

wipro infrastructure engineering



Wipro Group

Wipro Group

Wipro Enterprises

Wipro Limited



Wipro Infrastructure Engineering

- Hydraulics
- Aerospace
- Water Treatment
- Additive Manufacturing
- Automation Solutions



Wipro Consumer Care & Lighting

- Personal Care
- Wellness Products
- Lighting, Furniture and Switches



Wipro Kawasaki Precision Machinery

Hydraulic Pumps and
Swing Motors
for Excavators

Joint Ventures



Wipro-GE Healthcare

Healthcare Equipment
and Solutions



- IT
- BPO
- R&D Services
- Consulting Services



**Wipro
Infrastructure
Engineering**

wipro infrastructure engineering



40 + years of
manufacturing
excellence



3700+
global workforce



21 manufacturing
facilities



across 4
continents

Leadership



Pratik Kumar
Chief Executive Officer

HYDRAULICS



Isaac George
Global Sales



Prasanna Simha
Global Operations



Jugal Prasad
Global Quality & Engineering

GEOGRAPHY



Dr. Joseph Thomas
Americas

WATER



T M Nagarajan
Wipro Water

ADDITIVE MANUFACTURING



Yathiraj Kasal
Wipro 3D

AEROSPACE



Ronen Givon
Wipro Aerospace

CORPORATE FUNCTIONS



R. Swaminathan
Finance*

AUTOMATION SOLUTIONS



G Sundararaman
Wipro Automation



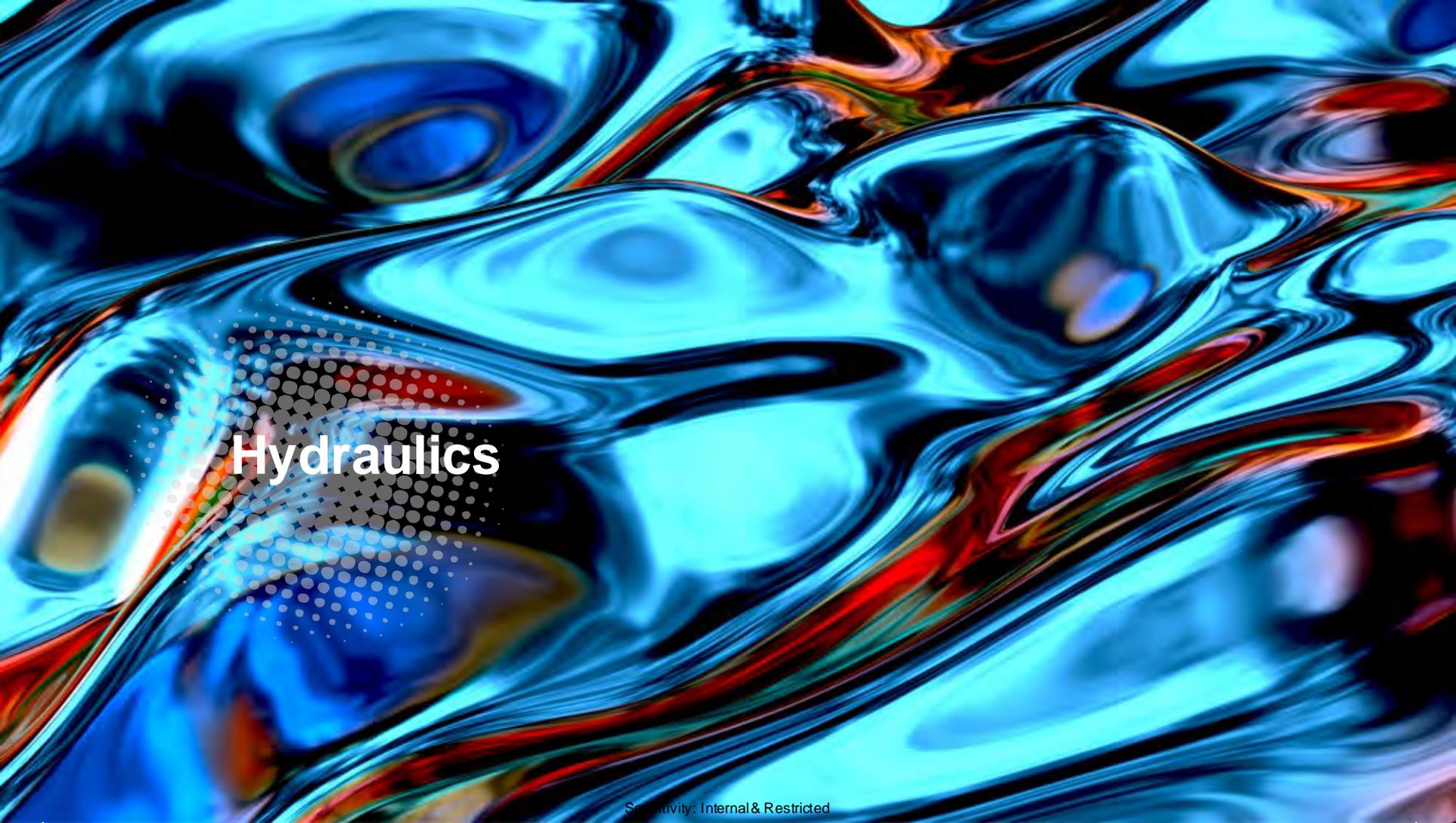
Ranjit Date
Wipro Automation



Ayaskant Sarangi
Human Resources**

*Chief Financial Officer –Wipro Enterprises and Wipro Infrastructure Engineering

**Chief Human Resources Officer –Wipro Enterprises, WIN, WCCLG



Hydraulics

Product Range



Single and Double Acting Cylinders

- Bore: 25 mm to 500 mm
- Stroke: Up to 10,000 mm
- Working Pressure: Up to 400 bar



