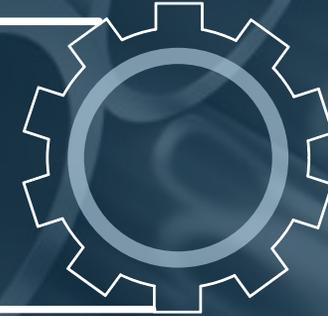
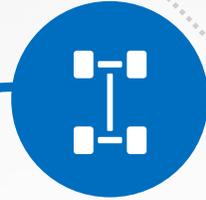




# PRECISION TUBE SEGMENT

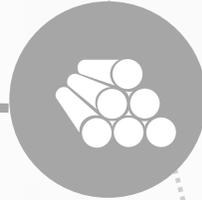


# KLT GROUP OVERVIEW



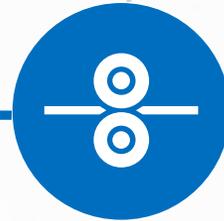
## Automotive Chassis

Catering to Mahindra, Tata Motors, Daimler, Ford



## Precision Tubes

Manufacturing ERW Tubes, CDW Tubes, Sections



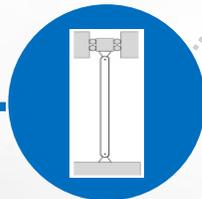
## Roll Forming

Catering to Eicher, Volvo, Ashok  
Leyland, Mahindra & Mahindra,  
Ski Rack, Man Truck



## Hydroforming

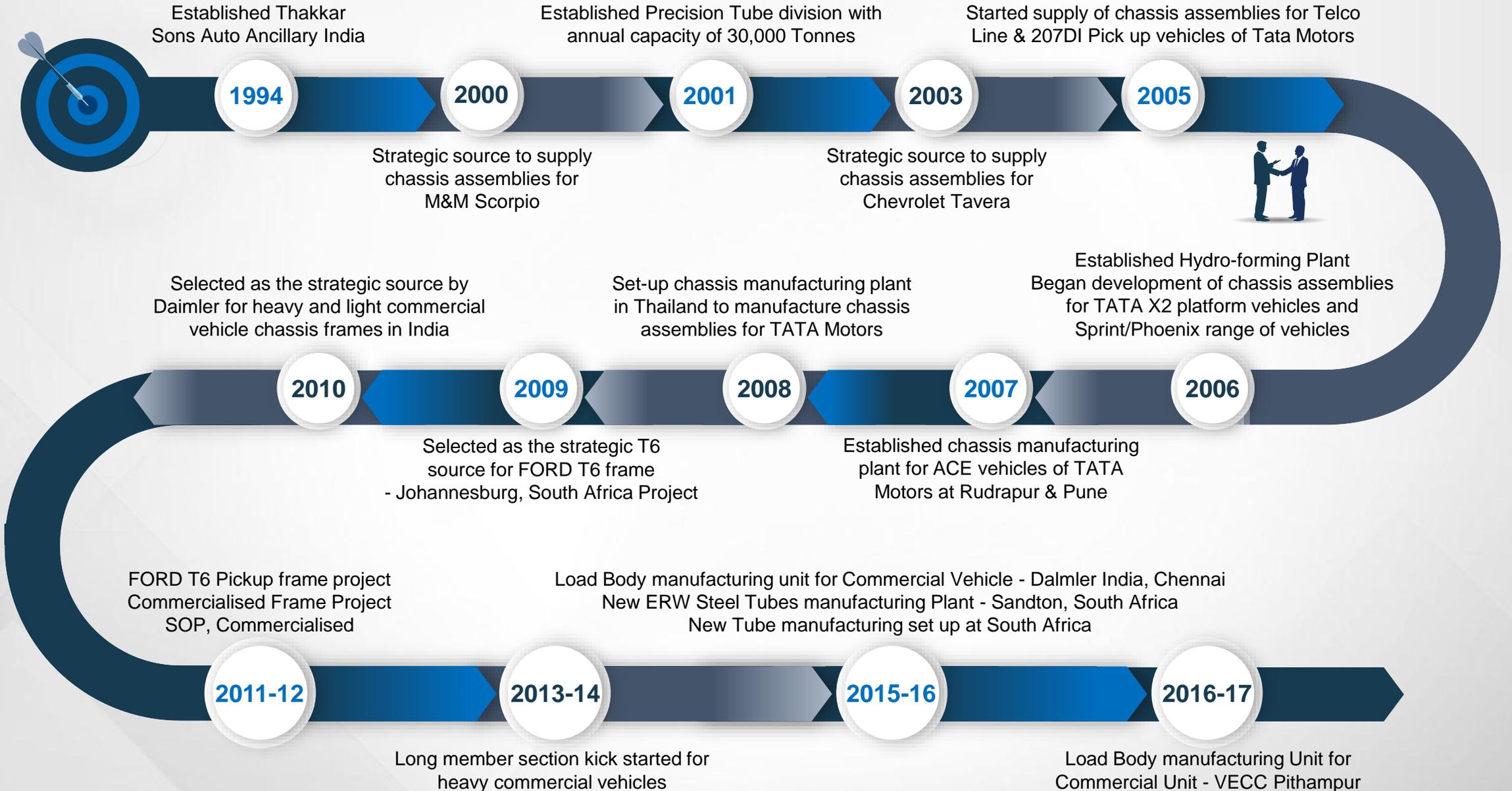
Long members - TATA motors  
Ski Rack - Mahindra



