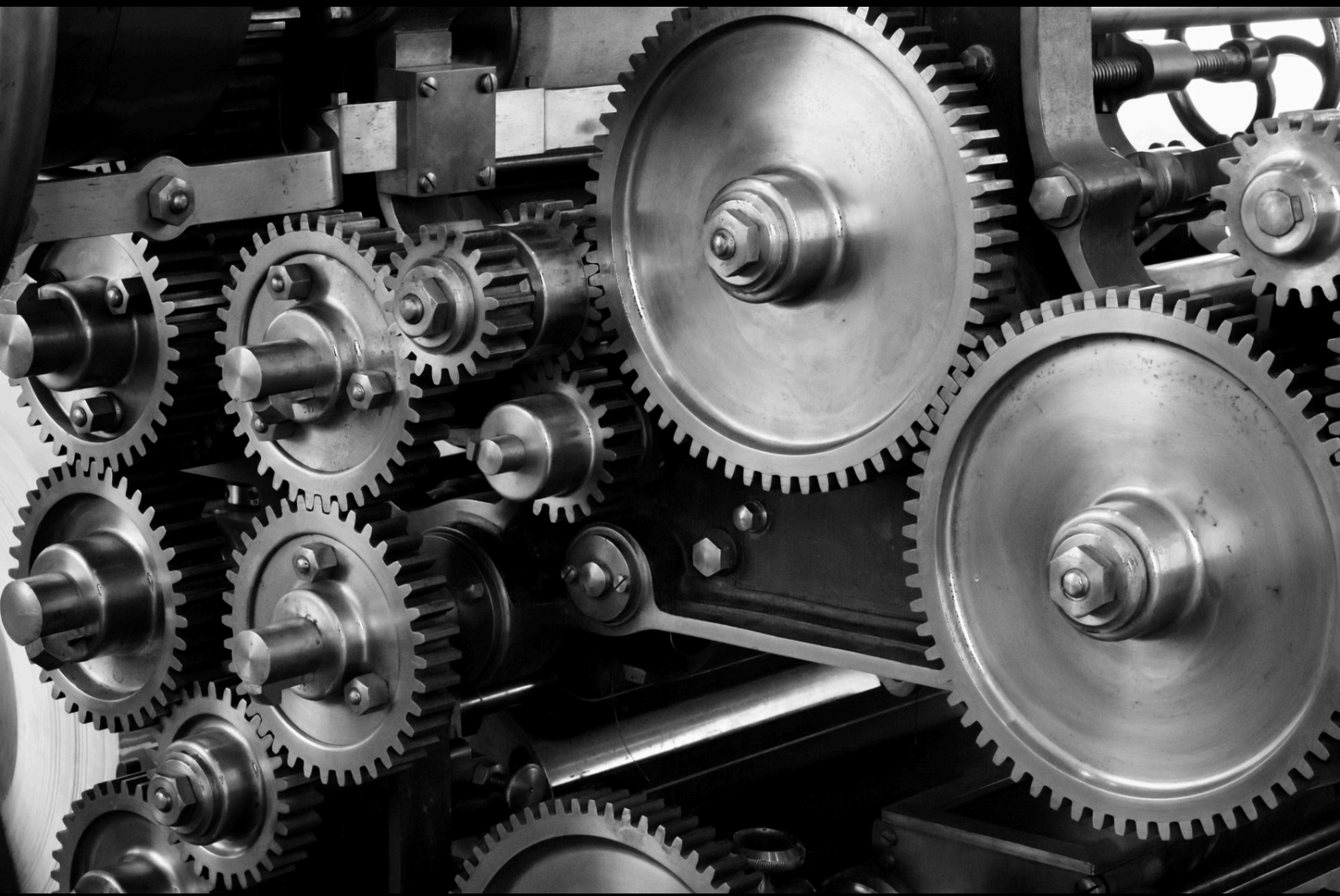




UNIQUE VISION

UV KNOWLEDGE LINK PVT. LTD.

2024



uvknowledgelink@gmail.com

www.uvktechnologies.com

INTRODUCTION



UNIQUE VISION

UV (Unique Vision) KNOWLEDGE LINK PVT. LTD, a Start-up Company founded in year 2017. This venture begins with the Unique Vision to Innovate & Provide Trustworthy & Reliable Solutions to the Industries. Today we are situated in the heart of the Holy City Nashik at Adgaonkar Plaza, in Mahatma Nagar.

We are a team of passionate individuals with diverse and extensive industry experience and looking to innovate & provide trustworthy and reliable solutions to the industry.

With global consultants from Germany, Italy, Vietnam, China and India, we are a truly global organization with world class Engineering services ranging from CAD powered Product Design & Development, Tool Design & Development, Prototyping, Specialized Design Services & Product Virtual Verification (CAD CAM CAE), SPM & Manufacturing all kind of Tools.

CEO & Founder - Yuvraj Vadaje



Yuvraj comes with a strong academic foundation in the field Mechanical Engineering & 23 years of rich industry experience in the field of design & development for (OEM). His journey has seen him work with major brands like BDNT (BYD Daimler New technology, China), Mercedes Benz Research & Development, Germany and India, Mahindra and Mahindra Ltd. & Tata Technologies Ltd. (Tata Motors). He has successfully filed several patents in India as well as in Europe.

His professional expertise and experience has been enriched while working in China, Germany, Korea & India. His national and International experience in the industry has made him well versed with the National & International working practices. Apart from his basic expertise in mechanical engineering, he specializes in Project management, EV (Electric Vehicle) development and all design and development activities for Automotive, Aviation and Defence Industries. Also well known with latest industrial trends like IIOT, Industry 4.0, ML and AI.

Our Team



Our Team

We have a team of passionate individuals with core knowledge in their particular domain fields. Every employee has diverse & extensive industry experience.



Vision:

To become the leading global innovator in engineering solutions by leveraging our diverse team of passionate experts and world-class technology. We strive to build lasting partnerships with clients by delivering reliable and trusted solutions across the entire product development lifecycle, from concept to manufacturing.

Mission:

We are a global engineering solutions provider, driven by a team of passionate individuals with diverse industry experience. We leverage our expertise to deliver trustworthy and reliable services, from product design and development to specialized manufacturing solutions.

Our commitment is to continuously innovate and provide our clients with the highest quality engineering services, empowering them to achieve their goals.

Our Values:

Quality

Integrity

Team Work

Accountability

Our Services:



Design Services: Product Design and Development

UVK Link offers a complete value chain in the Automotive design domain in the areas like BIW (Body In White), Chassis, Seat Frame, Interior / Exteriors and GD & T.

- Parametric Part Modeling(CATIA)
- Detail Design 3D solid and Surface modeling
- Design of Interior / Exterior parts



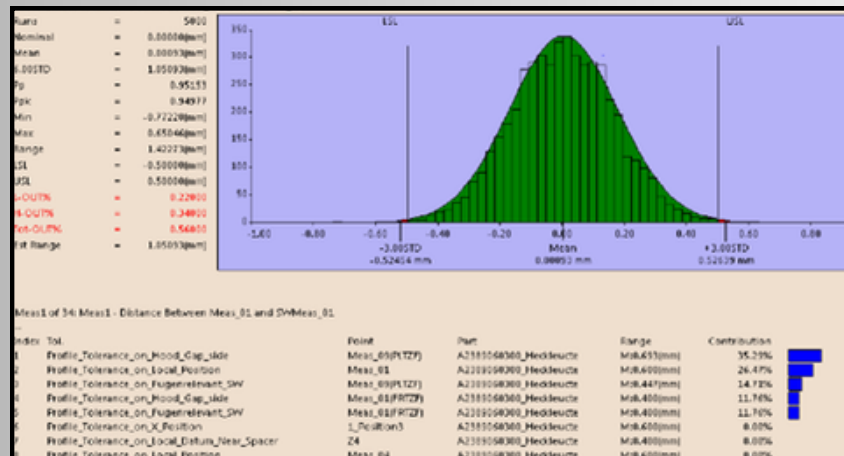
- Complete BIW (Floor panel , Under body ,Side Wall, Roof , Engine Room & Closures)
- Conceptual component Design considering all design aspects like manufacturing , assembly, Crash , NVH & Durability
- Initial sketches to final design.