Product Range



Telescopic Cylinder/ Kits for Tippers

- Front End Tipping: Up to 6 stages
- Under Body Tipping: 2 – 11 stages
- Application Tonnage: Up to 90 T
- Mounting Types: Eye type, Cover tube, Trunnion type
- Accessories for Kits: Pumps, Valves, Tanks, Hoses



Product Range



Suspension and Hoist Cylinders

- Tonnage: Up to 100 T
- Application: Off Highway Trucks, Gas Hydraulic System for Articulated Haulers



Product Range



Industrial Hydraulics

- Custom designed Hydraulic Cylinders and Systems
- Bore ID: 200-500 mm
- Rod OD: 100-250 mm
- Stroke: 2000-8000 mm
- Operating pressure: Up to 250 bar



Hydraulics for every application



Construction and Earthmoving

- Backhoe Loader
- Dozer
- Dumper
- Excavator (Mini, Midi, Large)
- Motor Grader
- Wheel Loader



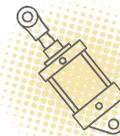
Lifting and Utility

- Aerial Work Platform
- Container Handler
- Fork Lifts
- Loader Cranes
- Hook Lifts and Refuse Collector
- Tail Lifts
- Tele Handlers



Farm and Agriculture

- Harvester Combines
- Planter
- Sprayer
- Sugarcane Transporter
- Tractor Steering and Attachments



AMONGST THE LARGEST
INDEPENDENT MANUFACTURERS
OF HYDRAULIC CYLINDERS

Hydraulics for every application



Truck Tipping Solutions

- Aggregates
- Cabin Tilt Cylinders and Latches
- Car Carrier
- Front End and Under Body Tipping Gears
- Refuse Trucks
- Truck Steering
- 3 Way Tipping System



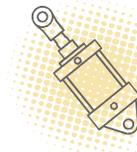
Mining and Special Applications

- Industrial Applications
- Surface Drill Rigs
- Underground Haulers and Loaders
- Windmills



