
- LMTD in HE
- Fouling Effect

Features:

- Instrument Panel Operation.
- Computer to Simulate the Process and Control Operations.
- Interface Card between Panel and Computer.
- DCS HMI Software.



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Lab Scale Equipments

HYDRAULIC TRAINER KIT (Basic / Electro-Hydraulic / PLC Based)

Components:

- Double Acting Cylinder
- 4/2 Way Directional Control Valve (Spring return)
- 4/3 Way Directional Control Valve
- Branch Tee
- Check Valves
- Flow Control Valve
- Pressure Line Manifold
- PO Check Valve
- Pressure Relief Valve
- Pressure Gauge
- Pulley arrangement (Suitable to load)

Power Pack Specification:

- Pump
- Motor
- Oil Tank
- Pressure Relief Valve
- Suction Filter
- Pressure Gauge
- Oil Level Indicator
- Pressure Relief Valve

PNEUMATIC TRAINER KIT (Basic / Electro-Pneumatic / PLC Based)

Components:

- Pressure Manifold with ON /OFF valves for multiple connections
- Air filter Regulator & Lubricator Unit (FRL Unit)
- Single Acting Cylinder
- Double Acting Cylinder
- 3/2 Way Disc Rotary Valve
- 3/2 Way Pilot Operated Valve
- 3/2 Way Palm Operated Valve
- 3/2 Way Roller Lever Valve
- 5/2 Way Double Pilot Valve
- 5/2 Way Double Solenoid Valve
- 5/2 Way Push Button Valve
- 5/2 Way Single Solenoid Valve
- Quick Exhaust Valve
- 5/2 Way Roller Valve
- 5/3 Way Hand Lever Valve
- Flow Control Valve
- 5/2 Way Single Pilot Spring Return Valve

SCADA SOFTWARE TRAINNER

Features:

- 2-way communication for control & data acquisition.
- Auto/ Manual Control mode.
- P, PI, PD & PID modes.
- Live mimic diagram of the process including SP, OP, and PV.
- Online data display in tabular chart and graphical form,
- Powerful graphics with trend and bar page.
- Alarm function
- Data printing facility.
- Window based user-friendly software.
- Runs on any computer

DDC System in which signal is transmitted through the interface card which is connected through serial port to computer software (SCADA). PID control action is done by the software installed in computer

Distributed Control System model, in which PID controlling is by digital indicating controller which is mounted on the control panel. The computer is connected to controller through communication port in supervisory mode to computer software (SCADA).

Client List

POWER PLANT

- Maharashtra State Electricity Board - (MSEB)
- Punjab State Electricity Board - (PSEB)
- Chattisgarh State Electricity Board - (CSEB)
- Gujarat Electricity Board - (GEB)
- Bombay Suburban Electricity Supply - (Reliance Energy)
- Maharashtra State Power Generation Company Ltd. - (MAHAGENCO)
- Andhra Pradesh Power Generation Corporation Ltd., - (APGENCO)

REFINERY & PETROCHEMICAL

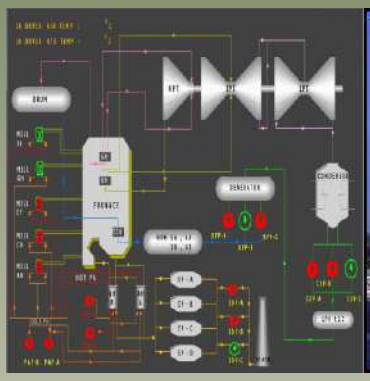
- Bharat Petroleum Corporation Ltd. (BPCL)
- Oil & Natural Gas Company, Bandra, - Mumbai (ONGC)
- Oil & Natural Gas Company, - Panvel (IOGPT)
- CMC, Mumbai,
- Indian Oil Corporation Ltd. (IOCL)
- Hindustan Petroleum Corporation Ltd. (HPCL)
- Bharat Oman Refinery Ltd, (BORL) - (Rental)