## Load Body & Tipper

VECV, Ashok Leyland

# The Journey



# Leading Manufacturer of Welded & Cold-drawn Steel Tubes



Fully automated plant equipped with the latest technology for tube making from Oto –Italy and cold drawing stations from Bultmann –Germany.

Producing roughly 50000 tons of the finest quality of Tubes catering to industries like Boilers, Air preheaters, Air preheaters, Automobile, Textile and General engineering.



Largest manufacturer of Chassis frames for SUV, MUV, Heavy & Light commercial vehicles in India and globally.

State-of-art roll forming and hydroforming facility which include sophisticated presses from 100 tons to 5000 tons and advanced robotic welding with latest coating facilities.



## Strong Export Presence

In Europe, Africa and the USA meeting stringent export specifications.



## Critical Success Factors

Being the first stop choice for tubular solutions. A proactive approach by the management to meet customer requirements. sound marketing, Manufacturing and quality team

2001



## Palghar Unit - I

Established Precision  
Tube division with  
annual capacity of  
30,000 Tonnes

2006



## Palghar Unit - II

Established Precision  
Tube Division with annual  
capacity of 60,000 Tonnes

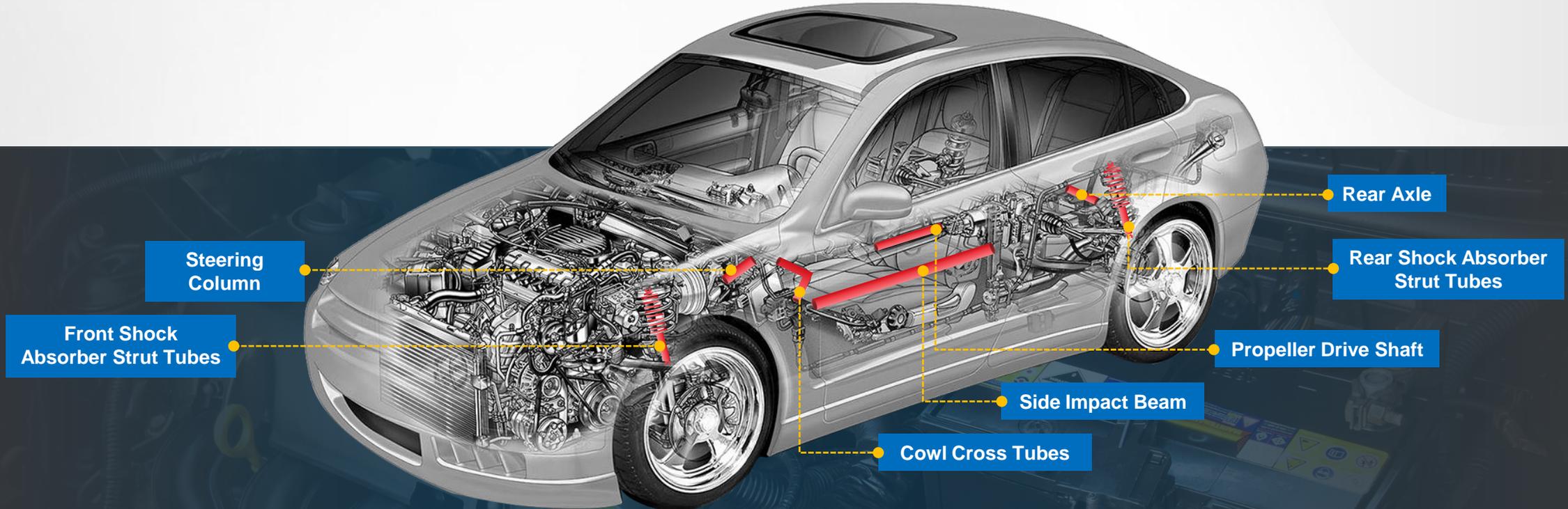


## Products

ERW tubes  
CDW tubes  
Square & Rectangular  
Sections

# Product Overview

## Application of KLT's Precision Tubes in 4-wheelers



Transverse Control Arm

Vibration Damper (Rubberised Metal)

