



## COIMBATORE



Coimbatore is the 2nd largest City in Tamil Nadu after Chennai



Coimbatore houses more than 25,000 Small ,Medium & Large Industries and a major hub for Engineering, Foundry & Textiles.



The GDP of Coimbatore stands around \$ 20 Bn ( 1.64 Lac Cr INR) and 2nd largest after capital Chennai of TN



The population is around 16 lacs with Total land Area measuring around 400 Sq Miles.



The average temp of Coimbatore is around 24 degrees with largest forest area surrounded with hills.



## ABOUT THE COMPANY



FACTORY SHED

**1,00,000 Sq Ft**

REVENUE

**450 Mn INR**

EMPLOYEES

**110 Nos** (Including casuals and trainees)

NO OF UNITS

**3 UNITS**





# Shop Floor : UNIT-A

- Design Engineering
- R&D
- Gear Hobbing
- Worm Gear & Worm Shaft
- Gear Grinding
- Wire cutting facility
- Gearbox Assembly
- Test Bench
- Q&A
- Painting & Despatch



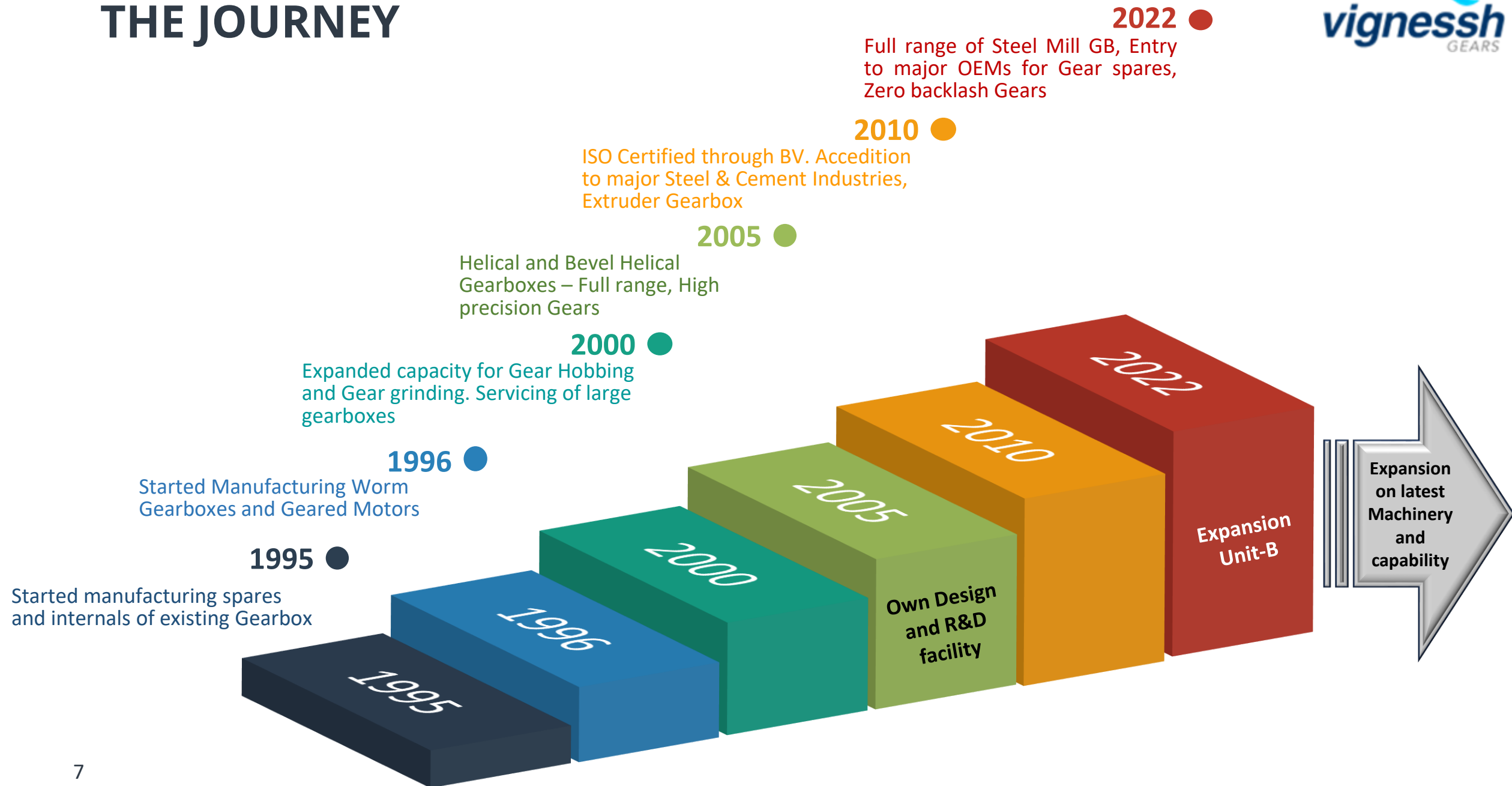


# Shop Floor : UNIT B

- Forgings & Rough Turning
- Gearbox Housing Machining
- Shaft and Hub (Finish Turning)