Forestry

- Forwarders
- Harvesters
- Harvesting heads
- Grapples



AMONGST THE LARGEST
INDEPENDENT MANUFACTURERS
OF HYDRAULIC CYLINDERS

Global Sales Profile



Construction and Earthmoving

44%



Lifting and Utility

27%



Truck Tipping Solutions

11%



Mining and Special Applications

8%



Forestry

7%



Farm and Agriculture

3%

Global Reach



Design Engineering and Validation



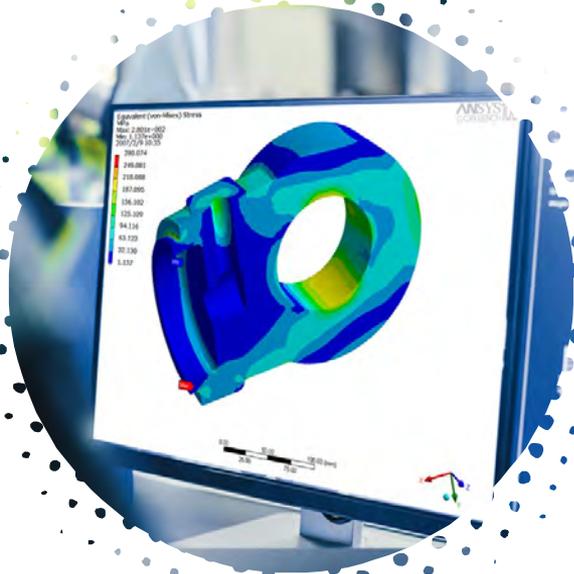
60+
Engineers



8000+
Successful
designs

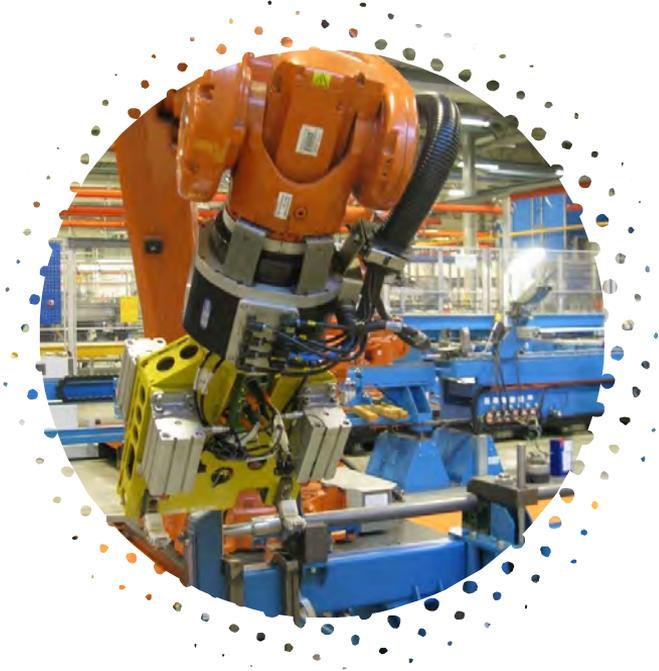


1000
Diverse
applications



- Design processes driven by Six Sigma methodologies
- Optimised by analytical and simulation tools like Finite Element Analysis (FEA) using Ansys, Creo Simulate etc.
- Supported by the latest 3D modelling, design and product management tools such as PTC Creo, Windchill PDM Link etc.
- Test rigs to determine Functionality, Reliability and Endurance
 - Pulse testing | Back-to-back testing | Bell crank
 - Steering simulation | Forklift test simulation
 - High temperature cycling

Manufacturing Process



Lean and Flexible
Systems



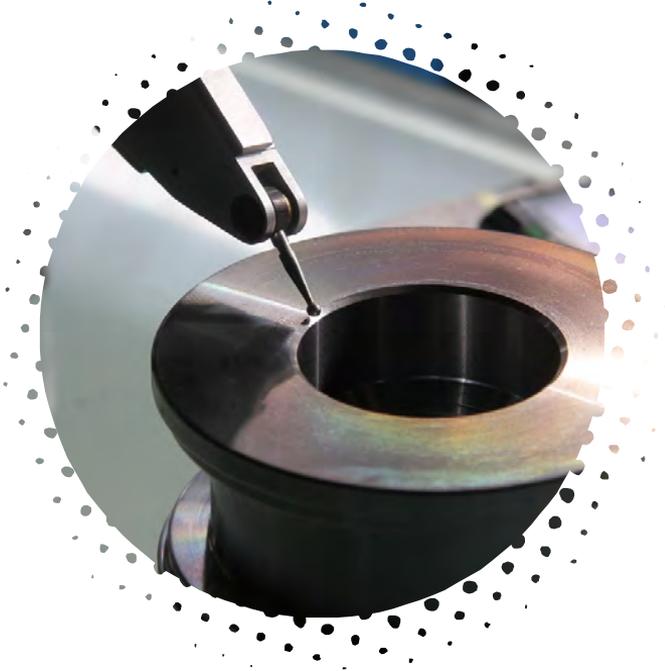
Mechanized
assembly



Automated
testing

- Continually invest in world class facilities, latest technologies and equipment
- Build quality into the product through processes and improve product reliability
- Lean and flexible manufacturing systems are deployed with robotic welding, automated washing stations, mechanized assembly and testing in a controlled environment
- Critical manufacturing processes are done in-house

Quality Management



ISO
9001



IATF
16949



ISO
14001

- Two integral dimensions of our quality
 - **Consistency**
 - **Continuous Improvement**
- Wipro plants are powerhouses of sophisticated technology and manufacturing know-how. Robust process for supplier selection and quality management
- Corrosion resistance: Standard: 100 hrs. – Rating 10
Component cleanliness up to NAS level 7
- Superior rating to meet specific customer requirements through chrome plating process