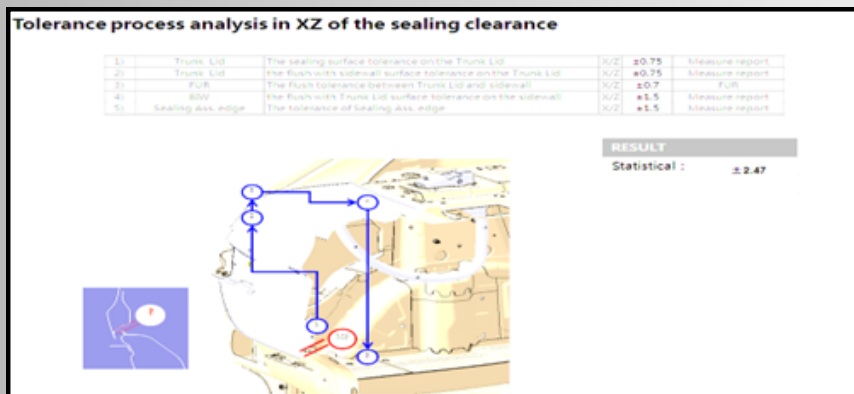
- Design & Development of Seat Frames Data conversion (2D to 3D)
- Reverse Engineering (Surfacing)
- On-site manpower Deployment (CAD Engineers)



Design Services: GD&T (Geometrical Dimensioning & Tolerance)

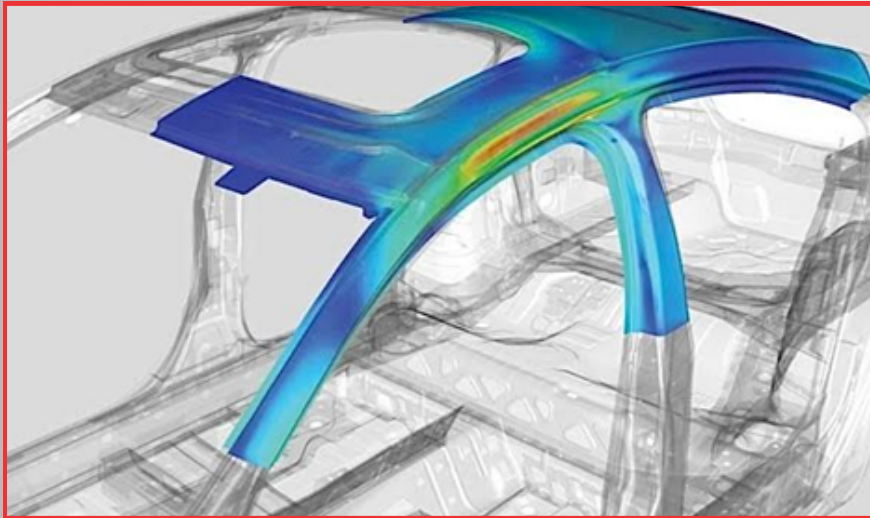


- **Dimensional Variation analysis (DVA)** – Simulation with software like 3DCS and VSA
- **Complete end to end solution for Tolerance management**, BIW development, GAP & Flush Trunk Lid ,Engine Hood and Doors alignment



- **Tolerance Planning** –
Assembly sequence (Welding sequence – weld plan)
- **Tolerance Management** -
Assign Tolerance to Individual Components
Assign Tolerance to Assembly
- **Tolerance stack up analysis** –
Stack up for assembly and fitments
Align all tolerances to meet GAP & Flush requirements
(Top down approach & Bottom up approach)

Product Virtual Verification using CAE Tools



Structural Analysis

- Structural Durability/Fatigue
- Bolted/Welded/Adhesive Joints
- Material/Geometric/Contact Nonlinearity
- Structural Optimization
- Field data analysis and load/goal derivation

Heat Transfer Fluid Dynamics

- Under hood Thermal
- Cooling system
- Aerodynamics
- Heat rejection

System Dynamics

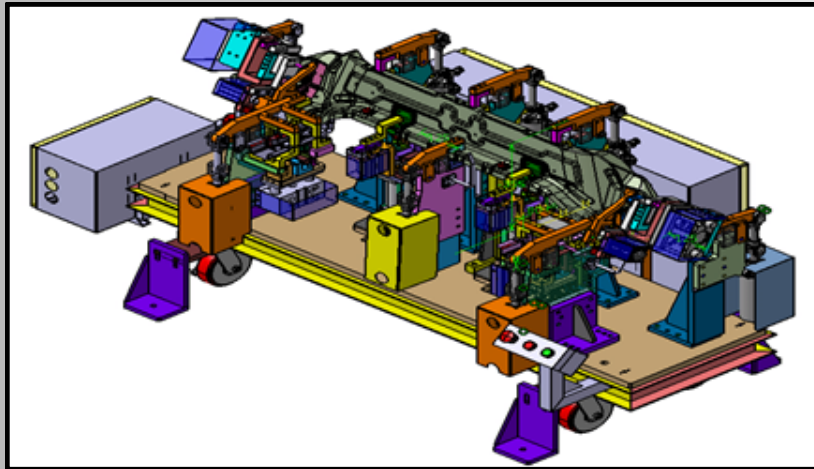
- Vehicle Modeling and Process Automation
- Ride and Comfort
- Mechanism Design Optimization
- Coupled simulation
- Harmonic/Modal analysis
- Vibration Fatigue

Highlights

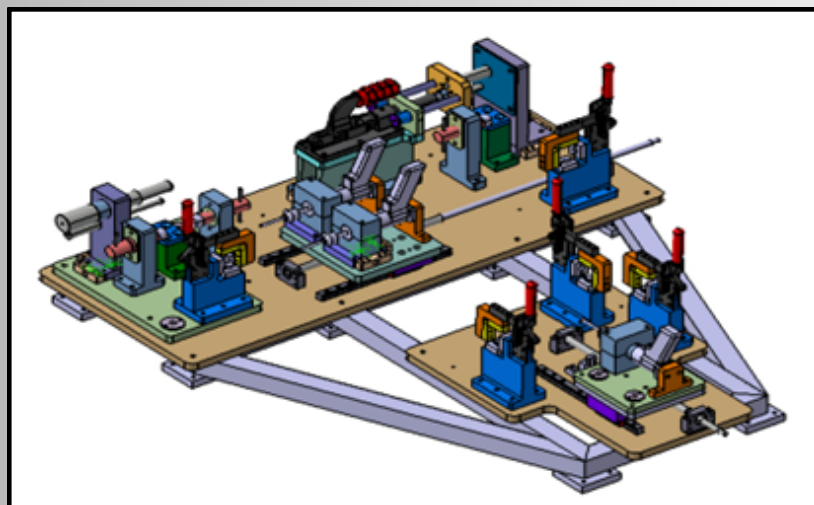
- Flexible and quick design changes
- Explore Modularity / existing design adoption
- Speed to market by reducing physical test and prototype requirement
- Lower development cost by reducing prototype cost, low design rework

Jigs & Fixture Design & Manufacturing:

Spot /Co2 welding Fixtures (Manual/Robotic/Electropneumatic) and Checking Fixtures,

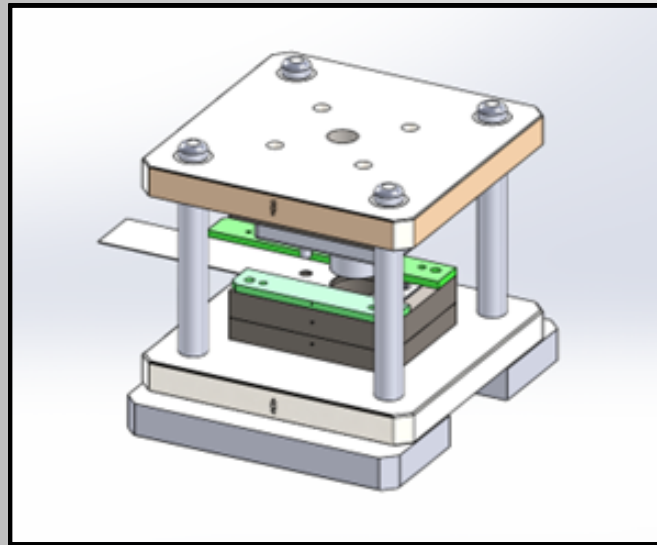


- Jigs design for all assembly of closures like doors, fender, Trunk Lid , Engine Hood and other fitment like front bumper, rear bumper, rear spoiler.
- GAP & Flush analysis Automation
- Parametric Part Modeling (CATIA / UG NX)
- On-site manpower Deployment

