sim INFOSYSTEMS

SIMULATION DRIVEN SOLUTIONS

SERVING CHEMICAL ENGINEERING

- REFINERY
- FERTILIZER
- PETROCHEMICAL/ CHEMICAL
- GAS PLANT/ LNG
- METAL
- CRE LAB SIMULATION

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ABOUT SIM INFOSYSTEMS

"SIM INFOSYSTEMS is a global leader with over 20 years of experience specializing in the development of software solutions tailored for simulating process plant operations, control and safety systems across diverse industries".

We have completed more than 150 simulation projects for the Industrial and academic sectors.

Our customer base spanning across 85 Industries, 100 institutions and over 30 countries is a testament to our global footprint and commitment to serving diverse markets.

ProSimulator™ is a high-end virtual twin software package for training the plant operating personnel and engineering students.

ProSimulator™ provides opportunities to manipulate systems to simulate all possible emergencies and abnormalities, including plant startup and emergency shutdown that an operator has to face, when placed in the actual process plant control room. This ability of personnel to respond to micro second variations in the parameters of a process plant, ensure optimal production and absolute safety.

Sim Infosystems Offers:

- Custom designed simulator for process and power industries
- Standard simulation software for industrial training center and academic institute
- Skill development training services for industrial training center and academic institute

ProSimulator™ is a complete Virtual Twin package and consists of:

- Simulator hardware
- Instructor Station
- Emulation or Direct Connect Operator Station for various DCS
  - ProSimulator™ Standard or Custom Process Models for:
    - ✓ Process control & Instrumentation
    - ✓ Basic process Operations
    - ✓ Refining
    - ✓ Gas Processing
    - ✓ Upstream Operations
    - ✓ Fertilizer
    - ✓ Chemicals
    - ✓ Petrochemicals
    - ✓ Power & Utilities
    - ✓ Utilities System
    - ✓ Metal processing
    - ✓ Bio and Food processing
- Pro-VFO, a 3D \ VR Field Operation Suite.
- Simulator for AI projects
- Interface Software
- User Documentation, Software License, training and support

ProSimulator™ Instructor station enables the instructor to control and direct the training sessions. From the Instructor station, multiple independent training sessions can be invoked by the Instructor and each training session can be assigned to work with one or more operator stations. Using this software, the Instructor can load a model, set an initial condition, invoke malfunctions, take/recall snapshot, change simulation speed and monitor & evaluate the performance of the trainees.

ProSimulator™ offers full function Direct connect simulator or provide emulation software for various DCS

- Yokogawa Centum CS3000
- Yokogawa Centum VP
- Honeywell TDC3000
- Experion
- Fox I/A
- Siemens PCS7
- DeltaV
- ABB Harmony
- ABB800xA
- Triconex PLC

Benefits of ProSimulator™

For Academic

- Hands-on Learning experience
- In-depth Process Understanding
- Carry out In-house projects
- Sound Fundamental Concepts of Process Control and safety with DCS Operations
- Industry readiness - Understanding the Intricacy & Complexity of process dynamics
- Completive edge for Internship and jobs
- Faculty Development
- Boosted accreditations ranking

For Industries

- Increase operator skills
- Improved Plant Safety and compliance to environmental regulations
- Increased familiarity of Controls & Interlock Systems
- Smooth Startup & Shutdown
- Faster Recovery from External/Internal Process Disturbances
- Higher workforce availability and reduce training time
- Evaluation of Operator Proficiency
- Minimize Operator turnover impact

OUR PARTNERS:

Omega Simulation Co.,Ltd. YOKOGAWA Co-innovating tomorrow™ Honeywell Ferroman ABB AVEVA

ProSimulator™ Standard Process Models

PS-1000 - Control & Instrumentation

PS1001 On-Off Level Control
PS1002 On-Off Temperature Control
PS1003 PI & P Controller
PS1004 Pressure Controller
PS1005 Level Controller
PS1006 Direct and Cascade Control
PS1007 Split Range Pressure Control
PS1008 Ratio Control
PS1009 Feedback and Feedforward Control
PS1010 Three Element Boiler Control
PS1011 Control Valve Characteristics
PS1012 Characteristics Coefficient of Control Valve
PS1013 Rangeability of Control Valve
PS1014 Interacting and Non-Interacting Level Systems
PS1015 Basic Instrumentation Troubleshooting System

