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Indian Pride in Engineering and Consultancy



Provide Outsourcing services  
In the areas of

Engineering Design &  
Project Management  
Consultancy Services

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## **INDCON'S** Business Objectives

- **Multi-discipline Engineering and Design Consultancy Company**
- **Execution of Grass-root projects, Plant Engineering and De-Bottlenecking Projects**
- **Specialized Skill based Consultancy and Project Management and Construction Management Services**
- **Services provided on Lump-Sum or Man-hour (cost plus) basis**

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## **INDCON'S** Services – Why important for You?

- **Extended Arm for Manufacturing Companies**  
To serve as your own Projects and Plant Engineering Group
- **Extended Arm for EPC Companies**  
To serve as your own Engineering and Consultancy Group
- **Extended Arm for Construction Companies**  
To serve as your own Inspection and Construction Management Group
- **Extended Arm for Consultancy Companies**  
To serve as your own Design Group
- **Extended Arm for Equipment Fabrication Companies**  
To serve as your own Design and Drawing Preparation Group

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## INDCON'S Services – To Meet your Resource Issues

- **Managing and Maintaining diverse and qualified Technical Resources today is a big challenge...**

**...Leave it to INDCON and you can concentrate on your core business**

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## INDCON'S Services – To Meet your Schedule Issues

- **You may be extremely busy and tied up with your own routine business requirements...It may strain schedule of your new or upgrade projects...**

**...Leave it to INDCON and we will provide you firm commitment to complete the project meeting your tight schedule requirements.**

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## INDCON'S Services – To Meet Your Cost Issues

- **Managing Cost of your project is most critical when “Engineering and Design” is only one small element of the entire project...**

**...Leave it to INDCON as we have comprehensive Technical Resources and knowledge to help you complete your project in cost effective and timely manner**

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## **INDCON'S** Organizational Set-up

- **Incorporated in July 2005 at Mumbai , India - a hub for Technical Resources**
- **Mumbai Office located at Borivali- a major suburb, on Western Express Highway, About 9 km from Mumbai International Airport**
- **Strong In-house Management and Engineering Design Resources**
- **Network of Mumbai based associates for complete Engineering and Design Solutions to complement INDCON resources when needed**

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## **INDCON'S Promoters**

➤ **Rashesh M Shah – Director**

**Instrumentation and Control Systems Specialist with more than 25 years of Experience in Engineering, Design and Project Management**

**Managed and Executed Several large size grass root projects, Control System and Instrumentation upgrade Projects, DCS and ESD Systems projects**

**Executed several Automation projects including PLC and SCADA systems engineering, application programming and commissioning**

**Worked in Middle East for about 14 years**

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## INDCON'S Promoters



### **Krovvidi Rama Apparao – Director**

**Mechanical and Piping Specialist with more than 25 years of Experience in Engineering, Design and Project Management**

**Worked as a Plant Engineering Manager for one of the largest Petrochemical complexes in Middle East**

**Managed and Executed several large size grass-root and plant engineering projects**

**Worked in Middle East for about 15 years**

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## INDCON'S Expertise

- **Project Management**
- **Basic Engineering Design**
- **Detailed Engineering and Design**
- **Procurement Management**
- **Construction Management**

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## **INDCON'S** Domain Experience

- **Oil and Gas including Off-Shore, GOSP and Sweetening Plants**
- **Petrochemicals including Ethylene, Olefins, PVC/VCM, Polystyrene, HDPE etc**
- **Refineries De-bottlenecking**
- **Pharmaceuticals**
- **Steel Plant Automation**
- **Power Generation, Substations and Distributions**
- **Utilities and Off-sites**
- **Tank Farms**

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# INDCON'S Consultancy Engineering Services

**We offer multi-discipline engineering services in the following areas:**

- Piping (layouts, isometrics, stress analysis, pipe support selection, BOQ etc.)
- Process Engineering (PFD, P & ID, Line Sizing, Simulation, Heat exchanger sizing, heat and mass balance etc.)
- Stationary Equipment (design, preparation of specifications, fabrication dwg preparation and/or vendor drawing review)
- We also undertake design and preparation of fabrication drawings for stationary equipment fabricators
- Instrumentation and Control systems engineering
- Civil / structural engineering ( with support from associates where needed)
- Electrical basic and detailed engineering

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## **INDCON'S Skill Set - Process**

- **Process Simulation, Process Engineering Design, Process Development, Detailed Engineering and Trouble- shooting of Process plants including pharmaceutical processes**
- **Consultancy Services for Energy Management, Safety, Hazard and Risk Management, Air Pollution, Gas Cleaning and Treatment**
- **Experienced in several projects involving Separation Technology, Solvent Recovery Systems, Mixing Technology and Fluid Dynamics, Process Operation and Yield Optimization, Heat Transfer Technology etc.**
- **Experienced in several projects involving Energy Management, Air Pollution and Gas Cleaning**

