

SANDHAR

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Sandhar – Company Overview

Vision

To be the Most Preferred Choice of Global Stakeholders

Mission

To be the leading player in Global Markets with fully satisfied Stakeholder, maintaining cost effectiveness through innovative technology and optimum utilization of talent and resources.

Values

Spirit of Accomplishment
Appropriate Attitude
Never Dying Passion for Excellence
Dynamic
Honest
Accountable
Reliable



Top
Customer

SANDHAR

Growth. Motivation. Better Life.



ISO/TS 16949 | ISO 14001 | OHSAS 18001 |
ISO 9001

7 Joint
Ventures

34 Manufacturing
Plants

8400 Plus
Employees





| Locking Systems | Vision Systems | Handles | Latches & Hinges | Relays |
|--|---|--|---|---|
|  |  |  |  |  |



Gurgaon
Locking Systems,
Handles, Latches
& Hinges



**Dhumaspur,
Gurgaon**
Mirror Plates ,
Mirror Assembly
& Paint Shop



**Bommasandra,
Bengaluru**
Locking Systems,
Mirror Assemblies,
Handles, Latches &
Hinges







Haridwar *
Locking Systems,
Mirror Assembly,
Sheet Metal
Stamping, Zinc &
Aluminium PDC,
Plastic Injection
Moulding,



Pune
Handles & Mirror
Assemblies.



Gurgaon
Relays
Production of
Micro ISO Relay
has started

| Sheet Metal & Tubular | Zinc PDC | Plastic Injection Moulding | Aluminium PDC |
|---|--|---|--|
|  |  |  |  |



**Behrampur,
Gurgaon**
Sheet Metal &
Tubular Components



Manesar
Zinc PDC &
Plastic Injection
Moulding



Bawal, Rewari
Aluminium
Pressure Die
Casting



**Attibele ,
Bengaluru**
Zinc PDC , Sheet
Metal & Plastic
Injection Moulding



Pune
Plastic Injection
Moulding
& Paint Shop



**Bawal Plant 2,
Rewari**
Plastic Injection
Molding

| Wheel Rims & Assemblies | Handle Bars, Clutch & Brake Panels | Assemblies |
|--|--|---|
|  |  |  |



Attibele, Bengaluru
Rim Forming, Nickel Chrome Plating, Clutch Assembly



Manesar
Rim Forming & Wheel Assembly



Mysore
Wheel Assembly & Brake Panels



Hosur
Wheel & Fender Assembly, Handle Bars & Brake Panels



Nalagarh
Wheel Assembly



Chennai
Wheel Assembly



Vellam, Sriperumbudur
Wheel Assembly

Cabin & Fabrication Division

Mag Engineering



Mag Engineering, Bengaluru

Operator cabins, Canopies, Panels, Housings, Control Cabinets, & sheet metal components



STL – Cabin & Fabrication Division



STL – Cabin & Fabrication Division



Honda Cars Division



Sandhar Centre of Innovation & Development



HCI LDivision ,
Locking Systems, Handles, Vision Systems & Paint Shop



Dhumaspur, Gurgaon



Pathredi, Rajasthan

- Product Designing from Concept to Manufacturing
- Design Analysis & Simulation
- Rapid Prototyping
- Product Testing & Validation
- IPR Filing & Protection

Moulds & Dies



Aluminum Die Casting



Sandhar Tooling Pvt. Ltd., Manesar
Stamping Dies, Plastic Injection and PDC Moulds



Indo Toolings Pvt. Ltd. Indore
Sheet Metal & PDC Dies, Plastic Injection Moulds, Welding Fixtures & Panel Checkers



Sandhar Technologies Barcelona
Aluminium Thin Wall PDC



Sandhar Technologies Poland
Aluminium Thin Wall PDC



Sandhar Technologies Mexico
Aluminium Thin Wall PDC

New product launches from SANDHAR

CARBON CANISTER, ONE WAY VALVE, ROLL OVER VALVE, PSV



HELMETS FOR 2-WHEELERS



* A product of **SANDHAR-DAEWHA**

OIL FILTERS, FUEL PUMP AND AC GENERATOR



* A product of **SANDHAR-DAEWHA**

FUEL LEVEL SENDERS



* A product of **SANDHAR-LYSSEN**

India Auto Component Suppliers – Challenges in NPD



- Meeting Product Cost Target
- First Time Right
- Less Development Time
- Marginal/ Very less Development Cost