Customers



Construction and Earthmoving

- Caterpillar
- CNH
- Hyundai
- JCB
- Kobelco
- Kraneks
- Kubota
- Liugong
- Mahindra and Mahindra
- Manitou
- Mecalac
- John Deere
- Sany
- Takeuchi
- Tata Hitachi
- Volvo
- Wacker Neuson

Customers



Lifting and Utility

- Bonfiglioli
- Haulotte
- Hiab
- JLG
- Tadano Escorts
- ElectroMech-Yale
- Kalmar
- Kion Group
- Kobelco Cranes
- Komatsu Forklift
- Liebherr
- Manitou
- Multilift
- TIL
- Toyota Material Handling
- Zepro
- Hyster-Yale Brasil

Customers

Truck Tipping



- Ashok Leyland
- Bharat Benz
- Dautel
- Geesink Norba
- Istrail
- KH-Kipper

- Mahindra and Mahindra
- NTM
- SAWO
- SML ISUZU
- Sorling Ilsbo

- Tata Motors
- VECV
- Volvo
- Walser
- Zetterberg

Customers



Farm and Agriculture

- AGCO
- CNH
- Kubota
- Mahindra and Mahindra
- Vaderstad
- John Deere
- HORSCH



Forestry

- Cranab
- Hultdins
- John Deere Forestry
- Komatsu Forest
- Ponsse



Special Applications

- Epiroc
- Sandvik Mining and Construction



Aerospace

wipro aerospace



- Dedicated manufacturing facilities for Actuators, Aero structures, components and assemblies
- Facilities and supply chain partners certified by various global players - Boeing, Lockheed Martin, Safran, Collins Aerospace, Liebherr and Heroux Devtek
- Long term agreements in place with leading OEMs - Boeing, Lockheed Martin, Northrop Grumman, IAI and Global Tier-1 Suppliers for development and manufacture of precision structural parts, landing gear and power door opening systems actuators

MANUFACTURING
FACILITIES

USA
Everett

ISRAEL
Haifa

INDIA
Bengaluru



Capabilities



- Actuator parts:
 - diameter up to 250 mm
 - length up to 1500 mm
- Assembly and testing of actuators
- CNC milling of various alloys up to 6500 mm
- Sheet metal fabrication including hot forming
- Mechanical assembly

Manufacturing Infrastructure



- Mill turn / turn mill centres
- Deep hole drilling machine
- Vertical honing machine
- Thread rolling
- Gantry type machining centres
- FMS machining centres
- Ultrasonic washing and vapor degreasing
- CNC bending machines
- Assembly and testing

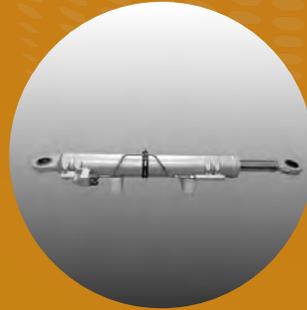
Special Processes



- NDT facilities (FPI / MPI)
- Stress relieving and hardness checking
- Painting
- Heat treatment
- Shot peening
- Anodizing
- Etching