Anti-roll Bar

Drive Shaft

Axle Shaft

Power Steering System

Engine Mount

Camshaft

Gas- Filled Strut

Engine

Shock Absorber

Instrument Panel Frame

Belt Tensioner

Side Impact Protection

Steering Column

# Energy Segment



## Air Pre-heater Tubes / Boiler Tubes



**BOILER BANK TUBES**



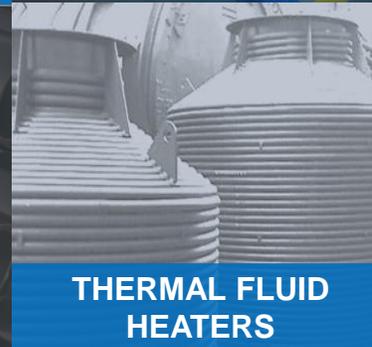
**ECONOMIZER**



**ICE PLANT**



**HEAT EXCHANGER**



**THERMAL FLUID HEATERS**



**WATER WALL PANEL**



# Raw Material Processing Capability



## ERW / APH

IS:30748 Gr-1, IS:5986 Fe-410

E-34, TRN-13, E-46,  
BSK-46,

ST-52

SAE 1008, 1010, 1020, 1026,  
HSLA

Corten Steel

STKM 11A, 12A, 12B, 12C, 13A,  
13B, 13C



## CDW

IS:30748 Gr-1

SAE 1010, 1020, 1026, HSLA

E-34, ST-52

STKM 11A, 12A, 12B, 12C,  
13A, 13B, 13C

ST 37, 44, 52



## Process Capabilities - Critical Parameter

ID Tolerance : 60  
microns spread

Straightness : 1/2000  
cut length

Ovality : within 0.10

Adverse D/T ratio :  
6 to 50

ID surface finish :  
0.5 Ra max / 3.2 Rz



# Specifications

IS 3074,  
IS 4923,  
IS 3601

India



European

DIN EN 10305-2&3,  
DIN EN 10217-1&2,  
DIN EN 10305-5

BS EN 10305-2&3,  
BS EN 10217-1&2,  
BS EN 10305-5,  
BS 6323 PART V / VI

British



American

ASTM A 513,  
ASTM A178,  
ASTM A 500 GR A,  
ASTM A 214,  
ASTM A 423 Gr 1

JIS G 3445,  
JIS G 3461,  
JIS G 3444

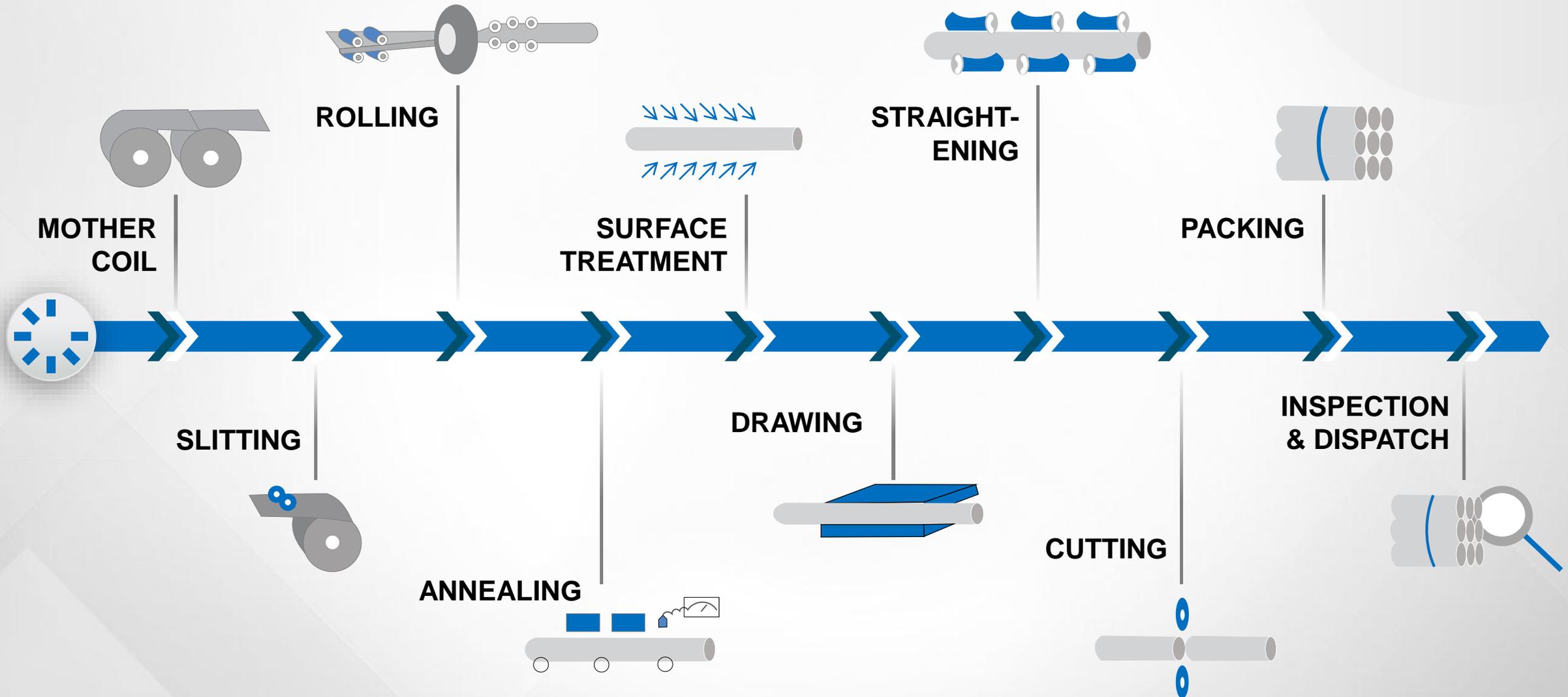
Japanese

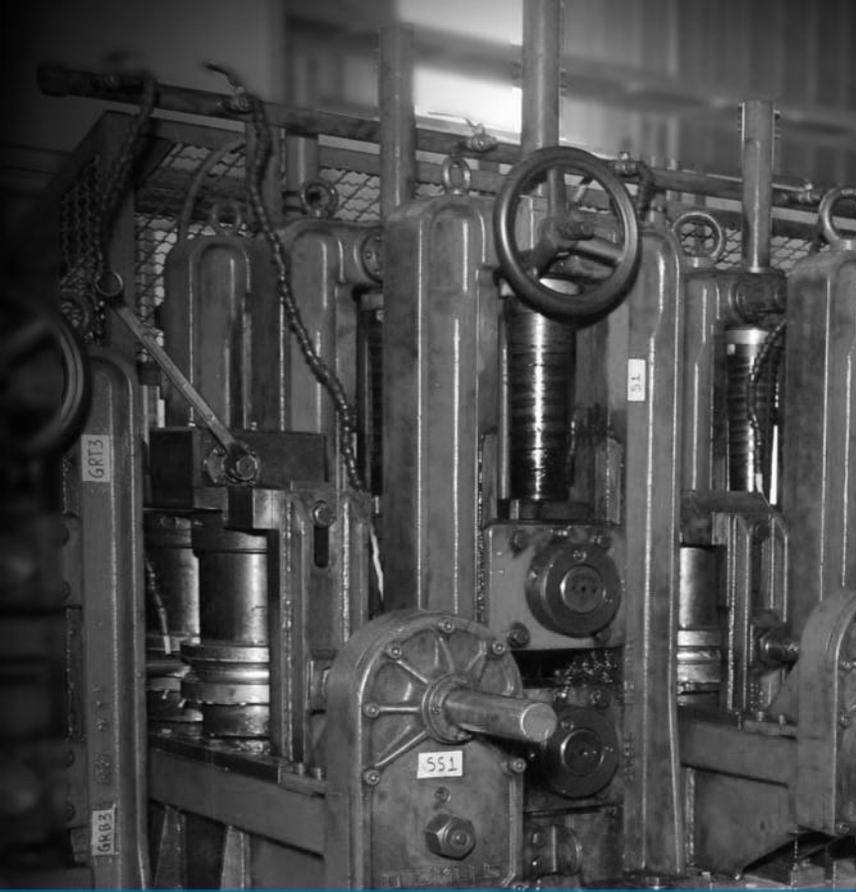


South African

SANS 62,  
SANS 1182,  
SANS 657-1

