



murugappa

Murugappa Group

An Overview

Our Philosophy



“The fundamental principle of economic activity is that no man you transact with will lose, then you shall not.”

An excerpt from the Arthashastra

The Five Lights

Our Values and Beliefs

These five lights guide us as we navigate through professional and personal decisions

The light of
INTEGRITY
that gives us the courage to
always do the right thing

The light of
RESPONSIBILITY
that gives us the humility to think
about the world around us

The light of
PAS2ION
that provides us with the
desire to win

The light of
RESPECT
that inspires people around
us to perform

The light of
QUALITY
which makes us dream of
excellence

MURUGAPPA GROUP IN A NUTSHELL

Consolidated
Turnover

₹568 Bn (\$ 6.9Bn)

5

Sectors

30

Overseas Locations

123

Years

32

Businesses

Workforce

59,000+

Manufacturing
locations

80+

Market Cap

₹1784 Bn (\$ 20 Bn)

One river, many tributaries



Group Companies



 **Agriculture**

Coromandel
FUTURE POSITIVE

PARRYS

PARRYTM
Nutraceuticals

 **Engineering**

INDIA **CUMI**

Shanthi Gears

WENDT

 **Financial Services**

Chola
Enter a better life

Chola
Financial Holdings

Chola MS
GENERAL INSURANCE

Chola MS
RISK SERVICES

 **Other Businesses**

COROMANDEL ENGINEERING **Ambadi** **NET ACCESS** **PARRY AGRO**

PARRY ENTERPRISES **MONTRA** **PM PARRY MURRAY**

MURUGAPPA WATER TECHNOLOGY & SOLUTIONS **CELLESTIAL MOBILITY**
emPOWER

Our Businesses



Agriculture

- Fertilisers
- Crop Protection Chemicals
- Bio-pesticides
- Specialty Nutrients
- Organic Manure
- Agri Retail
- Sugar
- Sugar Refinery
- Ethanol
- Co-generated Power
- Nutraceuticals



Engineering

- Precision Tubes And Steel Strips
- Bicycles
- Fitness Equipment
- Automotive & Industrial Chains
- Auto Components
- Railway Segments
- Power Generation
- Power Transmission & Management
- Door Frame & Fine Blanking
- Industrial Gears
- TMT Bars
- Truck Body Works
- Electric Mobility
- Fans
- Transformers
- Low Tension Motors
- Switch Gears
- Domestic & Agricultural Pumps
- Exhausts
- Traction Motors
- Electric Solutions for Railways
- Abrasives
- Electro Minerals
- Industrial Ceramics
- Refractories
- Phase Change Materials
- Polymers
- IT Services



Financial Services

- Vehicle Finance
- Home Equity
- Loan Against Property
- SME Loans
- Consumer & Small Enterprise Loans
- Secured Business & Personal Loans
- Wealth Management
- General Insurance
- Risk Management Services



Other Business

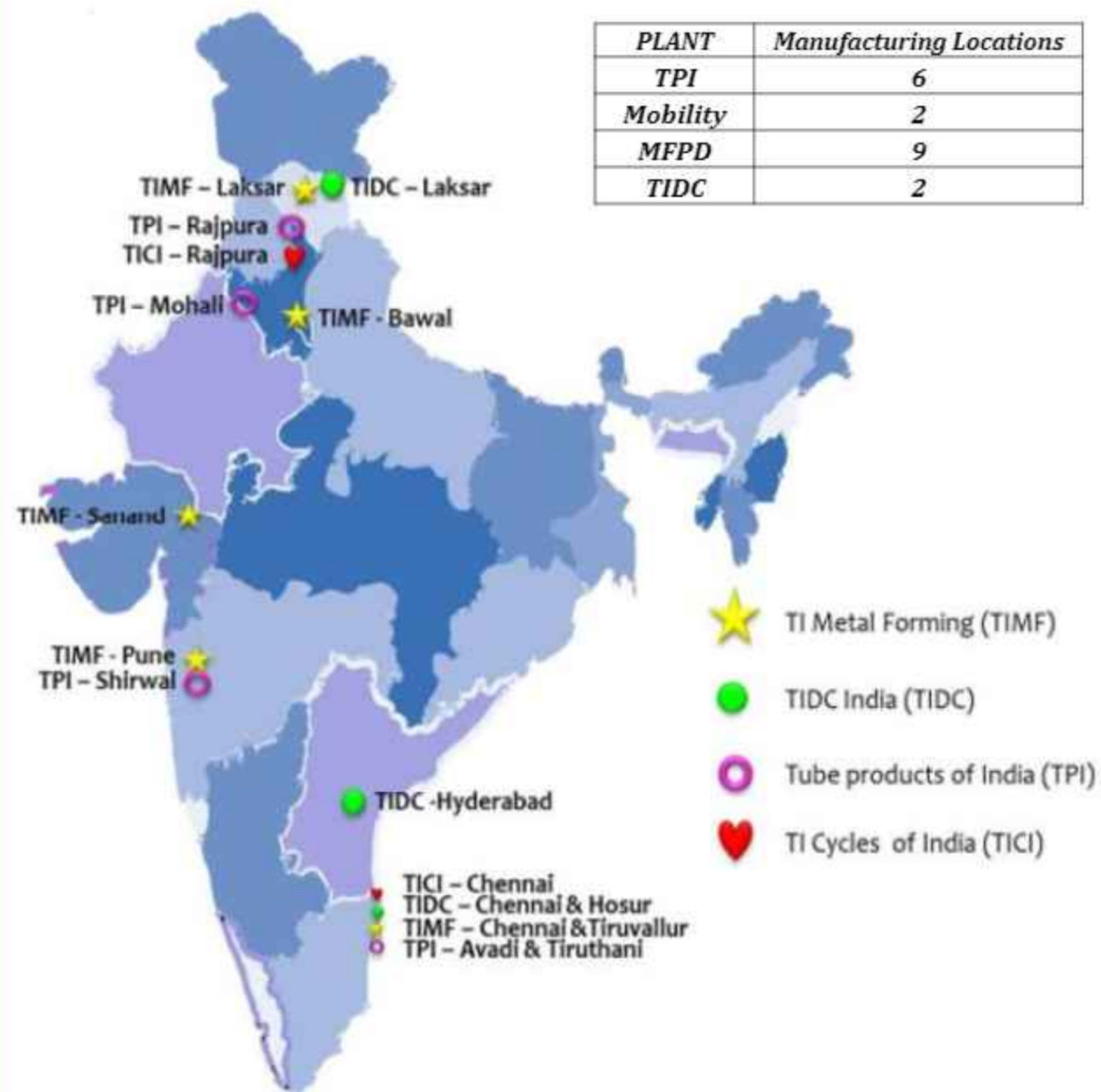
- Tea
- Rubber
- Home Furnishings
- Textiles
- Travel Services
- Construction
- Water Treatment
- Polymer Nets & Packaging Products
- Medical Equipment
- Electronics and Electricals



