www.innovative3ds.com

011-49096601,9911518401,7840086772

Innovative 3D

WE DESIGN YOU DESIRE

- 3D SCANNING
- 3D MODELING
- 2D & 3D INSPECTION
- REVERSE ENGINEERING
- TOOL DESIGN
- RAPID PROTOTYPE (RPT)
- CNC MACHINING
- MOULD MANUFACTURING
- CMM

B-29/1 JHILMIL INDUSTRIAL AREA DELHI-110095

ABOUT THE COMPANY

INNOVATIVE 3D SOLUTIONS

Innovative 3D is where ingenuity and vision combine . . . to provide solutions & critical project support. Innovative 3d is a solution provider like 3d Scanning, 3d Design, Reverse Egg, Class A Surfacing, Mould design, Rapid Proto Type (RPT), Mould Manufacturing, VMC Machining, & all types of complete **2D & 3D Inspection** & CAE Services, Mould flow Analysis, Finite Element Analysis, etc..

Company with valuable capabilities. The company has provided solutions & services to companies & organizations in a variety of industries: Automobile, Automotive Lighting, medical device & medical equipment, consumer electronics, manufacturing, etc.

We focus on profiling our company as a partner with a high quality design perception combined with a strong drive towards innovation.

Our expertise is to integrate styling and production activities and providing our clients with a full range of design solutions.

These services include creative research, feasibility studies, product/project engineering. 2D/3D design development and prototyping.

INNOVATIVE 3D SOLUTONS offers a complete design service, ranging from initial market research through to final design specification, renderings and full 3D modeling services.
We create unique solutions for the Automobile, Medical ,home appliances, defense, aero space, etc. sector with dedicated individuals with a proven capability in making a difference with expertise spanning automotive industrial design.

Mission of I***NNOVATIVE 3D SOLUTIONS*** is to provide our clients with the best design solutions possible created within the clients set borders, sprung from our creativity and translated into visual emotion.

Our **COMET SERIES** product line utilizes blue light technology to capture images with high accuracy requirements in half the time it takes a Coordinate Measuring Machine (CMM). Blue light technology provides an organized data set with speeds up to 16 million points in as little as two seconds. With interchangeable field of view lenses you can measure a large variety of part sizes with just one system.

We have STEINBICHLER L3D Blue light Scanner Germany Based technology

Specification: - In this scanner we have measurement 3 volume

Volume	Point spacing	Noise	Accuracy
1. 100x100	0.07mm	0.003mm	0.005mm
2. 200x200	0.07mm	0.003mm	0.008mm
3. 400x400	0.07mm	0.003mm	0.014mm

Blue Light Scanning Overview

Blue light 3D scanners (also known as structured-light 3D scanners) that capture a digital 3D scan of a physical object in seconds.

Blue light 3D scanners offer the following advantages over laser scanners:

- Faster scan times
- Produce dense and accurate data
- Higher detail levels
- Takes the full view of the object with full field scanning
- Safe for people, even to the naked eye

The ZEISS COMET L3D is a comprehensive solution that uses the latest sensor technology and the project-oriented software colin3D for data capture and data processing. Deliverables include a high level of efficiency in operating sequences and quality measurement data. Compact and light, the system can be used in both mobile or fixed scenarios. The ability of on-site calibration is improved greatly as the system allows swapping the lenses as necessary.

Geometry Acquisition Post Processing

Step 1

The 3D scanner directs a series of reference patterns onto an object. The light deflects onto the object's surface. The scanner captures these images to calculate the object's depth and surface information.

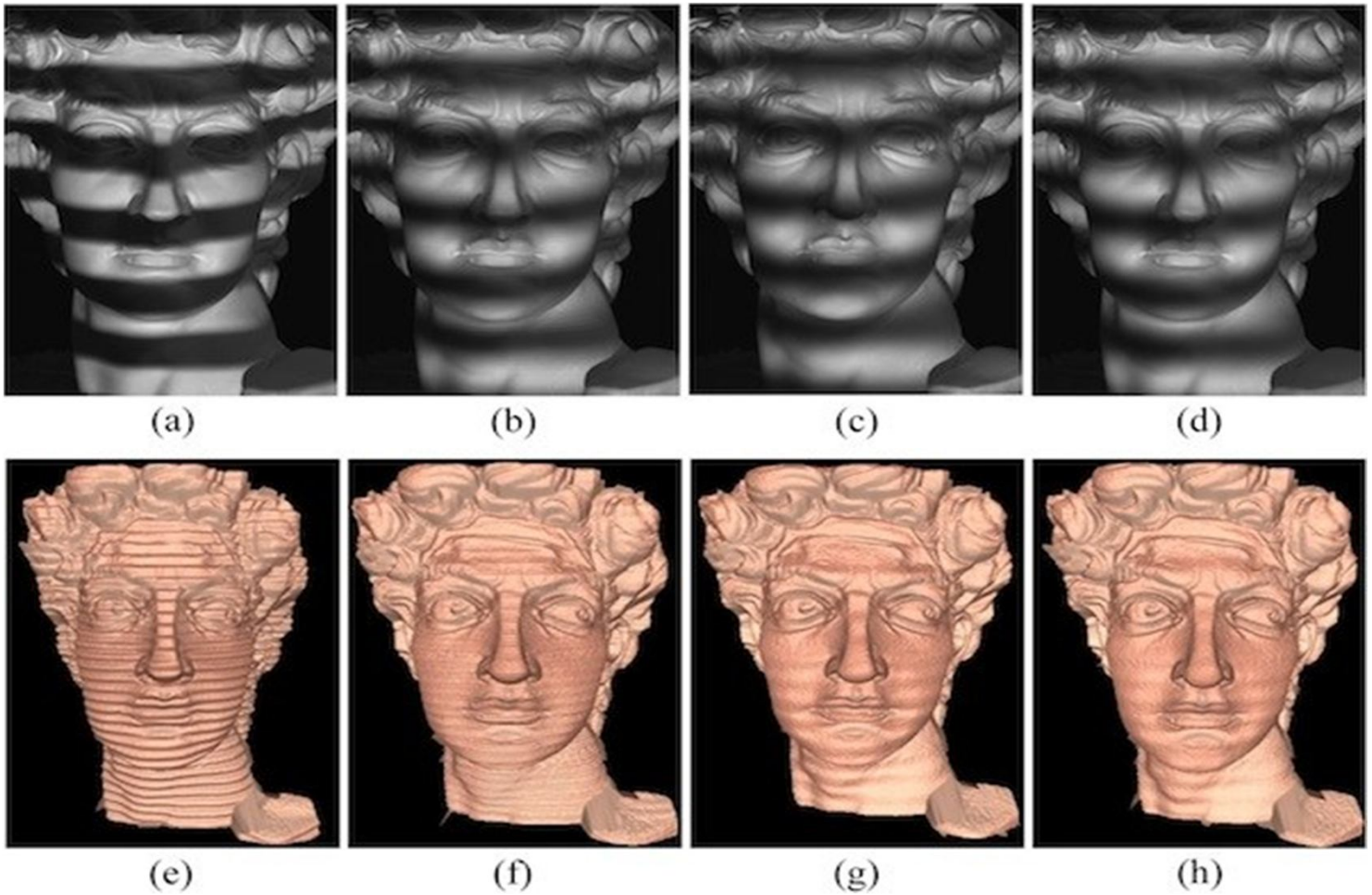
Step 2

The 3D scanner's triangulation engine processes the images to acquire the data needed to create a 3D model. Automated 3D capture drastically reduces the time and cost in capturing complex physical measurements.

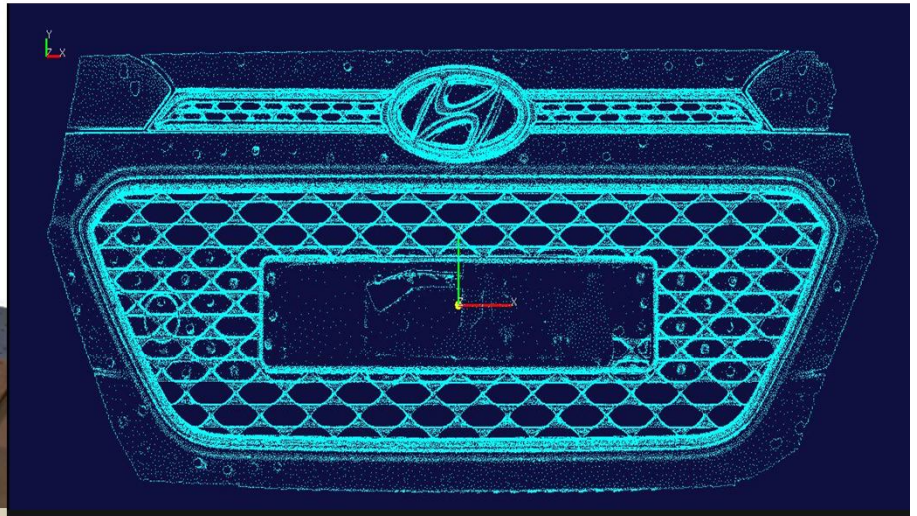
Step 3

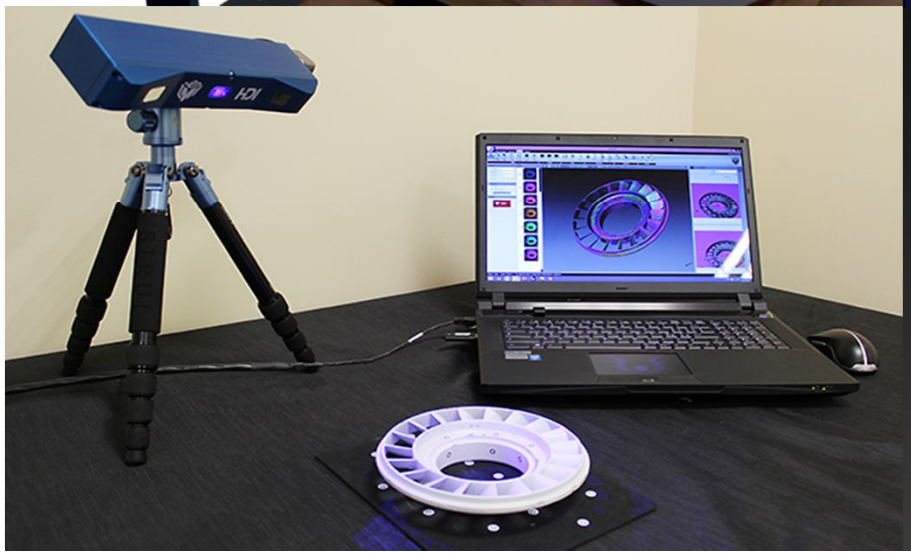
Consider using Colin 3d for advanced 3D scanner data post-processing. These software packages are very helpful for 3D inspection and reverse engineering applications