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## **INDCON'S Skill Set - Mechanical**

- **Large Size Tanks and Storage Equipments (Up to 10000 m<sup>3</sup> tanks and 6000 m<sup>3</sup> storage spheres)**
- **Several plant de-bottlenecking projects for hydrocarbon and polymer plants**
- **Several projects for mega size refrigeration systems upgrade**
- **Several New as well as upgrades of Incinerator Systems**
- **Design of various large size process equipments such as columns, pressure vessels, reactors, heat exchangers, silos etc as per IS / International Standards**

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## **INDCON'S Skill Set – Equipment Design and Drawings**

- **Design and Fabrication drawings for Pressure Vessels, Reactors, Columns, Heat Exchangers, Tanks, Silos, Chimneys etc.**
- **Pressure Vessels as per ASME Section VIII and IS 2825**
- **Heat Exchangers as per TEMA**
- **Tanks as per API-650 and IS 803**
- **Boilers as per IBR 1950**
- **Chimney as per IS 6533**

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## **INDCON'S Skill Set - Piping**

- **Managed and Executed projects with complex piping systems**
- **Engineered and Executed both process and Utilities Piping as large as 36" Size and from cryogenic to high temperature VHP steam**
- **Engineered Piping systems for different materials like CS, SS, Duplex, Lined piping, FRP etc**
- **Engineered Piping Systems for congested areas as well as skid mounted piping systems**
- **3D (PDMS) model review for large size petrochemical plant**

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## **INDCON'S Skill Set – Instrumentation and Controls**

- **Several large size DCS and Control Systems Upgrade Projects (5000 plus I/O points) with integration of several third party systems**
- **Several Projects for Design of Field instrumentation and Analyzer Systems – Largest is for 1 million TPA Ethylene Plant**
- **Several Plant Engineering Projects for modifications and upgrades of the plants including projects for environment compliances**
- **Design of SCADA systems for Electrical Utilities**
- **Construction Management and support of several projects**

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## **INDCON'S Skill Set - Electrical**

- **Experienced in several projects in Water supply, Sewerage System, Plumbing, Fire Fighting, HVAC, Security, Telephone & Allied Services, Building Management Services for Industrial Plants and Commercial Complexes**
- **Electrical Master Plan Work including 110 KV / 33 KV, 25 MVA x 2 Nos., Ring System @ about 25 Sub – Stations for 10,000 Acres infrastructure development project**
- **Electrical System involving 20/26.5 MVA transformer, H. T. System, L. T. System, Hazardous area classification, Lighting, Earthing, D. C. System, UPS etc for Refinery**

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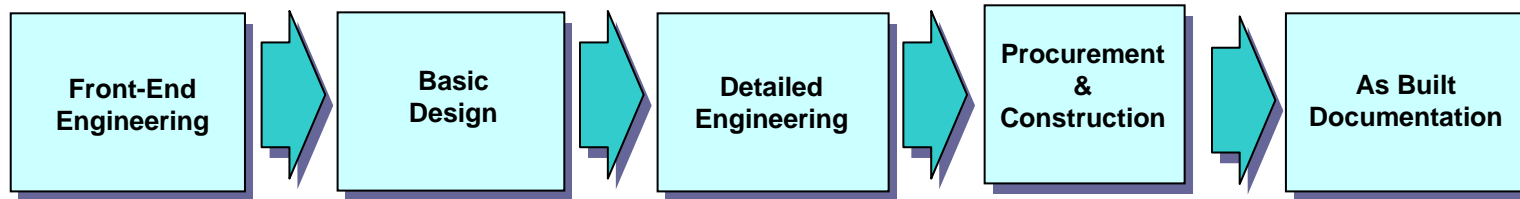
## INDCON'S Engineering Resource List

|   |  |             |           |
|---|--|-------------|-----------|
| ➤ | <b>Senior Managers (25 years + experience)</b> | <b>----</b> | <b>5</b>  |
| ➤ | <b>Consultants / Specialists</b>               | <b>----</b> | <b>3</b>  |
| ➤ | <b>Engineers (Instrumentation)</b>             | <b>----</b> | <b>11</b> |
| ➤ | <b>Engineers (Mechanical/Piping)</b>           | <b>----</b> | <b>7</b>  |
| ➤ | <b>Engineers (Electrical)</b>                  | <b>----</b> | <b>5</b>  |
| ➤ | <b>Engineers (Process)</b>                     | <b>----</b> | <b>3</b>  |
| ➤ | <b>Designers / CADD Operators</b>              | <b>----</b> | <b>19</b> |
| ➤ | <b>Account / Administration</b>                | <b>----</b> | <b>3</b>  |