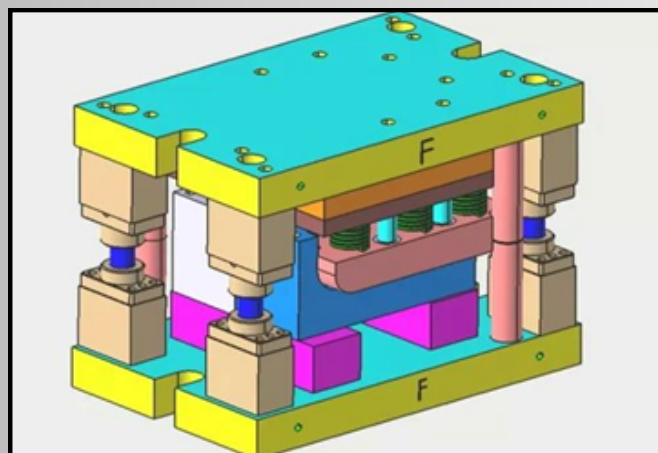


- Finalizing assembly sequence (Welding sequence- weld plan) With respect to GD & T and BIW build strategy.
- Design of all Welding Fixtures for BIW aggregates like (Floor panel , Under body ,Side wall , Roof , Engine Room & Closures).
- Detailed Design.
- Design of Checking fixtures.
- Locating & clamping plan.
- Individual part manufacturing drawing
- Weld Gun study (analysis).
- Automation.

Tool & Die Design, Panel Checker Design and Manufacturing

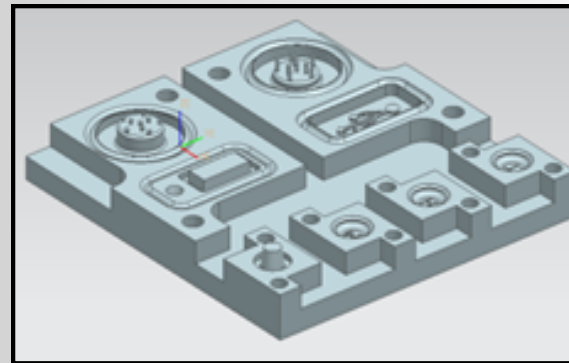
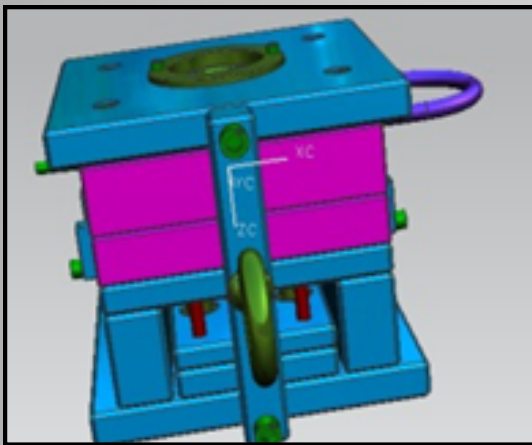
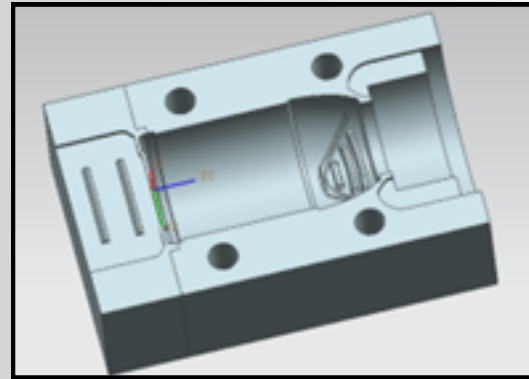
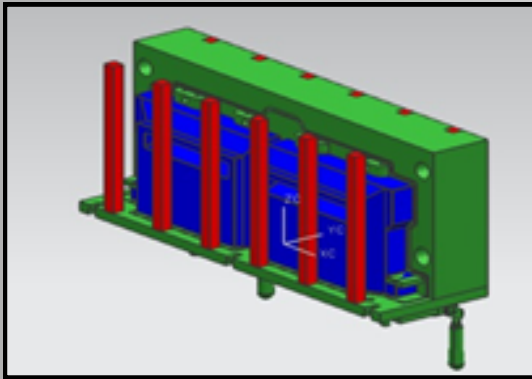


- Our team of experts with decades of experience in Tool & Die Design, Process & CAE Simulation, Materials & Metallurgy.
- **DIE DESIGN AND OPTIMISATION**
 - Die Life Improvement
 - Component Specific, Special Purpose Dies
 - Die Design Optimization
 - Die Maintenance



- **TOOL & DIE MANUFACTURING**
 - Die Design and Process Design
 - Die Manufacturing As per customer requirement
 - Virtual Die Tryouts
- Panel Checker Design and Mfg.
- Support for Tool & Die Maintenance
- Support for Die Life Improvement

Mould Design and Manufacturing

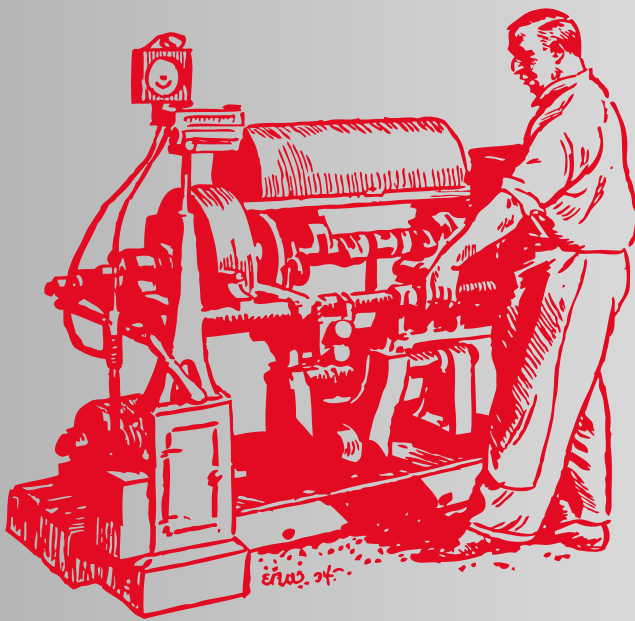


- Our team of experts with vast experience in Mould Design and Development.
- Manufacturing, Maintenance, Designing of All Types of Rubber Mould, Plastic Injection Mould, Press Tools, Plastic Blow Mould, Forging Dies, Casting Dies.
- Compacted, systematic, cost effective mould design and development. maintenance of old moulds.
- Our company assesses your drawings and provides engineering guidance to help you design mould-able parts that are optimized for manufacture. From tool design concepts to process development and validation, we ensure that all aspects of production meet the ultimate goal of producing high-quality moulded parts

Prototype Development



- Proto tool design and Manufacturing (Soft tool (Dies),and Fixtures)
- Try out at our end
- Design solutions and suggestions
- Manufacturing of Proto parts and assemblies as per customer requirements.



MACHINING CAPABILITIES

UV (Unique Vision) KNOWLEDGE LINK PVT. LTD.