TUBE INVESTMENTS OF INDIA LIMITED

An Overview

TII INDIA - FOOTPRINTS



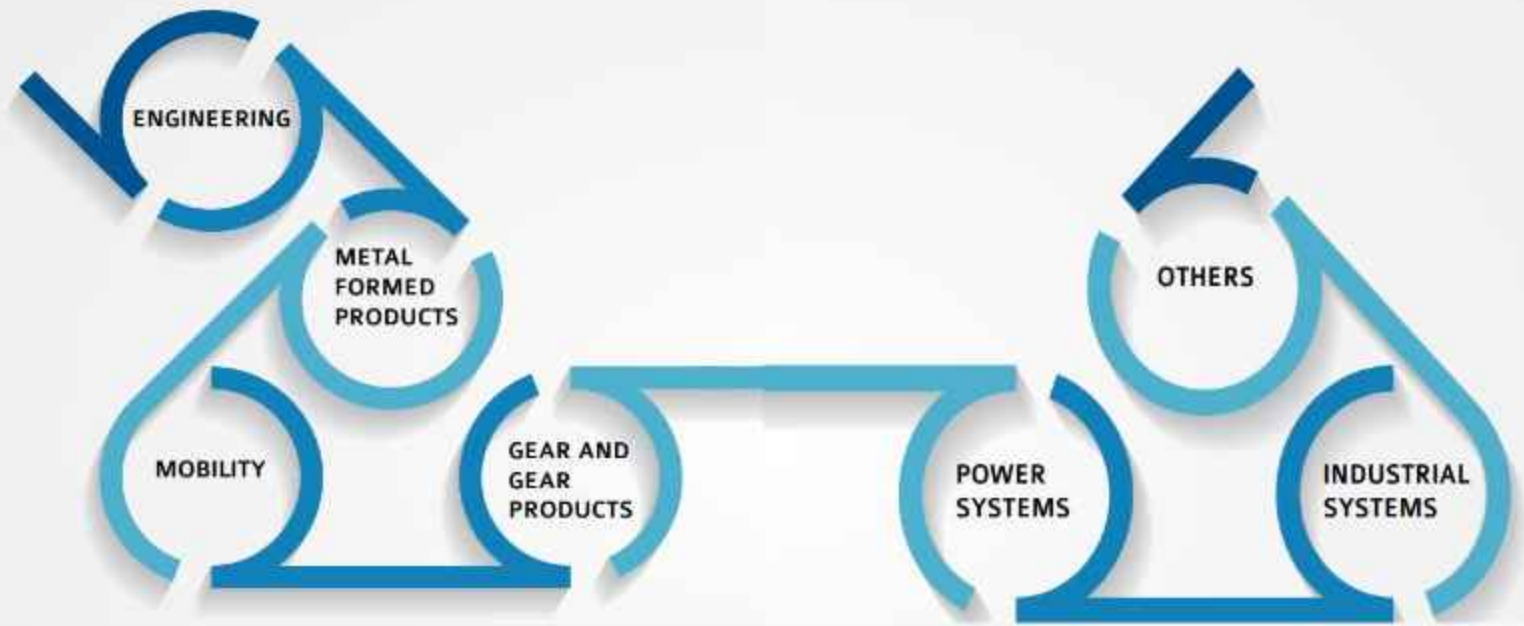
Tube Investments of India Limited 2021-22





INDIA

DIVISIONS



ENGINEERING

- Cold Rolled Steel Strips
- Precision Steel Tubes
- Cold Drawn Welded Tubes
- Electric Resistance Welded Tubes (ERW).

METAL FORMED PRODUCTS

- Automotive Chains
- Fine Blanked Products
- Stamped Products
- Roll-Formed Car Doorframes
- Cold Rolled Formed Sections for Railway Wagons & Passenger Coaches.

MOBILITY

- Standard bicycles,
- Special bicycles, including alloy bikes and Speciality performance bikes
- Fitness Equipment.

GEAR & GEAR PRODUCTS

- Gears
- Gear Boxes
- Gear Motors
- Gear Assemblies.

POWER SYSTEMS

- Transformer, Switchgear,
- Automation and Turnkey Projects.

INDUSTRIAL SYSTEMS

- Electric Motors,
- Alternators, Drives, Traction
- Electronics and SCADA.

OTHERS

- Industrial Chains
- New Businesses.



