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Essae Gears & Transmissions Private Limited

COMPANY PROFILE
February - 2021

Gururaj
Vice-President
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BUSINESS OVERVIEW: ESSAE GEARS & TRANSMISSIONS

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Essae Gears & Transmissions belongs to Essae Group which has presence since 1965.

Essae is in the forging & machining business since 1996.

BS OHSAS 18001:2007, ISO 14001:2015, IATF16949 (since Sept 2003) certified.

6 Plants located at Bangalore, Hosur and Hubli, India.

Revenue 2018-19: Rs 105 Crores (USD 16 Million).

300+ Full-Time Associates in plants with dedicated engineering & export team.

55 new parts developed by Essae in the last five years.

VISION, MISSION & ASPIRATIONAL CORE VALUES

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Vision

Essae Gears & Transmissions will be admired by its stakeholders and will be recognized as a compelling company to buy, work, invest and associate.

Mission

The purpose of **Essae Gears & Transmissions** is to enhance the Quality of life of stakeholders by being Obsessive with Quality of products to earn Customer Loyalty.

Aspirational Core Values

- Respect Humanity
- Customer First
- Learning and Growth
- Trustworthiness and Integrity
- Regulatory Compliance
- Societal Contribution
- Pursuit of Excellence

BUSINESS PRESENCE

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- Supplying to Automotive OEMs and Tier-1.
- Manufacturing Gears, Spindles, Companion Flanges etc.
- 4 Machining Plants

MACHINED COMPONENT

- Supply to Automotive OEMs & Tier-1.
- ISO/IATF16949 Certified , BS OHSAS 18001:2007, ISO 14001:2015
- Manufacturing Cold and Warm forged parts
- 1 Plant for Precision

PRECISION FORGING

- Supply to Auto OEMs & Tier 1
- ISO/IATF16949 Certified, BS OHSAS 18001:2007, ISO 14001:2015
- 1 Plant for Sub-assemblies and Speedo Hub Drive

SPEEDO HUB-DRIVE

- Leader in high capacity weighing systems in India
- Static scales, In-motion scales and Rapid load outs
- Extensive sales & service network
- 2 Machining Plants

WEIGHING SYSTEMS

PLANT LOCATIONS

Precision Forging Plant, Bangalore

Machining Component Division, Bangalore

Hub Drive Plant, Bangalore

Machining Component Division – Plant I, Hosur

Machining Component Division – Plant II, Hosur

Machining Component Division, Hubli

OUR CUSTOMERS

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OEM CUSTOMERS

TVS

Mahindra

PSA GROUPE

BMW

TIER-1 CUSTOMERS

THE HI-TECH GEARS

INDO SCHÖTTLE

Rane
Expanding Horizons

ognibene power

HANON SYSTEMS

MERITOR

PMP INDUSTRIES

AVTEC
CK BIRLA GROUP

OVERSEAS CUSTOMERS

ARIENS

SCHILLER
GROUNDS CARE

GAMBER JOHNSON

Bi.Ci.Di Trasmissioni
1996 - 2016

CORE COMPETENCIES

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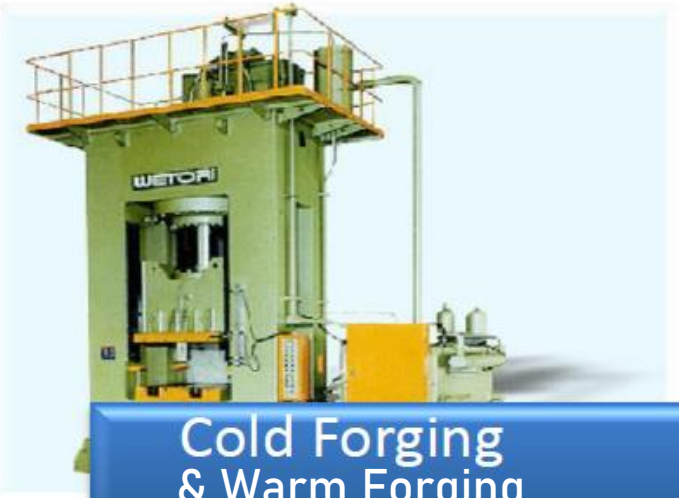
Simulation and Design