PRESS MACHINE



- MODEL- 150 TONNAGE PRESS (MECHANICAL)
- MAKE: MANKOO

VERTICAL MACHINING CENTER

- MODEL- VMC 1050 WITH 20 ATC
- MAKE- JYOTI, INDIA
- CONTROLLER-SIEMENS 810D
- TABLE SIZE-
- 1050X500X400



CONVENTIONAL MACHINES



DRO MACHINE



DRILLING MACHINE



SURFACE GRINDING MACHINE



LATHE MACHINE

CONVENTIONAL MACHINES



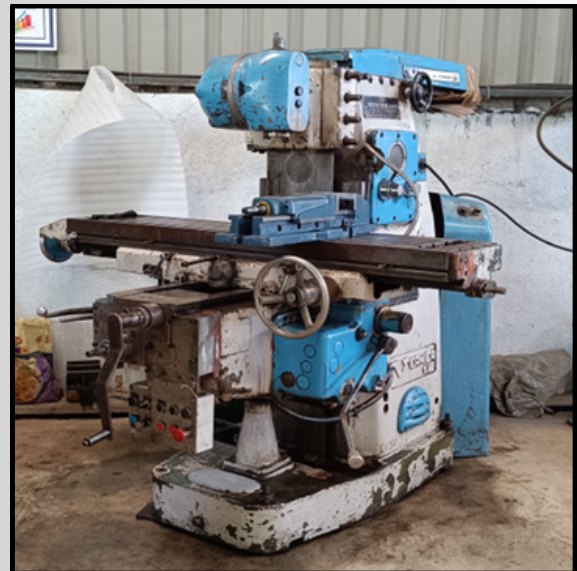
CO2 WELDING MACHINE



SPOT WELDING MACHINE



CUTTING MACHINE



MILLING MACHINE

INSPECTION FACILITY



| Sr. No. | Measuring Instruments & Gauges | Make | LEAST COUNT | Size/Range | Qty |
|---------|--------------------------------|------------------|-------------|----------------|-----|
| 1 | Digital Height Gauge | INSIZE | 0.01mm | 0-600 mm | 1 |
| 2 | Vernier Caliper | INSIZE | 0.02mm | 0-300 mm | 1 |
| 3 | Digital Vernier Caliper | INSIZE | 0.01mm | 0-200 mm | 1 |
| 4 | Digital Vernier Caliper | INSIZE | 0.01mm | 0-300 mm | 1 |
| 4 | Micrometer | Mitutoyo | 0.01mm | 0-25 mm | 1 |
| 7 | Bevel Protractor | INSIZE | 5' | 0-360° | 1 |
| 8 | Dial Test Indicator Gauge | INSIZE | 0.001mm | 0-0.8 mm | 1 |
| 9 | Granite Surface Plate | Luthra Precision | - | 1000X1000 mm | 1 |
| 10 | Radius Gauge | INSIZE | - | R 1-7 mm | 1 |
| 11 | Magnetic 'V' Block | Armotech | - | 150X100X75 mm. | 1 |
| 12 | Magnetic 'V' Block | Armotech | - | 150X100X75 mm. | 1 |



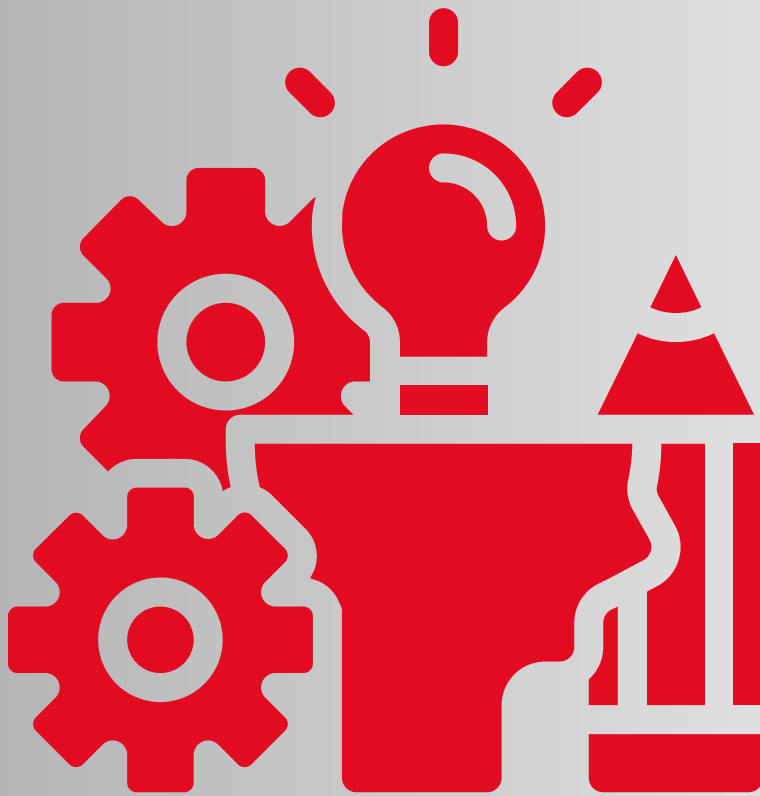
FARO PORTABLE CMM ARM, FARO QUANTUM



ZEISS CONTURA FIX BED CMM MACHINE



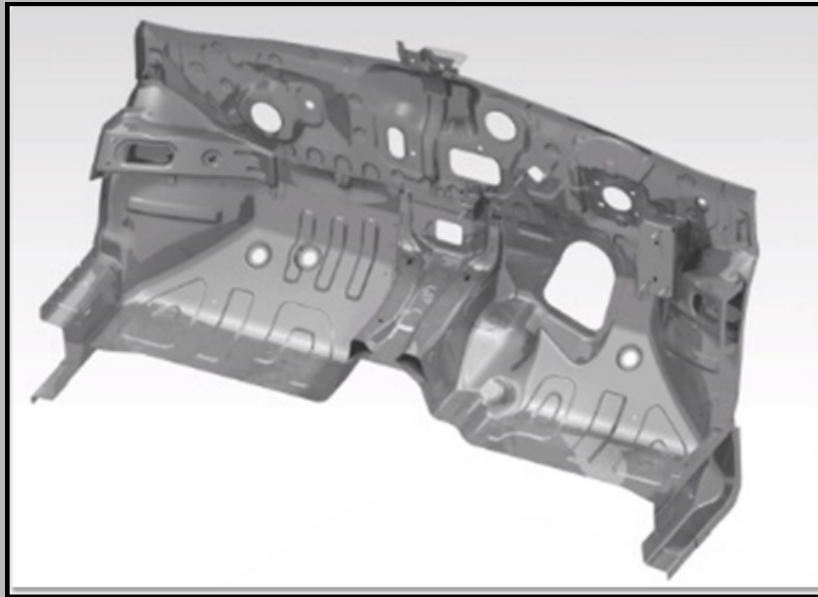
LASER TRACKER MACHINE VANTAGE E



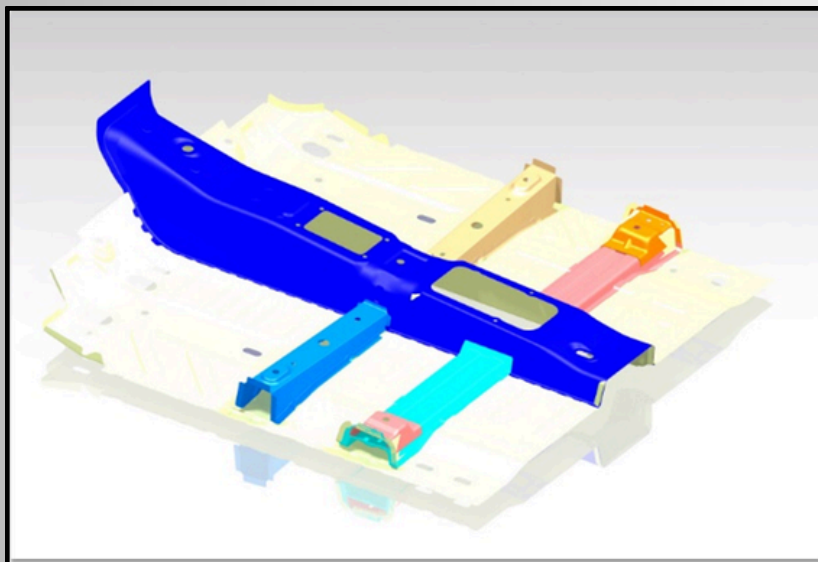
PRODUCT DESIGN AND DEVELOPMENT

UV (Unique Vision) KNOWLEDGE LINK PVT. LTD.