Products



Actuators - Cylinders & Pistons

Airframe Assemblies | Sheet Metal parts

Manifold / Valve Blocks | Ti Hot formed parts

Complex Turn mill components | Liquid Reservoirs



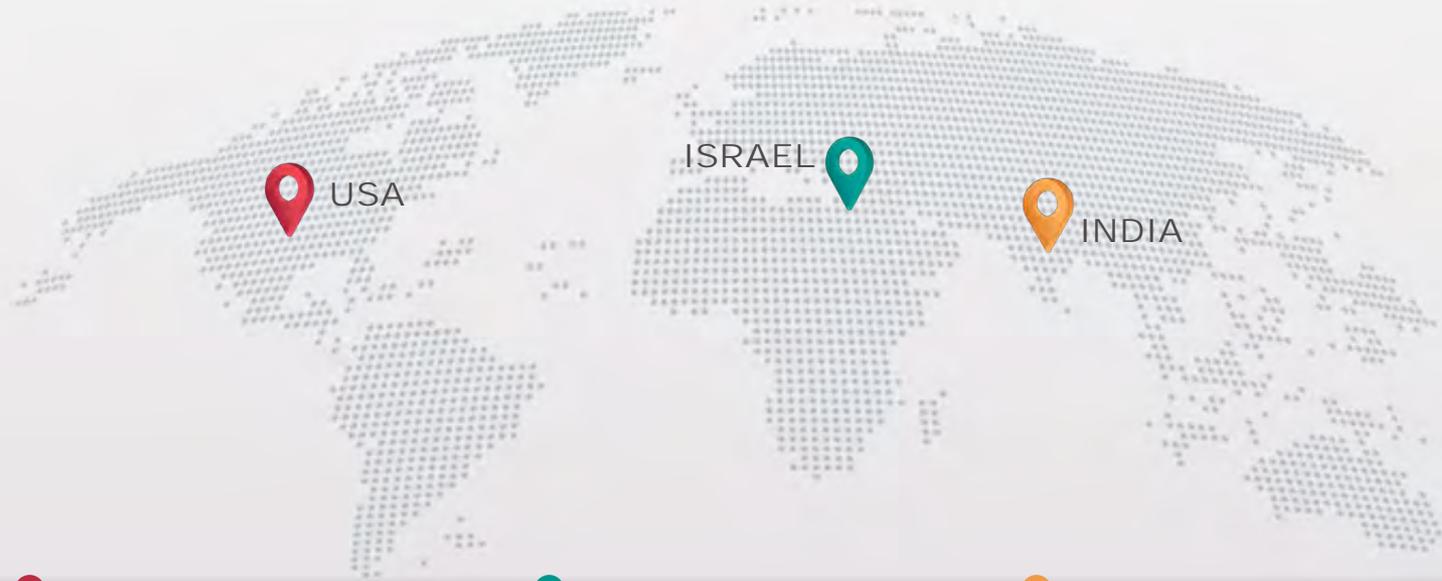
Customers



Aerospace

- Boeing
- Collins Aerospace
- Elbit Systems
- Heroux Devtek
- IAI
- Korean Air
- Liebherr
- Lockheed Martin
- Northrop Gruman
- Rafael Advance Defence Systems
- Spirit Aerosystems
- Triumph Group Inc.

Global Reach



USA

Everett (plant 1) | *Plant area: 11,338 sq.m*
Everett (plant 2) | *Plant area: 2,600 sq.m*

ISRAEL

Kiryat Bialik | *Plant area: 11,615 sq.m*

INDIA

Bengaluru (plant 1) | *Plant area: 11,150 sq.m*
Bengaluru (plant 2) | *Plant area: 3,251 sq.m* | *Special Process*



**Additive
Manufacturing**



A leading provider of metal additive manufacturing (AM) solutions and services

- Consulting: Design & Adoption
- Prototyping & Manufacturing
- Research & Development
- Set Up & Operations of Captive AM Centres

