

## ENGINEERING SMARTER SOLUTIONS FOR A BETTER TOMORROW

### WHO WE ARE —

At Cognition IES Pvt. Ltd., we are shaping the future of engineering with a commitment to precision, innovation, and client-focused solutions. Established in 2023, our company is dedicated to providing advanced engineering services tailored to the unique demands of discrete manufacturing industries.

### We Focus on Driving Operational Efficiency and Product Innovation

We bring state-of-the-art engineering practices to solve complex challenges. From concept design and product development to cost optimization and product lifecycle management, Cognition IES is your trusted partner in transforming ideas into reality.

**Our Email** — [info@cognitionies.com](mailto:info@cognitionies.com)



#### GLOBAL PRESENCE

India and USA



#### 50+

Skilled Engineers



#### 65+ YEARS

Combined Leadership  
Expertise



#### ISO 9001:2015

Certified



#### 100% ON-TIME

Delivery Rate

# EMPOWERING INDUSTRIES WITH END-TO-END ENGINEERING SOLUTIONS

At Cognition, we specialize in delivering cutting-edge engineering solutions tailored to diverse industries. Combining deep **Vertical Expertise** with advanced **Horizontal Expertise**, we provide innovative, efficient, and sustainable services. Our focus is on helping businesses achieve their goals through precision engineering, optimized performance, and technology-driven strategies.

## VERTICAL EXPERTISE



AUTOMOTIVE



AEROSPACE AND DEFENSE



HEAVY MACHINERY AND INDUSTRIAL EQUIPMENT



ENERGY AND UTILITIES



HEALTHCARE AND MEDICAL DEVICES



RAILWAYS AND TRANSPORTATION



MARINE AND OFFSHORE



ROBOTICS AND AUTOMATION



RENEWABLE ENERGY



CONSUMER PRODUCTS

## HORIZONTAL EXPERTISE



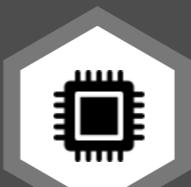
MECHANICAL DESIGN SERVICES



ASSET MANAGEMENT



ELECTRICAL ENGINEERING SERVICES



EMBEDDED SYSTEMS ENGINEERING



CAE/CFD



TECHNICAL PUBLICATION



HYDRAULIC ENGINEERING SERVICES



SUPPLY CHAIN MANAGEMENT/  
PROCUREMENT



PROTOTYPING AND 3D PRINTING

Cognition is committed to building lasting partnerships by delivering impactful engineering solutions that drive growth and innovation. With a customer-centric approach and a dedication to excellence, we transform ideas into reality and enable businesses to thrive in a competitive landscape.

# WHAT WE OFFER..!

## 1. MECHANICAL DESIGN SERVICES



- ✓ Product Design and Development
- ✓ Value Engineering and Value Analysis
- ✓ Product Life Cycle Management
- ✓ 2D/3D CAD Drafting and Modeling
- ✓ Reverse Engineering
- ✓ Engineering Change Management
- ✓ Digital & Physical Competitive Benchmarking
- ✓ Design Optimization (weight/cost Reduction)
- ✓ CDR, DFM, DFA, DFS, DFR, DFMEA, DVP
- ✓ Prototyping and Design Validation



## 2. ELECTRICAL ENGINEERING

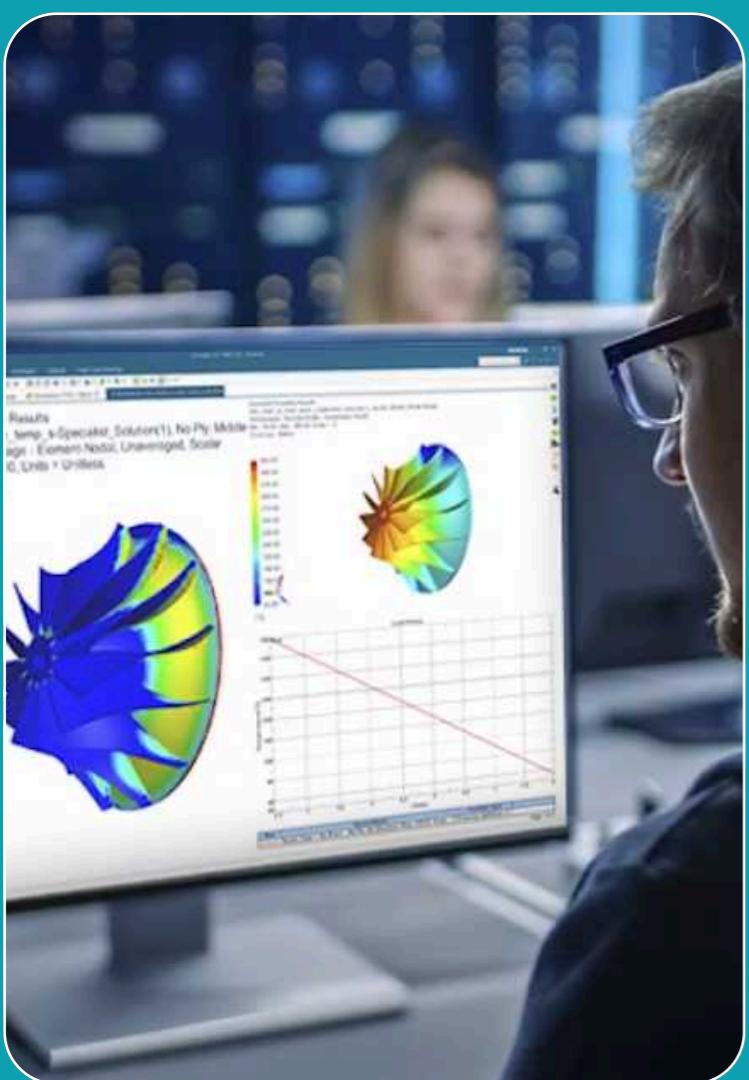
- ✓ Circuit Design and Simulation
- ✓ PCB Design and Development
- ✓ Harness and Wiring Design
- ✓ Electrical Control Panel Design