# Tube Manufacturing Process with State-of-the-Art Technology





# TUBE MILL

Oto, Italy



Highly precise automatic tube mill



Modern W-forming Technology



Automatic cassette changeover



Automatic roll setting for consistency in quality



Online blowing, bundling & weighing system



Online NDT Facility

A black and white photograph of a large industrial drawing line facility. The structure is complex with multiple levels, railings, and machinery. A sign with the name 'BULTMANN' is visible on one of the lower levels. The lighting is dramatic, with strong highlights and deep shadows.

# DRAWING LINE

Bultmann, Germany



Highly precise drawing line



Multitube drawing facility



Automatic loading & unloading system



Automatic roll setting for consistency  
in straightening



Online blowing, bundling & weighing system



Online NDT facility



High-speed burr-free cutting system



# BRIGHT ANNEALING FURNACE

Sottri, Italy



Highly precise automatic scale-free  
bright annealing furnace



Operated on LPG, adopts the most modern  
EXO gas technology



Completely automatized loading &  
unloading system



# Manufacturer of Precision Steel Tubes



## PRODUCT

- ERW (Electric Resistant Welded) Steel Tubes.
- APH – Air Preheater Tubes
- Bobbin Tubes
- Hydraulic Cylinder Tubes
- CDW (Cold Drawn Welded) Steel Tubes
- Heat Exchanger Tubes
- Hydraulic Pressure Tubes

Size range	Electric Resistance Welded Steel Tubes	
Outer Diameter	22.22 – 117 (mm)	0.874" - 4.60"
Thickness	1.24 – 7.00 (mm)	0.048" - 0.275"