PS-3000 Refinery Operations

PS3001 Atmospheric Distillation Unit (CDU)
PS3002 Vacuum Distillation Unit (VDU)
PS3003 Fluid Catalytic Cracking Unit (FCCU)
PS3004 Hydrogen Generation Unit (HGU)
PS3005 Hydrodesulphurization Unit (HDS)
PS3006 Catalytic Reforming Unit
PS3007 Continuous Catalytic Regeneration Unit (CCR)
PS3008 Hydrocracking Unit (HCU)
PS3009 Sulphur Recovery Unit (SRU)
PS3010 Amine Treating Unit (ATU)
PS3011 Delayed Coker unit (DCU)
PS3012 Diesel Hydrotreater Unit (DHDT)
PS3013 Naphtha Hydrotreating Unit (NHT)
PS3014 Isomerization Unit
PS3015 Kerosene Hydrotreater Unit (KHT)
PS3017 Oil Movement & Storage Section

PS-2000 Basic Process Operations

PS2001 Distillation
PS2002 Superheated Steam Boiler
PS2003 Centrifugal Pump
PS2004 Flash Tank
PS2005 Heat Exchanger
PS2006 Natural / Forced draft furnace
PS2007 CSTR
PS2008 CSTR Series
PS2009 Fixed bed reactor
PS2010 Plug flow reactor
PS2011 Cyclone separator
PS2012 Crystallizer
PS2013 Centrifugal Compressor
PS2014 Compressor with Utilities
PS2015 Reciprocating compressor
PS2016 Evaporator
PS2017 Blending
PS2018 Gas Turbine
PS2019 Ball Mill
PS2020 PH Neutralization
PS2021 Batch Reactor
PS2022 Cement Plant Operation
PS2023 Refrigeration System
PS2024 Turbine driven Compressor
PS2101 Flow Through Pipes
PS2102 Flow Through Packed Bed
PS2103 Flow Through Fluidization Bed
PS2104 Heat Loss Through Pipes
PS2105 Double Pipe Heat Exchanger
PS2106 Rotary Dryer

PS-2500 CRE Lab Simulator

PS2501 Preparation of Catalyst
PS2502 Steady State Non Isothermal Reactor
PS2503 Non Isothermal Continuous Flow reactor
PS2504 Fluidized bed reactors
PS2505 Slurry reactors
PS2506 Trickle Bed reactor

ProSimulator™ Standard Process Models

PS-4000 Fertilizer Operations

PS4001 Ammonia plant
PS4002 Urea Plant
PS4003 Sulphuric Acid plant
PS4004 Phosphoric Acid plant
PS4005 Complex (Granulation) Plant
PS4006 Ammonia Storage Terminal

PS-6000 Gas Plant Operations

PS6001 Gas Stabilization Unit
PS6002 Degassing Plant
PS6003 Gas Dehydration Unit
PS6004 Gas Compression Plant
PS6005 LPG Unit
PS6006 NGL Recovery Unit
PS6007 LNG Plant
PS6008 Production Wells Manifold & 3-Phase Separator
PS6009 Integrated Gas plant

PS-5070 Utilities System

PS-5071 Water Treatment Plant
PS-5072 Water Desalination Plant
PS-5073 Nitrogen Generation Plant

PS-7000 Petrochemical Operations

PS7001 BTX Production
PS7002 Ethylene Oxide Production
PS7003 Phthalic Anhydride Production
PS7004 Styrene Production
PS7005 Allyl Alcohol
PS7006 Ethylene Glycol Production
PS7007 Ethane Cracker Model
PS7008 Propylene Glycol Production
PS7009 Ethanol Rectification Unit

PS8000 Metals and Special Process

PS8001 Copper Smelting Unit
PS8002 Iron & Steel Processing Unit
PS8003 ZINC Processing Plant
PS8101 Chlor Alkali Plant
PS8102 Calcium Chloride plant
PS8103 Ethanol Distillation Unit
PS8104 Methanol Synthesis Unit
PS8105 Soda Ash Plant

PS0020: Model Development Package

ProSimulator™ Model Development package is a totally integrated set of simulation software development modules for process plants. It is a platform for engineers to configure, test, and document dynamic simulation models for process and power plants. The model configuration is template based and easy to build. The package consists of Simulation database, Simulation model library, Instructor configuration utility, Operator station configuration utility, Graphics builder and Model view / debugger.