- Keys and Keyway
- Face Milling and Joint
- Horizontal Machining Centre
- Vertical Machining Centre
- Multi-Axis Machining Centre
- Q&A



# THE JOURNEY



# CAPABILITIES & WORK FLOW



DESIGN & ENGINEERING

01

02

PRODUCT DEVELOPMENT

FOUNDRY ACTIVITIES

03

04

TURNING & HOBGING

HEAT TREATMENT

05

06

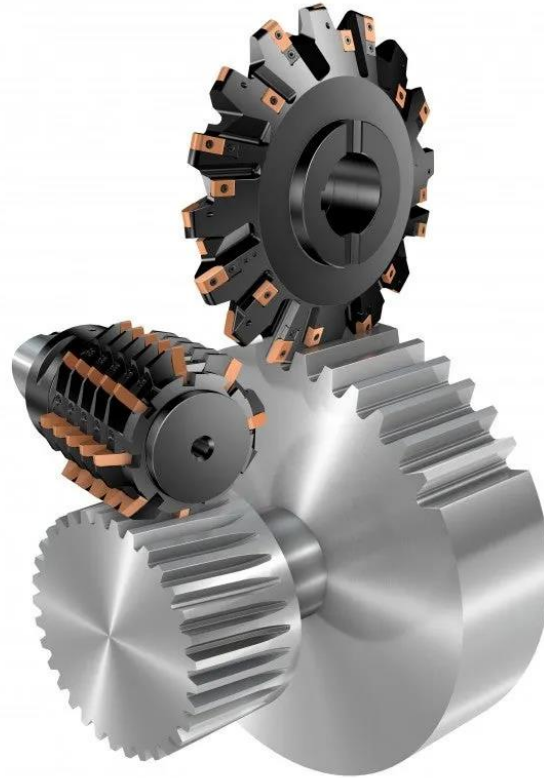
GRINDING ACTIVITIES

ASSEMBLY & TESTING

07

08

QUALITY ASSURANCE







## Vignessh Gear is accredited with ISO 9001 : 2015 Certification through Bureau Veritas for

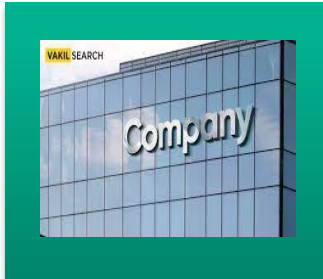
- Design & New Developments
- State-of-the-art manufacturing techniques
- After Sales Service.

The certifications hold good for its entire range of Gears, Gearboxes and Drop-in service activities.



# INTRODUCTION

## Company



One of the Strongest player in Gears & Gearbox manufacturing with complete In-house facility for last 28 years

## Experience



Founded by Technocrat Entrepreneurs having Four Decades of Industry experience.