INDIA

TUBE PRODUCTS OF INDIA-TPI



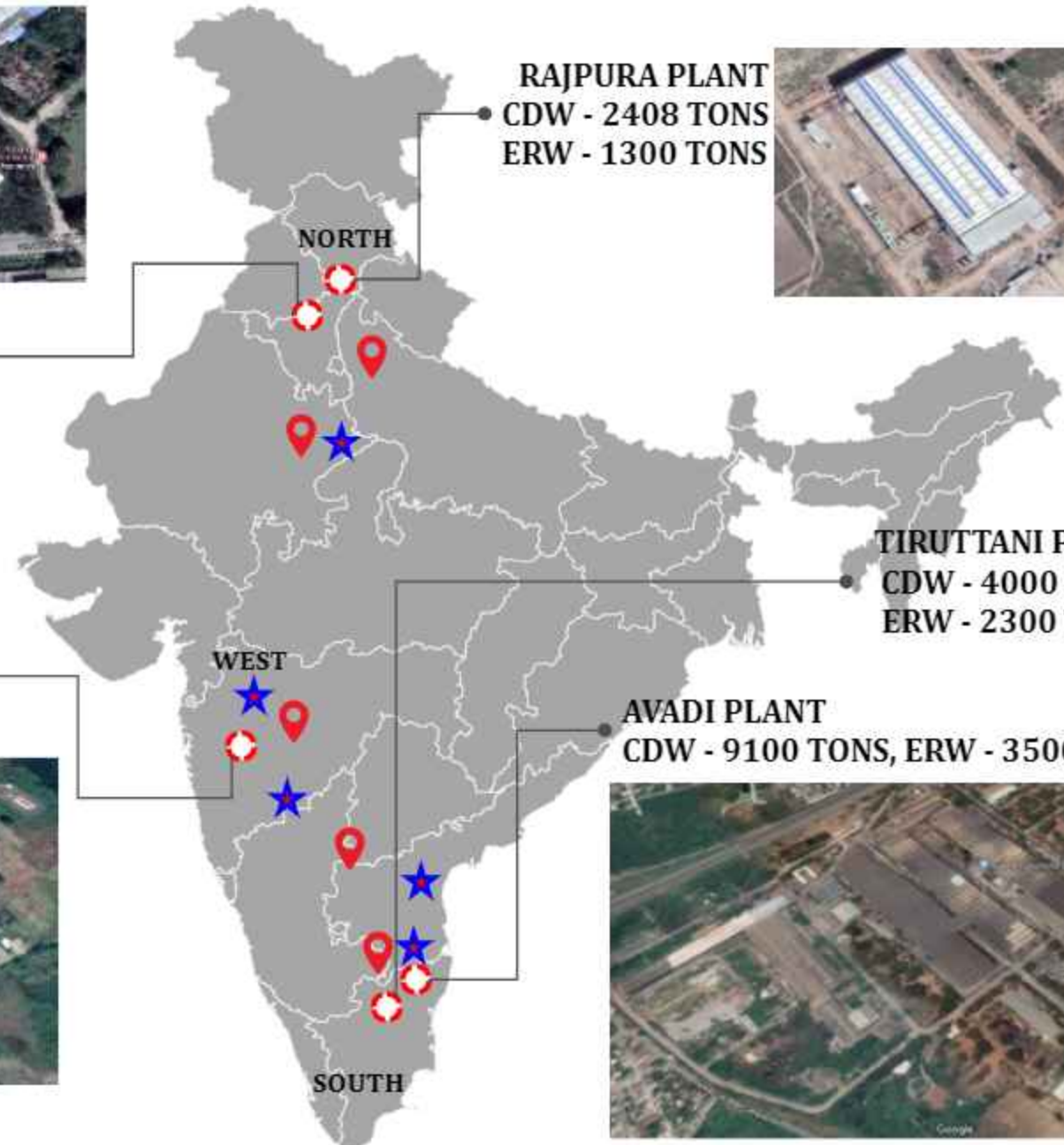
TPI'S GEOGRAPHICAL PRESENCE



MOHALI PLANT
CDW - 2533 TONS
ERW - 1100 TONS



RAJPURA PLANT
CDW - 2408 TONS
ERW - 1300 TONS



SHIRWAL PLANT
CDW - 2732 TONS
ERW - 1250 TONS



AVADI PLANT
CDW - 9100 TONS, ERW - 3500 TONS

TIRUTTANI PLANT
CDW - 4000 TONS
ERW - 2300 TONS

- 6 MFG LOCATIONS
- 5 WAREHOUSES
- 5 REGIONAL OFFICES
- 15 TUBE MILLS
- 35 DRAW BENCHES
- 13 FURNACES
- 10 SURFACE TREATMENT PLANTS

- MANUFACTURING PLANT
- WAREHOUSE
- REGIONAL OFFICE

TPI OVER ALL CAPACITY/MONTH
CDW - 20773 TONS
ERW - 9450 TONS

CAPABILITY

ERW

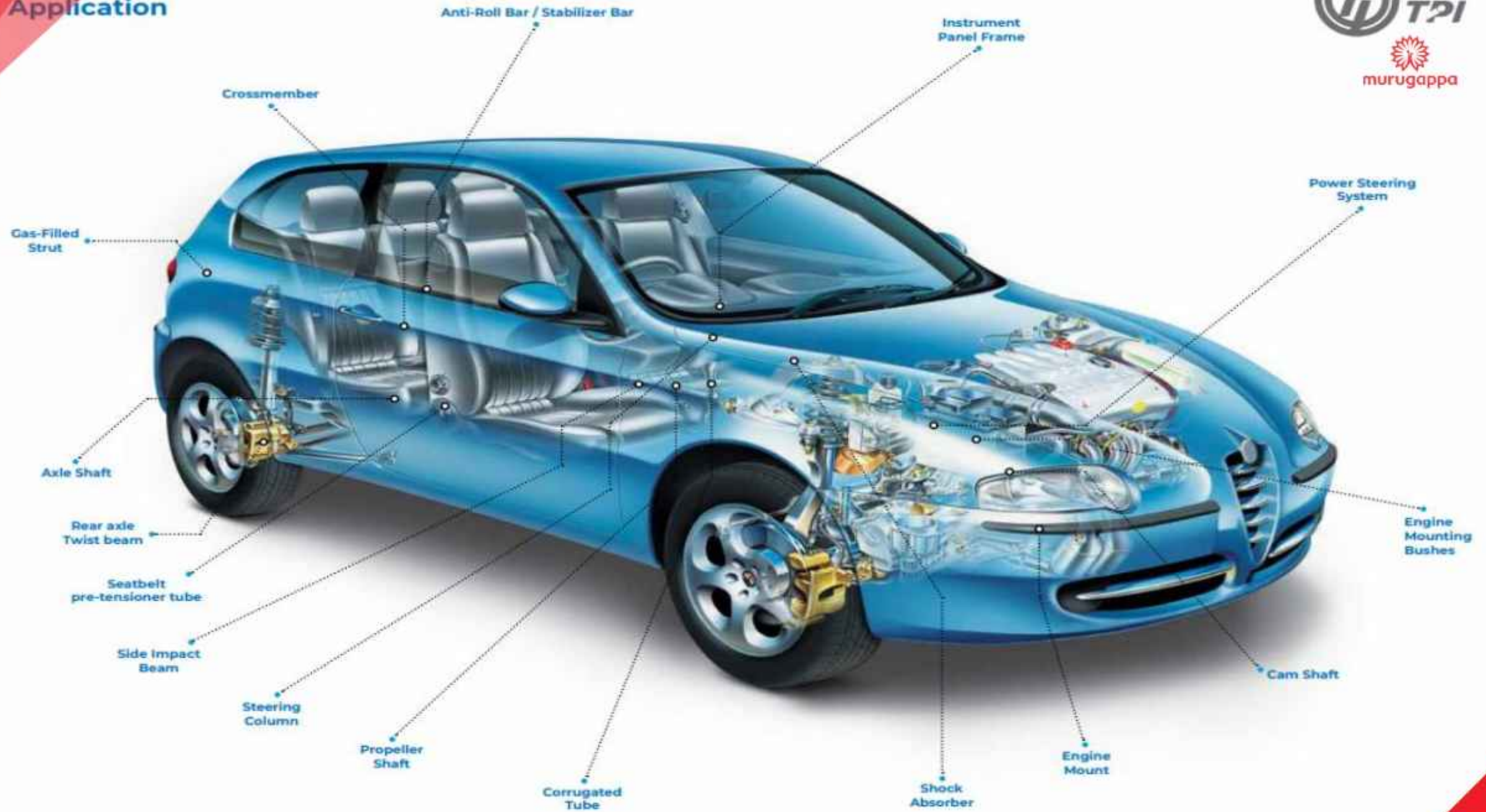
OD 15.88 MM - 168.3 MM
THICKNESS 0.9 TO 12MM

CDW

OD 10 MM - 160 MM
THICKNESS 1MM TO 11MM

Tubes for 4 Wheeler Application

PRODUCT PORTFOLIO





Tubes for 2 Wheeler Application



PRODUCT PORTFOLIO



Tubes for Hydraulic Application

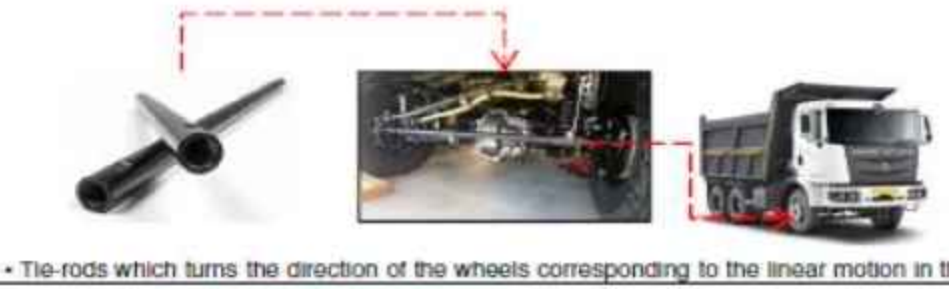
Hydraulic Cylinders for earth movers





- Front fork**
- 1.OD rough grinding
 - 2.End machining on both sides
 - 3.Finish grinding
 - 4.Butting
 - 5.Plating
 - 6.Assembly

• The fork tube assembly in two-wheeler is a part of suspension system.