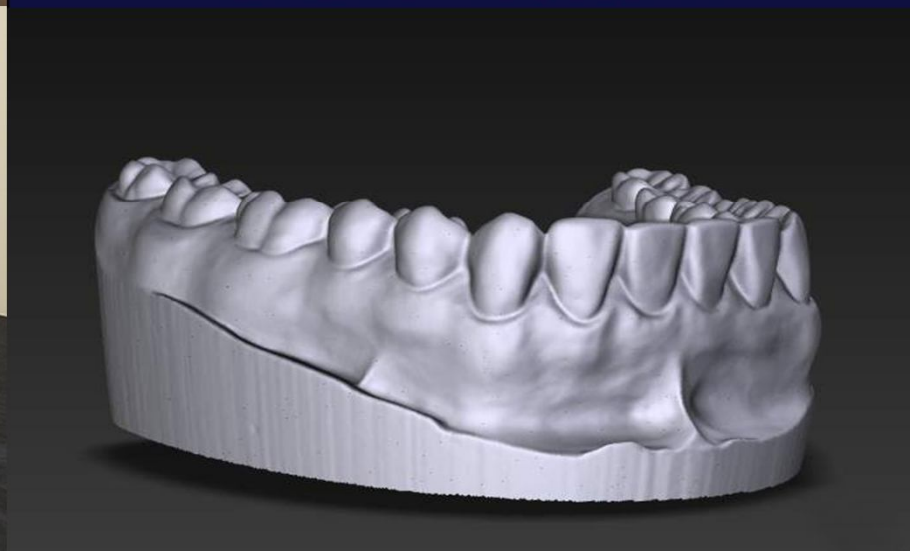
3D BLUE LIGHT SCANNING



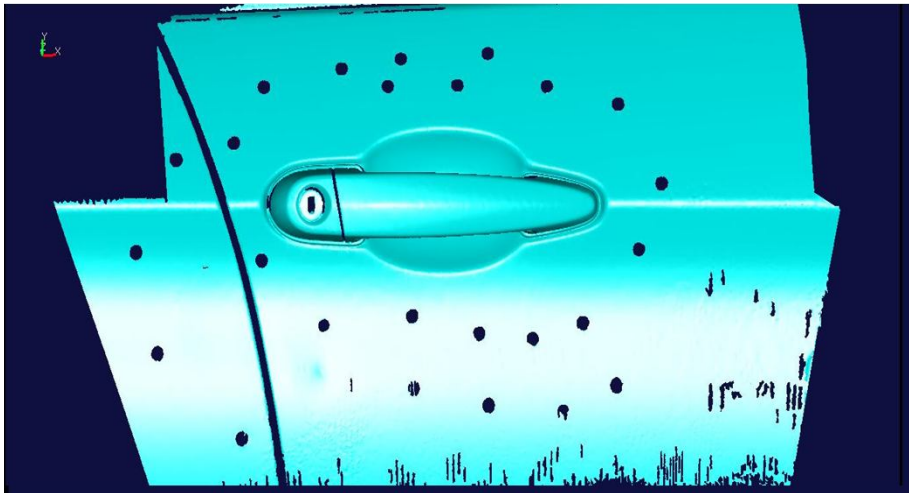
3D BLUE LIGHT SCANNING



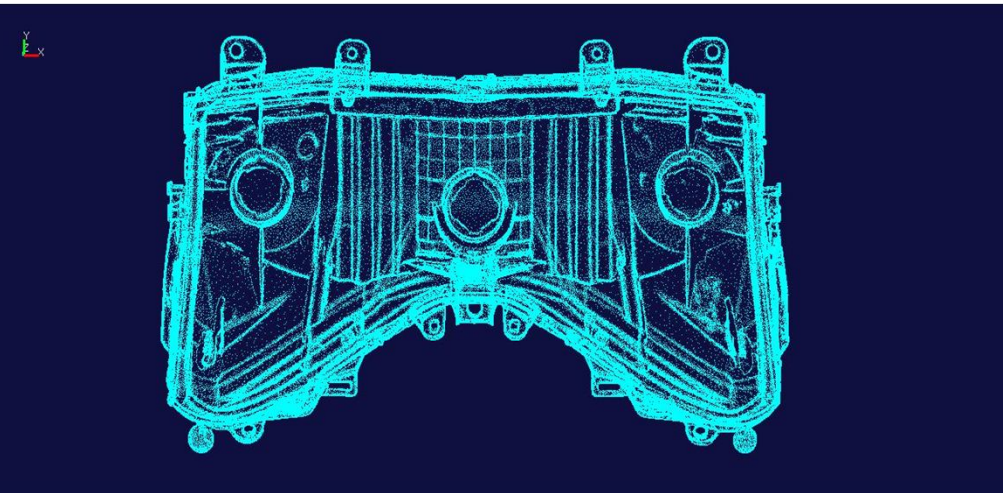




3D BLUE LIGHT SCANNING



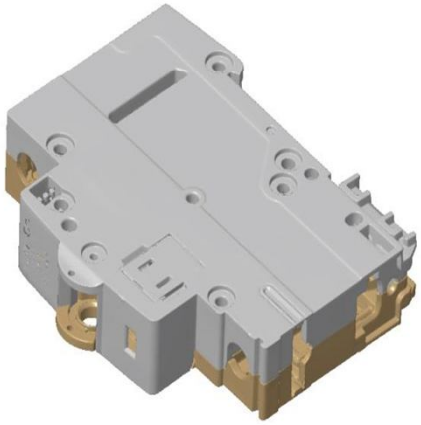
CAR DOOR



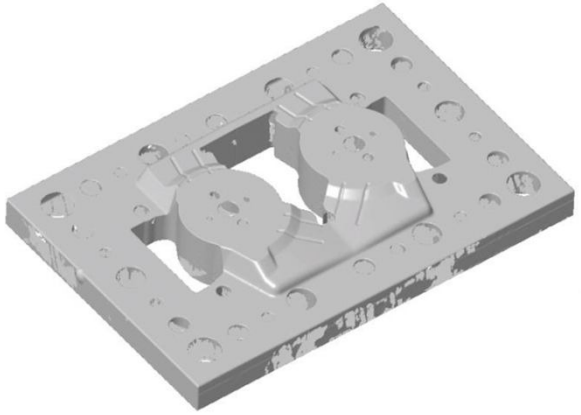
TAIL LIGHT

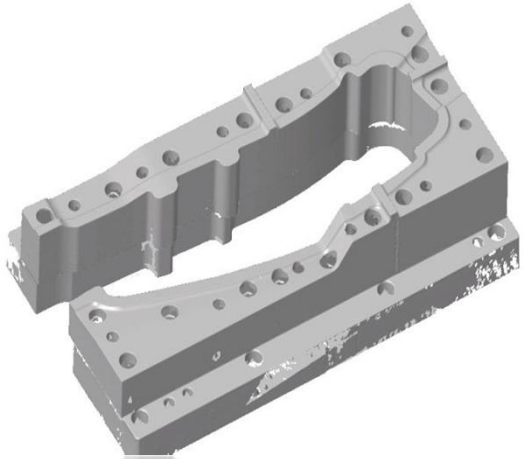
DOOR HANDLE

3D BLUE LIGHT SCANNING



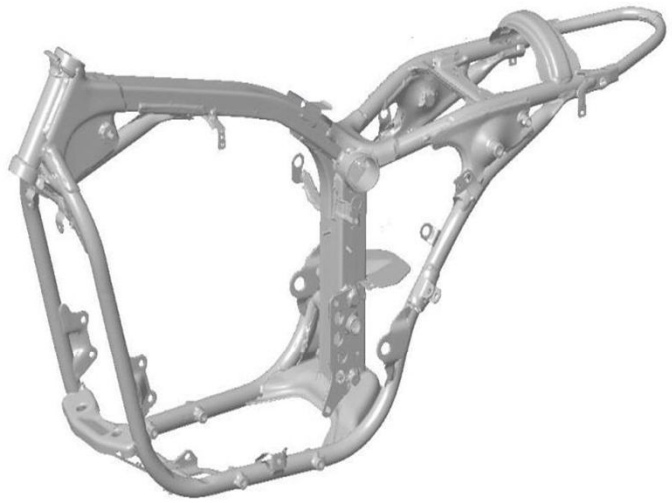
PLASTIC COMPONENT

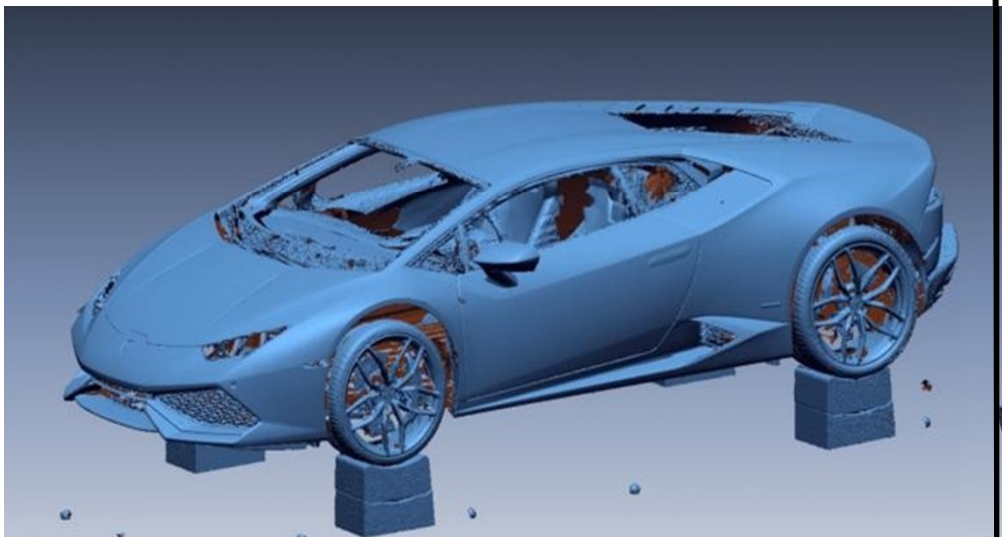


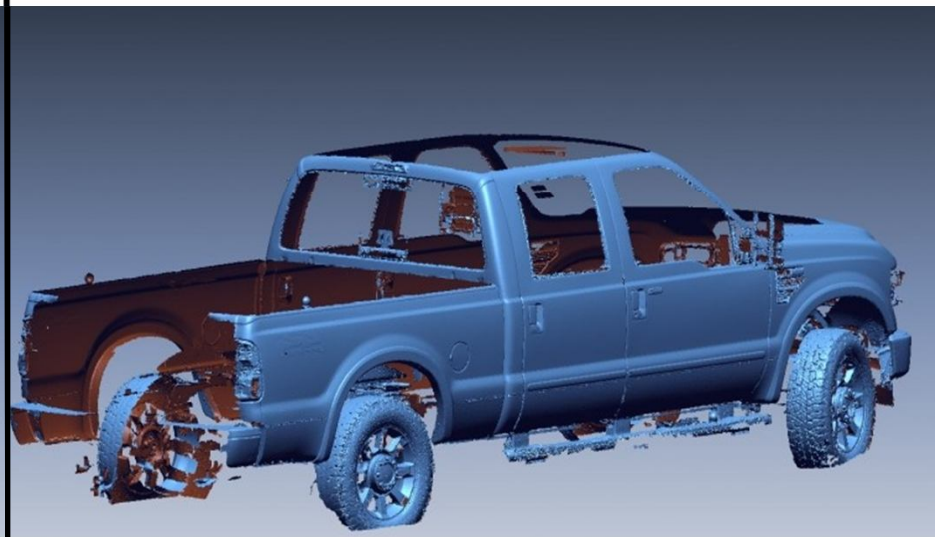


DIE SCANNING

AUTO PARTS SCANNING







3D DESIGNING & REVERSE ENGINEERING

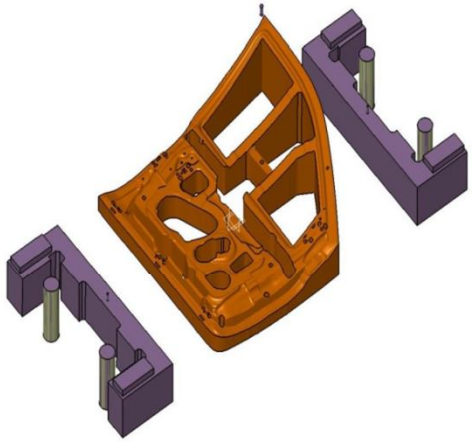
Multiple systems design Engineer with significant experience in Automotive Interior & Exterior product design and data management.

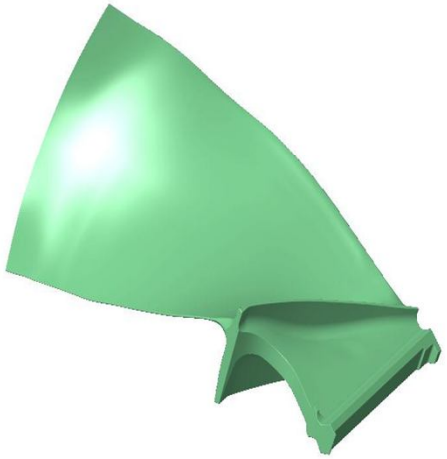
Experienced as well on plastic component design. Extensive experience on NX, SOLID WORKS, IMAGEWARE for solid & surface modeling. Also utilizing **Steinbichler Scanner to support** Reverse engineering & surface design.

All the communications with the client for the new development project. We managed all the designs and data for the customer and was responsible for all data transfers and progress report to management.

Responsibility: Using Designer directions & sketches for the trim development according to Customer.

3D DESIGNING & REVERSE ENGINEERING





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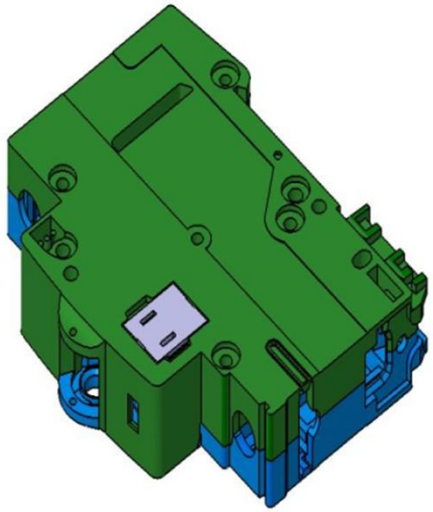
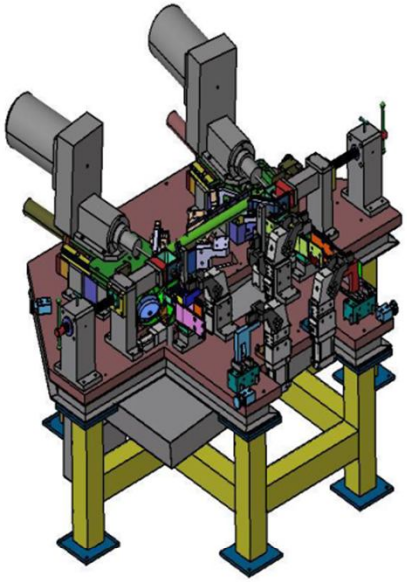
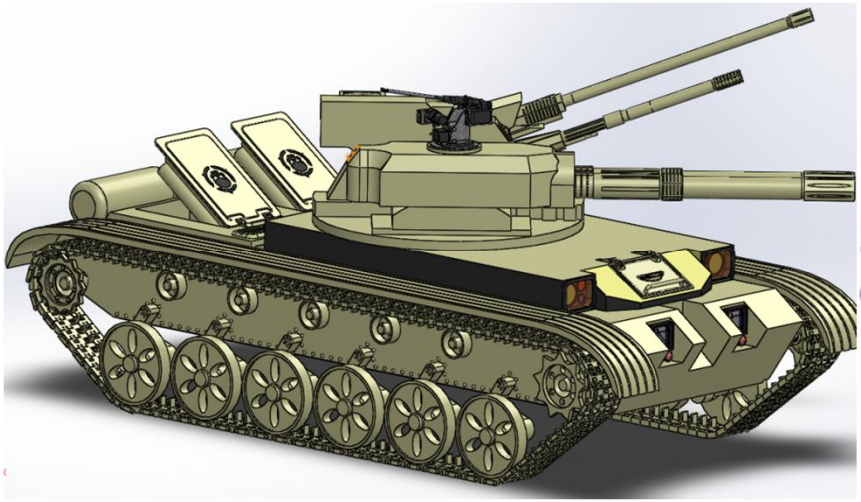
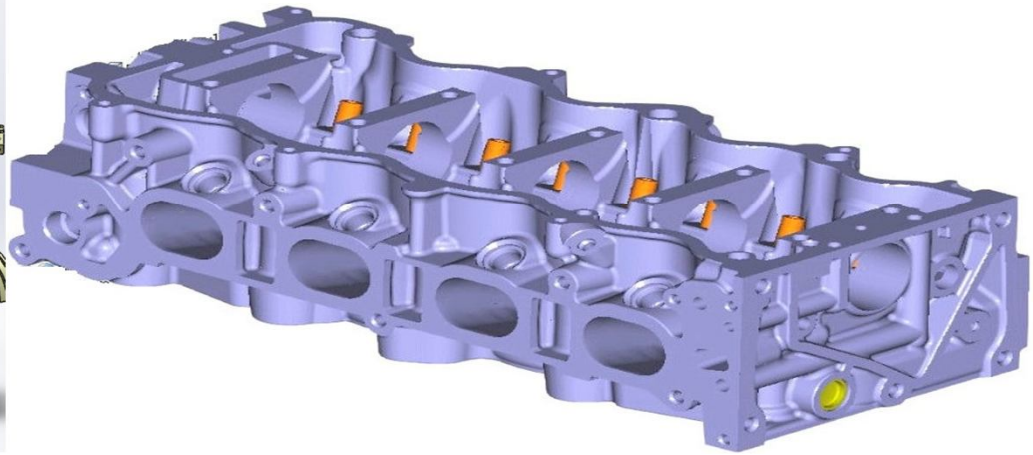
3D DESIGNING & REVERSE ENGINEERING