## In-House facility



One of the best backwardly integrated Gearbox manufacturing Company having complete in-house facility including Design and R&D

## Product Range

PRODUCT RANGE

Having complete Product range with

1. Gears
2. Gearboxes
3. Service

## People



Strong professional management team supported by a highly experienced & motivated workforce





# PRODUCT RANGE



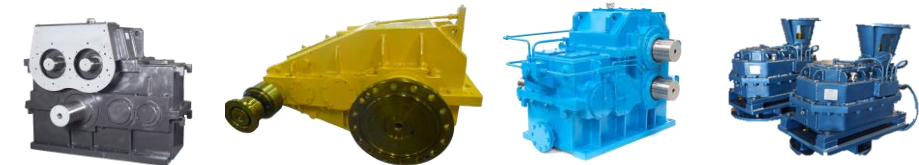
## STANDARD PRODUCTS

- Range of Helical Gearboxes
- Bevel Helical Gearboxes
- Worm Gearboxes
- Geared Motors
- Single Screw Extruder Gearboxes



## CUSTOM BUILT PRODUCTS

- Pinion Stand Gearboxes for Steel Rolling Mills
- Cold Saw Gearboxes for Tube Mill
- 2-Speed Gearboxes for Tube Mills
- Twin Screw Extruder Gearboxes
- Crane Duty Gearboxes
- ETR / DTR Gearboxes for Flat Products



## GEARS / PINIONS & SERVICE

- Full Range of Helical Gears & Pinions
- Double Helical Gears
- Spiral Bevel Gears & Pinions
- High speed Spur Gears
- Timing Gears
- High Precision Gears



# DESIGN ENGINEERING & R&D

## DESIGN STANDARDS

As per DIN / AGMA / ISO Standards for Gear Ratings, Shaft Strengths and Bearing Life calculations

## SOFTWARE

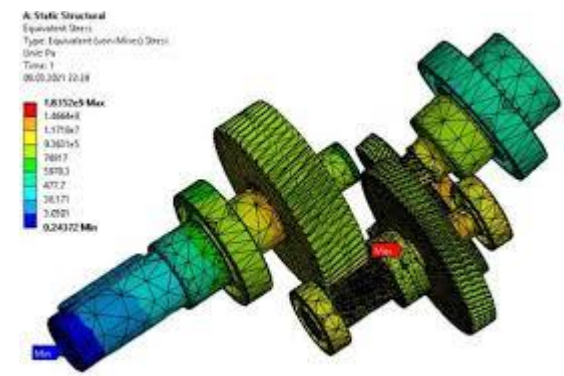
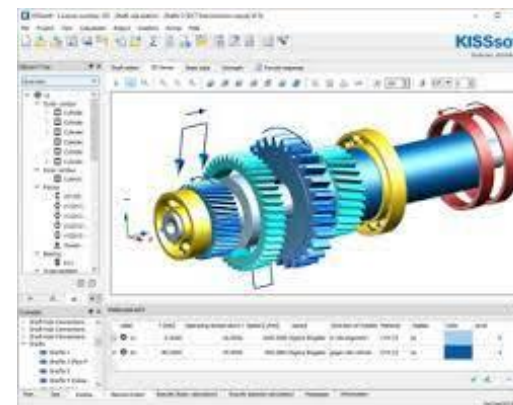
Drawing preparation by AutoCAD & Solid Works Casings are made on FEA results and as per stiffness requirements

## OPTIMIZATION & VALIDATION

Requisite software including ANSYS and Cimatron are used for stress calculations and design validation

## PEOPLE

Dedicated team of 6 people for Engineering & R&D for product development  
International consultants are tied-up for critical application requirements



Ansys

KISSSOFT  
Calculation programs for machine design

3D  
SOLIDWORKS



# CASING FABRICATION & FOUNDRY OPERATIONS

1

In-house pattern Shop for development of New Pattern

2

Fabrication with FE-410WB  
Rolled plates, Stress Relieving  
and Leak Test

3

CI Castings with Grade FG-200  
and FG-260, as per IS-210 with  
radiographic quality

4

Centrifugal castings for Non-Ferrous  
castings (PB-2) phosphorous Bronze for  
Worm Wheels



# MACHINING (GEARS & GEARBOX HOUSING)

- CNC Turning Centers- including VTL & VTC with 4X Turn Mill Centers,
- CNC Machining Centers (VMC & HMC) with 5X rotary tables including Double pallet operations
- Gearbox Housing Machining in Single setting with Rotary Table (All operations)
- Accurate Bore concentricity for larger gearboxes
- Skilled operators with experience over 15 years
- In-house QA center with CMM facility





# GEAR HOBGING

- Latest CNC Gear Hobbing machines including Carbide-tip cutter
- From Sub-module to 14 Module (In-house)
- Gear Diameter up to 1200 mm Dia (In-house)
- In-house Hob cutter Design based on Customer demands