Length	20 - 11500 (mm)	0.787" - 452"

Size range	Cold Drawn Welded Steel Tubes	
Outer Diameter	15.88 - 103 (mm)	0.625" - 4.05"
Thickness	1.00 - 6.35 (mm)	0.039" - 0.250"
Length	20 - 11500 (mm)	0.787" - 452"

## APPLICATION



Automotive



Energy



Agro Machinery



Textile Machinery



Poultry Machinery

# Quality Testing Machines

Digital Hardness Tester



Double Lapping Machine



Microscope



Hydraulic Press



Universal Testing Machine



# Quality Testing & Inspection Infrastructure



## EQUIPMENT

## MAKE

## FUNCTION

1	Eddy Current Tester	Technofour, India	NDT* Test to detect defects in Tubes
2	Hydro – Tester	Parth Equipment, India	Hydro-testing of Finished Tubes
3	Spectro Machine	Shimadzu, Singapore	Check Chemical Elements of Rm & Finished Tubes
4	Universal Testing Machine	FIE, India	Check Mechanical Properties of Rm & Finished Tubes
5	Hydraulic Press	FIE, India	Destructive testing of Tubes
6	Hardness Tester	FIE, India	Check hardness of material
7	Image Analyser	Metatech Industries, India	Check hardness
8	Surface Plate	Jafuji, India	Zero referencing for dimensional checks
9	Double Disk Lapping Machine	Metatech Industries, India	Zero referencing for dimensional checks

# Technical Parameters



Technical Parameter (mm)	ERW	CDW
OD Tolerance	+/-0.12	+/-0.06
Thickness Tolerance	+/-8%	+/-0.05
ID Tolerance	-	+/-0.05
Length Tolerance	+2.0	+2.0
Tube Straightness	1/1000	1/1000
Ovality	0.15	0.10
ID Scarf	+0.2 max	-
Squareness of Cut	+/- 2 Degrees	+/- 2 Degrees
RA value	-	4 Ra max on OD and 0.6 Ra max on ID