Tool Design and Manufacture



Cold Forging
& Warm Forging

Machining

Gear Hobbing and Shaving

Induction Hardening

TOOL ROOM/PARTS DEVELOPMENT INFRASTRUCTURE

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Hass 5-axis VMC

Turning Centre

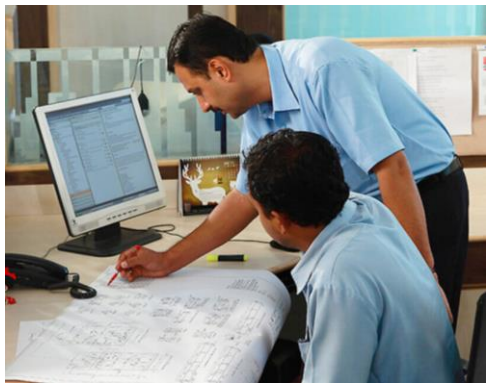
Universal Milling Machine

Surface Grinder

Cylindrical Grinder

Deform Forging Simulation S/W

Machining Simulation S/W



Dedicated Engineering Team

MACHINING INFRASTRUCTURE

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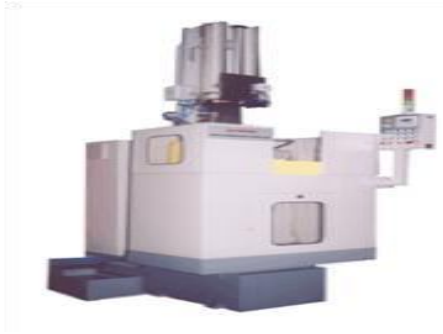
TURNING CENTER MACHINES (74 nos.)

VERTICAL MILLING MACHINES (11 nos.)

GEAR HOBBING MACHINES (12 nos.)

AUGULAR GRINDING MACHINES (3 nos.)

SHAVING MACHINES (6 nos.)



VERTICAL ID BROACHING MACHINE (1 no)

30T SPLINE ROLLING MACHINES (1 no)

INDUCTION HARDENING MACHINES (3 nos.)

CENTERLESS GRINDING MACHINES (6 nos.)

CYLINDRICAL GRINDING MACHINES(6 nos.)

HONING MACHINES (3 nos.)

POLYGON MILLING MACHINES (3 nos.)

INFRASTRUCTURE: FORGING PLANT

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Fig. 1


Fig. 2


Fig. 3

Machine	Specification	Weight Capacity	Rate of Production	MOQ
Fig1. Cold Forging Press Line	Schuler: 630 Ton Multi Station, Vertical 4 station Press	0.3Kg to 2.0Kg	25-50 Strokes/Minute	10,000 Nos/Batch
Fig2. Warm Forging Press Line	Kurimoto: 1500 Ton Capacity, Vertical 5 Station	0.5Kg to 3Kg	21-42 Strokes/Minute	10,000 Nos/Batch
Fig3. Hydraulic Press	800 Ton Hydraulic Press, Vertical Station Press	0.5Kg to 8Kg	06-12 Strokes/Minute	5,000 Nos/Batch

INFRASTRUCTURE: FORGING PLANT(BANGALORE)

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Circular Sawing

Atmosphere Controlled Annealing for Cold Forging

Cold Forging

Phosphating Line for Cold Forging

Shot Blasting

INFRASTRUCTURE: MACHINING PLANT(BANGALORE)

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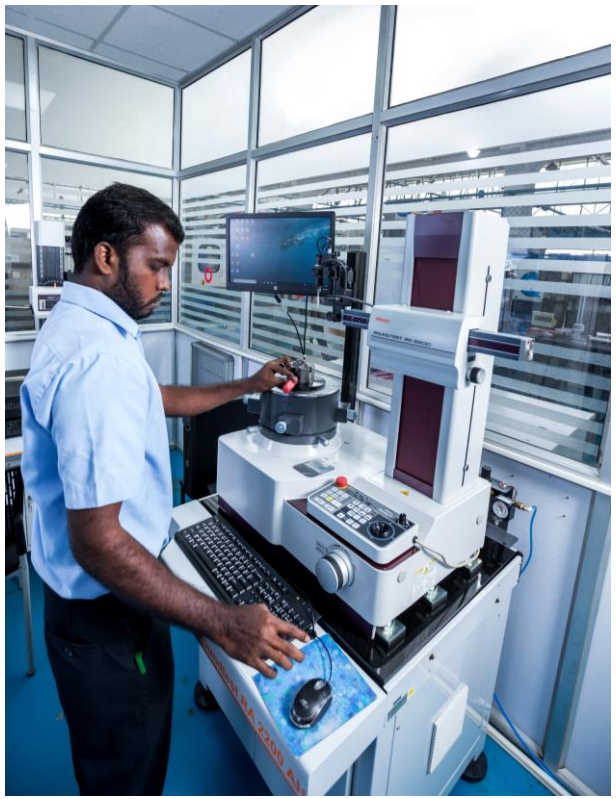