Successfully Delivered Projects

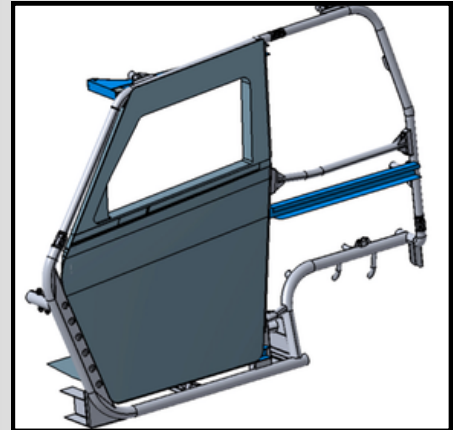
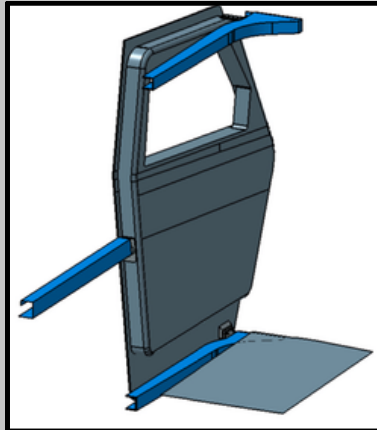
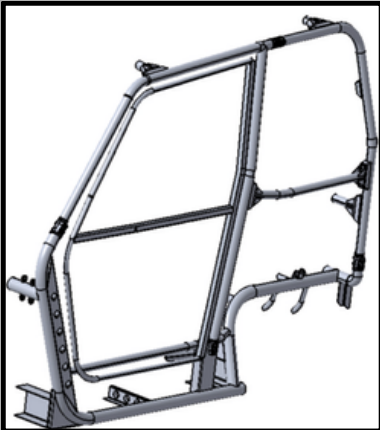


**Design for Firewall assembly of
Automotive Company (China).**

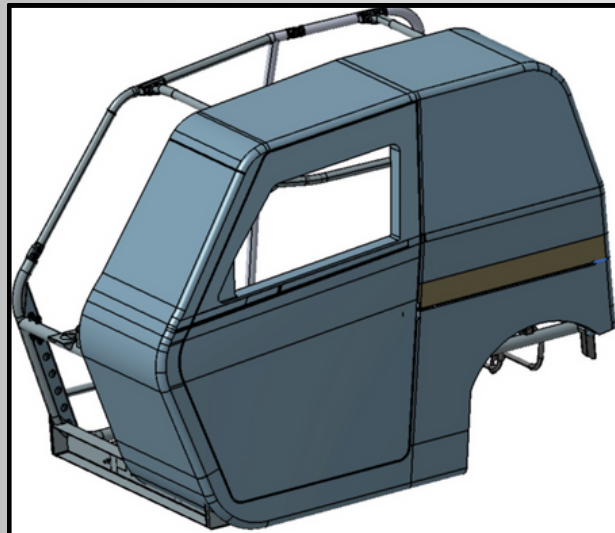


**Design of underbody parts of
Automotive Company (China).**

Successfully Delivered Projects

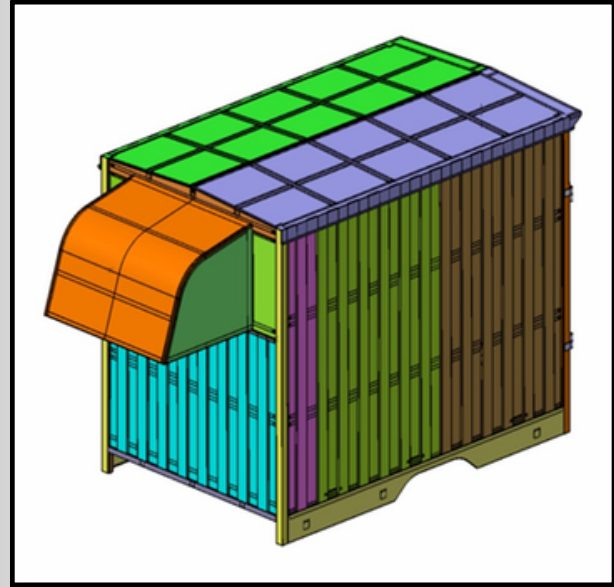
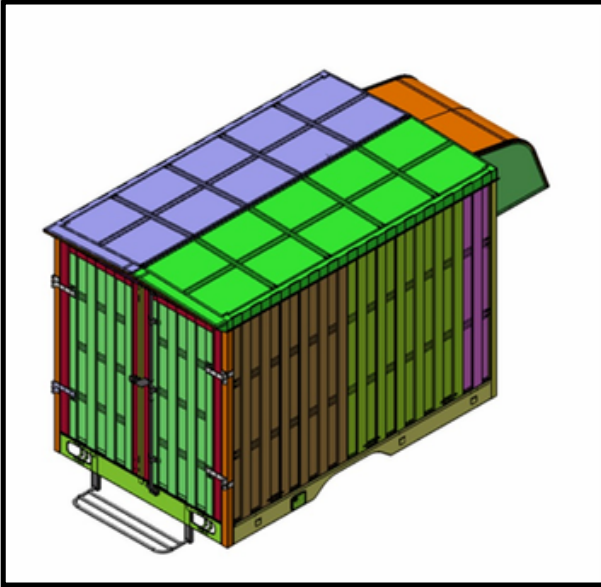


**Sliding door design: Yamaha
(Ij bridge), Japan**



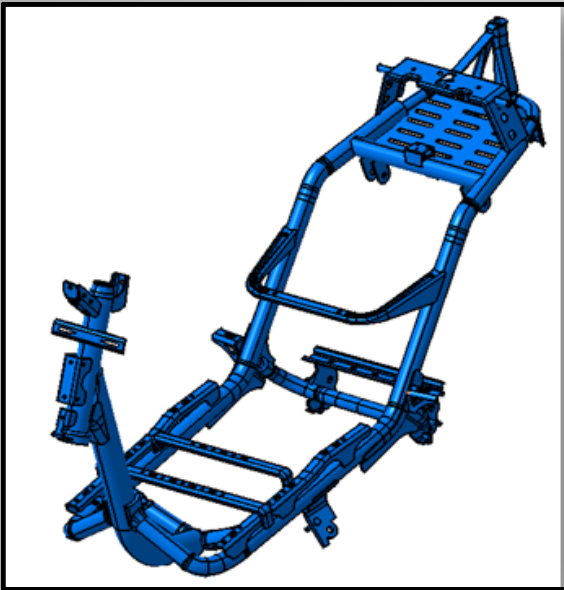
**Sliding door design: Yamaha (Ij
bridge), Japan**