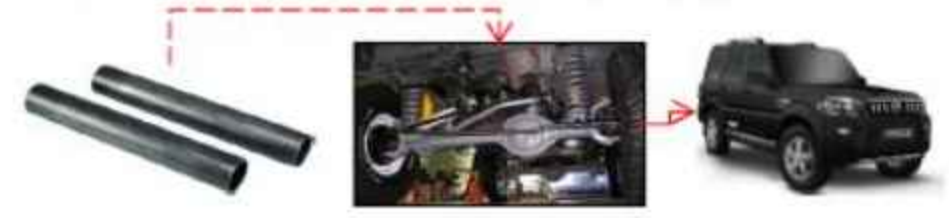
- Tie rods**
- 1.Cutting to length
 - 2.Swaging-threading-tapping-milling
 - 3.Bending 3D or 2D profile
 - 4.Assembly with ball joints either threaded or crimped
 - 5.Powder coating

• Tie-rods which turns the direction of the wheels corresponding to the linear motion in the rack.



- Side impact beam**
- 1.Cutting to length
 - 2.OD & ID Deburring
 - 3 Piercing / Trimming
 - 4.Assembly welding with sheet metal

• The side impact beam is a high strength energy absorption member used in passenger cars to reduce impact during accident to the passenger.



- Axles**
- 1.Cutting to length
 - 2.Flanges made by forging
 - 3.Friction welding
 - 4.End ID machining – both sides
 - 5.Welding of child parts
 - 6.OD turning
 - 7.Red oxide painting

• The rear-axle forms the transmission part of an automobile



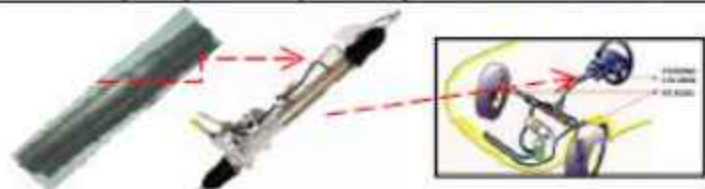
- Shock absorbers**
- 1.Cutting to length
 - 2.OD & ID Chamfering
 - 3.Machining
 - 4.Painting
 - 5.Assembly

• They are part of suspension system of an automobile.



- Drag link**
- 1.Cutting to length
 - 2.Swaging-threading-tapping-milling
 - 3.Bending 3D or 2D profile
 - 4.Assembly with ball joints either threaded or crimped
 - 5.Powder coating

• one end of the drag link is connected via the pitman arm and steering gearbox to the steering wheel



- Steering shaft**
- 1.Cutting to length
 - 2.Swaging (one end) multi steps expansion
 - 3.Threading & key way milling
 - 4.Assembly – heat treatment.

•The steering column transfers rotary motion of the steering wheel to a linear motion by using rack & pinion set-up



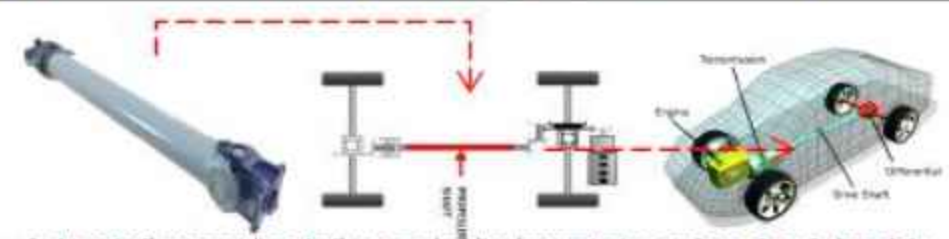
- Cross members**
- 1.Cutting to length
 - 2.Bending – bracket welding
 - 3.Welding with long members

• It is a part of suspension system of an automobile and it's purpose is to keep the car's body from rolling during a sharp turn.



- Hydraulic Cylinder**
- 1.Cutting to length
 - 2.OD & ID Chamfering/sizing
 - 3.Carbon tetra chloride cleaning
 - 4.Assembly

• It is a mechanical actuator used to provide linear motion using the linear stroke of a piston.



- Propeller shaft**
- 1.Cutting to length
 - 2.Cleaning
 - 3.Assembly

• A driveshaft or propeller shaft is a part of the transmission system of an Automobile.