TESTING FACILITY: MACHINING PLANT(BANGALORE)

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Roundness Tester

CMM

CNC Lead & Profile Tester

Contour Tester

Profile Projector

Surface Finish Tester

REPRESENTATIVE PARTS

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STEEL FORGED COMPONENT

Gears & Blanks

Flange & Spindles

Shafts

Sprockets

ALUMINIUM FORGED COMPONENT

Round Plate

Vesa Plate

SUB-ASSEMBLIES

Speedo Hub Drive

Joiners

Roller Carrying Assembly

REPRESENTATIVE AND RUNNER PARTS

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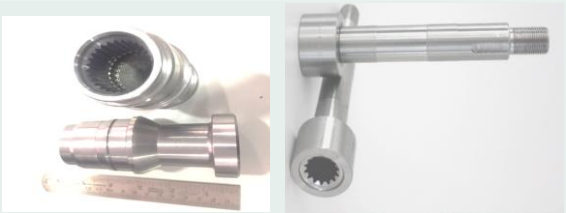
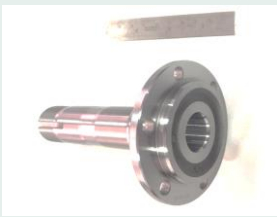
PART NAME	PROCESS	APPLICATION	PART DIMENSIONS	ANNUAL QUANTITY PRODUCED	SPECIAL PROCESS	PART PICTURE
GEAR: PRIMARY DRIVEN & DRIVE	Warm forged & Machined with CNC ID Grinding	Two-Wheeler Engine Gear	**Weight**: 1.2KGS & 0.4KGS **Diameter**(Major): 125mm	300,000 Sets	Gear Hobbed & Gear Shaved to achieve DIN8 after HT.	
INTERNAL SPLINE SHAFTS	Cold Forged & Machined	Automotive & Hydraulic Steering	**Weight**: 1.2 Kgs	500,000	Internal Spline formed in Cold Forging	
SHAFTS	Cold Forged & Machined	2-W & 4-W Axles	**Weight**: 0.3 Kgs-1.2 Kgs	300,000	Induction Hardened	
WHEEL BEARING SPINDLE	Hot forged & Machined with CNC Grinding	Passenger Cars(4-W)	**Weight**: 2.8 Kgs	150,000	CNC Angular Grinding	

REPRESENTATIVE AND RUNNER PARTS

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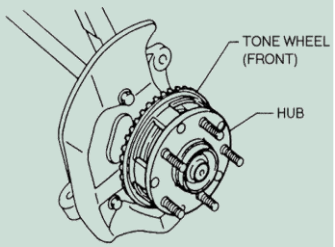
PART NAME	PROCESS	APPLICATION	PART DIMENSIONS	ANNUAL QUANTITY PRODUCED	SPECIAL PROCESS	PART PICTURE
SPINDLES	Hot forged & Machined with CNC Grinding	Passenger Car/LCV	**Weight**: 2.6 Kgs	120,000	Induction Hardening & CNC Angular Grinding	 
COMPANION FLANGE	Hot forged & Machined with CNC Grinding	Passenger Car	**Weight**: 3.2 Kgs	50,000	Powder Coating and Mass Balancing	
TONER RING FOR ABS	Cold forged & Machined with CNC Gear Hobbing	Passenger Car for ABS sensing	**Weight**: 0.8 Kgs	200,000	-	 

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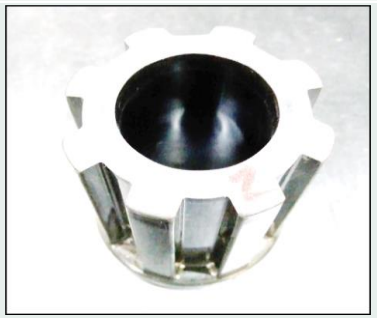
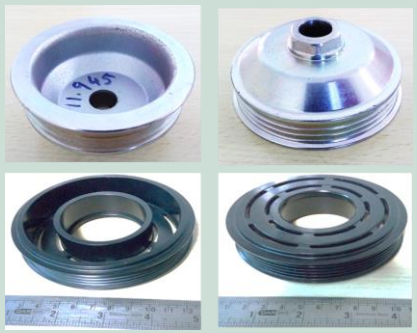
PART NAME	PROCESS	APPLICATION	PART DIMENSIONS	ANNUAL QUANTITY PRODUCED	SPECIAL PROCESS	PART PICTURE
RING GEAR/STARTER CLUTCH	Warm forged & Machined	Two-Wheeler Engine Starter Gears	**Weight:** 1.2 Kgs	300,000 Sets	Gear Shaving to achieve DIN8 after Heat Treatment.	 
LOCK NUTS	Cold Forged & Machined	Passenger Car for Rear Axle locking	**Weight**: 0.25 Kgs	300,000 Sets	External teeth formed in Cold Forging. Trivalent Zinc Coating	 
PULLEYS	Cold/Warm forged & Machined	Passenger car HVAC system	**Weight**: 1.0Kgs-2.2Kgs	100,000 Sets	Zinc Plating and ED Coating.	 