Industry Segments



Oil and Gas



Aerospace



Defence



Space



Industrial



Healthcare

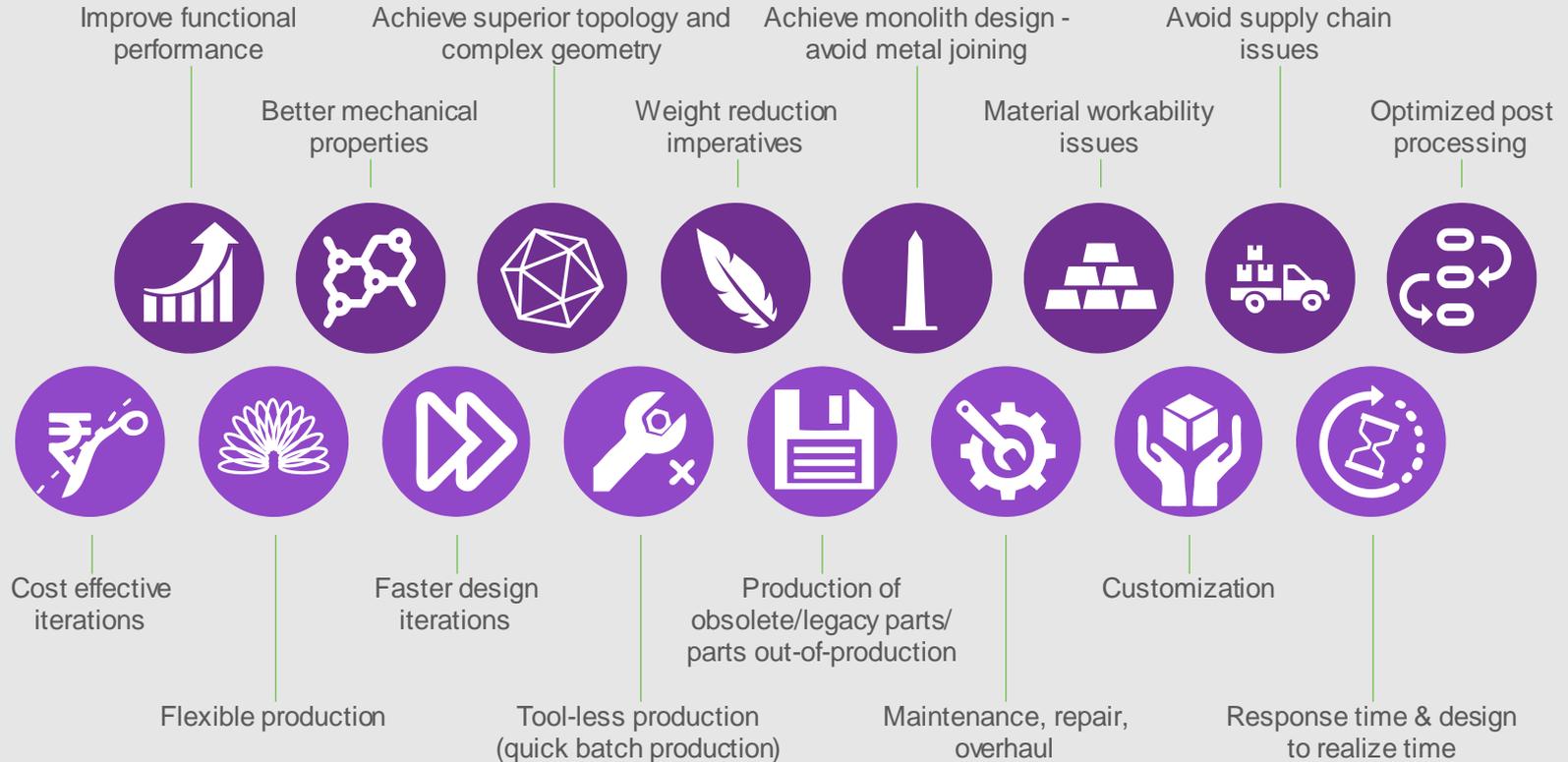


Nuclear



Automobile

Value Delivery



Competency

Capacity

Adequate manufacturing capacity and access to idle capability in the ecosystem to assure customers of timely delivery of required volumes / parts.

Test and Validation Certifications

Part Prove outs, design of experiments working with prestigious academia, and work with clients to run performance tests.

Research

Custom parameter development, custom metal powder development, adapting new alloys to AM, post processing.

Post Processing

In house and augmented capabilities for various post processing techniques including HIPing, micro machining, abrasive flow machining etc.

Engineering Design

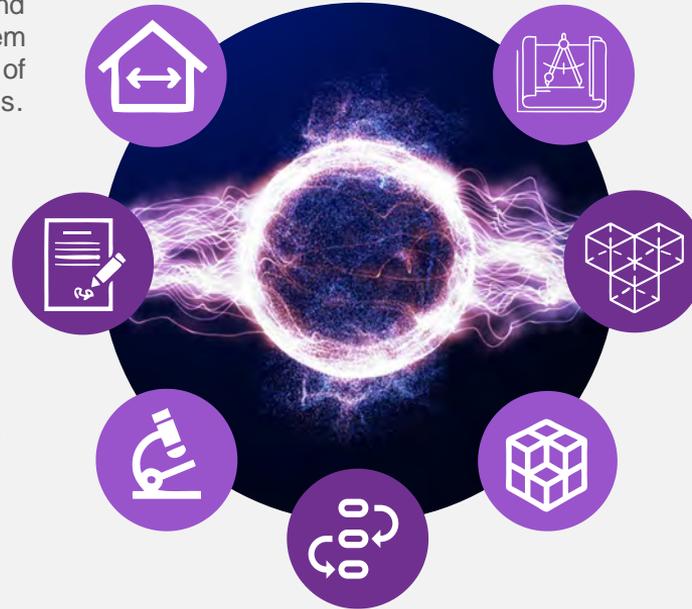
Deep understanding of the industry, components, design capability and component awareness.

Additive Design

Build strategy and planning, design optimization, build orientation, parameter optimization, post processing complexity, volume considerations, functional performance and opportunity for value creation.

Build Technology

In-house / access to multiple build technologies: metal sintering, electron beam melting, laser enabled net shaping and hybrid machines with multiple build volumes, speeds and applications.