PRODUCT PORTFOLIO



• Strut Tube

• ROPS Tube

• Rear Axle Tube

• Four Wheeler Chasis

• Shock Absorber

• Cross member

• Tie Rod

• Drag link

• Front Crash Bumper

• Hydraulic cylinder

• Anti Vibration Bush

• Yoke

• Boiler Tube

• Head Rest Tube

• Silencer

• Main Frame

• Crash/ Saree Guard

• Two Wheeler Chasis

• Two Wheeler Stand

• Seat Frame

Product Application - JCR MC Celer

• Shock Absorber

• Hydraulic cylinder

• Main Frame

• Crash/ Saree Guard

• Two Wheeler Chasis

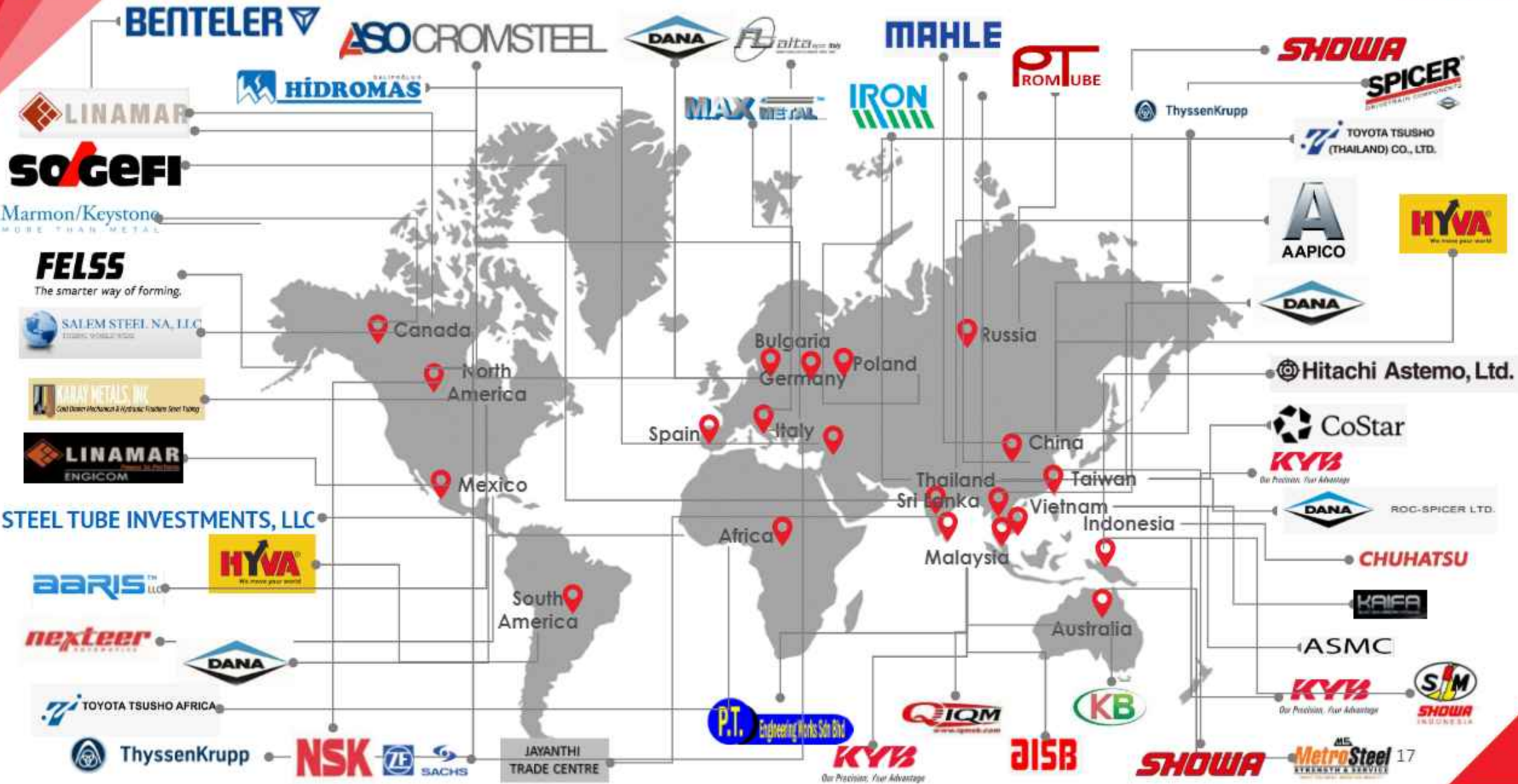
• Two Wheeler Stand

• Seat Frame

KEY CUSTOMERS PORTFOLIO



KEY GLOBAL CUSTOMERS PORTFOLIO





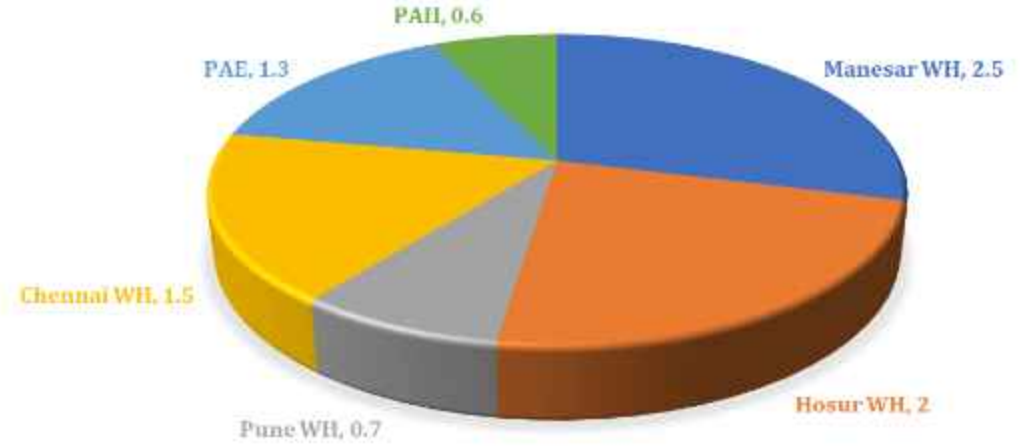
JET HEAVY DUTY CUTTING CELL



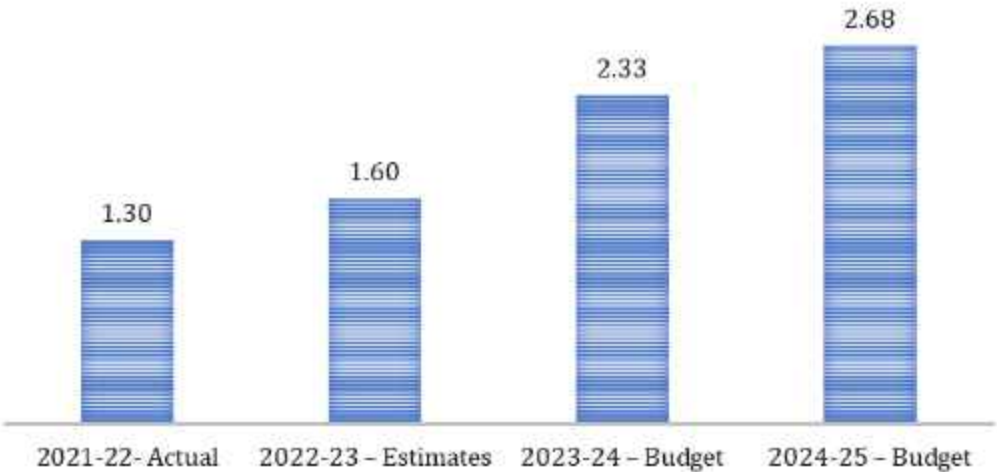
SOCO CUTTING CELL

8.6 Mn Pcs/Month

CUT TO LENGTH VOLUME IN PCS/MONTH (IN MILLION)



EXPORTS CUT LENGTH ESTIMATED VOLUME GROWTH IN MILLION PCS /MONTH





INDIA

TI-FINE
BLANKING

- Turnover of INR 3250 Mn (40 Million USD) during 2022-23
- 15% Turnover from Exports
- Head Quartered in Chennai
- 2 Manufacturing Plants in India
- Strong Workforce of 900 people.
- Warehouses at strategic locations

PRODUCT PORTFOLIO-4 WHEELER PARTS



PRODUCT PORTFOLIO-2 WHEELER PARTS



PRODUCT PORTFOLIO-TRUCKS



End Plate & Intermediate plate-braking system parts in HCV



Transmission Parts for
6 Speed Gear Box

Metrology Lab

INSTRUMENT NAME	MAKE	RANGE
Coordinate Measuring Machine	LK from UK	X-800,Y-700,Z-600MM
Contour Measuring Machine	CARL ZEISS	0-100MM
Profile projector	MICROTECHNICA	X-200,Y-100
Surface Tester	CARL ZEISS	0-50MM
Master Slip (Carbide 103 set)	MIKRONIX	0.50 MM TO 100MM
Calliper Checker	Aditya Engineering co	0-600mm
2D Height Gauge	Mitutoyo	0-600mm
TRIMOS	Sylvac D100S	0-25mm
Length Measuring Unit	Electronica	0-1000mm
Bore gauge	Mitutoyo	6-150mm