REPRESENTATIVE AND RUNNER PARTS

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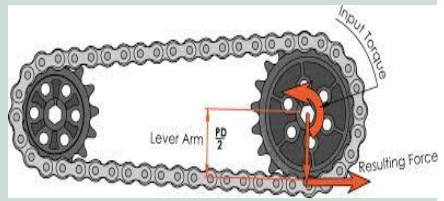
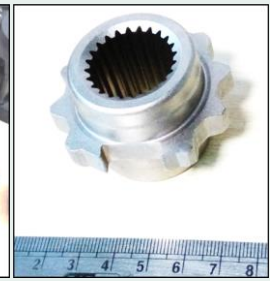
PART NAME	PROCESS	APPLICATION	PART DIMENSIONS	ANNUAL QUANTITY PRODUCED	SPECIAL PROCESS	PART PICTURE
SPROCKETS	Bar Machining and Gear Hobbing	Two-Wheeler Chain Drives	**Weight**: 0.2 Kgs to 0.35 Kgs | **Major Diameter**: 35mm to 100mm	1.2 Million	ID Honing after Heat Treatment.	 
SPLINED HUBS FOR CLUTCH APPLICATION	Cold forged & Machined.	Four-Wheeler clutch part.	**Weight**: 1.3 Kgs	500,000 Sets	External spline formed in Cold forging blanking.	  
ALUMINUM FORGING PARTS	Cold forged, CNC Machined & Anodizing.	Automotive & Non-Automotive	**Weight**: 100gm – 250gm	150,000	External spline formed in Cold forging.	   Cold Forged & Machined

INFRASTRUCTURE: HUB-DRIVE PLANT

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REPRESENTATIVE PARTS: HUB-DRIVE PLANT(BANGALORE)

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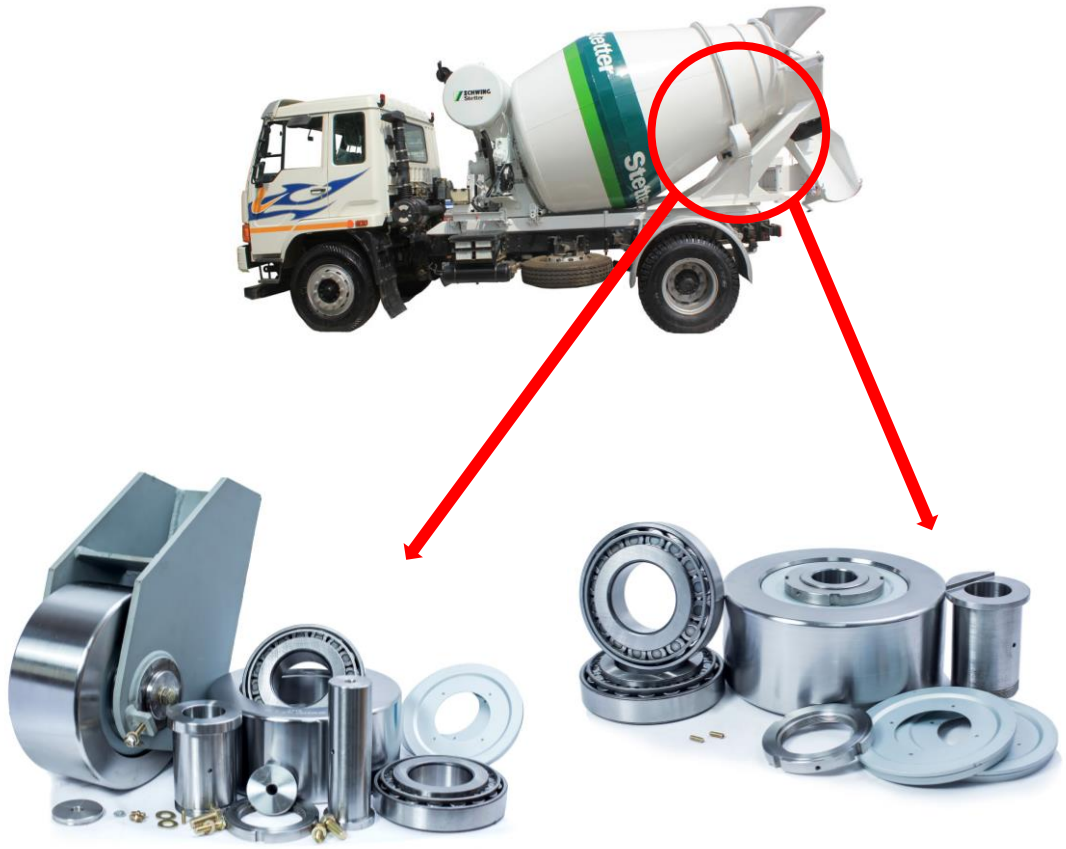
Module: Helical Pinion up to 1mm
Annual Capacity: 2 Million plus units