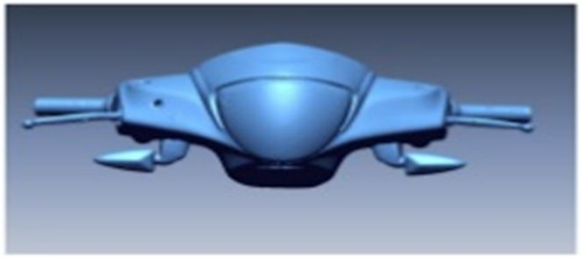




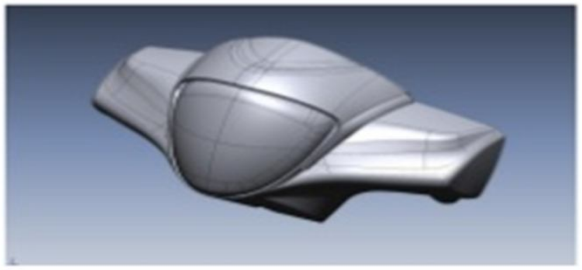




3D DESIGNING & REVERSE ENGINEERING



Scan data



Surface data

Solid Model

Piaggio Fly Scooter

3D DESIGNING & REVERSE ENGINEERING

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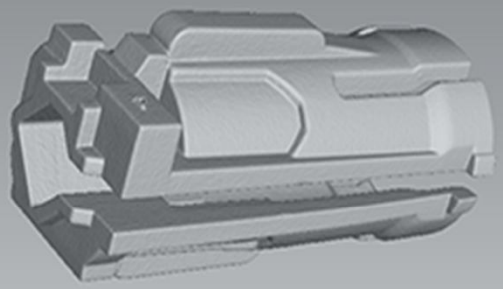
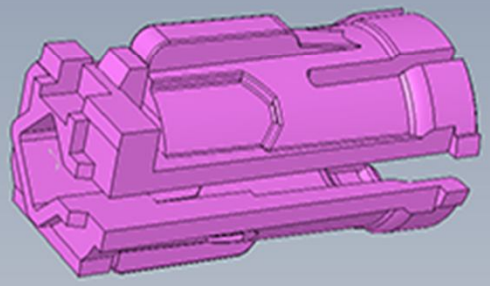
Physical Part

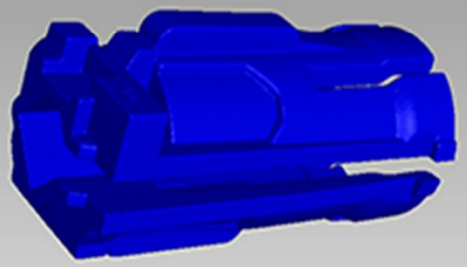
3D Point Cloud



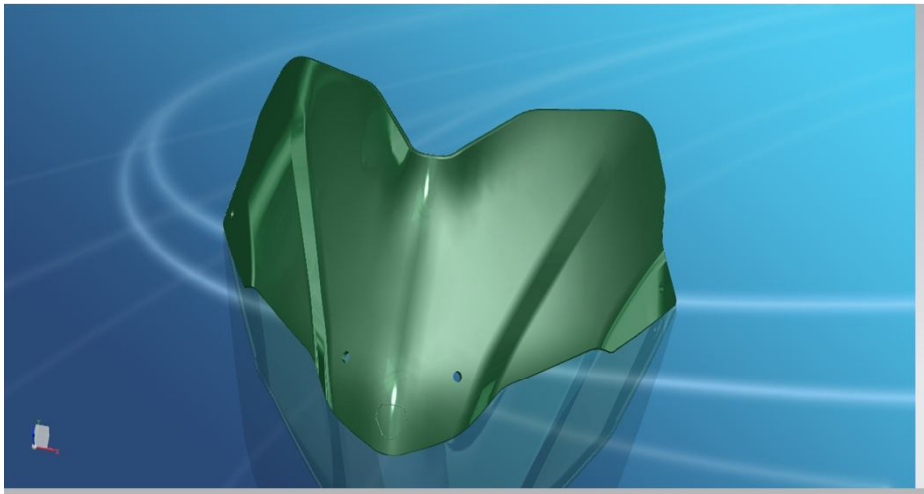
CAD Model

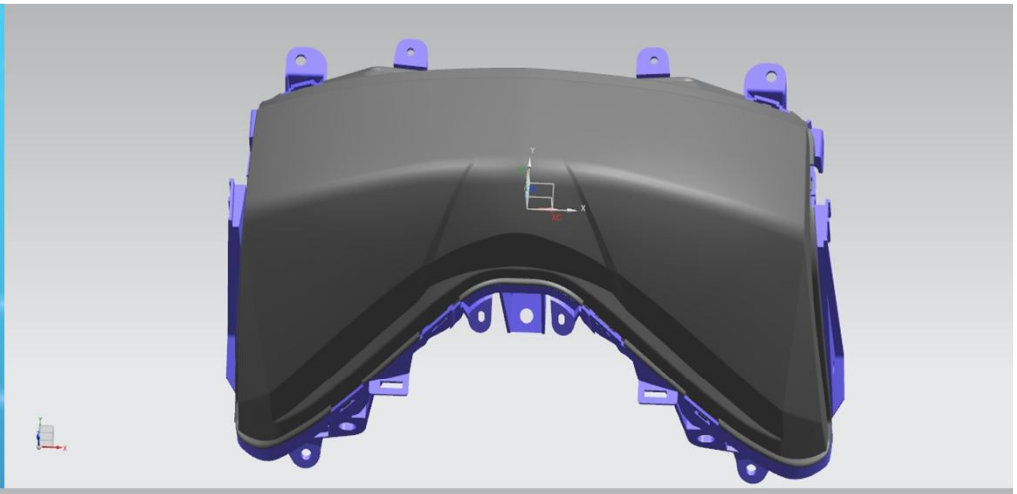


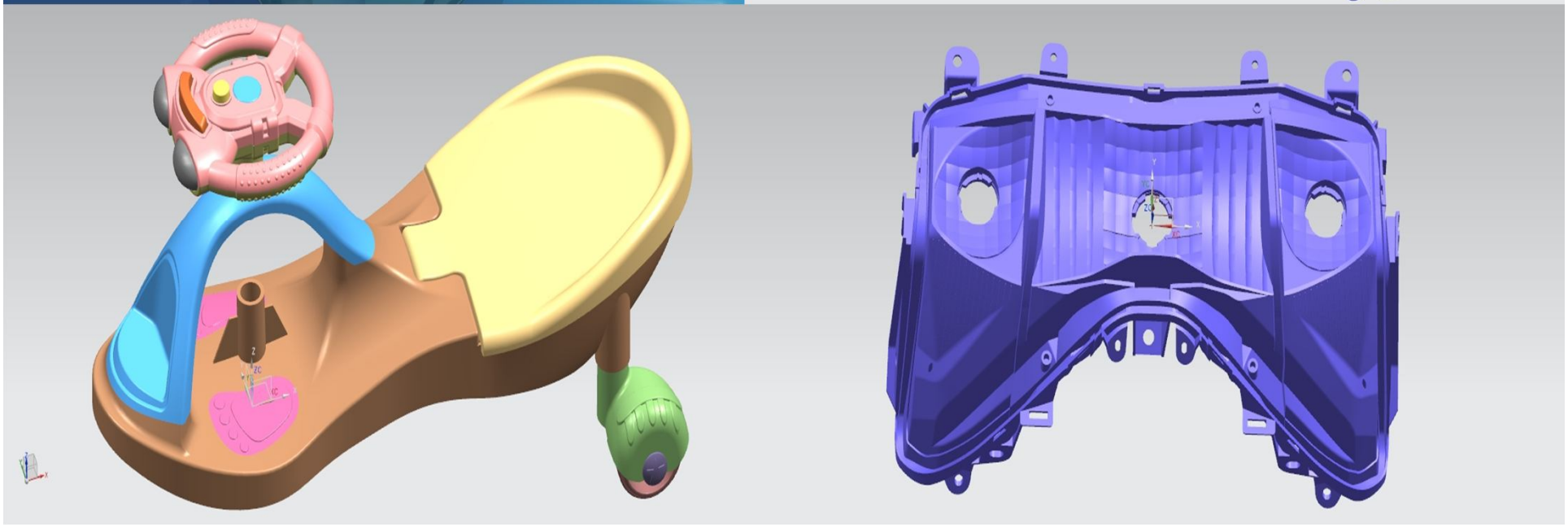
STL File



3D DESIGNING & REVERSE ENGINEERING







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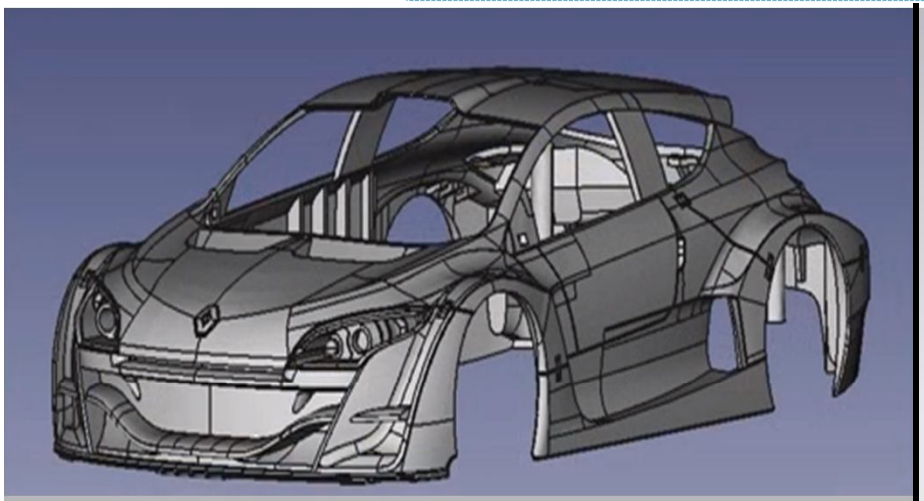
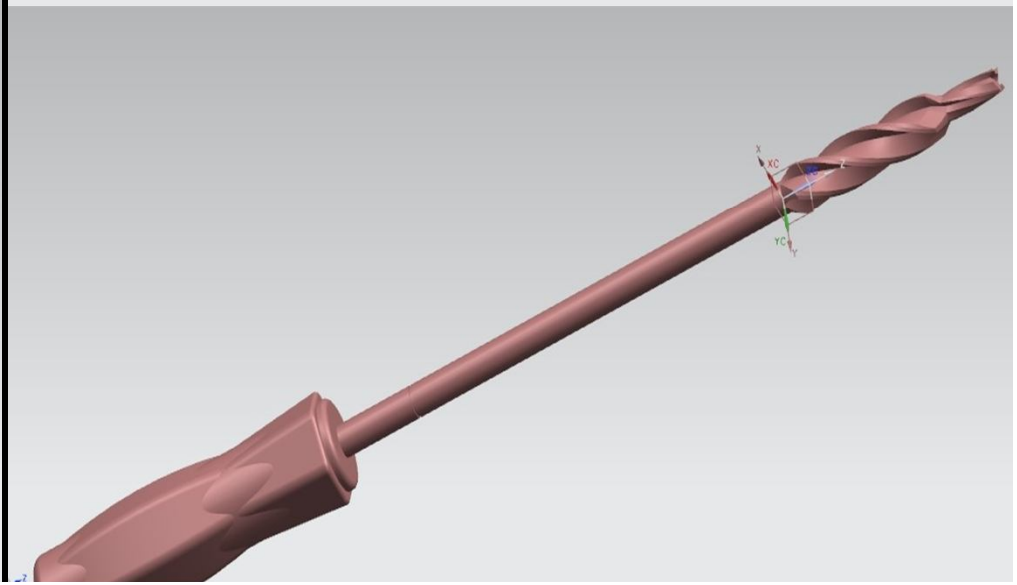
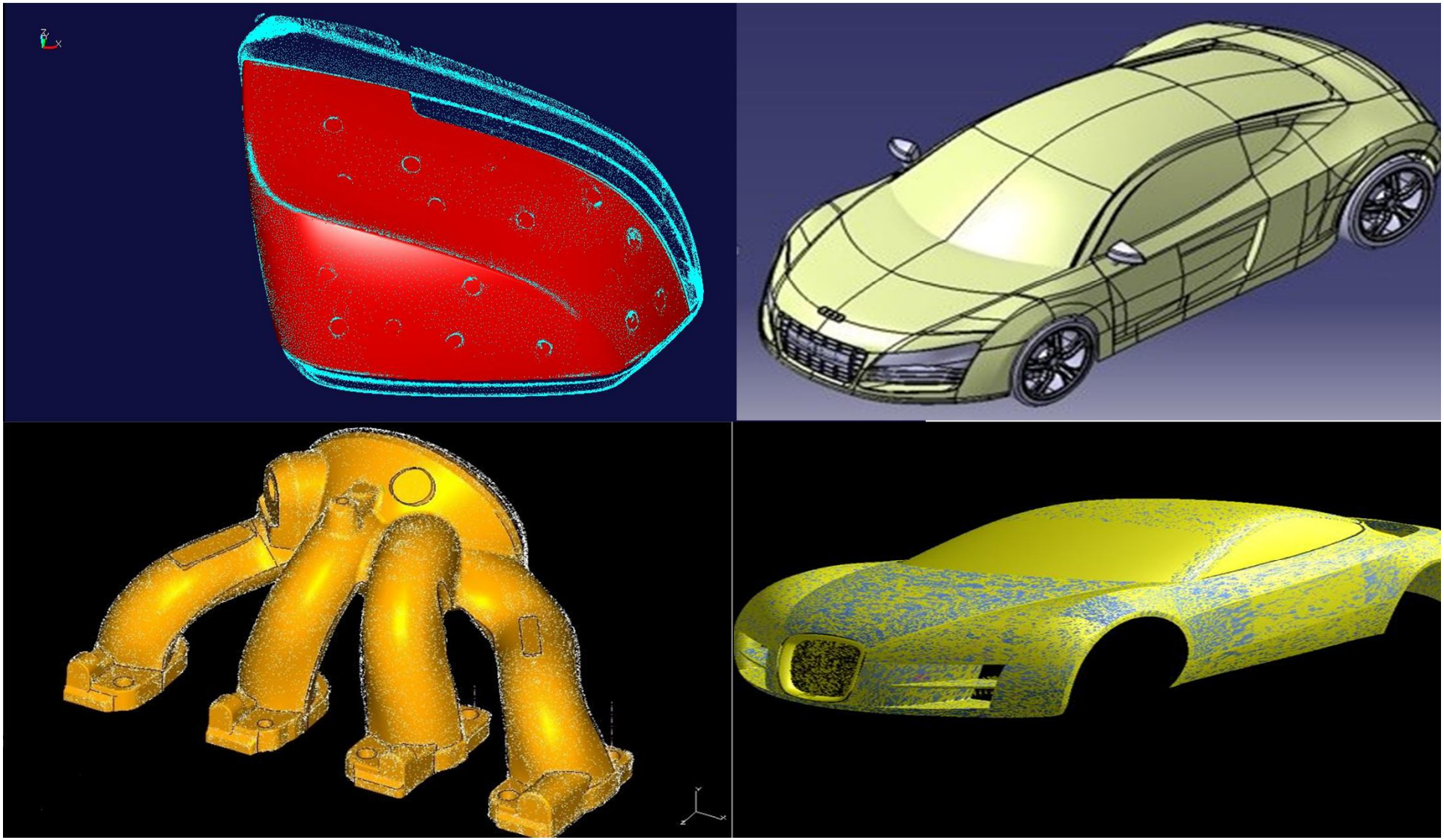
3D DESIGNING & REVERSE ENGINEERING