Successfully Delivered Projects

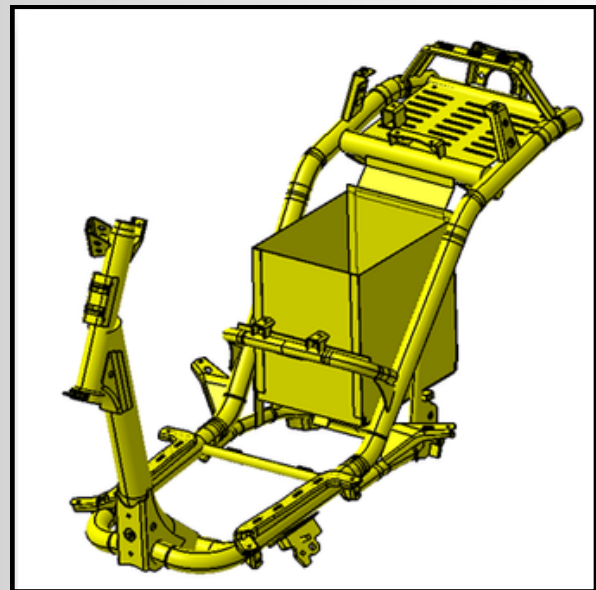


**Cargo Design, Development, and Manufacturing
for Delivery Vans
(for Trikaya Coating Pvt. Ltd., Nashik)**

Successfully Delivered Projects



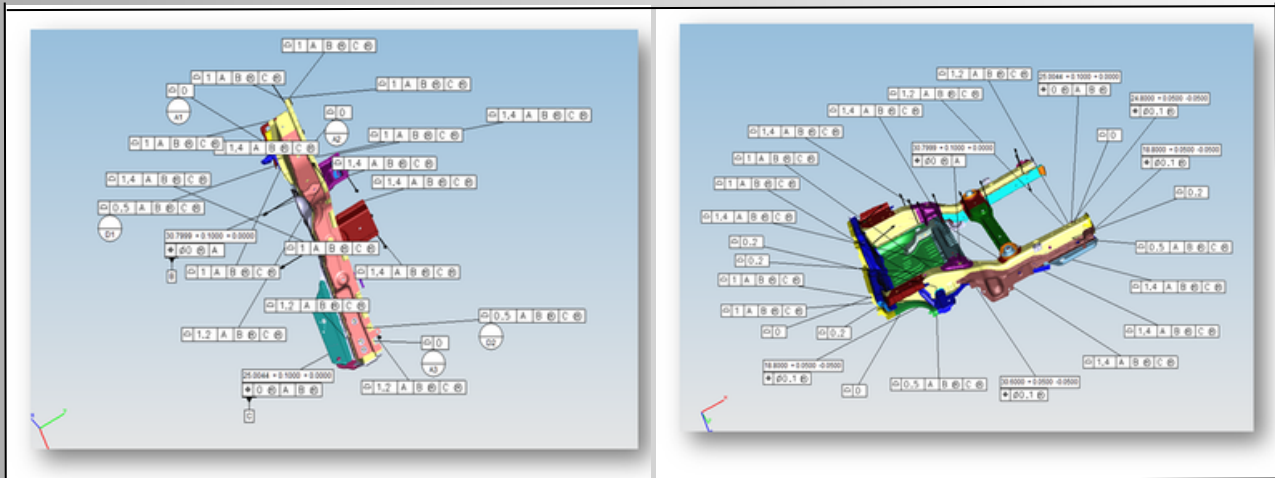
M7 CHASSIS



J8 CHASSIS

**Design & Development of Electric scooter CHASSIS
(For One of the EV Tech company)**

Successfully Delivered Projects



**GD & T Stack up Analysis for underbody:
TATA Motors Ltd.**

GD & T FOR FOOT STEP BRACKET ASSEMBLY

TOLERANCE STACK UP CHAIN FOR HINGE HOLE IN Y direction

| | | | | | |
|----|-------------------|---|---|-------------------------|------|
| 1) | FOOT STEP BRACKET | The holes position tolerance on the FOOT STEP BRACKET | Y | ± 0.25 | GD&T |
| 2) | FOOT STEP BRACKET | FOOT STEP BRACKET mounting surface | Y | ± 0.25 | GD&T |
| 3) | CASTING BLOCK | FOOT STEP BRACKET mounting surface on the CASTING | Y | ± 1.0 | GD&T |
| 4) | FLOOR | FOOT STEP mounting surface on the FLOOR | Y | ± 0.25 | GD&T |
| 5) | FOOT STEP | The mounting surface tolerance | Y | ± 0.25 | GD&T |
| 6) | FOOT STEP | The holes position tolerance on the FOOT STEP | Y | ± 0.5 ± 0.25 | GD&T |

Result

statistical: ± 1.62

worst case: ± 4.0

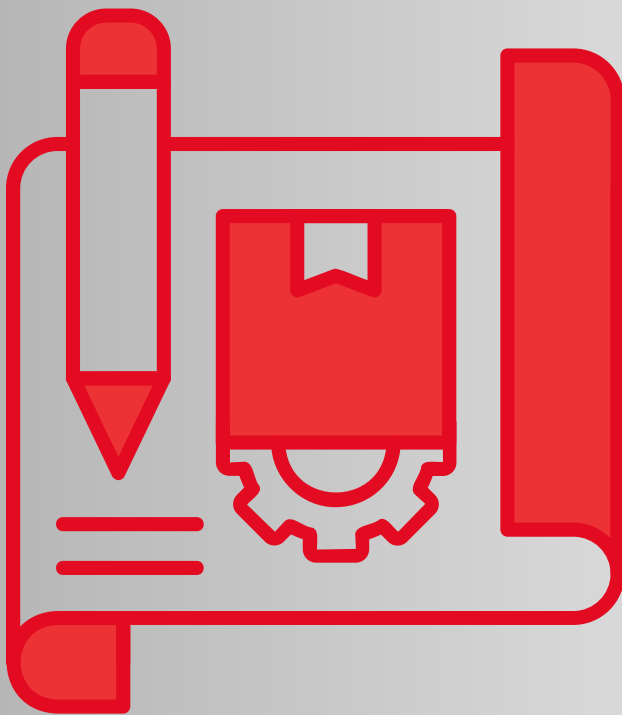
Result:
In Y tolerance is ± 1.62 , but there is 2mm gap, deviation- 1.24mm.

**Stack up analysis for foot step:
John Deere India, Pune**

Successfully Delivered Projects



**Design & Development of Electric scooter
(For Urja Global Limited, Delhi)**



PROTOTYPE

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Successfully Delivered Projects