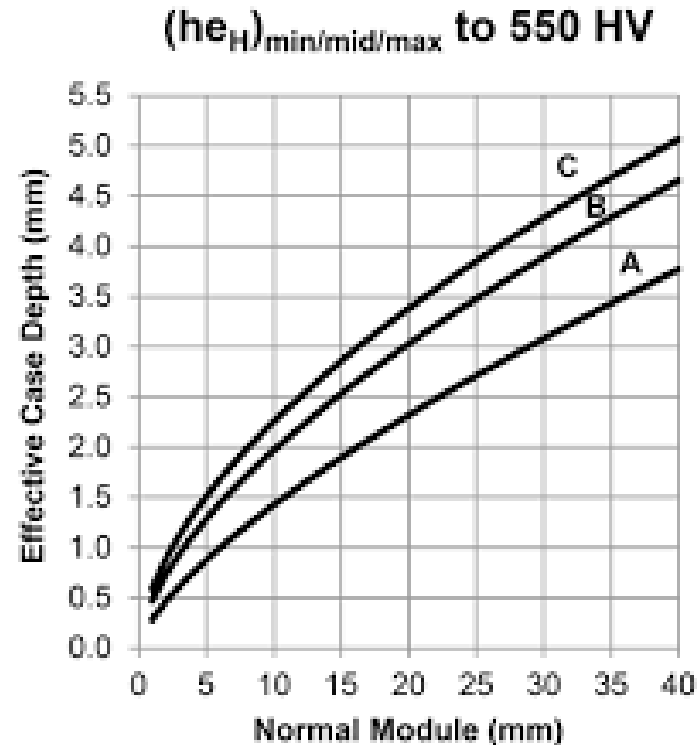


Heat Treatment

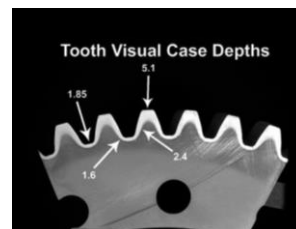


# HEAT TREATMENT

- Pit type Electric fired furnaces, with Carburizing, Quenching,
- Online process monitoring using SCADA control
- Integrated lab facility to check Carbon potential, Microstructure, Micro Hardness
- Gas Nitriding for Application specific requirement (Outsourced)
- Induction Hardening (Outsourced)



- "A" is recommended for maximum macropitting resistance
- Curve "B" is appropriate for the tolerance range for a precision gear drive design.
- Curve "C" represents the maximum tolerance range customary in commercial gear drive design.