ProVFO: VR and 3D Field Operations Suite

The ProVFO is a next generation Virtual Field Operations simulation training module, based on Virtual Reality (VR) technology. It is an interactive 3D virtual plant to assist the trainees to envisage and efficiently get hands on experience of the actual plant. It works with ProSimulator™ as an integrated module with real time communication.

Client List – Industries

Refineries

- Canada Oil Sands Surmont 2, Canada through Omega Simulation Co.
- Chennai Petroleum Corporation Limited thru' Yokogawa
- Chennai Petroleum Corporation Limited, Chennai, India.
- HPCL Mittal Energy Limited (HMEL) through Yokogawa
- Indian Oil Corporation Limited, Guwahati Refinery, India
- LUBREF, Kingdom of Saudi Arabia through Yokogawa
- Marjan Increment Development Program (MIP) through Yokogawa
- Nagarjuna Oil Corporation Limited, Chennai, India.
- Oman Refinery Company, Oman.
- Petro Rabigh, Saudi Arabia thru' Omega Simulation Co.
- Petron Batan, Philippines thru Yokogawa
- Refinery in Saudi Arabia through RSI SIMCON.
- Takreer Refinery, U.A.E through Yokogawa
- Takreer RRW, through Yokogawa

Gas / Oil Separation

- ADCO through Yokogawa
- ADMA ALNASAR through Yokogawa
- BGC, through Yokogawa
- BP Khazzan, Oman through Yokogawa
- Cygnus, UK through Yokogawa
- ELMERK, Algeria through Yokogawa
- FADHILI through Yokogawa
- Fadhili, Saudi Arabia through Yokogawa
- GASCO through Yokogawa
- Hassi Messaoud LPG, Algeria through Omega Simulation Co.
- HNGL Gas Plant, Hawiyah, through Yokoga
- IOGR, India through Omega Simulation Co.
- ISG, Algeria through Omega Simulation Co.
- Khurais, Saudi Arabia through Omega Simulation Co.
- KOC, Kuwait through Yokogawa
- KPF, KSA thru Yokogawa
- Kuwait Oil Corporation (KOC), Kuwait.
- Petroleum Development Oman L.L.C (PDO), Oman.
- PTT, Thailand thru' Yokogawa
- PTTEP, Thailand thru' Yokogawa
- Qatar Petroleum, Doha, KSA.
- Saudi Aramco Master Gas project, KSA thru Yokogawa
- Shaybah NGL OTS.
- SVDN Gas Plant, Vietnam through Yokogawa
- TOTAL MOHO NORD, Congo through Yokogawa
- TTMS, Thailand thru' Yokogawa
- West Nile Delta, Egypt through Yokogawa
- ZADCO through Yokogawa

Fertilizers

- Brunei Fertilizers, thru' Yokogawa
- CAMAU Fertilizers, Vietnam thru' Yokogawa
- Coromondel International Ltd, Kakinada, India.
- Coromondel International Ltd, Vizakh, India.
- Foskor Pte Ltd, Richards Bay, South Africa.
- Greenstar Fertilizers Limited, Tuticorin.
- Indorama Eleme Fertilizers & Chemicals Limited, Nigeria.
- Maaden Phosphate III Ammonia plant, K.S.A thru' Omega Simulation.
- MAADEN Phosphate through Yokogawa
- Madras Fertilizers Limited, Chennai, India.
- Mangalore Chemicals & Fertilizers Limited, Mangalore, India.
- Matix Fertilizers Corp. Ltd, West Bengal, India.
- Paradeep Phosphate Limited, Odisa.
- Rashtriya Chemicas & Fertilizers Limited, Mumbai.
- SAFCO, KSA thru Yokogawa