Metallurgy Lab

INSTRUMENT NAME	MAKE
Metallurgical Microscope	Olympus - Japan
Digital-Rockwell Hardness Tester	Future Tech - Japan
Tensometer	Monsanto - USA
Optical Emission Spectrometer	Shimadzu - Japan
Superficial Hardness Tester	Clarks - Superficial - USA
Vickers Hardness Tester	Matsuzawa - Germany
Case depth Measuring Instruments	Brinell Microscope - India
Universal Testing Machine	10 Ton - India
Micro Hardness Tester	Shimadzu - Japan
Brinell Hardness Tester	Saroj - India
UTM	UTN-E100 - 100Ton - India
Image Analyzing System	Chromo Systems - India

Tooling Capabilities

Transfer tool



Progressive tool



Injection Moulding tool



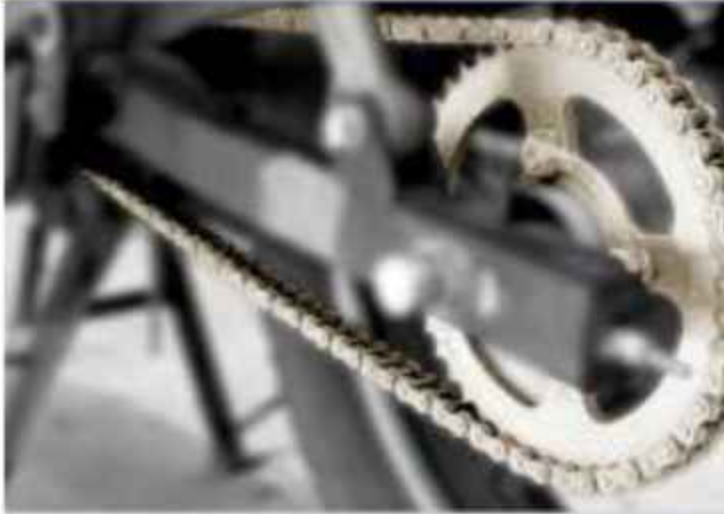


Auto Chains



murugappa

DRIVE SPROCKETS



Drive Chains



CAM Chains



Straight Contour Chains:

The chain has plates with straight contour on the sides.

Eight Contour Chains:

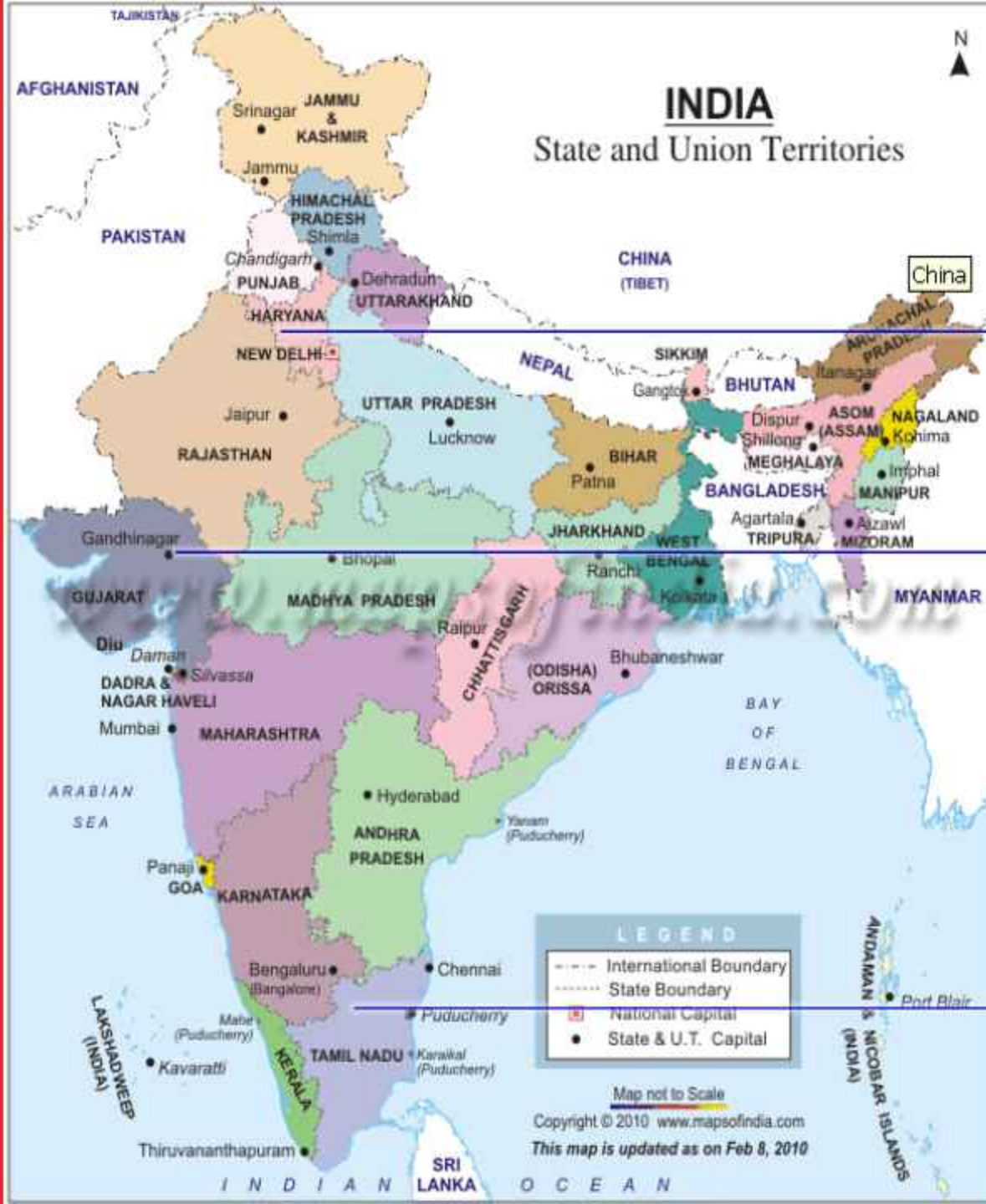
The shape of the plate contour is in the form of an '8'.