M7 CHASSIS

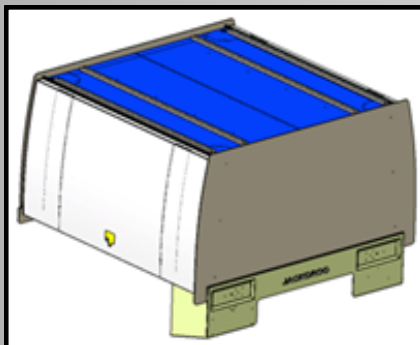


**Design and Manufacturing of Electric Scooter Chassis (Prototype)
(For One of the EV Tech company)**

Successfully Delivered Projects

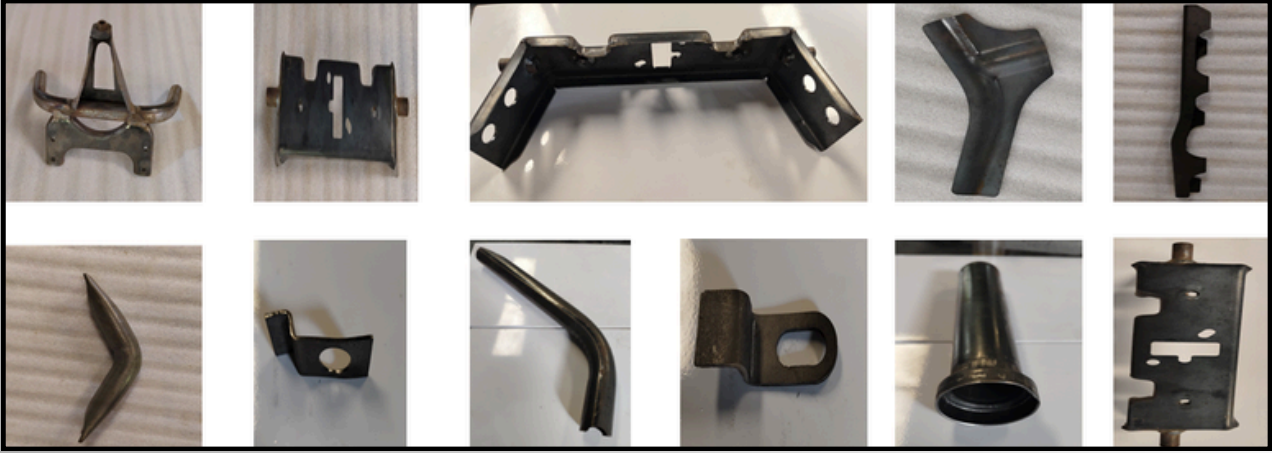


**Prototype for ROPS Project for Mungi Engineers,
Zaheerabad (Mahindra Tractors)**



**Prototype Development for Dual Cab Canopy for
Australian Company (Export)**

Successfully Delivered Projects



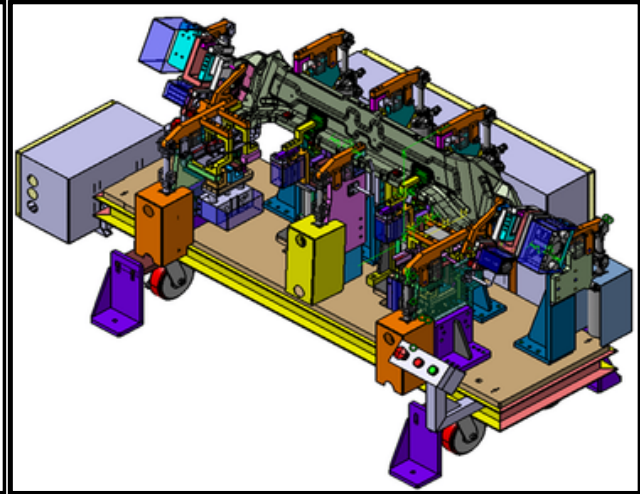
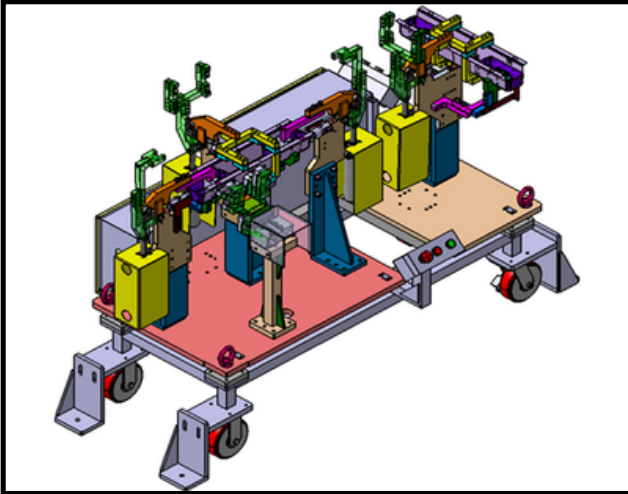
**MANUFACTURING OF PRESS PARTS (PROTOTYPE)
FOR ELECTRIC VEHICLE**



JIGS & FIXTURE, TOOLS, DESIGN & MANUFACTURING

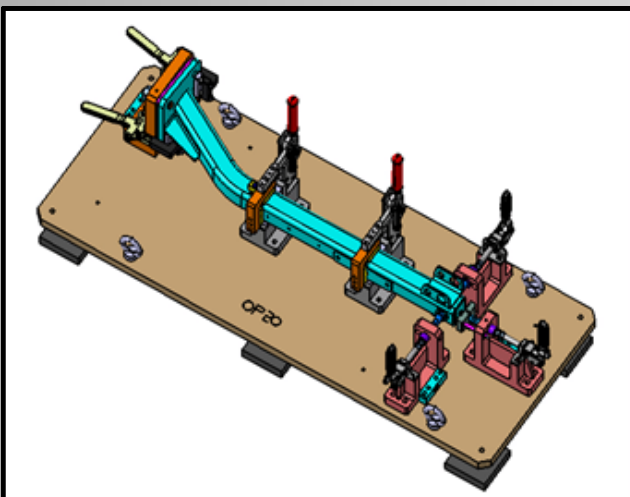
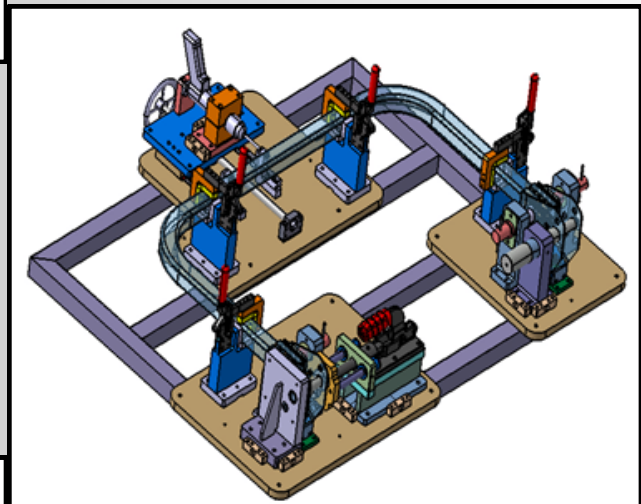
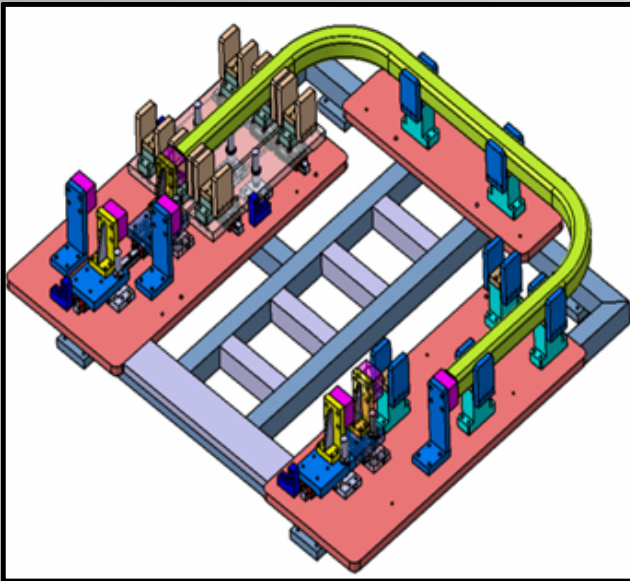
UV (Unique Vision) KNOWLEDGE LINK PVT. LTD.

Successfully Delivered Projects



**Design, Development & Manufacturing of Electro pneumatic Fixtures for E-Jito (Mahindra Tractors)
Mungi Engineers, Zaheerabad**

Successfully Delivered Projects



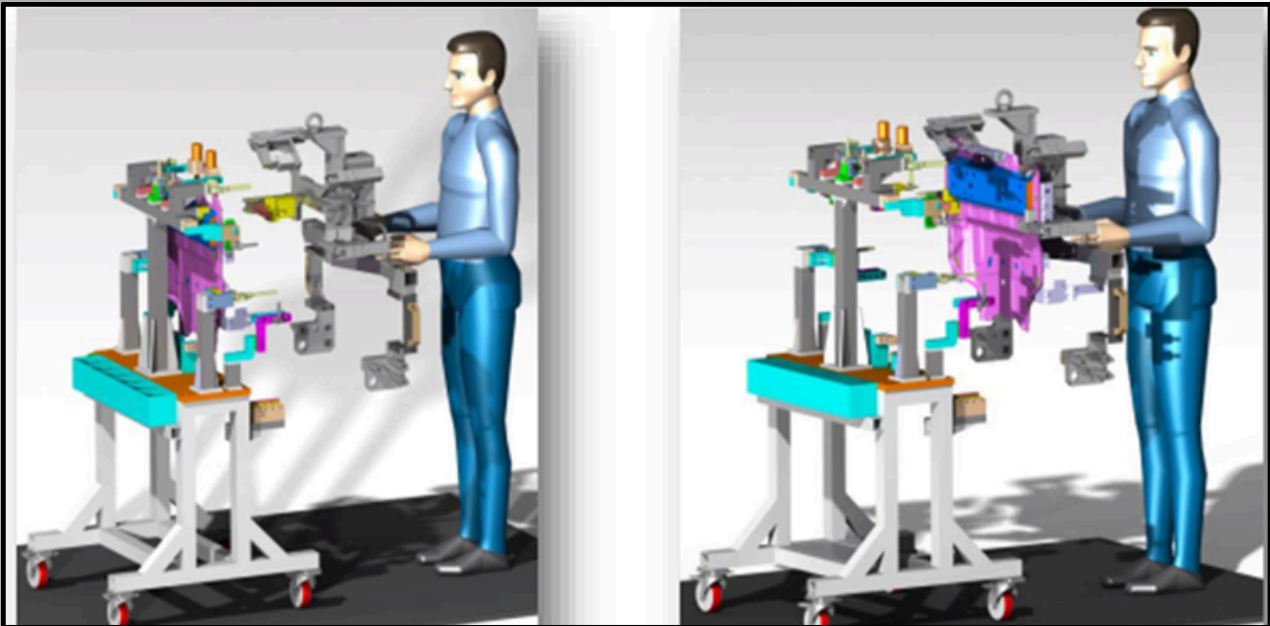
**Design and Development of Fixtures and gauges
for Roll Over Protection (ROP'S) Bar for Mungi
Engineers, Zaheerabad (Mahindra Tractors)**