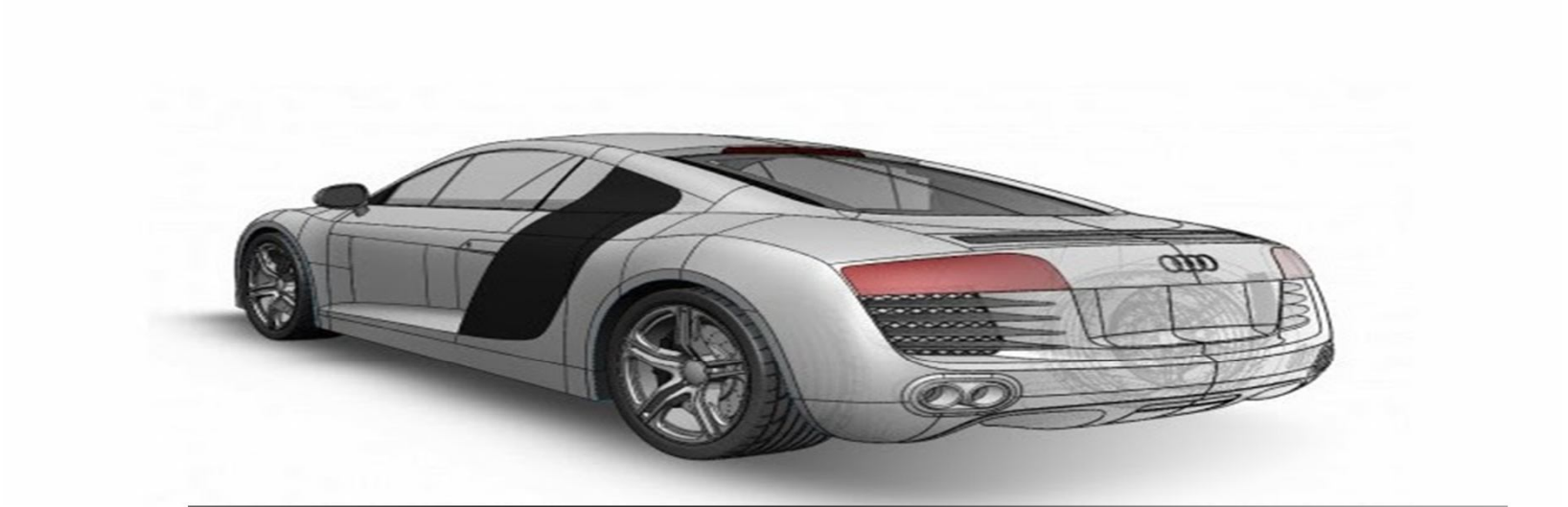




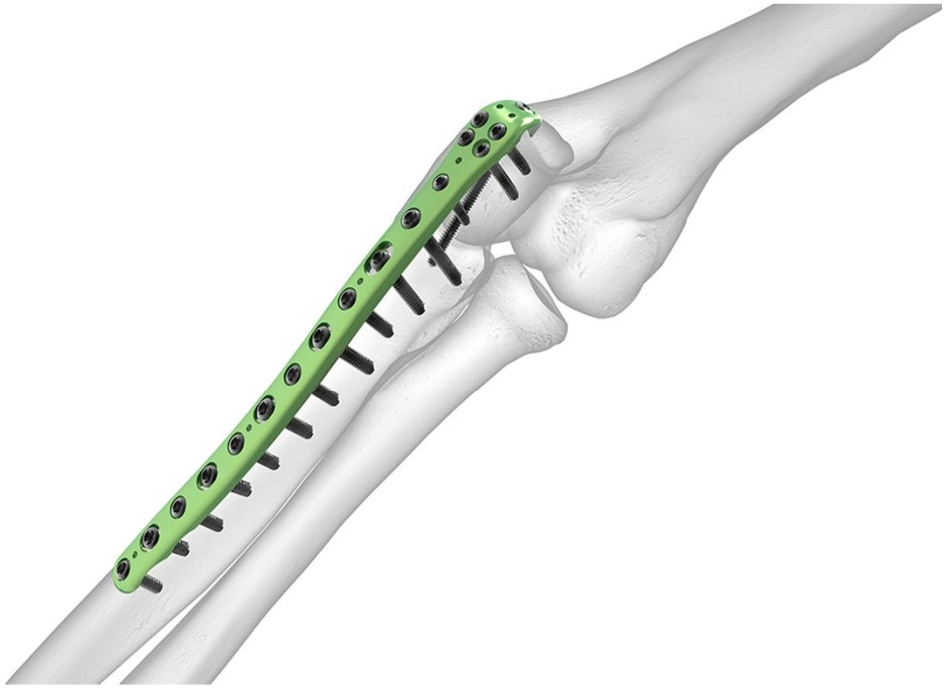
REVERSE **ENGINEERING**



CLASS A SURFACING

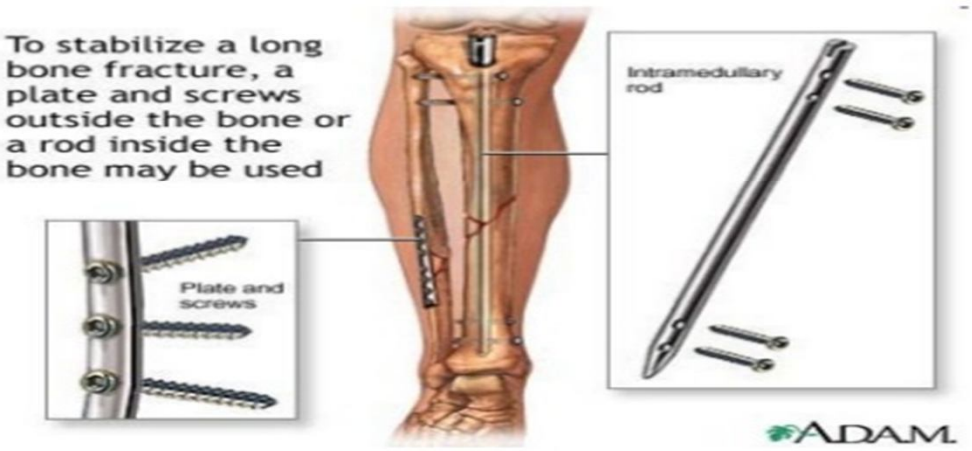


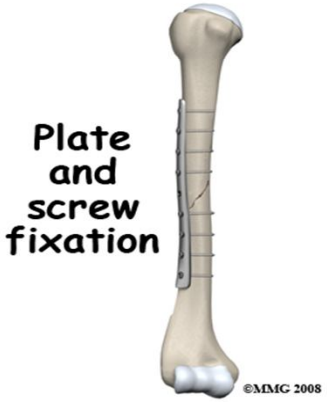
MEDICAL PART DESIGN



Example: Rods, Plates and Screws

- **Rods** are used for alignment and support of long and large bones
- **Plates** hold together loose pieces of bone and support smaller bones
- **Screws** hold plates and rods in place





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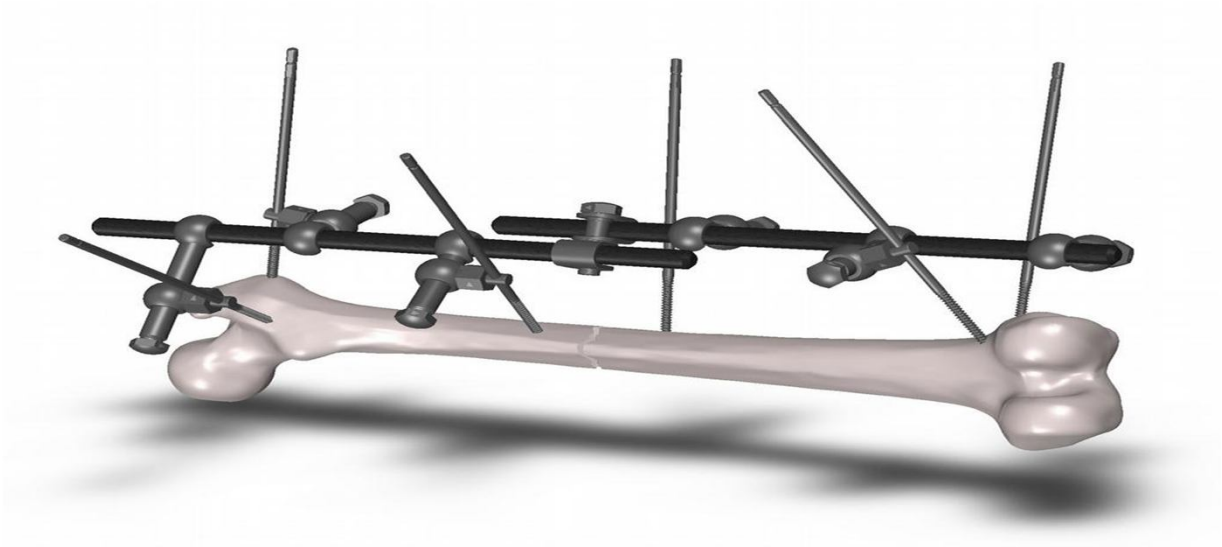
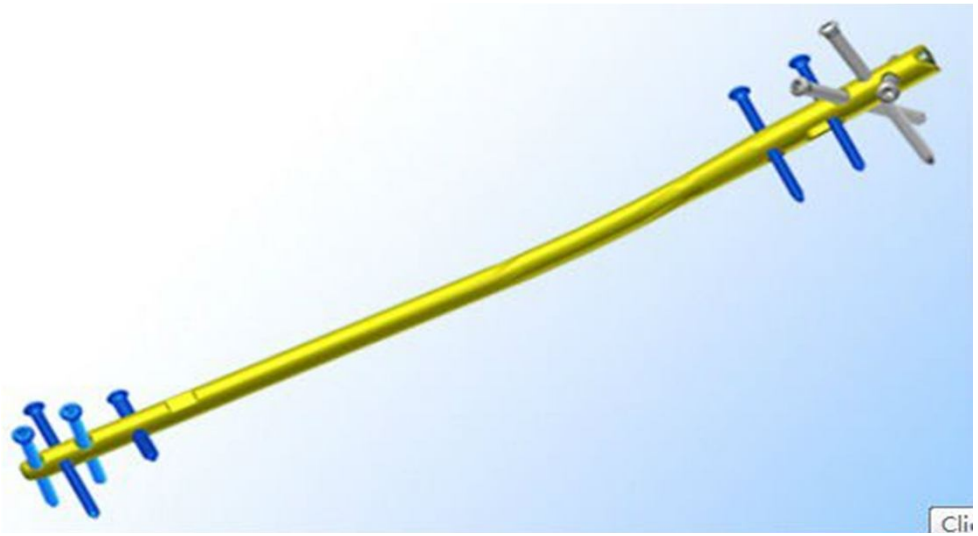
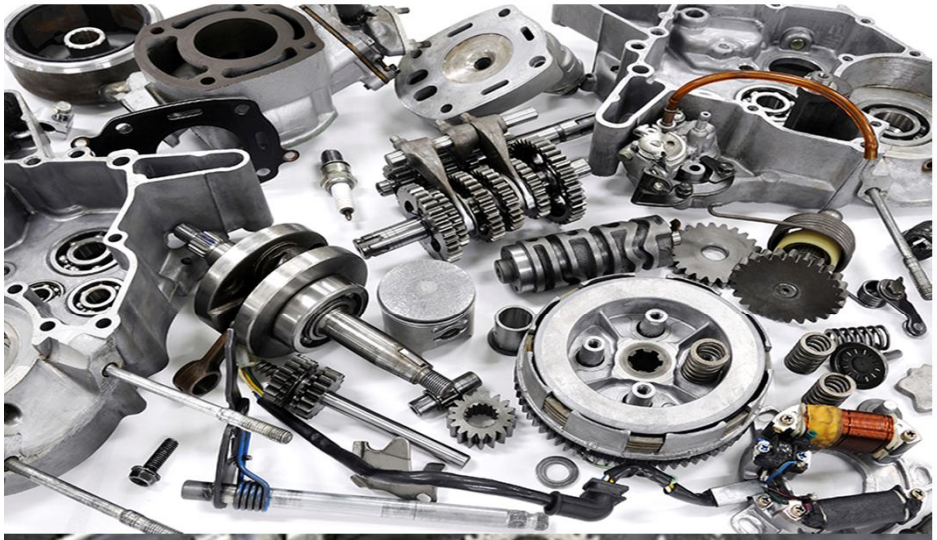




AUTO PARTS DESIGNING



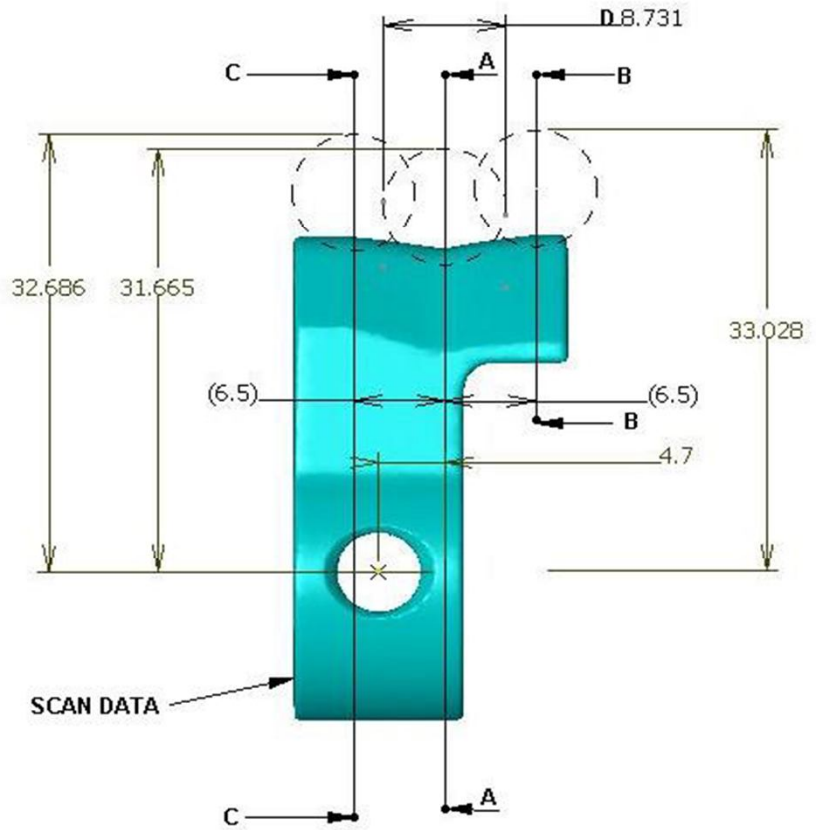
2D INSPECTION

INSPECT PLUS
is powerful, easy first article inspection software for both contact and non-contact 3D measurement devices. It lets you measure and compare parts to CAD models to find and fix manufacturing defects before they become major problems