- Domestic/Global Competitors
- Competition from other low cost countries
- Cut throat price Negotiation



- High frequency of new launches
- More Product Variant



- Limitation on product engineering expertise
- Increasing Prototype cost
- Improper Reverse Engg
- Demand for simulation, Virtual test & validation
- Proper Inspection & Evaluation

Key NPD Challenges at Sandhar



More stringent product specification and reduced time to develop



Limitation in inspection, testing & validation facilities for new developments.

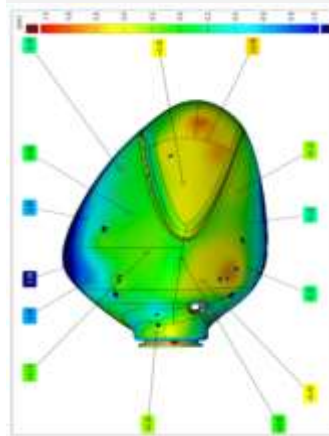


Complex FEA, Simulation, Mould Flow Analysis Virtual Test & Validation requirement

***Reverse
Engg.***



***CAD
Comparison***



***Mould & Die
Validation***



***Non
Conventional
Inspection***

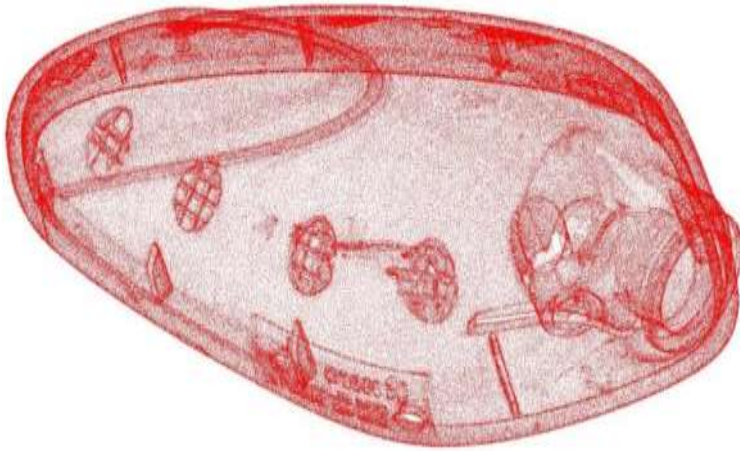


GOM 3D scanner really a great support in our NPD since 2010

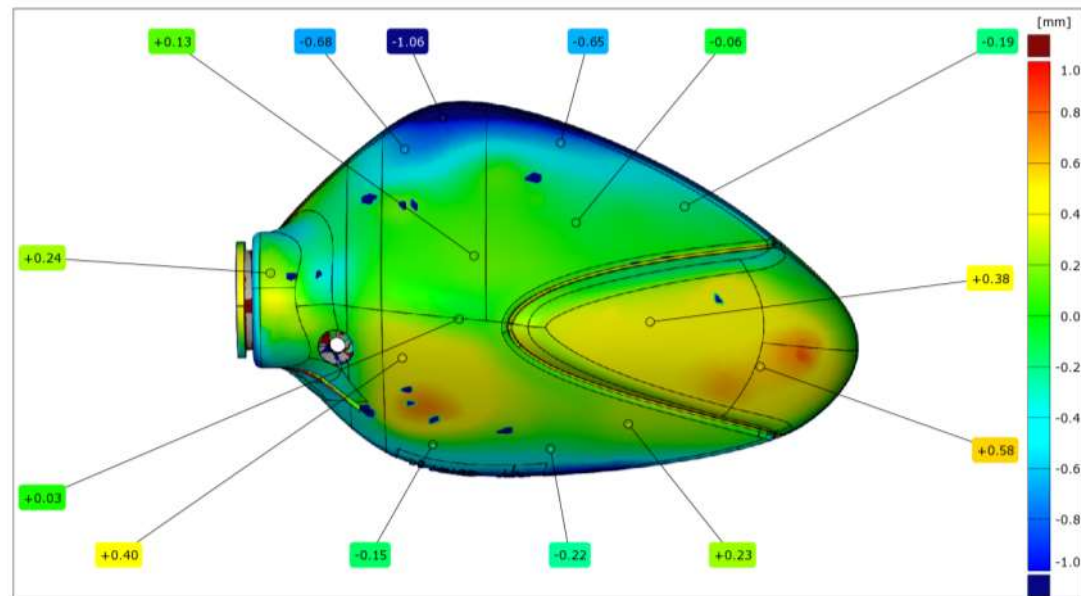


GOM White Light Scanner (ATOS – I, 2M) 5 Mp, Dual Camera, work specimen 250 x 250 x 250 mm, Software version ATOS v 7.5.4 is being extensively used for

1. Replicating the intended product
2. Comparison of part with CAD model (master data)
3. Comparison of tool with CAD model
4. Inspection of part dimensions w.r.t. drawing

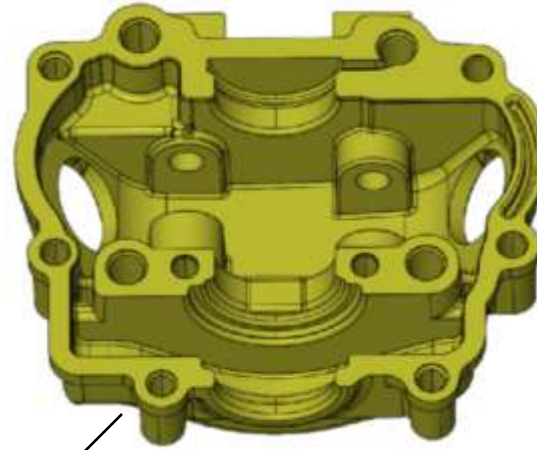


Point cloud data

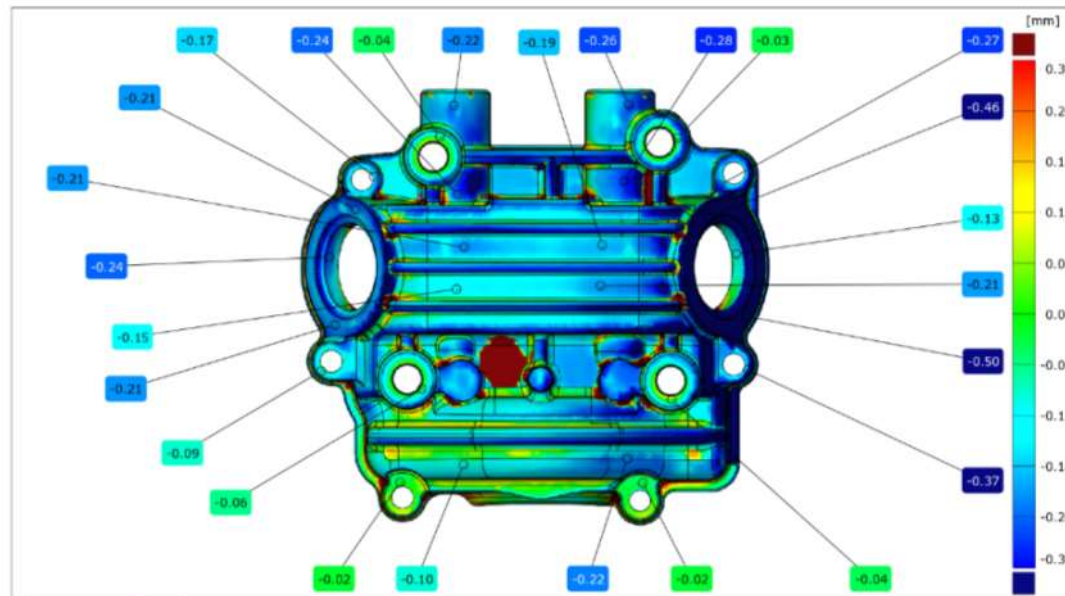


Colored plot of variation in Point cloud data & CAD model

SANDHAR
Growth. Motivation. Better Life.