# Gear Grinding



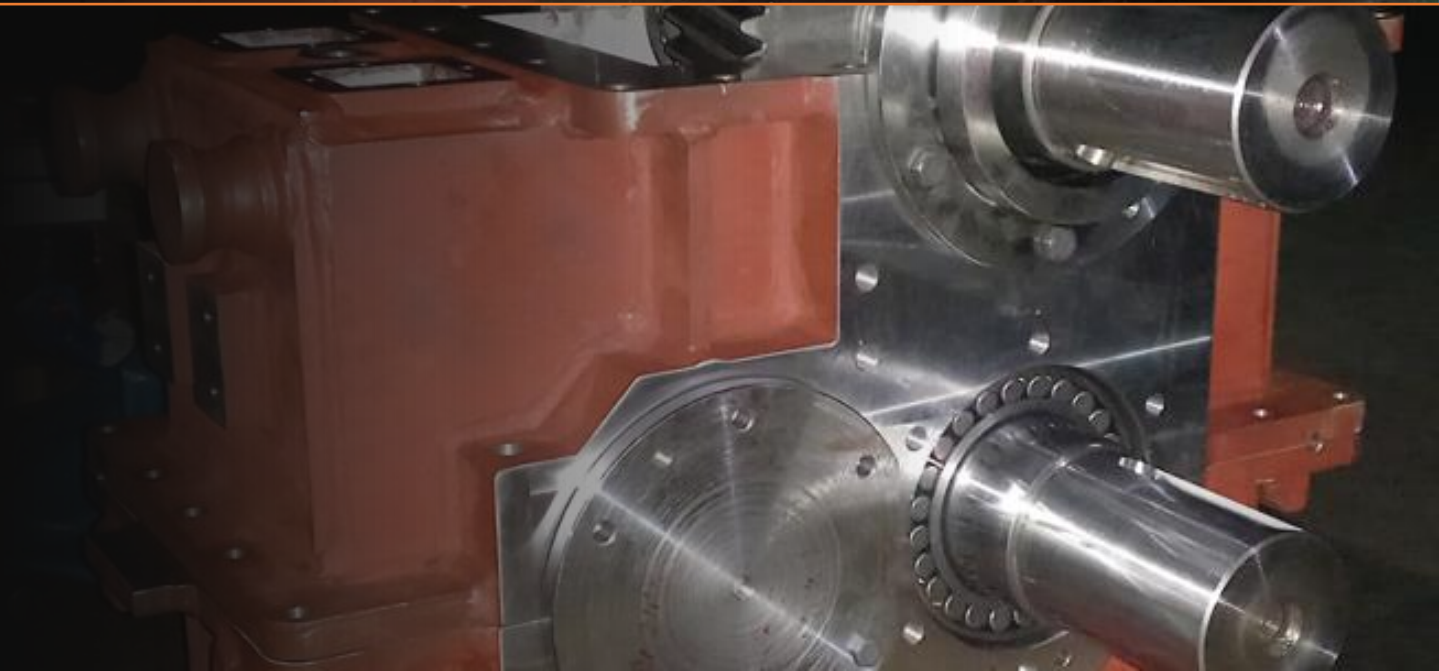
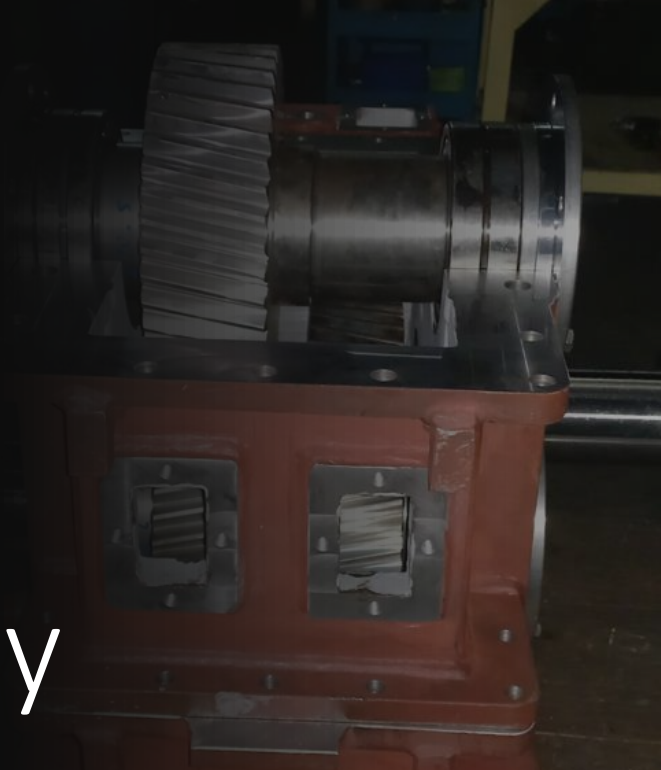
# GEAR GRINDING

- ❖ CNC OD, CNC ID Grinding and Key way machining
- ❖ CNC Wire Cutting facility
- ❖ 3 Gear Grinding machines (max. 1200 mm diameter/14 module) with spline grinding facility (Hoffler, Kapp Niles, Reishaur) with inbuilt testing
- ❖ Worm grinding machines with screw grinding facility
- ❖ Gear Profile tester (Maag & Klingenberg)



# Gearbox Assembly

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# GEARBOX ASSEMBLY

- Gearbox is assembled in assembly table with proper care having exact horizontal surface ensuring accurate parallelism
- Clean and dust free environment
- Blue matching is done and recorded for proper teeth contact.
- Each and every gearbox is tested for Min 4 hours to stabilize temperature rise.
- Temperature, Vibration and Noise level are maintained as per AGMA standards and recorded.