INDIA

MFPD-AUTO



4 WHEELER PRODUCTS



CROSS CAR BEAM



DOOR IMPACT BEAM

ROLL FORMED DOOR FRAME





MUDGUARDS



COVER TUBES



SILENCER CUP



**SIDE STAND
BRACKET**



Deep Draw Casings



Tubular Yokes



Solenoid Housings



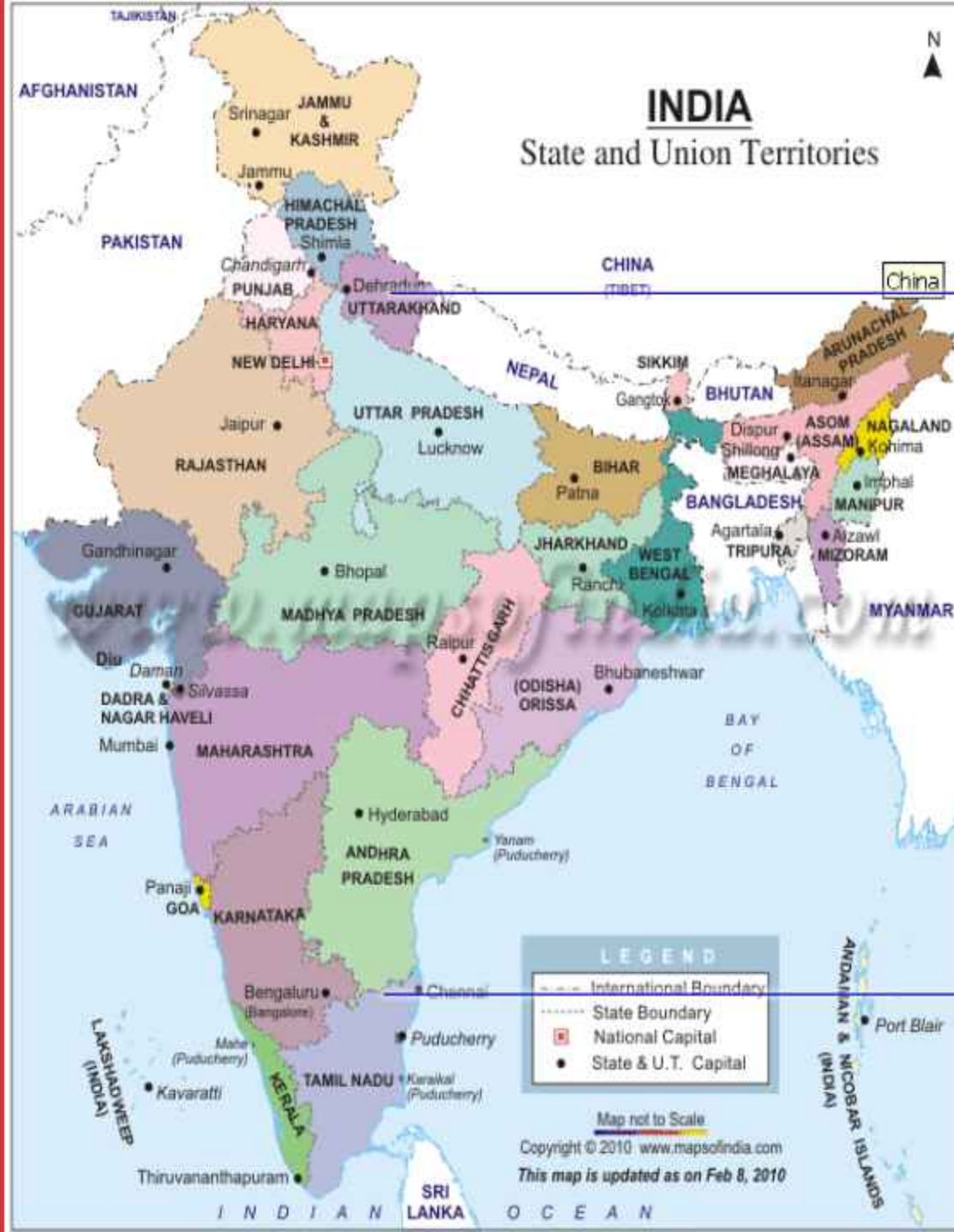
Cover Tube





INDIA

TI-RAILWAYS



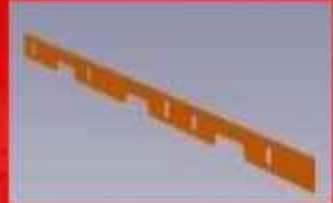
Location : Laksar, Uttarakhand
Land : 31375 m²
Built-up Area : 7931 m²

Location: Tiruvallur, Tamil Nadu
Land : 24,290 m²
Built-up Area : 17718 m²

PRODUCT PORTFOLIO



SIDE SILL



LETTER BOARD



CANT RAIL



CARLINE



Z POST



FLOOR CORRUGATION
ROOF CORRUGATION



Side wall
Assembly



Roof
Assembly



End Wall
Assembly



Under Frame Assembly



Body side entrance door

CUSTOMER PORTFOLIO



FACILITIES AND CAPABILITIES



SIDE WALL FRAME SETTING FIXTURE



CAR LINE BRAZING FIXTURE



3 ROLL BENDING MACHINE



340T CNC HYDRAULIC PRESS BRAKE



ROOF SPOT WELDING



ROOF SHOWER LEAK TEST



2D LASER CUTTING



SEAM WELDING MACHINE

3D-LASER CUTTING



- High speed precision tolerance
- 25 meters length laser piercing & cutting

SIDE WALL & ROOF SPOT WELDING



- No spot pitch variation.
- Auto tip dressing will reduce the welding defects
- Increase in output efficiency
- Reduction in setting lead time

2D-LASER WELDING



- Color change due to laser welding is minimum
- Heat affected zone is very less resulting no change in base material micro structure
- Better weld finish to minimize the grinding operation as compared with TIG welding



INDIA

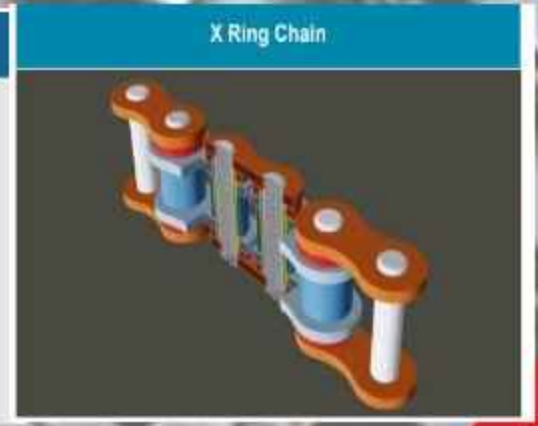
INDUSTRIAL CHAINS

An Overview



PRODUCT PORTFOLIO

- ❖ Standard Roller Chains
- ❖ Adapted Chains
- ❖ Agricultural Chains
- ❖ Specialty Products
- ❖ Conveyor Chains
- ❖ Leaf Chains
- ❖ Fine Blanked Components





INDIA

Shanthi  **Gears**

Shanthi Gears Marketing Network



PRODUCT PORTFOLIO

Manufacturer of wide range of critical components involved in power transmission process including gears, gear boxes, geared motors and gear assemblies. Standard & Custom made products in Helical, Bevel Helical, Planetary and Worm segments

Standard

- Worm Gear Boxes
- Helical & Bevel Helical Gear Boxes
- Geared Motors
- Planetary Gear Boxes
- Shaft mounted Gear Boxes
- Cooling Tower / Extruder / Rolling Mill Gear Boxes