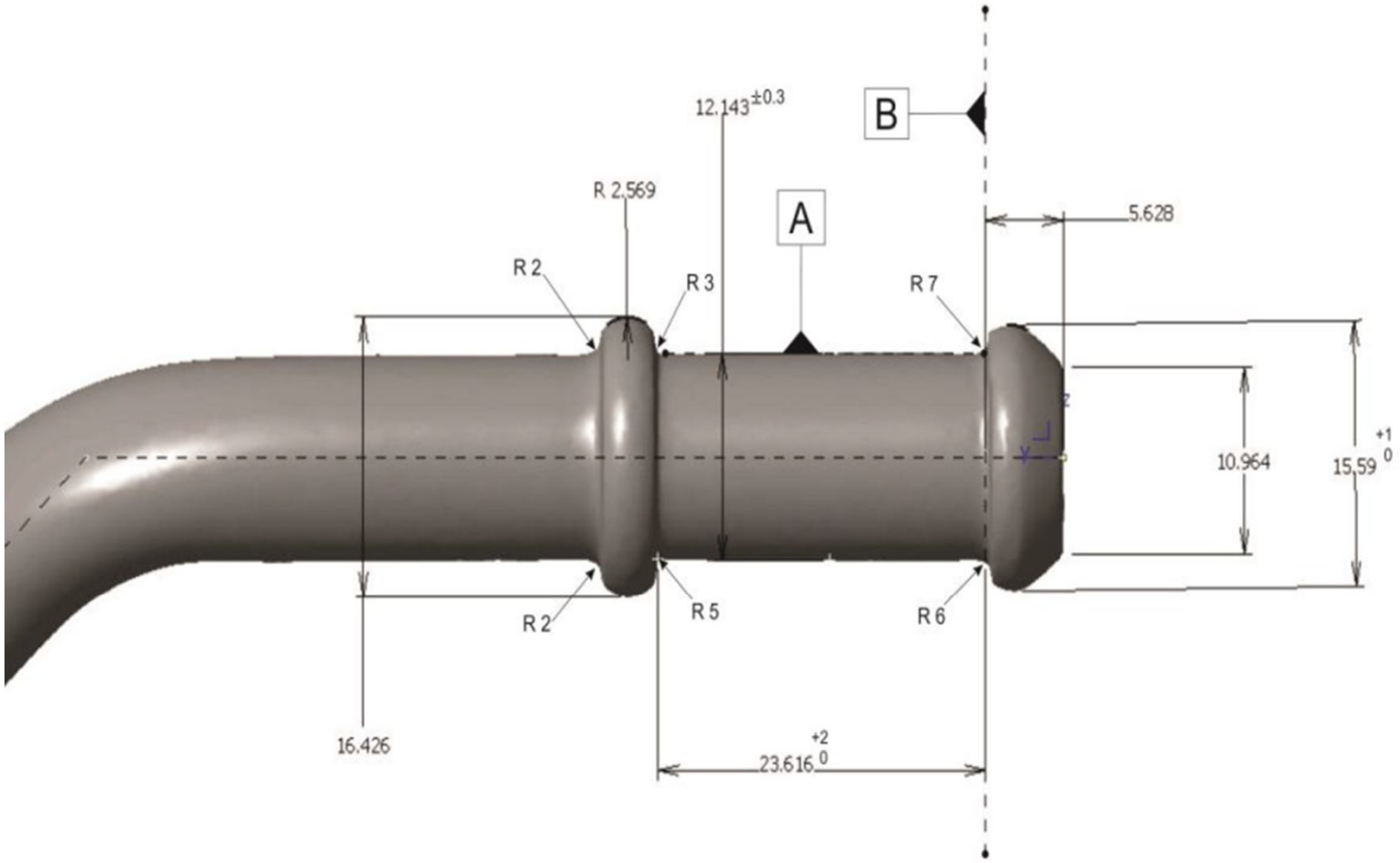
Keep a Detailed History of Every Inspection

You don't have to guess why a part passed or failed, because every inspection is recorded by **INSPECTPLUS** Verify. Via a detailed history tree, you can see the date of measurement, reason for pass/fail, conditions of measurement and more.

2D INSPECTION



2D INSPECTION



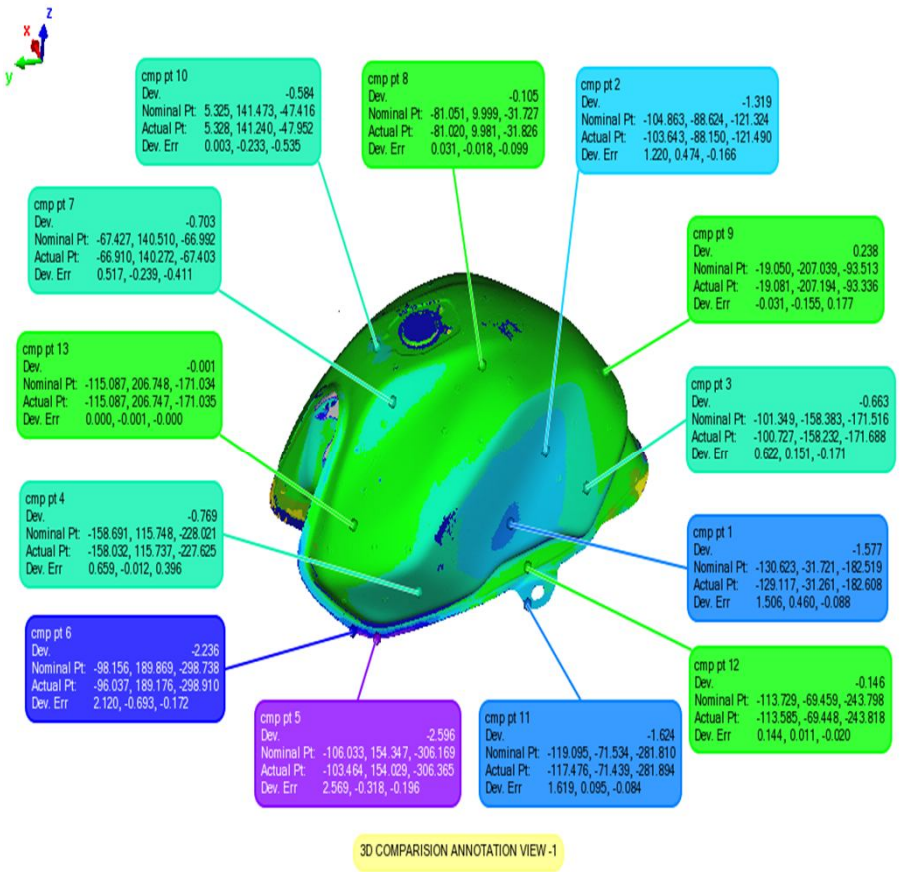
3D INSPECTION

A completely new way of thinking is needed for the Inspection and functional analysis of small injection Molded components and assemblies.

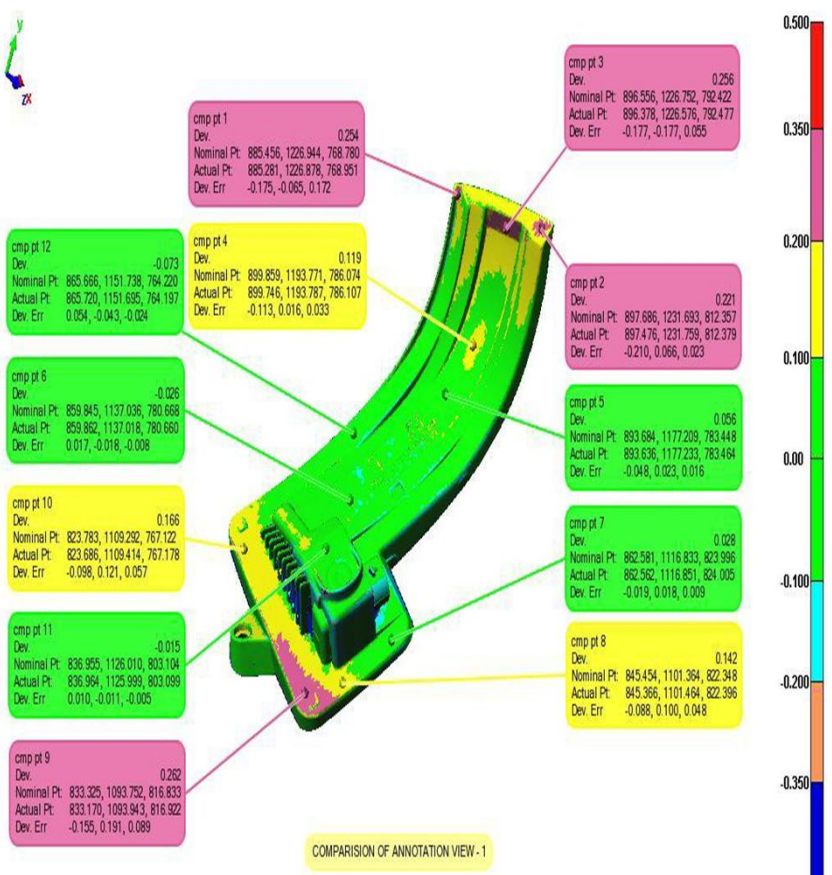
Today, non-Conventional hardware and software tools are use din a unique combination, yielding better and easier to understand results when dimensional inspection is done on small and complex geometric forms.

3D inspection with all GD&T Parameters and full Six degree of freedom locks alignment as per customer requirement.