# Certifications & Approval



					
 <b>EICHER</b>					
					 <b>ASHOK LEYLAND</b>

**ESTEEMED BUSINESS PARTNERS**  
Quality Approvals from OEMs

**DAIMLER**



**BENTELER** 

# Risk Mitigation

## As-is Condition

- 1 Raw Material - Multiple Sources, Inventories
- 2 Multiple shipping dispatches to avoid clubbing in a single vessel.
- 3 Finished goods inventory : Safety stock at factory to meet unexpected contingencies.

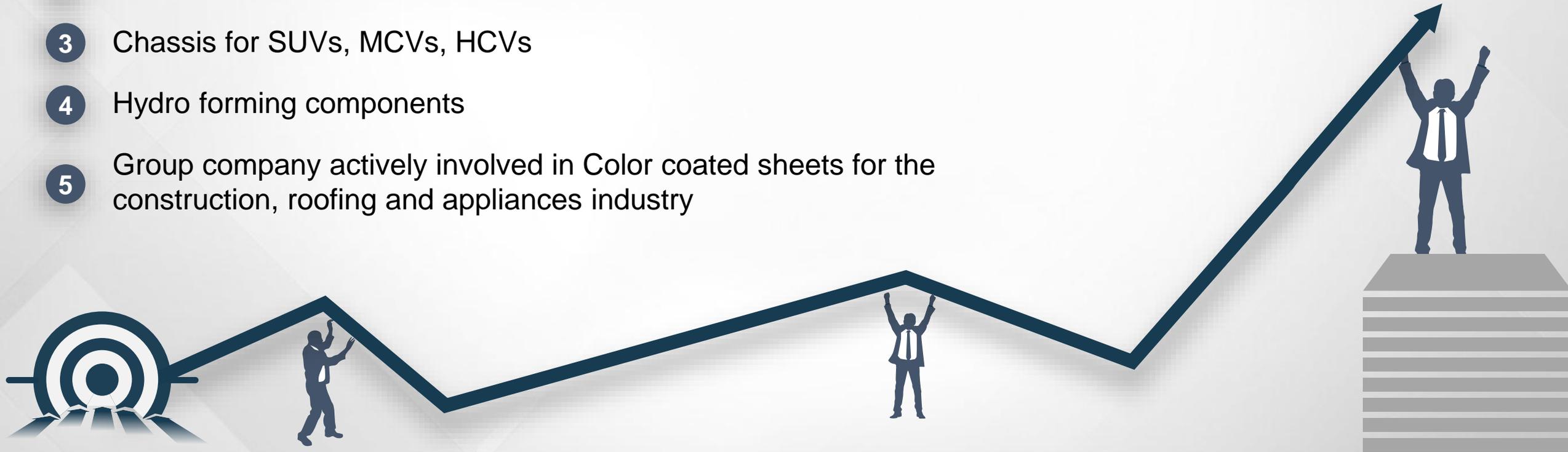
## To-be Condition

With volume augmentation, warehousing activities can be started close to customer place for Just in time service and also manage inventories with value addition.