LNG Storage Terminal / LNG

- Dhamra LNG terminal, India. thru' Omega Simulation Co
- Adriatic LNG Terminal, Italy thru' Omega Simulation Co.
- BP Tangguh LNG OTS, Indonesia thru Yokogawa
- CALCASIEU Pass LNG Export terminal thru' Omega Simulation
- GNL Quintero, Chile LNG Terminal, Italy thru' Omega Simulation Co.
- Hazira LNG Terminal Ltd (HLPL) thru' Yokogawa
- South Hook LNG Terminal, Italy thru' Omega Simulation Co.
- YAMAL, Russia through Yokogawa

Power & Utilities

- Az-Zour Combined Cycle Gas Turbine Plant, Kuwait thru Yokogawa
- Bhabha Atomic Research Centre, Mumbai, India.
- Electric Company of Ghana.
- Electric Generation Co Inc., Turkey.
- ESSAR Power plant thru' ABB
- Fuji Oil Company, Japan.
- IGCAR, Kalpakkam, Tamil Nadu, India.
- IPMA, Bhopal.
- Kinyerezi-II power plant, Tanzania through Yokogawa
- OEG India Ltd, Chennai, India.
- Pertamina Refinery, Indonesia through Yokogawa
- TATA Power Company, Mumbai, India.
- Volta River Authority, Ghana.
- Wartsila India Pvt. Ltd

Petrochemicals / Chemicals / Pharma

- APOC, Kingdom of Saudi Arabia.
- Ethylene plant in USA through Omega Simulation Co.
- FPCC Taiwan thru' Omega Simulation Co.
- InoChem, Saudi Arabia.
- Jubail Chemical Industries Co, KSA.
- JUPC EOEG-3, Jubail, K.S.A thru' Omega Simulation.
- NIGC Phase 8 (Saudi Arabia) thru' Omega Simulation Co.
- Petronas RAPID HDPE thru' Yokogawa
- SABIC Phenol Plant, USA thru Yokogawa
- SHINTECH, USA through Omega Simulation Co.
- Tamilnadu Petroproducts Limited, Chennai, India.
- TCI Sanmar Chemical SAE, Egypt

Engineering Consulting

- ABB India Limited.
- AVEVA Solutions India LLP.
- BPT Norway.
- CORYS / RSI Simcon / Trident, USA.
- CORYS France.
- Fantoft Process Technologies / Kongsberg, Norway.
- Honeywell Automation India Ltd.
- Mahindra Satyam (formerly Satyam Computer Services), India.
- NESTE Engineering Solutions Oy.
- Omega Simulation Company, Japan.
- SCIENSIM Sdn Bhd, Malaysia.
- SVL Engineering Pvt Ltd, Chennai, India.
- Yokogawa Corporation of America.
- Yokogawa Engineering Asia Pte Ltd, Singapore.
- Yokogawa Europe Solutions B.V., Netherlands
- Yokogawa India Limited, Bangalore, India.
- Yokogawa Middle East B.S.C, Bahrain.