3D INSPECTION

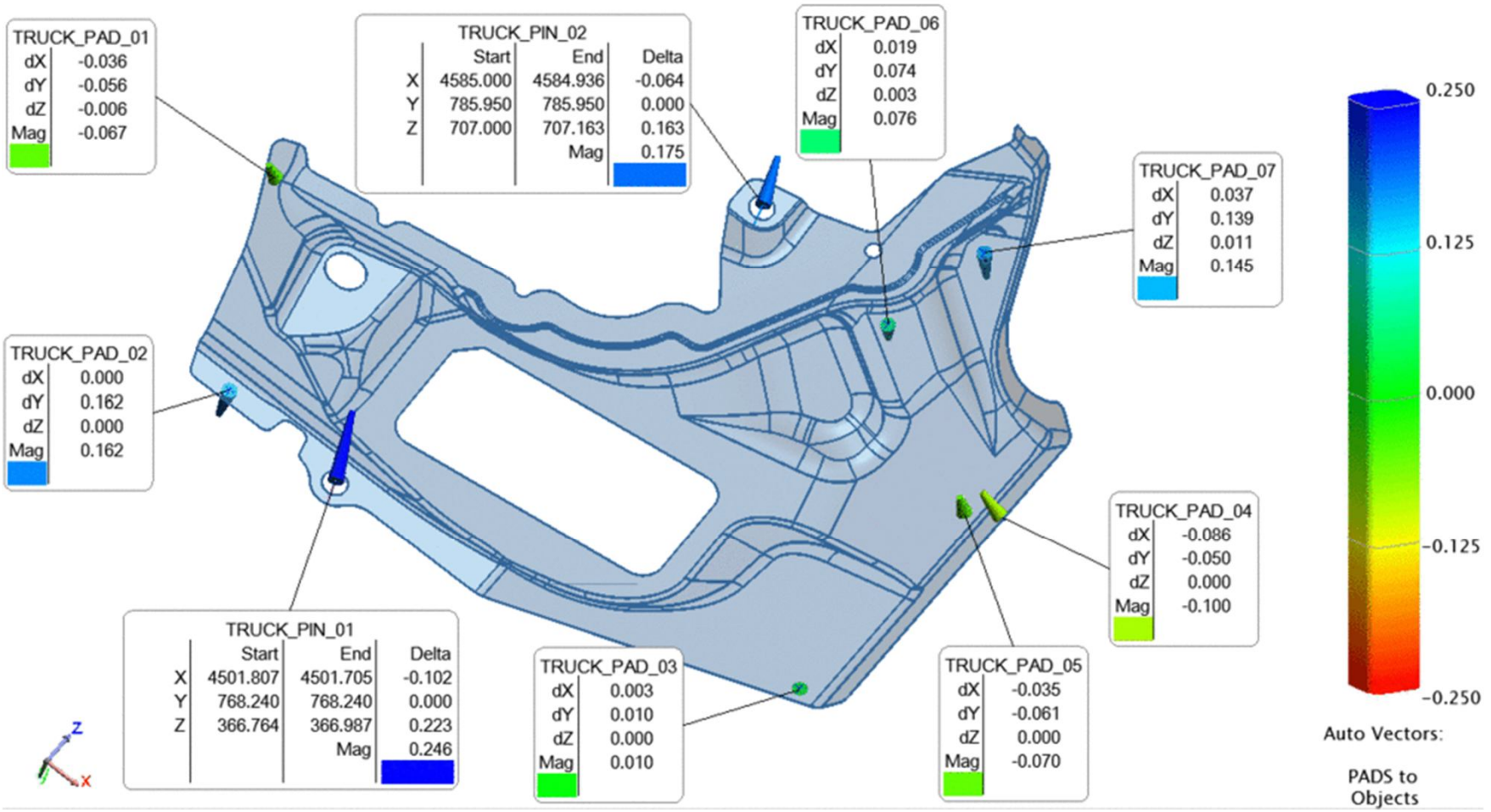


3D COMPARISION ANNOTATION VIEW -1

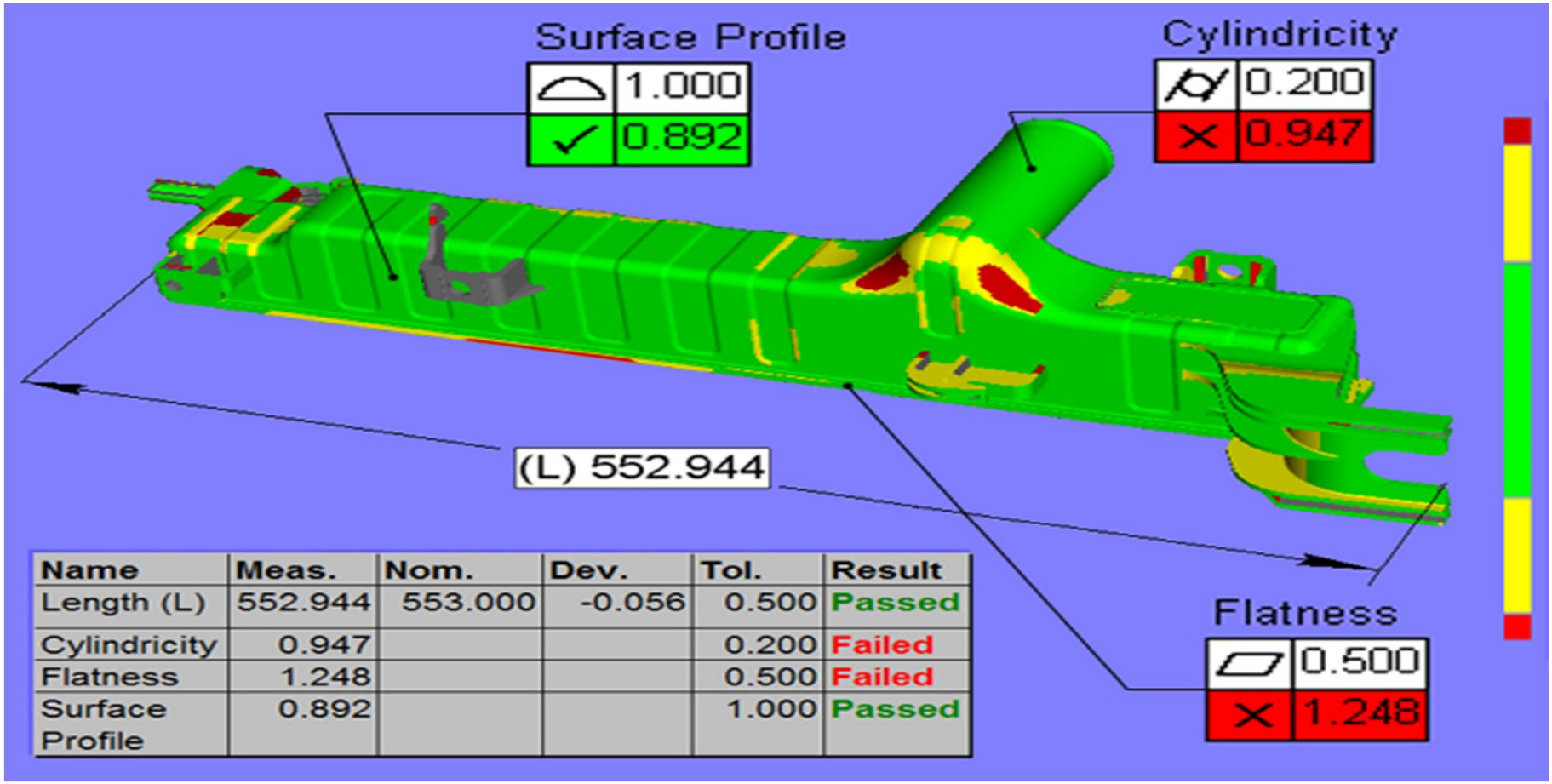


COMPARISION OF ANNOTATION VIEW - 1

3D INSPECTION



3D INSPECTION WITH GD&T



Name	Meas.	Nom.	Dev.	Tol.	Result
Length (L)	552.944	553.000	-0.056	0.500	Passed
Cylindricity	0.947			0.200	Failed
Flatness	1.248			0.500	Failed
Surface Profile	0.892			1.000	Passed

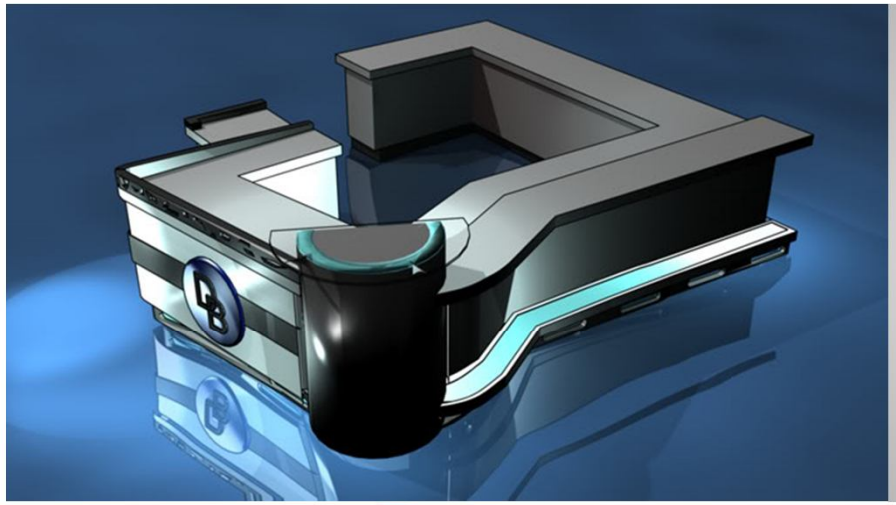
CONCEPT DESIGNING

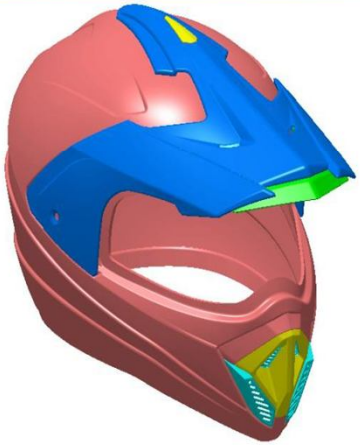
Scope in the Industry:

Imageware is widely used in engineering design industries. Scope of the project is to get the practical knowledge of how to design industrial part.

Conceptual Design is an umbrella term given to all forms of non-aesthetic **design** management disciplines. It is an early phase of the **design** process, in which the broad outlines of function and form of s are articulated. ... Common artifacts of **conceptual design** are **concept** sketches and models

CONCEPT DESIGNING





Types of Injection Molds

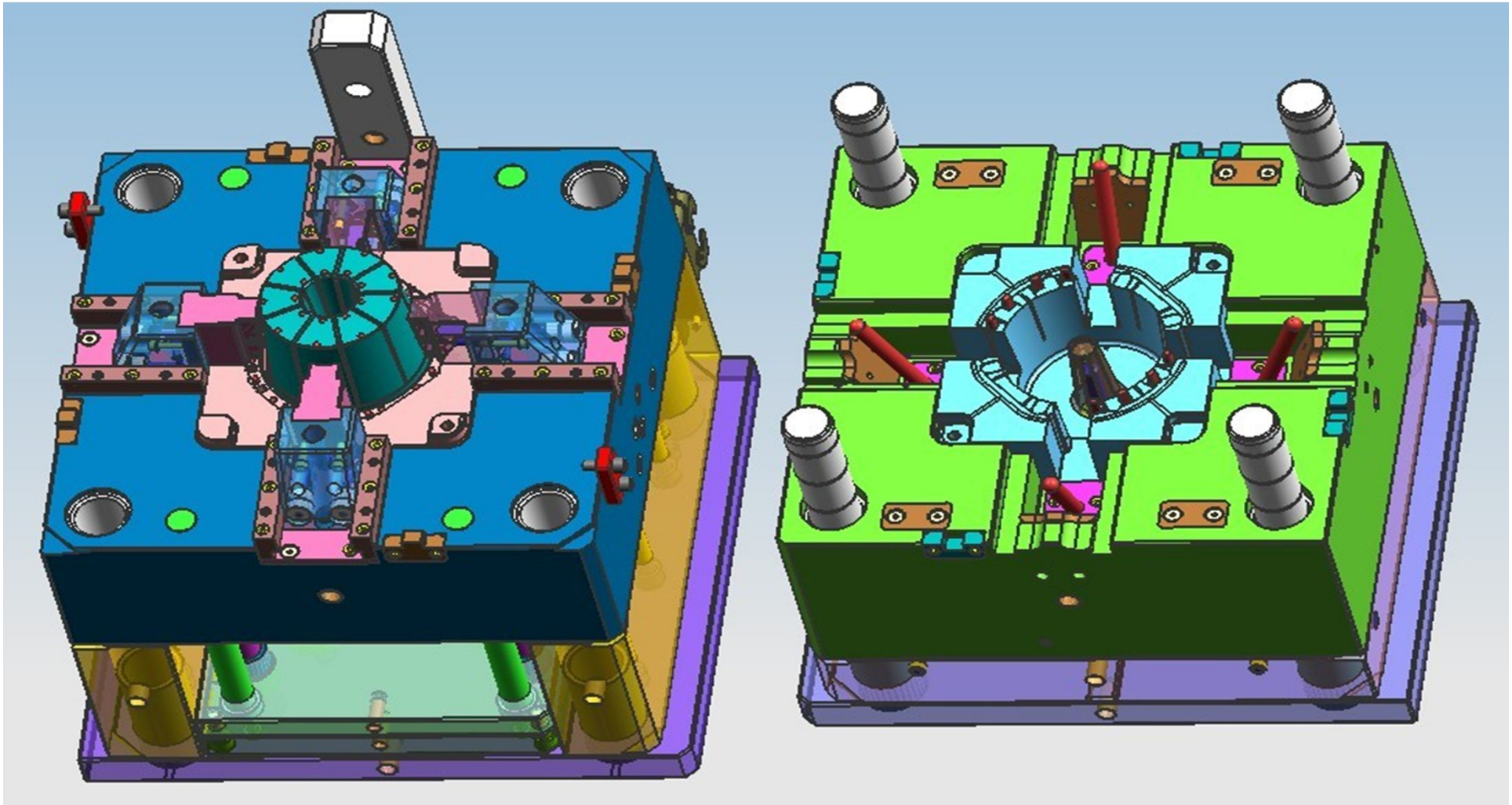
The DIN IS0 standard 12165, "Components for Compression, Injection, and Compression-Injection Molds" classifies molds on the basis of the following criteria:

- ☐ Standard molds (two-plate molds)
- ☐ Split-cavity molds (split-follower molds)
- ☐ Stripper plate molds
- ☐ Three-plate molds
- ☐ Stack molds
- ☐ Hot runner molds

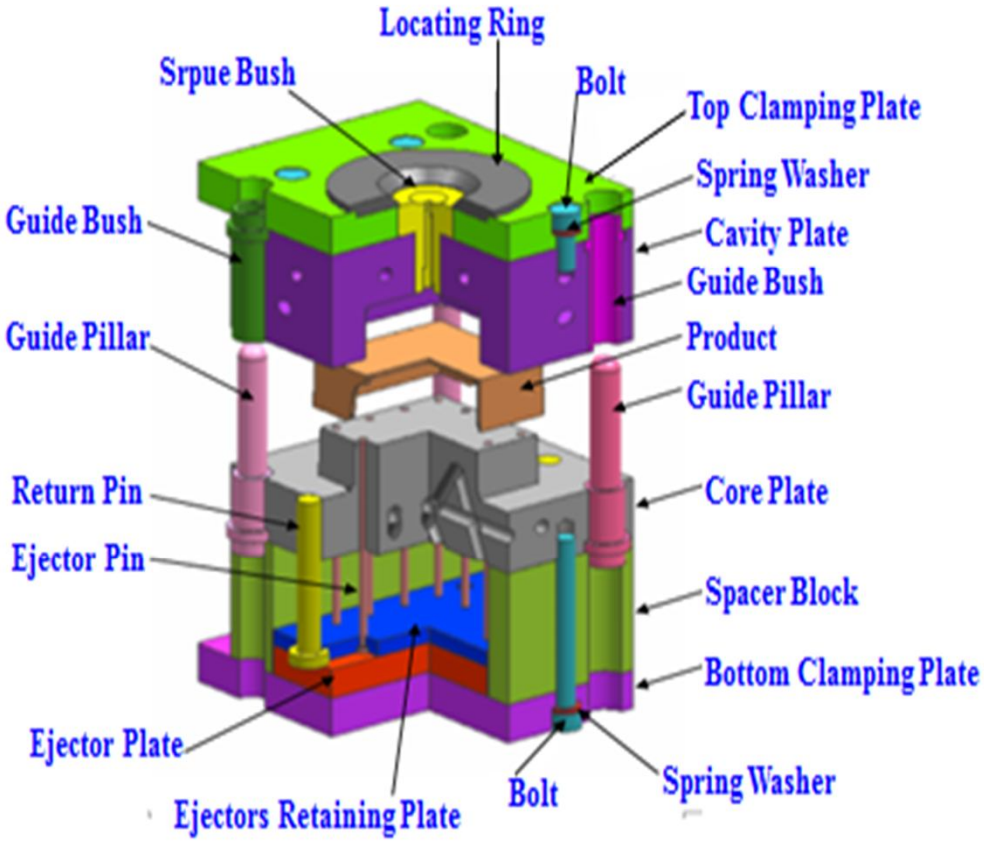
Generally, injection molds are used for processing

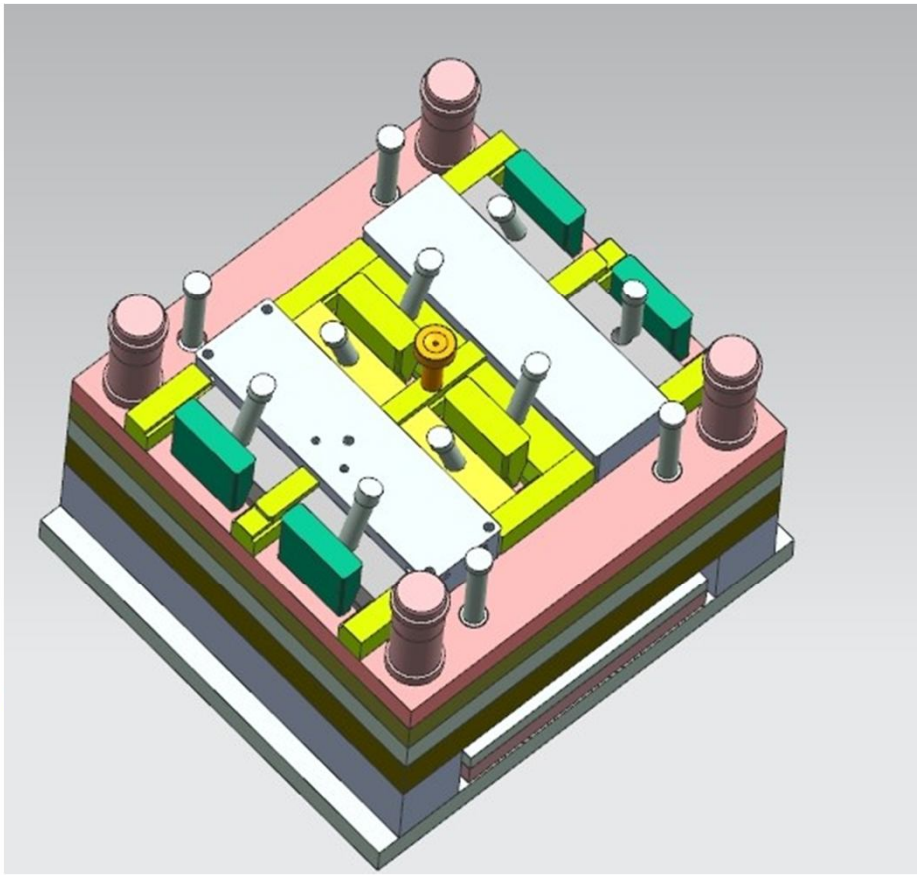
- ☐ Thermoplastics
- ☐ Thermosets
- ☐ Elastomers

TOOL DESIGNING



TOOL DESIGNING





CMM (COORDINATE MEASURING MACHINE)

A coordinate measuring machine (CMM) is a device that measures the geometry of physical objects by sensing discrete points on the surface of the object with a probe. Various types of probes are used in CMMs, including mechanical, optical, laser, and white light. Depending on the machine, the probe position may be manually controlled by an operator or it may be computer controlled. CMMs typically specify a probe's position in terms of its displacement from a reference position in a three-dimensional Cartesian coordinate system (i.e., with XYZ axes). In addition to moving the probe along the X, Y, and Z axes, many machines also allow the probe angle to be controlled to allow measurement of surfaces that would otherwise be unreachable.