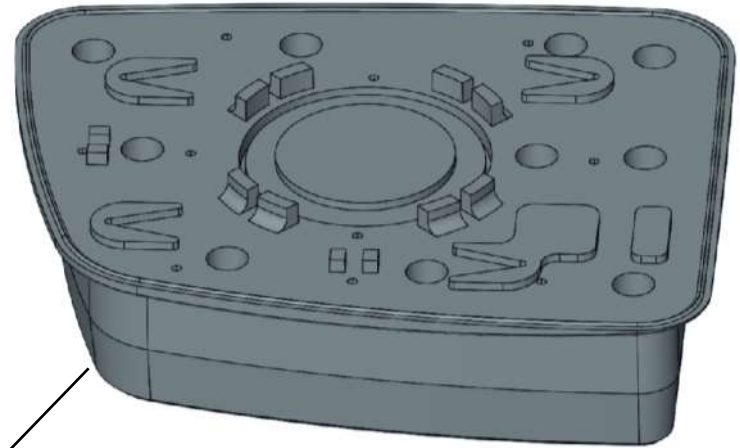
CAD model



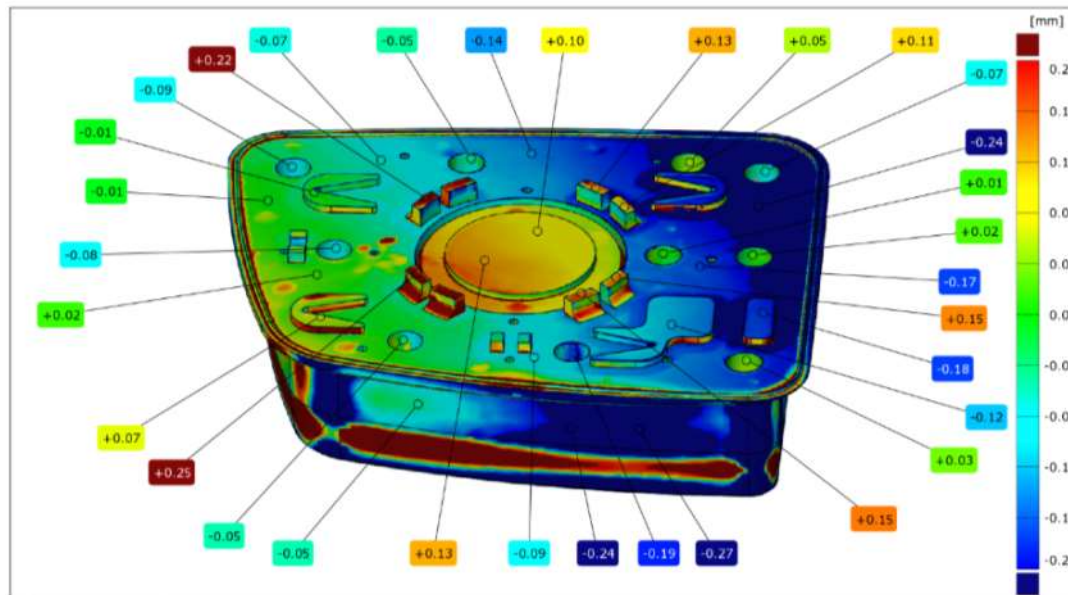
Colored plot of variation in Point cloud data & CAD model



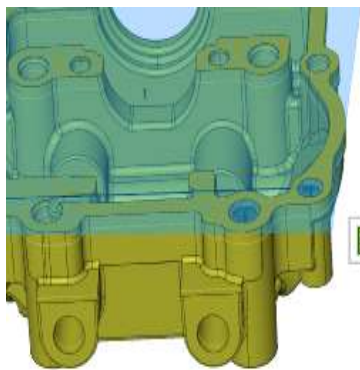
Point cloud data



CAD model



Colored plot of variation in Point cloud data & CAD model



Circle 7

| | Nominal | Actual | Dev. | Check | Dev. | | Nominal | Actual | Dev. | Check |
|----|---------|--------|-------|-------|-------|----|---------|--------|-------|-------|
| LY | +49.00 | +48.91 | -0.09 | | +0.05 | LY | +81.40 | +81.34 | -0.06 | |

Circle 8

Distance 9.Lx

| | Nominal | Actual | Dev. |
|----|---------|--------|-------|
| LX | +37.00 | +37.13 | +0.13 |