# Inspection and Testing

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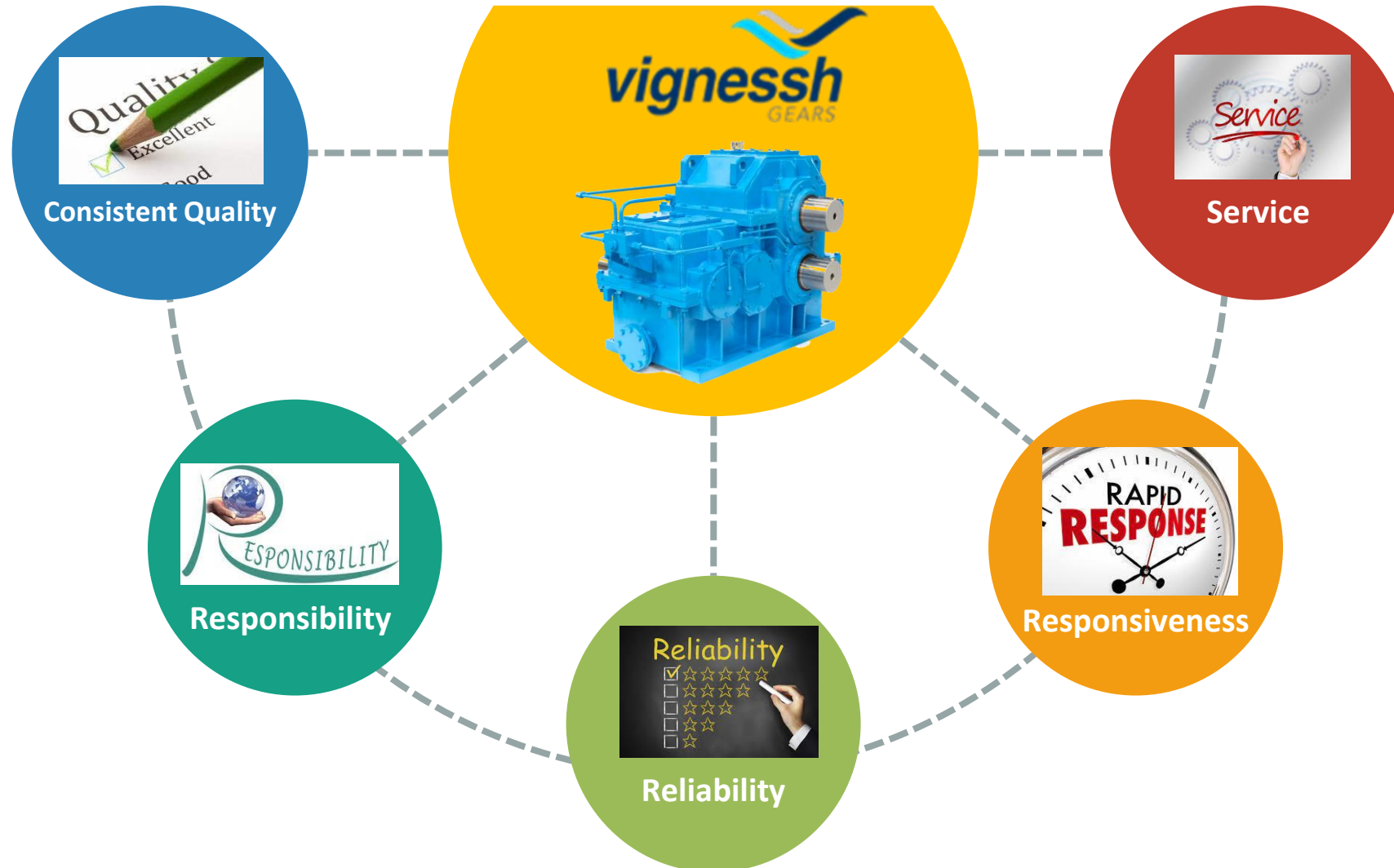


# QA INSPECTION & TESTING

- Dimensional Inspection is made for each and every gear and recorded
- Gear Profile Testing
- BTL & MOP values are measured and recorded.
- Surface Finish is checked
- Dear Dimensions and Tolerance are measured and recorded
- Correct Center Distance are measured and recorded
- Backlash values are measured and maintained within limits as per requirement
- Contact Pattern are ensured and recorded.



# WHY VIGNESSH GEARS





“Nobody cares how much you know, until they know how much you care.”  
– *Theodore Roosevelt*

# THANK YOU

We are there for every applications and for all your needs

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