The Hexagon Metrology 7.10.7 SF is like a machine tool for quality control — no other CMM performs like it in tough shop-floor conditions. The SF series draws its design inspiration from over fifteen years of shop-floor machine production experience and thousands of units in the field worldwide. It is designed from the ground up to surpass the demanding requirements of shop-floor users.

CMM (COORDINATE MEASURING MACHINE)

Specifications : Hexagon Metrology 7.10.7 SF

- **Measuring Range:** 700 x 1000 x 700 mm
- **Accuracy:** 1.5 micron + L/333 micron
- **Probe:** Renishaw Plc

VMC MACHINING JOB WORKS

Owing to the immense experience and able experts, we are engaged in rendering CNC Job Works. Professionals appointed by us ensure to provide these services in accordance with the assorted demands of respectable clients.

Specifications : BFW AGNI BMV 45

Controller : Mitsubishi

Table : 800x600

Stroke : 610x450x510

VMC MACHINING JOB WORKS

Specifications : BFW CHAKRA BMV 60

Controller : Mitsubishi

Table : 1250x600

Stroke : 1050x610x610

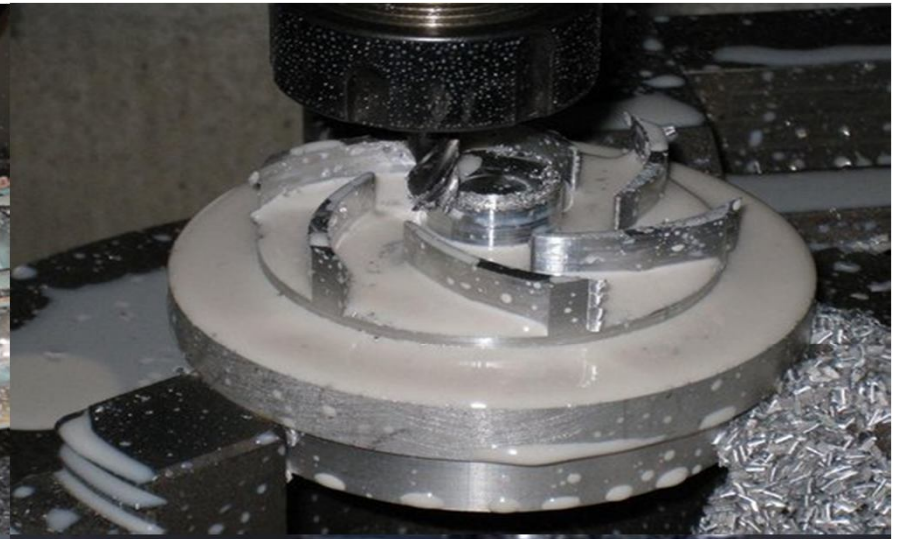
Specifications : BFW AGNI + BMV 45

Controller : Mitsubishi

Table : 800x600

Stroke : 610x450x510

VMC MACHINING JOB WORKS

RAPID PROTOTYPING (RPT)

Why do I need a rapid prototype part, I've already seen the design on screen?

Have you ever received your manufactured parts back, after molds have been created, and discovered that they don't fit Or aren't the correct dimensions, Or maybe it's not what you, or perhaps what your customer 'thought' the final part would be, based on what was communicated?

As a result of receiving a final part with an error, have you ever been faced with stress and additional expenses… without the luxury of time needed to come up with a winning solution?

Prototypes allow you to verify, test your design for ?t and function and detect costly errors before it goes to the point of having to find enough time and money to 'fix it'.

RAPID PROTOTYPING (RPT)

❖ FACILITIES

- Selective Laser sintering (SLS) – EOS P110, EOS P396
- Direct Metal Laser sintering (DMLS) – M290
- Stereolithography (SLA)- Project 6000
- Vacuum Casting Setup (Soft mould for small batch production)

RAPID PROTOTYPING (RPT)

Specifications :Selective Laser Sintering (SLS)

Effective building volume:
200 mm x 250 mm x 330 mm

Accepted Data:
STL, STEP, IGES

Material used :
Polyamide PA 2200, Prime Cast

Part Resolution :
60 micron, 100 micron

RAPID PROTOTYPING (RPT)

Specifications :Selective Laser Sintering (SLS)

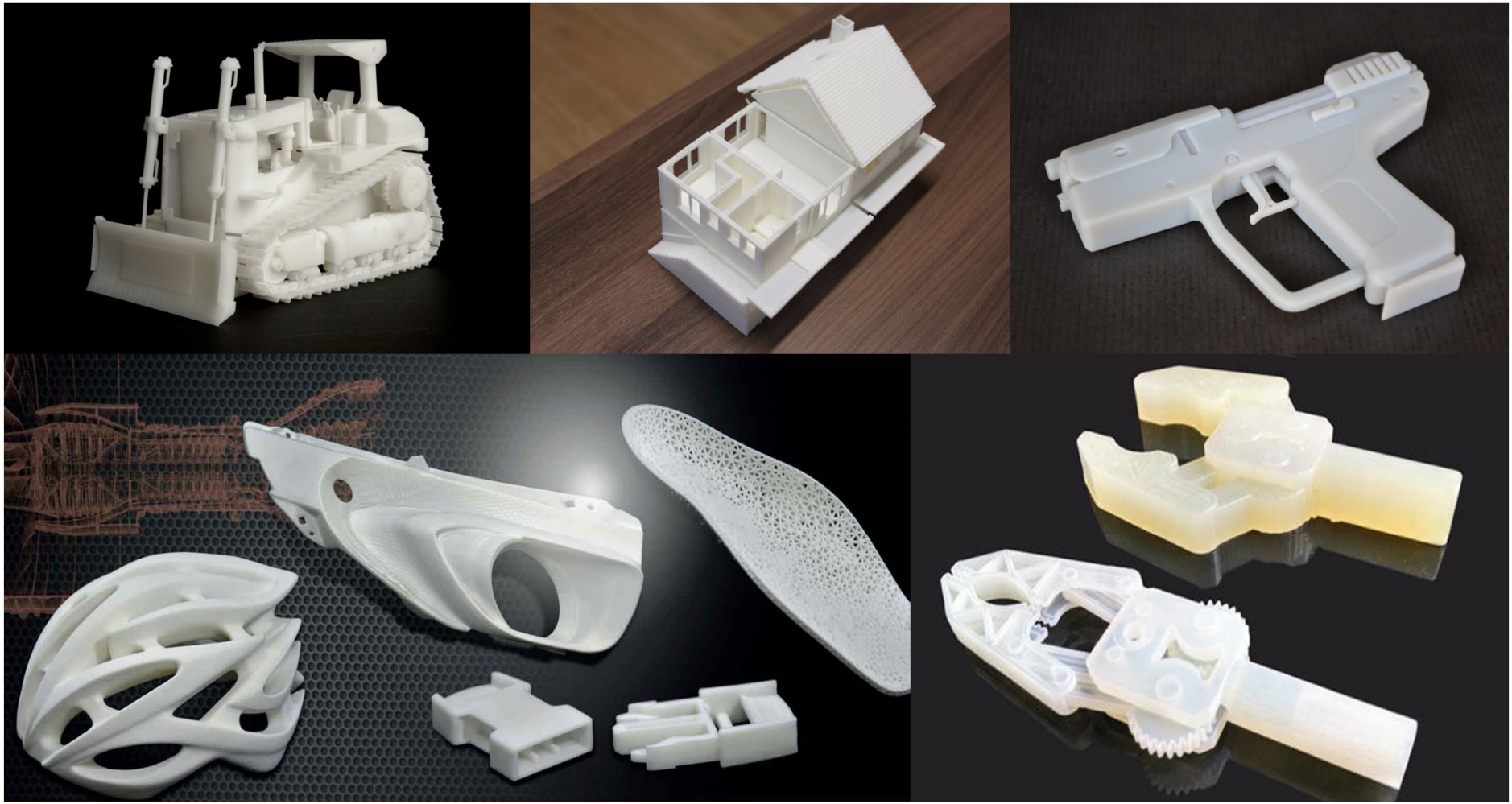
Effective building volume:
340 mm x 340 mm x 600 mm

Accepted Data:
STL, STEP, IGES

Material used :
Polyamide PA 2200, PA Glass Filled,
Fire Retardant, Prime Cast.

Part Resolution :
120 micron, 150 micron

RAPID PROTOTYPING (RPT)



MOLD FLOW ANALYSIS (MFA)

Mold flow analysis (MFA) software simulates plastic flow, allowing you to enhance mold design and create the highest quality products possible. This analysis provides a virtual sneak peek into how the chosen material will fill a mold's cavities and highlights potential areas of concern. Digitally simulating this process before cutting the tool allows changes to be made early on, ultimately saving money and optimizing results.

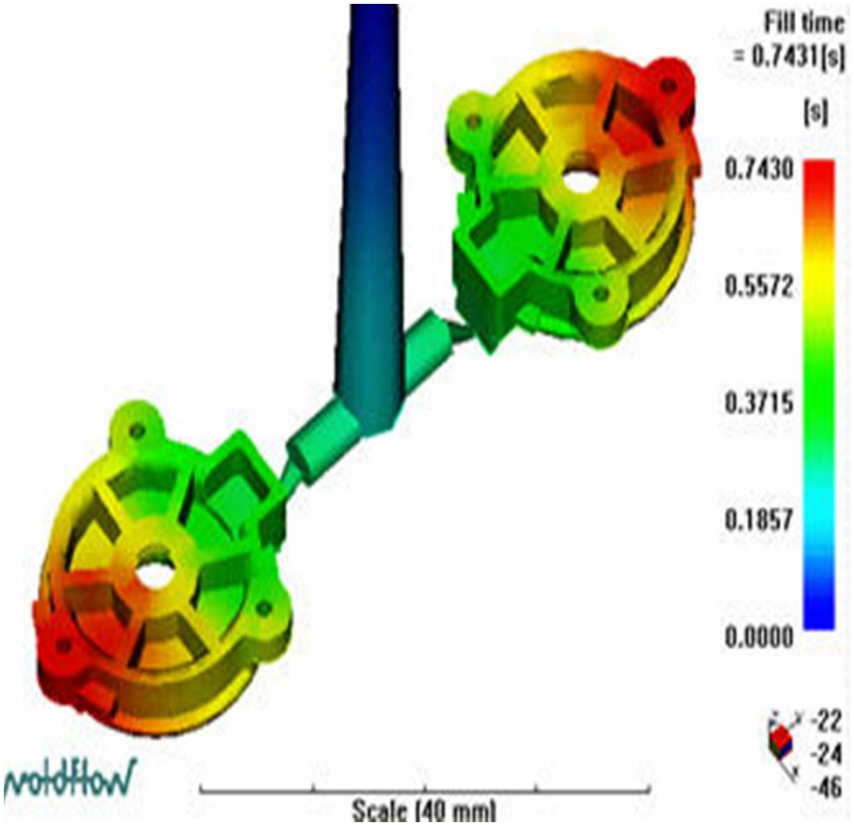
MFA should be conducted before tooling production launches. Software can be used to evaluate the mold design to make sure it will produce the most consistent and highest quality parts from each cavity of the tool. A virtual model of the mold is created and, using the known data and characteristics of the chosen material, the software is able to predict how the material will flow into and throughout the mold and its cavities. Different data points can be assessed, including pressure, fill time and melt temperature. Doing so allows for optimization of the process before tool production ever begins.

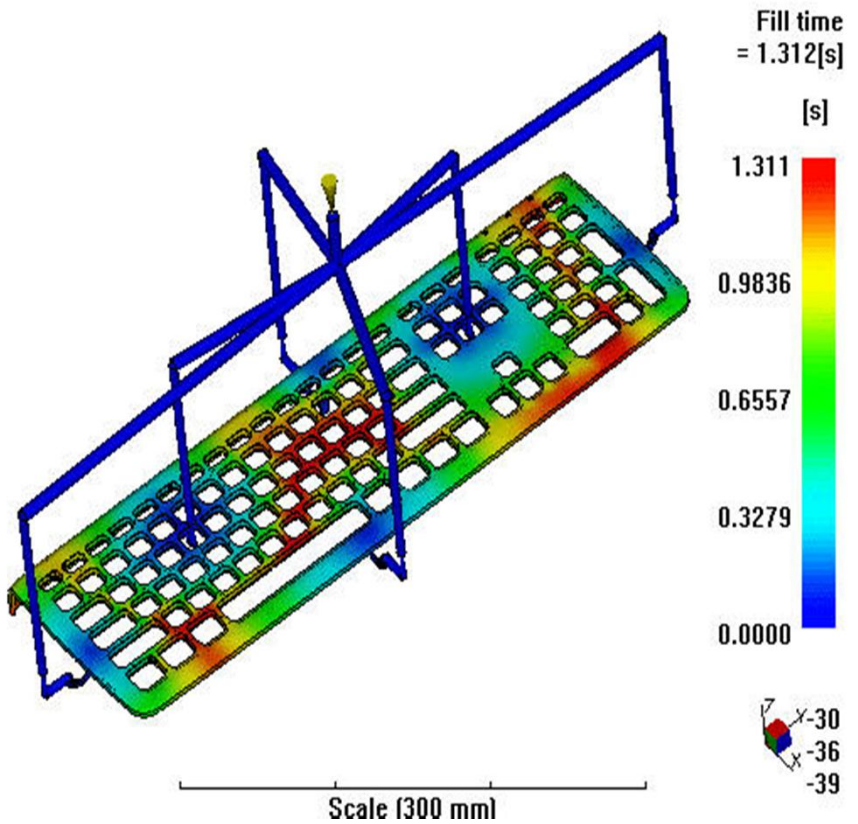
MOLD FLOW ANALYSIS (MFA)