Client List – Academics

Southern India

- Adhiparasakthi Engineering College.
- Alagappa College of technology, Anna University-Ceramic Technology
- Alagappa College of technology, Anna University-Chemical Engineering
- Alagappa College of technology, Anna University-Food Technology, Chennai.
- Alagappa College of technology, Anna University-Industrial Biotechnology
- Alagappa College of technology, Anna University-Petroleum Engineering
- Alagappa College of technology, Anna University-Pharmaceutical Technology
- Andhra University, Vizag.
- Annai JKK Sampoorani Ammal Polytechnic College, Erode.
- Annamalai University.
- BIET,Davangere.
- BMS College of Engineering, Bangalore.
- Central University of Karnataka, Gulbarga.
- Coimbatore Institute of Technology, Coimbatore
- Coimbatore Institute of Technology, Coimbatore.
- CPCL Polytechnic College, Chennai.
- CSIR – IICT Hyderabad
- Dayananda College of Engineering, Bangalore.
- Dharmambal Polytechnic, Chennai.
- Dr. MGR University
- Er. Perumal Manimegalai Polytechnic College, Hosur.
- Global Institute of Technology, Arcot.
- Government College of Engineering, Bargur.
- Government College of Engineering, Thanjavur.
- Government College of Technology, Coimbatore
- Hindustan Institute of Engineering & technology
- Indian Polytechnic College, Tirunelveli.
- Institute of Chemical Technology, Taramani.
- Institute of Energy Studies, Anna University, Chennai.
- Institute of Energy Studies, Anna University.
- Jaya Engineering College, Chennai.
- JCT College of Engineering & Technology, Coimbatore.
- KAAVERY College of Engineering, Mettur.
- Kavery Polytechnic College, Salem.
- Kongu Engineering College.
- Kongu Polytechnic College.
- Kongu Vellalur Polytechnic College, Erode.
- Madha Engineering College, Chennai.
- Manipal Institute of Technology.
- Meridian School of Oil & Gas, Chennai.
- Nanda Polytechnic College, Erode.
- NIT Warangal.
- Prathyusha Engineering College, Tiruvallur.
- PSG College of Technology, Coimbatore.
- Rajiv Gandhi College, Chennai.
- REC Hulkoti.
- RKM Polytechnic College, Mylapore.
- Rohini College of Engineering & Technology, Palkulam.
- S. Thangapazham Polytechnic College, Tirunelveli Dist.
- SASTRA University Thanjavur.
- Sathayabama Institute of Science & Technology, Chennai.
- SDM Engineering, Dharwad.
- Sethu Institute of Technology, Pulloor.
- Shree Venkateswara Hitech Polytechnic College, Erode.
- Sree Sastha Institute of Engineering & Technology, Chembarambakkam.
- Sri Jayaram Institute, Chennai.
- Sri Muthukumaran Institute of Technology, Chennai.
- Sri Venkateswara College of Engineering, Sriperambatore.
- SRKV Polytechnic College, Coimbatore.
- St. Peter's College of Engineering & Technology, Chennai.
- SVS College of Engineering, Coimbatore.
- Tamil Nadu Skill Development Corporation (Naan Mudhalvan)
- Thanthai Roever Institute of Polytechnic College, Peramballur.
- Vellore Institute of Technology, Vellore.
- Vivekananda Institute of Technology, Bangalore.

Northern India

- Aligarh Muslim University.
- Banasthali University.
- BIET Jhansi.
- CIPET-IPT, Bihta
- CIPET-IPT, Jaipur
- DCRUST, Sonipet.
- Deenbandhu Chhotu Ram University of Science and Technology.
- Dr. APJ Abdul Kalam Technical University, Lucknow.
- Government Eng. College, Ujjain.
- HBTI, Kanpur.
- Kurukshetra University.
- Madan Mohan Malaviya University of Technology, Gorakhpur.
- Madhav Institute of Technology & Science, Gwalior.
- MNIT Jaipur.
- University of Petroleum & Energy Studies, Chemical Engineering Dept.
- University of Petroleum & Energy Studies, Electrical Engineering Dept.

Eastern India

- Calcutta University.
- Jadavpur University.
- JIS Engineering College.
- Madan Mohan Malaviya University of Technology, Gorakhpur
- NIT Silchar.

Western India

- Bharti Vidyapeeth University College of Engineering, Pune.
- C K Pithawala College of Engineering and Technology, (CKPCET).
- Dr. Babasaheb Ambedkar Technological University
- Government. Engineering College, Gandhinagar.
- Government. Polytechnic, Gandhinagar.
- Institute of Technology, Nirma University.
- J.K Institute of Technology, Rajasthan.
- Keystone Engineering, Pune.
- Loyola Training Center, Gujarat.
- MIT Academy of Engineering, Pune.
- MIT WPU, Pune
- NMIET, Pune.
- Pandit Deenadayal Petroleum University, Gujarat.
- Rajashree Industrial Training Institute Gujarat.
- SV NIT, Surat.
- Walchand College of Engineering, Sangli.

Training Institutes

- GIL Automation, Nigeria.
- Indian Institute of Petroleum, Dehradun.
- Jubail Technical Institute, K.S.A., Chemical Eng. Dept.
- Jubail Technical Institute, K.S.A., Electrical Eng. Dept.
- Meridian school of oil and gas Pvt. Ltd.
- Petro Vietnam Manpower Training College, Vietnam.
- Technocrat Automation Solution Pvt Ltd.
- Yanbu Technical Institute, K.S.A.

Virtual Twin Software Solution

Bringing Industries to the Classroom

Hands on Training | Skilling | Employability

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