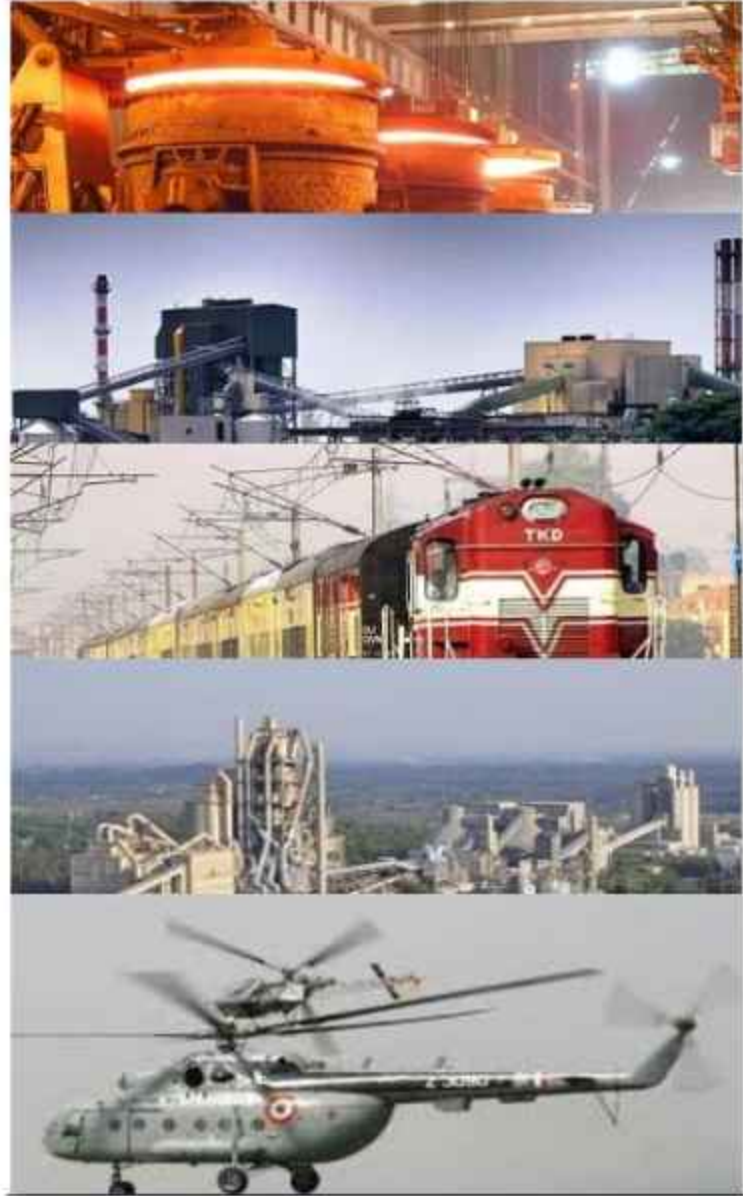
Custom Built

- Loose Gears Spur / Helical Gear
- Pinion Shaft
- Internal Gear
- Worm and Wheel
- Straight & Spiral Bevel Gear
- Spares for Gear boxes
- Special Gear Boxes for industries like:
 - Cement , Mining , Power , Paper , Steel , Rubber, Chemical



CUSTOMER PORTFOLIO

Key Customers



Infrastructure

- ▷ Six units located in and around Coimbatore
- ▷ One of the largest gear manufacturing facilities in India employing 600 highly skilled workforce
- ▷ The Company has following facilities available in-house:
 - Engineering and R&D
 - Foundry, Forging and Fabrication
 - CNC turning / machining , Hobbing, Gear profile grinding and testing
 - Heat treatment
 - Tool room for cutter manufacturing
 - Metrology & Calibration
 - Quality Assurance
- ▷ Power linkages :
 - Total sanctioned power - 6000 KVA
 - Captive Diesel Gensets - 6000 KVA
 - Captive Wind mill power - 6.66 MW
 - Captive Solar power – 200 KW
- ▷ Significant investments in IT infrastructure. Implemented a fully integrated Oracle ERP system
- ▷ Land available for future expansion

Engineering Facilities

- Extensive in-house engineering facility, with a total strength of 40 engineers, experienced in providing optimum and comprehensive technical solutions for the last four decades
- State-of-the-art work stations with industrial leading CAD/CAM/CAE packages including- Solidworks, Autodesk Inventor, Solidworks EPDM, Cimatron, Kisssoft, AGMA gear suite, TK Solver, ANSYS, Cosmos, Pro-Mechanica, Gleason-TCA etc

Technology Center (R&D)

- Separate technology center (R&D), with a total strength of 10 engineers for continuing research, development and technology up-gradation activities
- Dedicated to introduce a world of new ideas, innovations and solutions for improved plant performance and product quality

CAD / CAM

- Engineering Design, 3D modelling & 2D drafting, Technology management and decision support systems, Generation of NC codes and post processing
- SGL's in-house proprietary programs (V-GEARS) and the industry standard document management system are few flagships of Company's API, Knowledge management & Decision Support System

CORPORATE TECHNOLOGY CENTRE (CTC)

- ✓ New Process development
- ✓ New Material development
- ✓ Process / Business Incubation
- ✓ Current Product line - Technical Support
- ✓ Special Purpose Machine - Design & Development
- ✓ New Technology evaluation & adaptation

300kN Load Cell + Hydraulic Grips



10kN Load Cell + Wedge Grips



Empyrean series



Zwick Roell Z330

CORPORATE TECHNOLOGY CENTRE (CTC)



Universal Testing Machine



Zeiss Microscope With Clemex image Analyzer



Scanning Electron Microscope Jeol, Japan



Hydraulic Bulge Test



Shimadzu-Vickers - Hardness Tester



Wilson Rockwell - Hardness Tester



Residual Stress Measurement Machine



High Strain Rate Impact Test



Surface Roughness Tester



Stereo Zoom Microscope



High Strain Rate Impact Test



Torsional Fatigue Test

Scanning Electron Microscope (SEM)



JEOL JSM-IT100



ZEISS-Axiovert 200 MAT



SHIMADZU-HMV2TAD



VHX-5000



Mikrotron 10KN

CORPORATE TECHNOLOGY CENTRE (CTC)

Centralized metrology lab equipped with CMM, Contour tracer, Profile Projectors and automated calibration alerts for measurement tools & fixtures for the entire plant.



Facilities & Capabilities

DESIGN

- Solid Modeling
- Meshing
- FEA – Linear Static
- FEA – Non Linear Analysis
- Simulation
- Tool design



FLOWER DESIGN 35 STAGES
In-house Roll Design Capability

SOFTWARE

- Auto CAD
- CATIA
- 3D Solid Works
- COPRA
- LS Dyna
- Ansys
- Hyper form

TII ADVANTAGES

- All the operations in single roof .
- More than 60 years' Experience.
- World class manufacturing & testing facility .
- Corporate technology Centre For advance R&D , technical Support , Application test ,ready to innovation.
- Part of diversified Murugappa group , Financially very strong & willing to invest.
- Having enough Capacity to handle additional volume.
- Experience in handling automotive business.
- Raw material inventory – at any point about approx. 30,000 tons
- Proximity to RM supplier
- Cold rolling complex.


Corporate Profile Murugappa Group – Social Responsibility



AMM Foundation is a non-profit organization run by the Murugappa Group

 4 Schools, a polytechnic; approximately 10,500 students

 4 Hospitals - over 8 lakh patients treated last year

 Scholarships for needy meritorious students

 Scholarships for scholars for pursuing their professional degrees





Thank You

== For Your Attention ==



INDIA