Customers



AUTOMOTIVE

- Honda
- Mahindra Tractors
- TVS
- Volvo Trucks



DEFENCE

- ADA
- Bharat Electronics
- DRDO
- Tonbo



AEROSPACE

- Airbus
- Boeing
- Bharat Forge
- GE Aviation
- HAL
- ISRO
- UTC Aerospace Systems



Water Treatment

wipro water

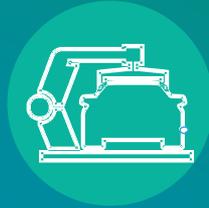


A leading system integrator providing highly customized water and wastewater treatment solutions for diverse and large-scale industrial water requirements.

Industry Segments



Oil and Gas



Automobile



Pharmaceutical



Food and Beverage



Power



Steel



Cement



Chemical

Standard Packages



Pre-engineered, factory assembled and tested

- Filters
- Ultra Filtration Skids
- Reverse Osmosis (RO) Systems
- MBBR Sewage Treatment Plants
- Solar Reverse Osmosis (RO) Systems
- Standard Sewage Treatment Plants

Solutions



Water Treatment

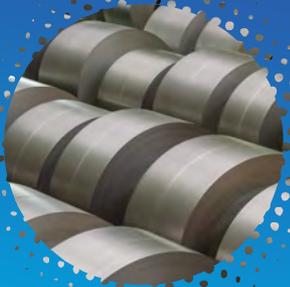


Wastewater Treatment



Water Recycle and Reuse

Customers



STEEL

- Brihan Maharashtra Steel Industries
- JSW Steel
- Kirloskar Ferrous Industries
- Mukand Steel
- Tata Steel



FOOD & BEVERAGES

- Adani Wilmar
- Athani Farmers Sugar
- Coca-Cola
- IDMC
- Madras Sugars
- Patanjali Ayurveda
- PT Dabi Oleo
- Shree Renuka Sugars
- United Breweries



PHARMACEUTICALS

- Abbott Laboratories
- Biocon
- Cadilla Healthcare
- GlaxoSmithKline
- IPCA Laboratories
- Lupin
- Neuland Laboratories
- Sun Pharmaceuticals



CHEMICALS

- Asian Paints
- BASF
- Godrej Industries
- International Flavours & Fragrances
- KLJ Organics
- Pidilite Industries
- Reckitt Benckiser

Customers



OIL & GAS

- Bharat Oman Refinery
- Cairn Energy
- Mohit Petrochemicals
- Oman Refineries & Petrochemicals Company
- Ramagundam Fertilizers & Chemicals



AUTOMOBILE

- Bajaj Tempo
- Fiat
- Kinetic Honda
- Tata Motors
- TVS Motor Company
- Motherson Sumi



POWER

- Alstom
- BHEL
- Bangladesh Power Development Board
- Jindal Power
- Larsen & Toubro
- NLC India
- Uttam Energy
- Walchandnagar Industries



CEMENT

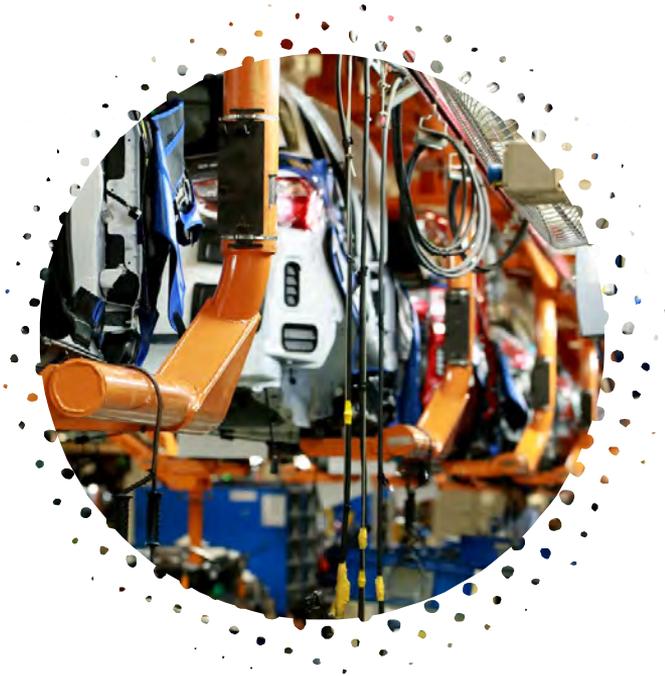
- Ambuja Cements
- Nuvoco Vistas
- RCCPL
- Ultratech Cement
- Wonder Cement