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# INDCON'S Engg and Project Mgt Services

Engineering Solutions For Every Phase of the Project



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# INDCON'S Capabilities

## Front-End Engineering & Design / Basic Design

- ✓ Site survey and collection of data
- ✓ Feasibility Studies
- ✓ Cost Estimates and Return On Investment Analysis
- ✓ P&ID as-built
- ✓ Process calculations
- ✓ Development of PFD and P & ID
- ✓ Thermal design and sizing of Heat Exchangers
- ✓ Development of Process data sheets
- ✓ Plot plan and layout
- ✓ Control System Philosophy
- ✓ Shutdown System Philosophy

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# INDCON'S Capabilities

## Front-End Engineering & Design / Basic Design (contd..)

- ✓ **Control System Schematics and Narratives**
- ✓ **Sizing and Selections of Equipments, Piping, Motors and Instruments**
- ✓ **Specifications and ITB Documents**
- ✓ **FOUNDATION FIELDBUS Planning**
- ✓ **HAZOP and Safety Analysis**
- ✓ **Electrical Single Line Diagram**

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# INDCON'S Capabilities

## Detailed Engineering and Design

- ✓ Process Engineering and Support
- ✓ Technical Specifications and Datasheets
- ✓ Plot plans, General Layouts and Equipment Layouts
- ✓ Piping Layouts, Isometrics and MTO
- ✓ Piping Stress Analysis
- ✓ Civil, Structural & Foundation Design
- ✓ Field Instrumentation Design
- ✓ Cable sizing and layout
- ✓ Control Room layout and Marshalling Design
- ✓ FOUNDATION FIELDBUS Implementation

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# INDCON'S Capabilities

## Detailed Engineering and Design (contd..)

- ✓ Power supply Distribution Design
- ✓ Electrical systems (HT and LT) design
- ✓ HVAC and Other Package Items
- ✓ Fire Protection Systems

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# INDCON'S Capabilities

## Procurement, Construction and As-Built

- ✓ Procurement Packages and Technical Bid Evaluation
- ✓ Vendor Pre-qualification
- ✓ Vendor shop & Quality Manual approval
- ✓ Vendor drawing review
- ✓ Coordination with Vendors
- ✓ Third party Inspection and Expediting Services
- ✓ Construction Specifications and test procedures
- ✓ Construction management and supervision
- ✓ Construction Inspection and QA/QC
- ✓ FAT and SAT Procedures
- ✓ Start-up Assistance
- ✓ As-Built services
- ✓ Project closeout assistance

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# INDCON'S Consultancy Expertise Services

**We offer specialized services in the areas such as**

- **Special designs for stationary equipment such as stress analysis, fatigue analysis, thermal transients etc.)**
- **Heat exchanger thermal design**
- **DCS/PLC systems selection and design**
- **DCS/Control system Upgrades**
- **Emergency shutdown systems selection and design**
- **Foundation Field-bus planning and design**
- **Acoustic / Plant Noise Study and recommendations**

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## **INDCON'S Tools**

- **AutoCAD for Drafting**
- **Process Simulation Software**
- **Instrumentation Engineering Software**
- **ISA sizing programs for Control valves, Safety valves and Flow elements sizing**
- **Equipment Design Software**
- **Electrical Engineering Programs (In-house development)**
- **AutoLISP Programs for Equipment Design and Drawing**
- **Microsoft Project for Planning and Scheduling**

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## INDCON'S Engineering Versatility

**INDCON has expertise in various American and international Codes and Standards such as:**

- ✓ **ASME / ANSI / ASTM**
- ✓ **API**
- ✓ **BS / IS**
- ✓ **NFPA**
- ✓ **ISA / IEEE**
- ✓ **Other Statutory & ISO Codes.**

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# INDCON'S Management and Planning

## Project Planning

- ♦ Work forecasting, capacity planning, estimation
- ♦ Scope management
- ♦ Work authorization, budgets, baselines
- ♦ Resource plans, labor-hour budgets & tracking

## Project Controls

- ♦ Project status reports (Weekly)
  - Key Issues
  - Man hours -- YTD, Estimated Till Completion vs. budget
  - Input & deliverable logs
- ♦ Change control

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# INDCON'S Management and Planning