Assemblies: Metal, Plastic, Sheet Metal
Process: Metal Hobbing, Press Fitting etc.



Roller Carrying Assembly
Used for Drum Balancing & Load carrying the Drum

VAVE ANALYSIS AND VALUE IMPROVEMENT EXAMPLES

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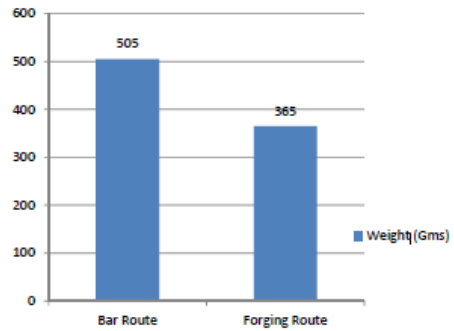
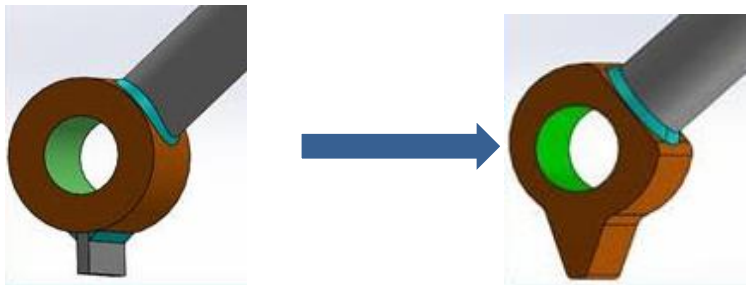
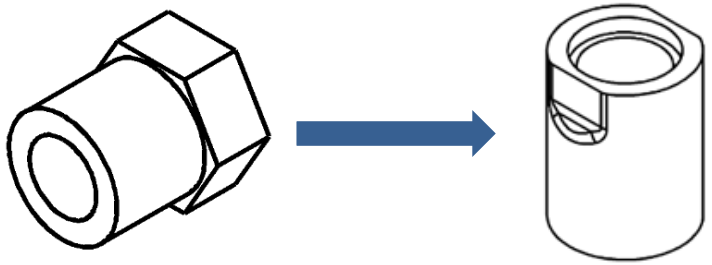
Part Name	VAVE Details	Part Picture
Gear Blank	▪ Moved from round bar machining to cold forging process. Eliminating expensive face groove machining process. ▪ Material saved up to 140 grams of material.	 
Pivot, Steering Arm	▪ Converted 2 piece construction to 1 piece construction. ▪ Eliminated mating tube machining. ▪ Designed forging to produce 3 parts from single forging.	
Hex Hub	▪ Moved from Hex. Bar stock machining to cold forging. ▪ Improved part design to reduce input weight. ▪ Designed part with only 2 flats instead of 6 flats.	

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Essae Gears & Transmissions Private Limited

Corporate Office: Plot No.-13, 13th Cross, Wilson Garden, Bangalore, Karnataka 560 027

Machining Component Division(MCD-B)
Unit-I 195-B, Bommasandra Industrial Area, Anekal Taluk, Bangalore-560 099

Precision Forging Division
No-43, Bommasandra Industrial Area, Anekal Taluk, Bangalore-560 099

Hub Drive Division
Plot No. 675, Survey No. 88/2, 7th Mile, Hosur Road, Singasandra Post, Bangalore- 560 068

Machining Component Division(MCD-H)
C12, Phase I & II, Sipcot, Hosur-635 126

Machining Component Division(MCD-Z)
N0-3/487, Rajaji Layout, Bederapalli, Zuzuvadi, Hosur-635 126

Machining Component Division(MCD-Hubli)
52-B, KIADB, Gaamanagatti Industrial Estate, Gamanagatti, Karnataka 580 009