Circle 10

Circle 16

Circle 14

Distance 7.Lx

| | Nominal | Actual | Dev. |
|----|---------|---------|------|
| LX | +101.00 | +101.14 | +0.1 |

Distance 6.Lx

| | Nominal | Actual | Dev. |
|----|---------|---------|------|
| LX | +110.50 | +110.64 | +0.1 |

Distance 3.Lx

| | Nominal | Actual | Dev. | Check |
|----|---------|--------|-------|-------|
| LX | +42.00 | +42.07 | +0.07 | |

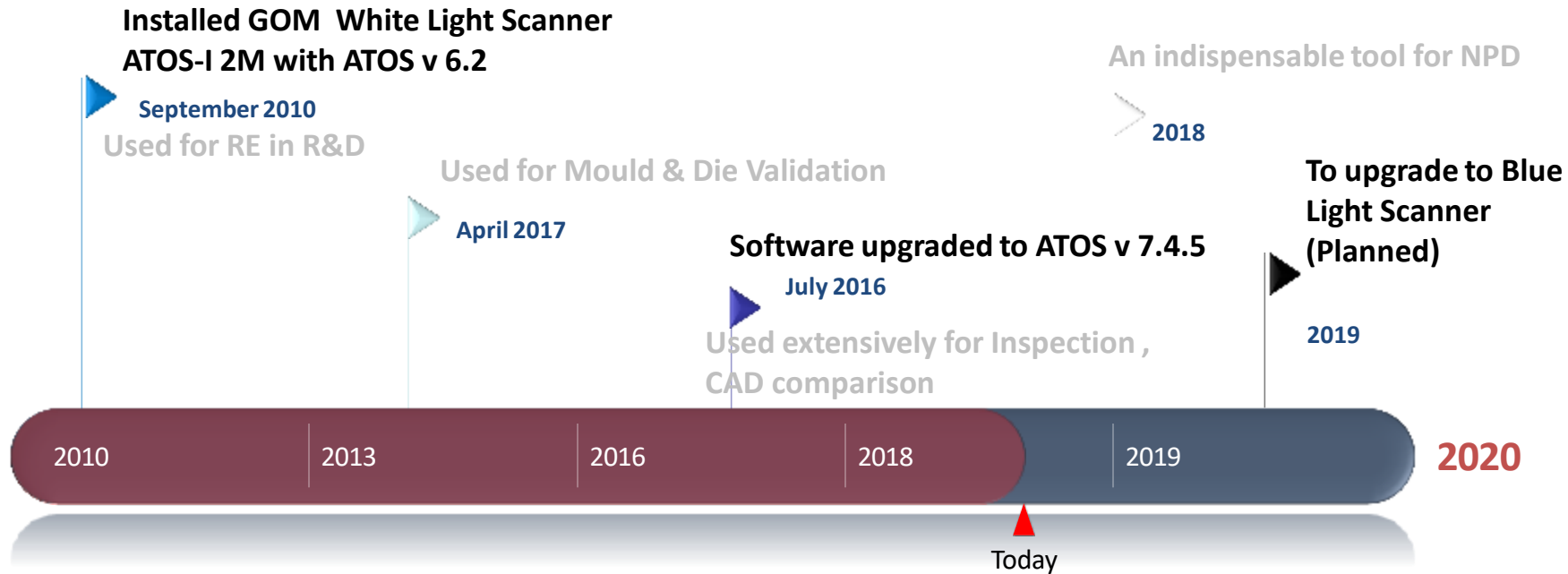
Distance 2.Lx

| | Nominal | Actual | Dev. | Check |
|----|---------|--------|-------|-------|
| LX | +98.00 | +98.07 | +0.07 | |

Circle 15

Inspection of part dimensions w.r.t. drawing

- ✓ Exact Replication of intended product (thru Reverse Engg.)
- ✓ **Less time for 3D modelling & 3D printing**
- ✓ **Proper assessment tooled up part**
- ✓ Ability to fast track **Deliverables** resulting in **Fast Delivery** of Projects
- ✓ **Reduced Error** and **Improved Quality**
- ✓ Winning customer confidence with 3D scanned report resulting in Better Customer satisfaction



Thanks