Automation Solutions

```
elif_operation = "MIRROR_X":  
    mirror_mod.use_x = True  
    mirror_mod.use_y = False  
    mirror_mod.use_z = False  
elif_operation = "MIRROR_Z":  
    mirror_mod.use_x = False  
    mirror_mod.use_y = False  
    mirror_mod.use_z = True
```

```
#selection at the end -add back the deselected mirror  
mirror_ob.select= 1  
modifier_ob.select=1  
bpy.context.scene.objects.active = modifier_ob  
print("Selected" + str(modifier_ob)) # modifier ob is the active ob  
mirror_ob.select = 0  
name = bpy.context.selected_objects[0]  
name.data.attributes["use_x"] = 1
```

wipro pari



A leading turnkey solution provider of industrial automation that enable companies in the manufacturing sector to be automated, digitized and smart

Industry Segments



Automotive



Earthmoving &
Farming



FMCG



Textiles



Aerospace &
Defence



Engineering &
Infrastructure



Automated Car
Parking

Turnkey Solutions



Electric Vehicle
Manufacturing
Automation



Automated
Assembly



Automated
Machining



Automated Material
Handling & Logistics



Automated
Welding



Intralogistics &
Storage Automation



Car Parking

Technologies



Precision Handling
Positioning



Assembly &
Joining



Measurement &
Testing



Machine Vision &
Sensors



Part Traceability &
Quality Data
Management

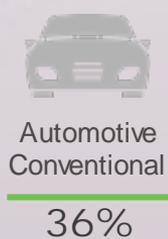


Large Interlinked
System Software



Gluing &
Joining

Global Sales Profile



Global Reach



USA

Michigan
Plant area: 5,600 sq.m

EUROPE

Germany – Stuttgart
Sales and Service Office

INDIA

Pune – Shirwal | *Plant area: 35,000 sq.m*
Bengaluru | *Plant area: 2,000 sq.m*

Global Customer Base

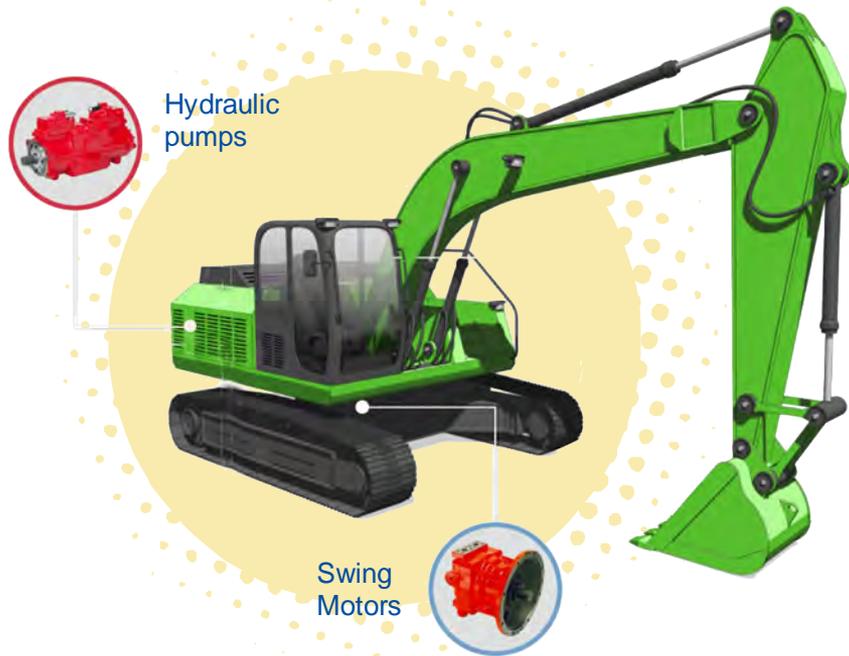




Joint Venture

Wipro-Kawasaki

Wipro Kawasaki



Wipro Kawasaki Precision Machinery Private Limited is a joint venture between Kawasaki Precision Machinery Company and Wipro Infrastructure Engineering to manufacture

- **Hydraulic pumps**
for 7 – 36 tons excavators
- **Swing Motors**
for 20 tons excavators



Values we Live by

Spirit of Wipro

Be passionate about client's success

Treat each person with respect

Be global and responsible

Unyielding integrity in everything we do

Strategy and Goal



INNOVATION

Leadership in engineering,
technology and quality



BUSINESS EXCELLENCE

Partnering with customers
across the globe



SCALABILITY

Leverage a global delivery
and engineering model