- ✓ System Integration and Testing
- ✓ Energy Efficiency Design
- ✓ Battery Management Systems (BMS)
- ✓ Renewable Energy Integration

ELECTRICAL CAD & PCB DESIGN:



## 3. CAE/CFD



- ✓ Structural Analysis (FEA)
- ✓ Thermal and Fluid Flow Analysis (CFD)
- ✓ Fatigue and Durability Analysis
- ✓ Crash and Impact Simulations
- ✓ Noise, Vibration, and Harshness (NVH) Analysis
- ✓ Optimization Studies
- ✓ Multi-physics Simulations
- ✓ Mold Flow and Casting Simulations
- ✓ Failure Analysis and Root Cause Determination
- ✓ Prototyping and Design Validation

COMPUTER-AIDED ENGINEERING:



OPTISTRUCT

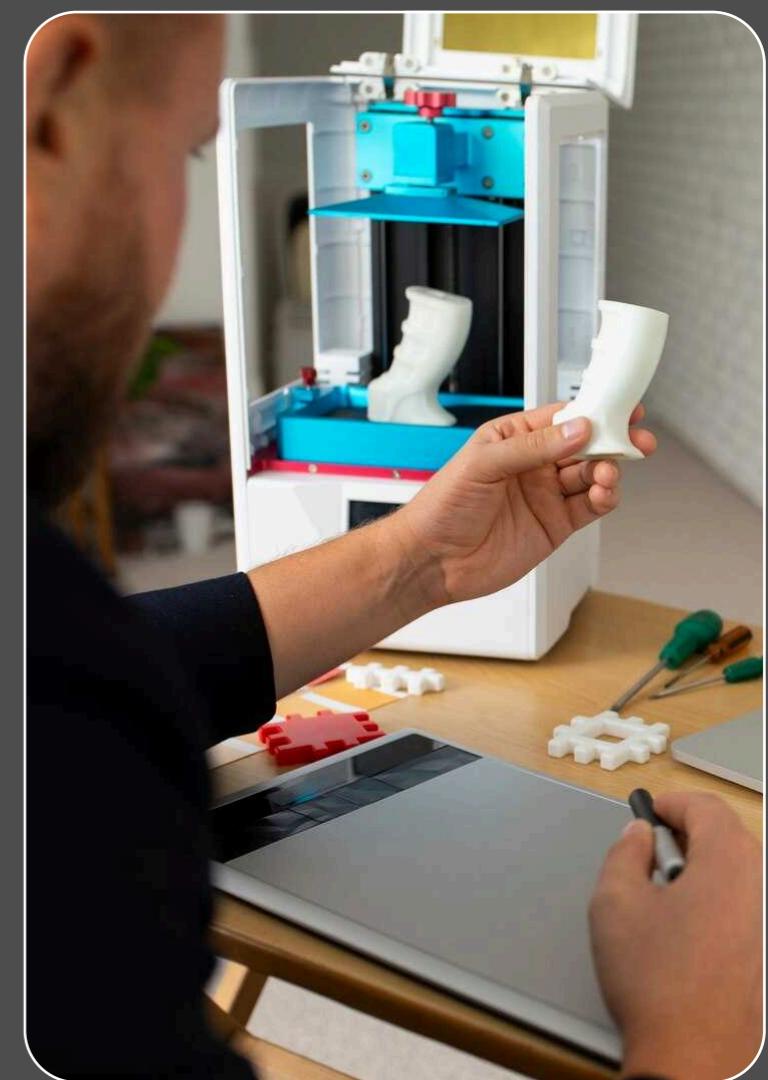
COMPUTATIONAL FLUID DYNAMICS:



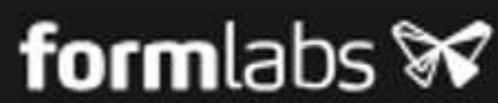
## 4. PROTOTYPING AND 3D PRINTING

- ✓ Rapid Prototyping (3D Printing, CNC Machining, etc.)
- ✓ Concept Validation Models
- ✓ Functional Prototypes for Testing
- ✓ Additive Manufacturing for Complex Geometries

- ✓ Material Selection and Testing for Prototypes
- ✓ Low-volume Production Using 3D Printing
- ✓ Assembly Testing and Design Validation
- ✓ Support for Iterative Design Improvements



3D MODEL SOFTWARE:



## 5. HYDRAULIC ENGINEERING



- ✓ Hydraulic System Design and Optimization
- ✓ Hydraulic Circuit Modeling and Simulation
- ✓ Hydraulic System Testing and Validation
- ✓ Hydraulic System Retrofitting
- ✓ Performance Optimization
- ✓ Failure Analysis
- ✓ Environmental Compliance
- ✓ Selection of Components (Pumps, Valves, Actuators etc.)

CAD:



SIMULATION:



## 6. ASSET MANAGEMENT

- ✓ Asset Lifecycle Management and Cost Analysis
- ✓ Predictive and Preventive Maintenance Strategies
- ✓ Performance Monitoring and Optimization
- ✓ Risk Assessment and Contingency Planning for Critical Assets

- ✓ Spare Parts Optimization
- ✓ Asset Valuation and Depreciation Analysis
- ✓ Data Analysis for Asset Utilization
- ✓ Enterprise Asset Management (EAM) System Implementation



Asset Management Software:



Analytics and Data Visualization:



## 7. EMBEDDED SYSTEMS ENGINEERING



- ✓ Microcontroller and Microprocessor Programming
- ✓ Board Support Packages
- ✓ Vehicle Telematics
- ✓ IoT Device Integration
- ✓ AI and ML Integration
- ✓ Cyber Security for Embedded Systems
- ✓ System Testing and Debugging
- ✓ Prototype Development

IDE and Programming:



Testing and Debugging:



CANALYZER

JTAG

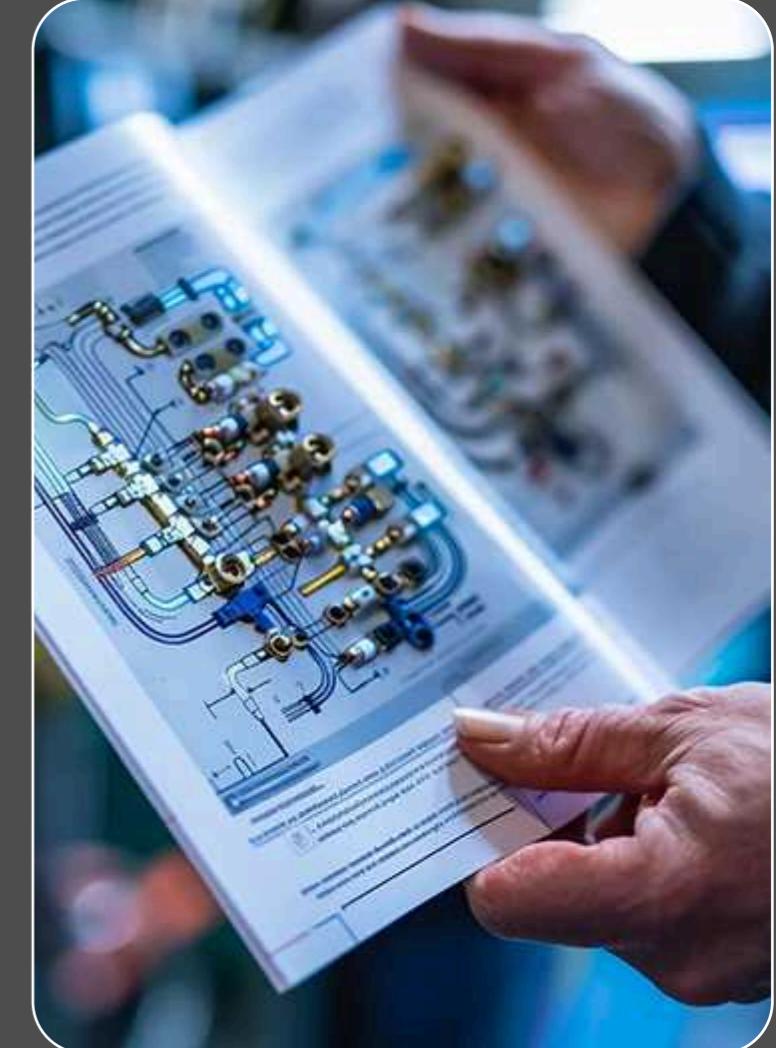
RTOS Development:



## 8. TECHNICAL PUBLICATION

- ✓ Creation of Technical Manuals and User Guides
- ✓ Assembly and Disassembly Instructions
- ✓ Illustrated Parts Catalogs (IPC)
- ✓ SOPs and Regulatory Documentation
- ✓ Technical Documentation for Compliance and Certification
- ✓ Maintenance and Service Manuals Development
- ✓ Training Manuals and e-learning Content
- ✓ Interactive Electronic Technical Manuals (IETM)
- ✓ 2D/3D Illustrations and Exploded Views
- ✓ Document Conversion to Digital Formats (PDF, HTML, etc.)

PUBLISHING, DIGITAL AND GRAPHICS:



## 9. SUPPLY CHAIN MANAGEMENT/PROCUREMENT



- ✓ Supplier Sourcing and Evaluation
- ✓ Cost Estimation and Should Costing
- ✓ Strategic Procurement Planning
- ✓ Supplier Negotiation and Contract Mgmt.
- ✓ Inventory Optimization and Demand Forecasting
- ✓ Logistics and Distribution Network Design
- ✓ Supply Chain Risk Analysis and Mitigation
- ✓ Vendor Performance Monitoring and Auditing
- ✓ Procurement of Raw Materials and Component
- ✓ RFI, RFP, RFQ, IFB, LOI, PO Preparation and Evaluation

Supply Chain Management:



Analytics and Data Visualization:



# BUSINESS ENGAGEMENT MODEL

## MODEL 1

### FIXED PRICE MODEL

A predetermined cost is set for a well-defined project scope and deliverables, with payment milestones agreed upon upfront.

- ✓ BUDGET PREDICTABILITY
- ✓ MINIMAL CLIENT SUPERVISION
- ✓ NO COST OVERRUNS.

## MODEL 2

### TIME AND MATERIAL (T&M) MODEL

Payment is based on actual hours worked and materials used, allowing flexibility to adapt the scope during the project.

- ✓ HIGH FLEXIBILITY
- ✓ TRANSPARENCY IN COST
- ✓ IDEAL FOR EVOLVING OR COMPLEX PROJECTS

## MODEL 3

### DEDICATED TEAM MODEL

A team of engineers works exclusively for the client, acting as an extension of the client's in-house team for long-term projects.

- ✓ COMPLETE CONTROL
- ✓ DEDICATED RESOURCES
- ✓ BETTER ALIGNMENT WITH CLIENT PROCESSES

## MODEL 4

### OFFSHORE DEVELOPMENT CENTER (ODC)

A dedicated team operates from an offshore location, delivering engineering services at lower costs with 24/7 availability.

- ✓ SIGNIFICANT COST SAVINGS
- ✓ ACCESS TO GLOBAL TALENT
- ✓ CONTINUOUS OPERATIONS ACROSS TIME ZONES.

## MODEL 5

### BUILD-OPERATE-TRANSFER (BOT) MODEL

The service provider sets up and operates a dedicated offshore team, which is later transferred to the client as a fully functional entity.

- ✓ RISK-SHARING DURING THE INITIAL SETUP
- ✓ SMOOTH TRANSFER OF OWNERSHIP
- ✓ SCALABLE OPERATIONS.

## MODEL 6

### MANAGED SERVICES MODEL

The provider takes complete responsibility for managing a specific process, function, or system, delivering results based on SLAs.

- ✓ REDUCED MANAGEMENT OVERHEAD
- ✓ FOCUS ON OUTCOMES
- ✓ PREDICTABLE PERFORMANCE

## MODEL 7

### PROJECT-BASED MODEL

The provider delivers a one-time project with defined milestones, deliverables, and timelines, ideal for short-term needs.

- ✓ CLEAR OBJECTIVES
- ✓ MINIMAL CLIENT INVOLVEMENT
- ✓ PREDICTABLE TIMELINES

## MODEL 8

### HYBRID MODEL

A combination of two or more models, such as Fixed Price for defined tasks and T&M for evolving requirements, to balance control and flexibility.

- ✓ ADAPTABLE TO PROJECT NEEDS
- ✓ COST CONTROL
- ✓ EFFECTIVE FOR LARGE DYNAMIC PROJECTS

## ADVANTAGES OF OUR ENGAGEMENT MODEL



FLEXIBILITY



SCALABILITY



COST-EFFECTIVENESS



ACCESS TO EXPERTISE



TIME SAVINGS