FEW INSTITUTES

- I.I.T., Delhi
- I.I.T., Roorkee
- I.I.T., Mumbai.
- I.I.T., Guwahati
- I.I.T., Kanpur
- N.I.T., Warangal
- N.I.T., Trichy
- N.I.T., Jalandhar
- N.I.T., Rourkela
- N.I.T., Nagpur
- BIT, Sindri
- Thaper Institute of Technology, Patiala.
- KREC, Karnataka.
- Andhra University.
- Annamalai University.
- Advanced Training Institute, Mumbai
- Directorate of Technical Education, Gandhinagar
- Government Engineering College, Valsad
- Guru Ghasidas University, Bilaspur
- MSBTE, Mumbai
- MERI, Mumbai.
- BHU, Varansi.
- Punjab University, Chandigarh.
- Siksha 'O' Anusandhan University, Bhubneshwar
- Government Engg College , Ajmer.
- L. D. Engineering College, Gujarat.
- SVRCET Surat.
- Siksha 'O' Anusandhan University, Bhubneshwar
- Bharati Vidyapeeth College of Engg, Navi Mumbai
- ITM, Bhilwara
- CRISP, Bhopal

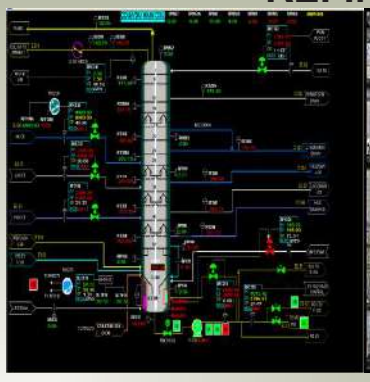
POWER PLANT

DCS HMI EMULATION



ACTUAL PLANT

REFINERY



OVERSEAS PROJECTS

- AUTO DYNAMICS INC, USA
- PMI RUSSIA,
- GASCO ABU DHABI
- ARAMCO SAUDI ARABIA
- CHEVERON WYOMING USA,
- CHEVERON PERTH AMBOY
- MOBIL OIL ENGLAND
- MARATHON OIL
- PERTAMINA CILACAP INDONESIA
- PERTAMINA DUMAI INDONESIA
- ATLANTIC SIMULATION INC. USA
- ABB-SIMCON SOFTWARE

FERTILIZER PLANT

- GSFC Ltd., Baroda
- SAFCO, Saudi Arabia
- RCF Ltd, Mumbai

Triangle Simulation Academy

On-Site Training
at
Power Plant / Refinery
Engineering Colleges / Training Institutes

Guiding Your Way To Success In Plant Operation

The power industry in India is growing by leaps and bounds. The Central Electricity Authority projects the trained man power requirement by the Power Sector during the 12th plan in the order of one million.

Training Programs

Course Name	Duration
DCS Based Plant Operation Training for	
Thermal Power Plants	1 Week
Petroleum Refineries	1 Week
Multi Loop Process Control	1 Week
Process Control (PID)	3 Days

Scope of Training

- Conceptualization of Plant Operations
- Practical Training on Process Dynamic Simulators
- Training for Graduate Engineering Trainees (GET) Apprentice

Facilities Available

- SCADA / DCS based simulator for process control / Adv. Process Control
- Thermal Power Plant Replica Control Room
- Petroleum Refinery Replica Control Room