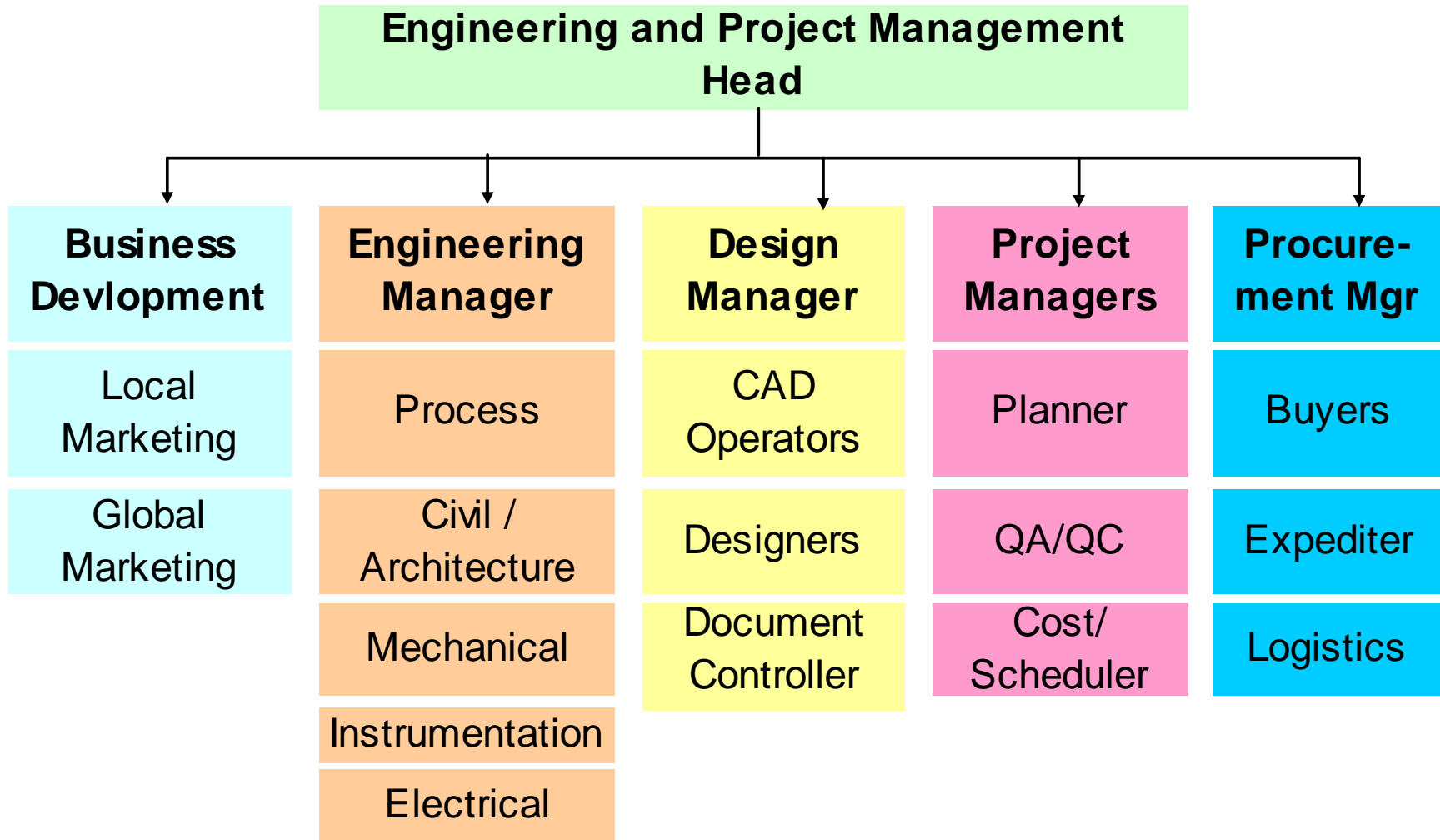
## Input & Deliverable Management

- ◆ Work package based tracking & scheduling
- ◆ Inputs received reconciliation & validity checking
- ◆ Query generation & clarifications

## Project Communication

- ◆ Online INTERNET enabled tools
  - Work up-date, comments & review
  - Work approval & sign-off
- ◆ Video conferencing
- ◆ Face-to-face meetings
- ◆ On-site resident engineer (As required)

# INDCON'S Project Execution Chart (Typical for each project)



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## **INDCON'S Major Client List**

- **SABIC– Petrochemical Complexes, Saudi Arabia**
- **Yokogawa Middle East, Bahrain**
- **HQCEC, China**
- **Saudi Formaldehyde Company, Saudi Arabia**
- **Citec Engineering, Europe and India**
- **I3nanotech, USA**
- **Weldcon, Kenya**
- **Kesar Enterprise, India**
- **Dar-Al-Riyadh Consulting, Saudi Arabia**
- **Saudi Engineering and Design Company, Saudi Arabia**
- **Fabrication Contractors, Canada**
- **Fabrication Contractors, Saudi Arabia**
- **Fabrication Contractors, India**
  
- **More than 100 projects executed by INDCON's Associate partners (Separate list is available)**

# INDCON'S Resources (contd..)



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## INDCON'S Contact Details

### MUMBAI, INDIA Office:

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**INDCON** IS READY TO SERVE YOU...

**TAHANK YOU**