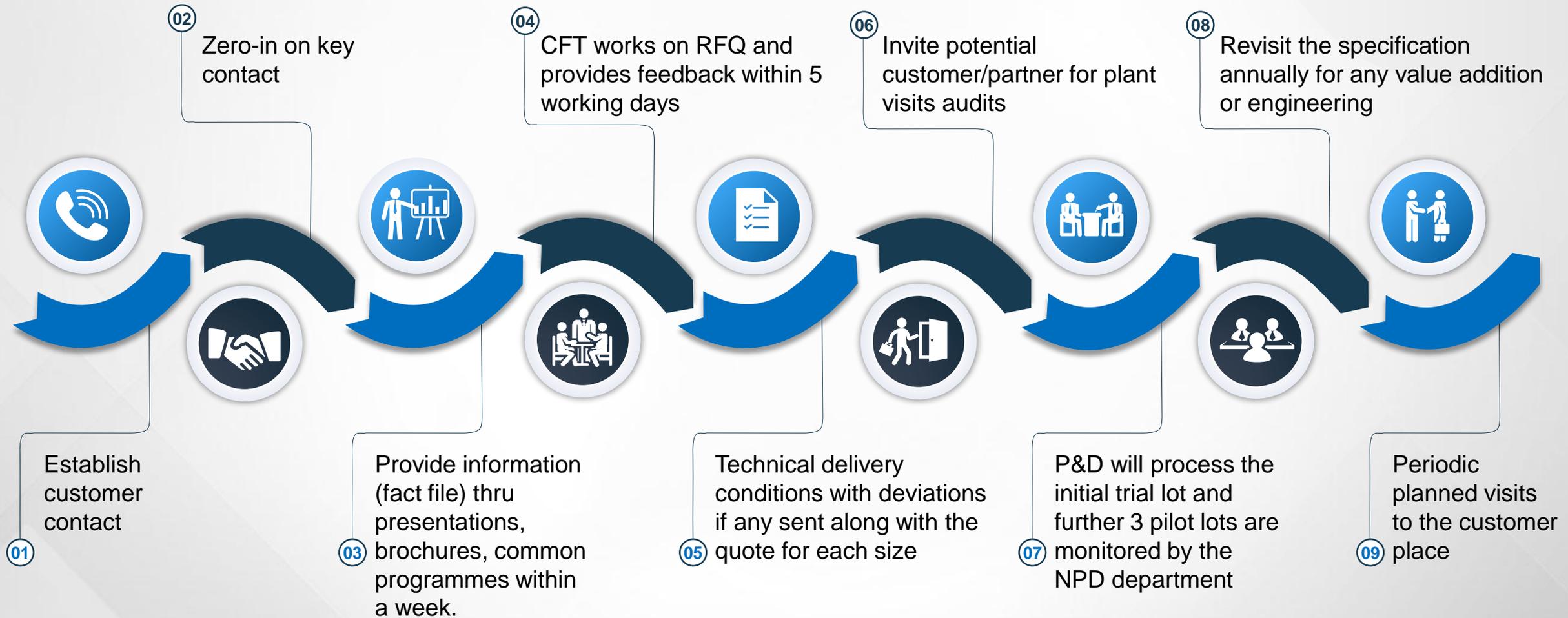
# Business Sustainability

KLT is a progressive technology driven company putting up new plants almost every year since 2010 and with plans to grow this group business to USD 450 million by 2023-24. The group is not dependent on a single customer and has spread eagled its operations to cater to,

- 1 Precision Tube Industry : Automotive, Energy, Thermal
- 2 Roll forming for Automotive Industry; Heavy vehicles
- 3 Chassis for SUVs, MCVs, HCVs
- 4 Hydro forming components
- 5 Group company actively involved in Color coated sheets for the construction, roofing and appliances industry



# KLT 's Customer Development Plan



## Propeller Shafts



- Material : SAE1018/1020/1026
- Tensile : 55kg/sqmm (550Mpa)
- Yield : 50 kg/sq mm (500MPa)
- Hardness : 85 Rbmin
- Ovality : 0.12/0.13 max
- Straightness : 1 mm/1000mm min
- Supply in cut to length

## Bushes ,Sleeves and Spacers



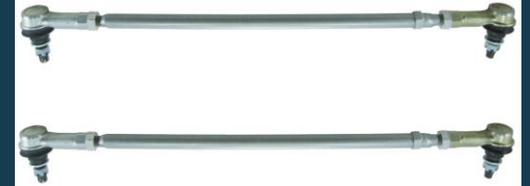
- Material : 1010,1015,1020,1026
- Tolerances : Normal on OD /ID
- ID Finish : Smooth and clean
- OD Finish : No surface imperfections.
- Supply : Possible in cut length above 100 mm

## Steering Column Tubes



- High Tensile Strength 440Mpa- 600Mpa
- Ovality controlled
- Straightness 1/1000
- Supply in cut lengths

## Tie Rod Base Tubes



- RM : ST52.3
- Micro alloy
- EN 10305-2
- Cold drawn SRA
- TS : 490-630Mpa
- Elongation : 20%
- Supply : Cut lengths

# Manufacturing & Exporting Locations



Locations  
Currently Exporting





**THANK  
YOU**

[www.kltauto.com](http://www.kltauto.com)