Eligibility

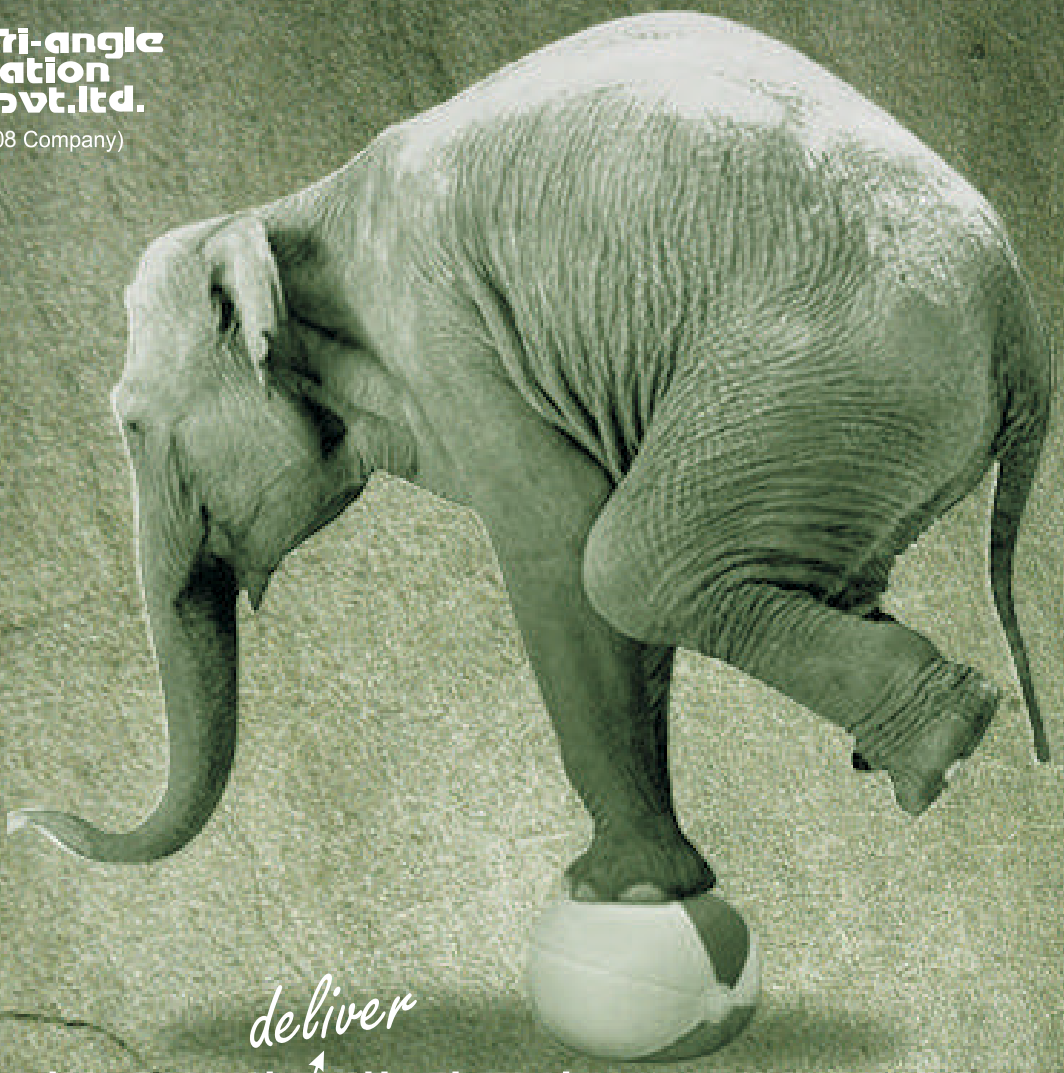
- Degree / Diploma in Engg.
- Science Graduates

Placement assistance assured, Limited Seats Available

Triangle Simulation Academy (A venture of Triangle Simulation Pvt. Ltd.)
Antophill Warehousing Complex, B-28, ground Floor, Vidyalankar Marg, Barkatali Naka,
Wadala (E), Mumbai 400 037 Telefax: +91 022 24095682 Tel: +91 022 32906369 E-mail: tsa@trianglesimulation.com

Tri-angle simulation pvt.ltd.

(ISO 9001 : 2008 Company)



Design Elements

We design and deliver distinctive Training Processes

With our innovative products like soft panel & DCS based one to one replica Operator Training Simulator **(OTS) for Thermal Power Plants, Refineries and Fertilizer plants.** TSPL is the only Indian Company having vast experience in these fields.

Our Simulators have features of Auto recording, Animation of level / flow and rotating equipments. Online display of Trip and Interlock logic and provides printouts of performance evaluation report.

Our in house development center has a dedicated team of engineers, and some of our prominent clients include **ONGC, BPCL, BORL, CSEB, MAHAGENCO, IITs, NITs** and many other establishments. We also provide training modules like **PLC, SCADA** etc for technical institutes. **TSPL** also offers Operator Training Simulator systems on hiring basis.

TSPL products are a boon to the developing power and refinery sector to meet the growing need for trained personnel and to upgrade the skills and retraining of the staff not exposed to modern complex plants.

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