Successfully Delivered Projects

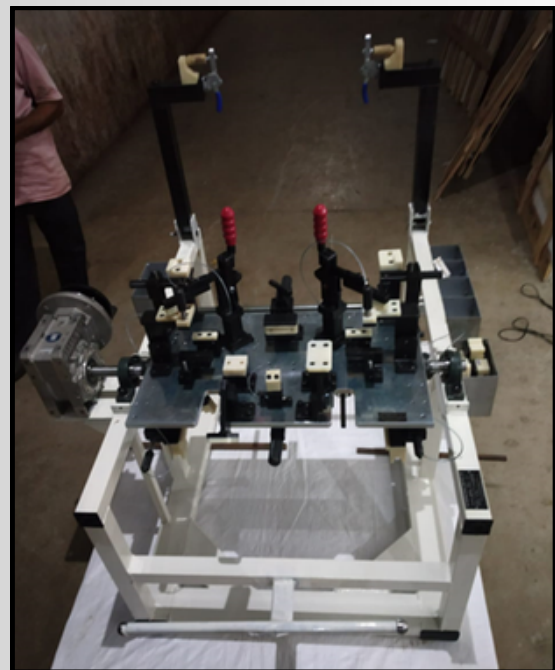
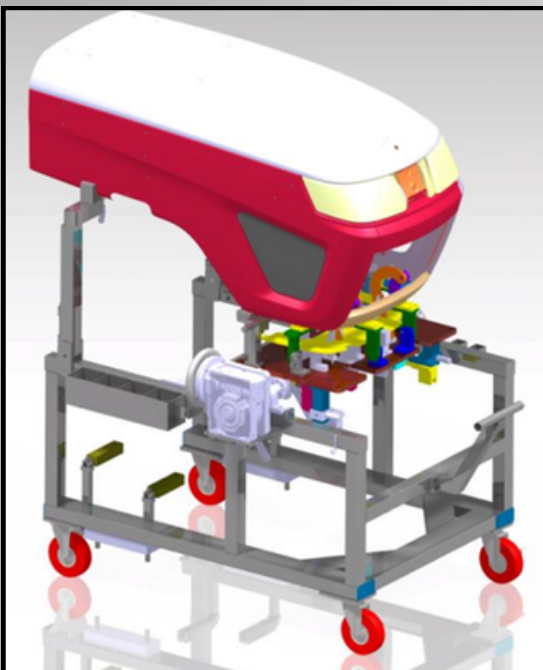


Design, Development and Manufacturing of Fixtures and gauges for Roll Over Protection (ROP'S) Bar for Mungi Engineers, Zaheerabad (Mahindra Tractors)

Successfully Delivered Projects



**Design, Development and Manufacturing of assembly
Fixture/Gauges
for TMTL(Eicher Tractors), Bhopal**



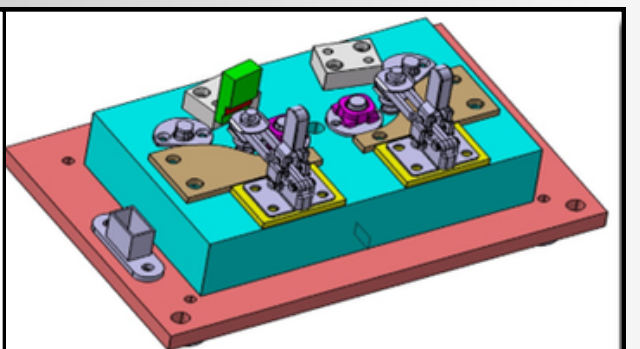
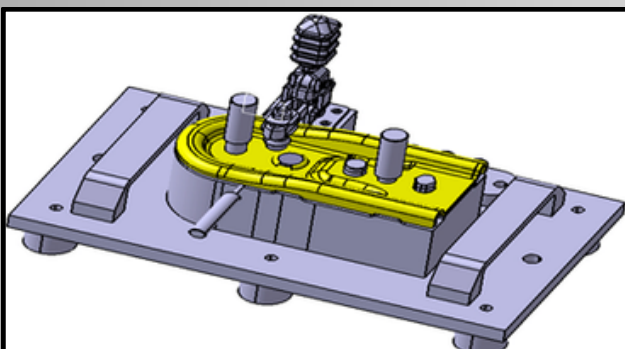
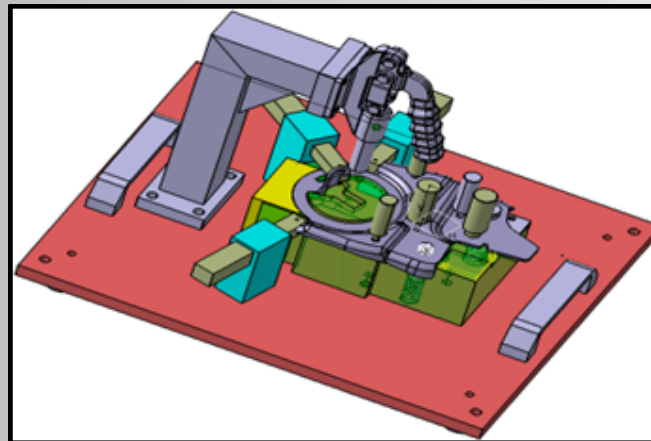
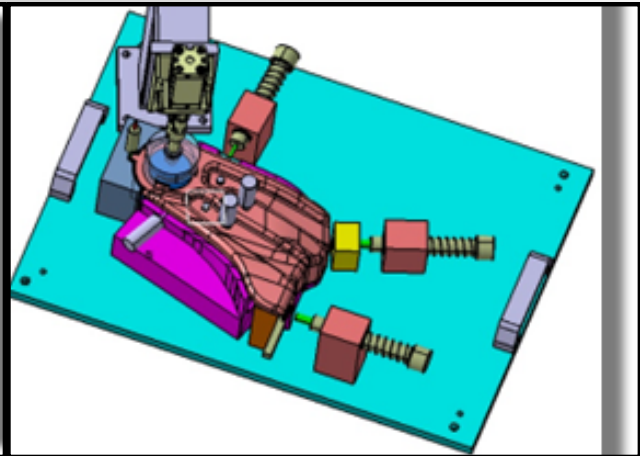
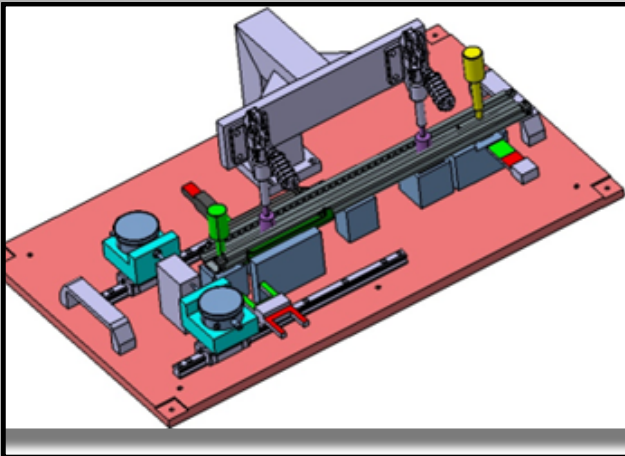
**Design, Development and Manufacturing of Base
machine trolleys for bonnet subassembly for
TMTL(Eicher Tractors) Bhopal**

Successfully Delivered Projects



**Design, Development and Manufacturing
ARTICULATING ARM (Mahindra & Mahindra ,PUNE)**

Successfully Delivered Projects



Gauges Design, Development and Manufacturing
Customer : LEAR Corporation (Pune)

Successfully Delivered Projects



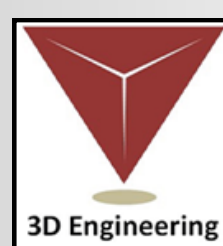
Design, Development and Manufacturing of Semiautomatic Pipe Bending SPM for Mungi Engineers, Zaheerabad (Mahindra Tractors)

Successfully Delivered Projects



Design, Development and Manufacturing of TOOLS for Mungi Engineers, Zaheerabad (Mahindra Tractors)

OUR PRIVILEGED CLIENTS





CONTACT US



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