Benefits of Mold Flow Analysis

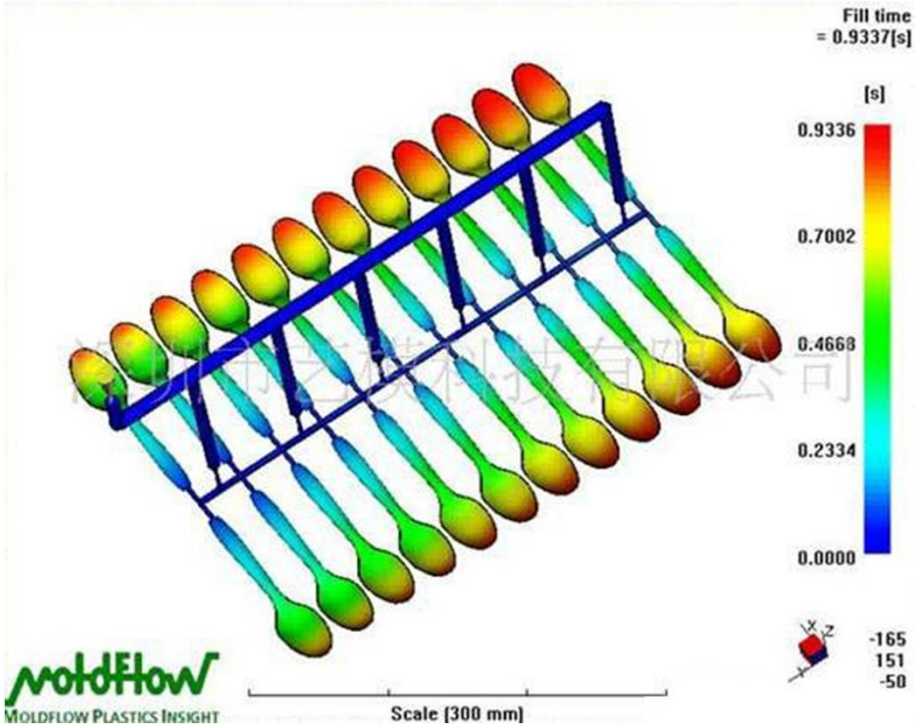
- Resolve wall thickness issues
- Optimize gate location
- Fill mold cavities consistently and uniformly
- Uncover weaknesses in design geometry
- Avoid costly tooling errors and rework
- Improve manufacturability
- Reduce time to market
- Improve efficiency and quality
- Discover potential visual defects, including air traps, sink marks and weld lines
- Evaluate different material options pre-production to choose the best material

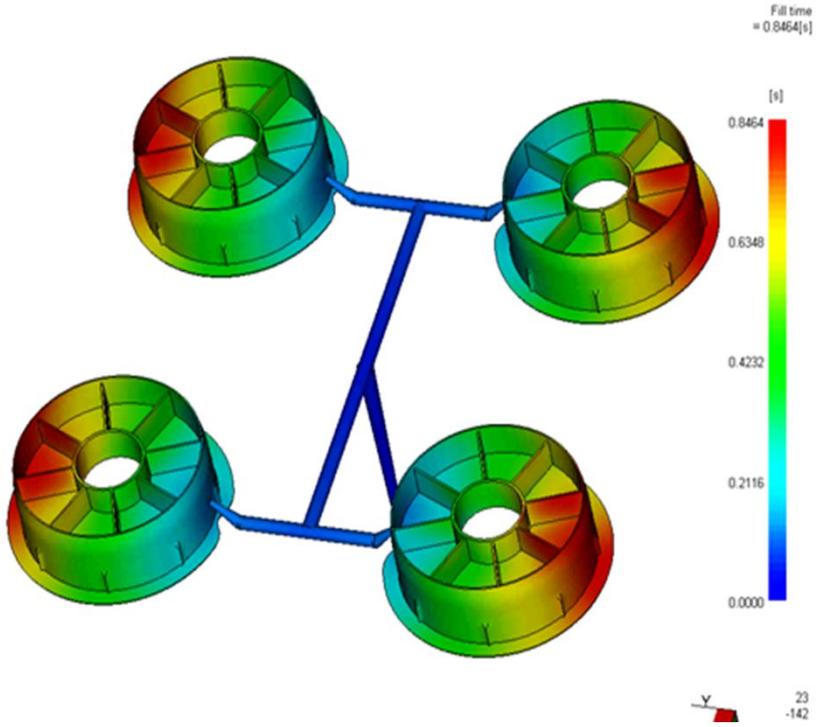
MOLD FLOW ANALYSIS (MFA)





MOLD FLOW ANALYSIS (MFA)





MOULD MANUFACTURING

- Manufacturer of plastic components.
- Manufacturer of plastic Injection & Blow Moulds.
- CNC machining of components & complete products, Tool & dies.
- 3D Designing & Tool Design.
- Experience of 18 years.

FACILITIES

- SOLID WORKS & UG equipped workstations with skilled force for 3d designing.
- Full equipped Tool room with high precision machines like Dro Milling, Lathe, Grinding, Drilling & ZNC (EDM).
- BFW make VMC with a bed travel of 1050 X 610 X 610 mm.
- Injection molding machines ranging from 50 Tons to 250 Tons.
- Product Assembly facilities with production.

TOOL ROOM

Specification:-Pacmill DRO

Table Size (mm) - 1370x300

Longitudinal Travel (mm) - 890

Cross Travel (mm) - 400

Vertical Travel (mm) – 406

Total No of Machines:-3

TOOL ROOM

Specification:-Lathe Jmt-2

Length; -	6 ft
Height of center:-	8" 200 mm
Swing over bad:-	15" 380 mm
Swing over cross slide:-	10" 250 mm
Distance between centers:-	42" 1065 mm
Total No of Machines:-	**2**

TOOL ROOM

Specification:-Surface Grinder

Working Surface Table	:-	300x600 mm
Height from Table	:-	300 mm
Spindle Speed	:-	2800R.P.M.
Total No of Machines	**:-**	**2**

TOOL ROOM

Specification: Drill Machine

Base Working Surface	:-	700x400 mm
Height from Table	:-	450 mm
Total No of Machines	**:-**	**4**

TOOL ROOM

Specification :- EDM

X,Y Travel Size	:-	300x200 mm
Z Axis Travel	:-	250 mm
Working Tank Internal Size	:-	800x500x350 mm
Total No of Machines	**:-**	**2**

TOOL ROOM

Specification :- ZNC

X,Y Travel Size	:-	400x300 mm
Z Axis Travel	:-	250 mm
Working Tank Internal Size	:-	1000x600x400 mm
Total No of Machines	**:-**	**1**

TOOL ROOM

Specification :- Injection Moulding

Clamping Force :- 50 to 180 Ton

DBT :- 300x234 to 520x450

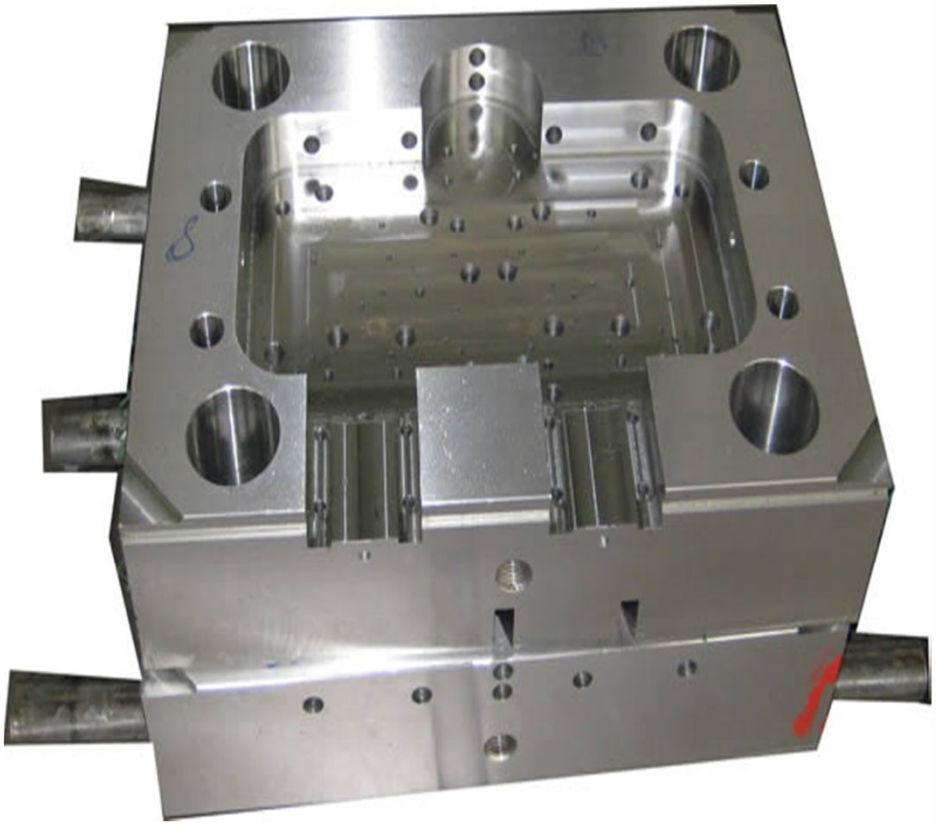
Daylight Opening :- 540 to 960 mm

TOOL ROOM

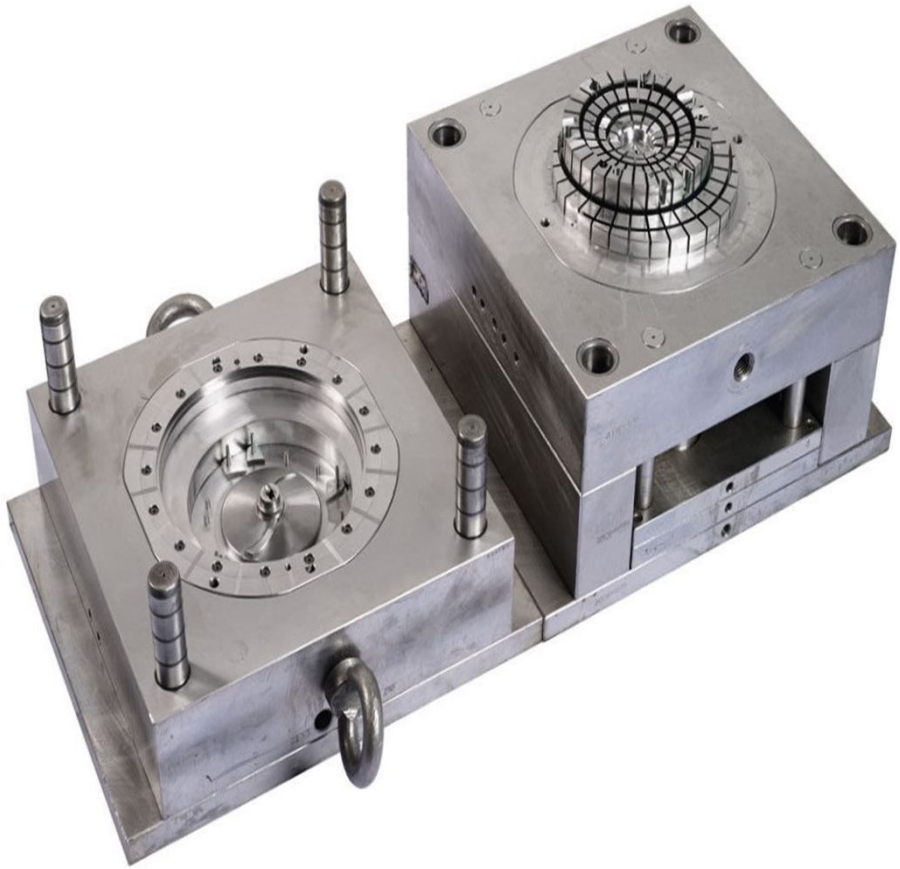
TOOL ROOM

TOOL ROOM

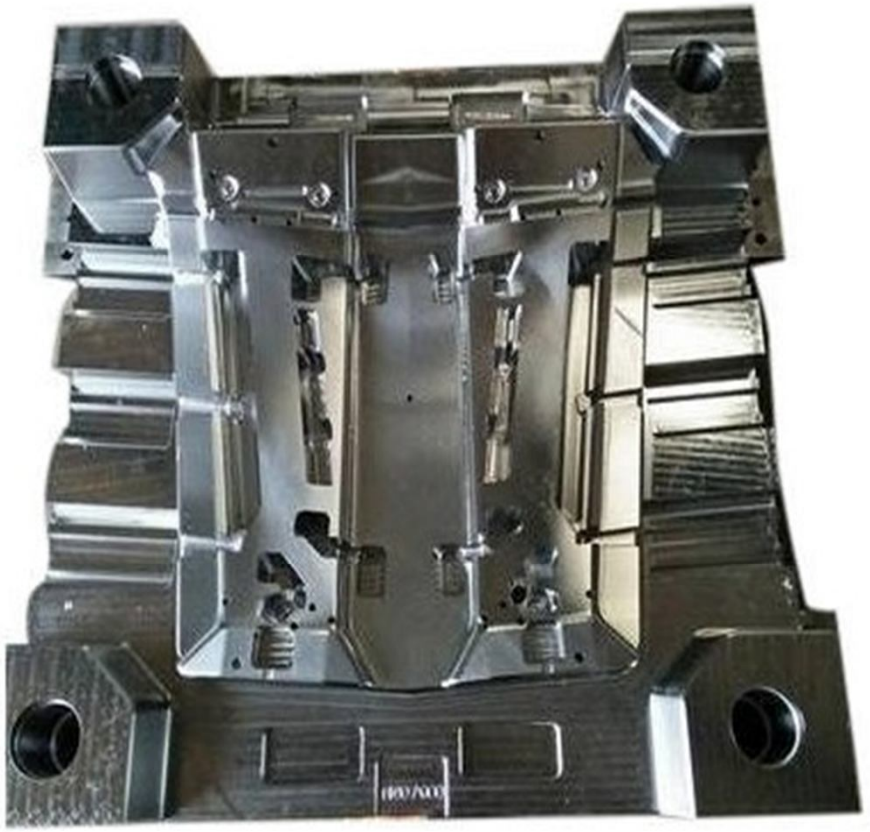
TOOL ROOM



TOOL ROOM



TOOL ROOM



TOOL ROOM

TOOL ROOM

OUR CLIENT

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HAVELLS

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Driven by Design & Technology

WHY US

- One stop source from designing to complete product.
- Experience in diversified product categories and industries.
- Great focus on quality and timely delivery.

THANK YOU

INNOVATIVE 3D SOLUTIONS

ADD:- B-29/1 JHILMIL INDUSTRIAL AREA
DELHI-110095

CONTACT:- 011-49096601, 9911518401
7840086772,7840086774

Email:- info@innovative3ds.com
pratap@innovative3ds.com
cadcamug@gmail.com

Web:- www.innovative3ds.com

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