TALENT DEVELOPMENT

BIW STRUCTURAL DESIGN & LIGHTWEIGHTING STRATEGIES

PROGRAM OBJECTIVE

Product Domain Knowledge of Designing a Sheet Metal Panel /BIW Structure by following Design Methodology, Aspects and Principles those influence from concept design to launch for manufacturing of Tailgate Panel, Fenders or Roof Panels.

PREREQUESTIVE

Mechanical / Production or Automotive Engineering Graduate

<2 Year Experienced Professional

Basic working knowledge on any CAD & FEA Software Tool.

FEA LAB SESSIONS

Recorded Lab Sessions are provided based on learning methodology of FEA tool to analyse & support the BIW Structure Design for the Durability, Crash & Safety.

LEARNING OUTCOME

Design Principles, Rules and Methodology that involved to design an Sheet Metal Part considering customer specs, proposed raw materials, mfg. feasibility, Meet Regulations & Functional Requirements.

PROJECT LEARNING

During the Program, apart from classes, assignment are provided on how to design a Sheet metal panel using CAD & FEA software tool and analyse the product design performance, durability & Safety.

PROGRAM MODULE

100% online interactive session Collaborative Skill-set gain with CAD & FEA practices.

Courses are in-line to actual Automotive Tier-1 /OEM Work Methodology.

Recorded lecture are provided as reference.

TRAINER PROFILE

M.Tech Automotive Engineering - BITS Pilani WILP.

25 Years experienced professional in Automotive Industry & Technical Trainer.

Injection Tooling, CAD/CAM, Automotive Product Design, Engineering, Development and Validation.

CREDENTIAL

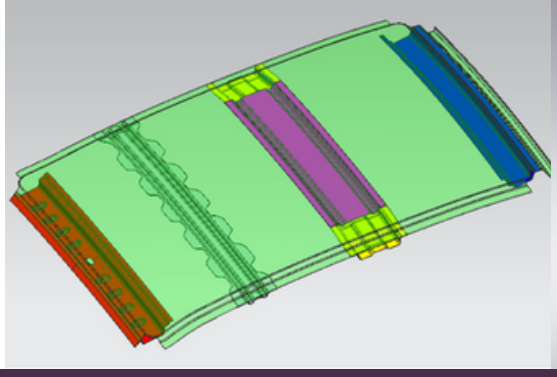
Recognition with **Certificate of Completion** will be facilitated at the end of the program. **Certificate of Internship Completion** are provided after successful completion of Internship Live Project.

INTRODUCTION TO SHEET METAL DESIGN

MODULE-1

CONTENT:

- Automotive Design Basics
- BIW Design Elements
- Concept Product
- VAVE Process
- Class A Surface Development
- Basic Design Thinking



AUTOMOTIVE BODY STRUCTURE DESIGN

MODULE-2

CONTENT:

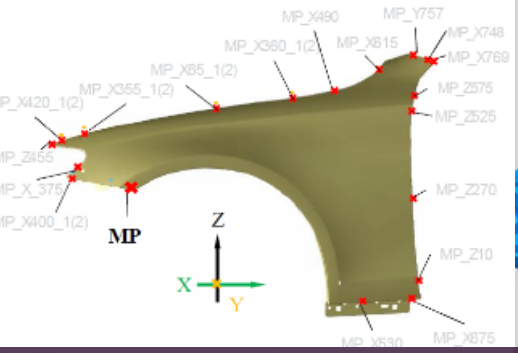
- Packaging & Feasibility Study
- CAS Homologation Check
- Master Sectioning & 3D Design
- Product Design Best Practises
- DFMEA Workshop
- DFA & DFM Methodology

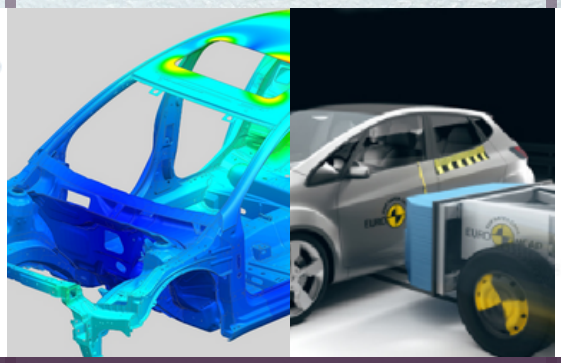
AUTOMOTIVE MATERIAL

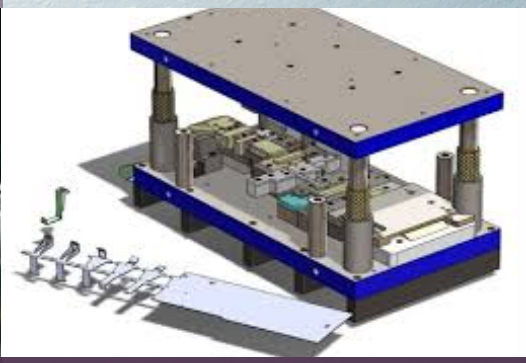
MODULE-3

CONTENT:

- Introduction to Material
- Material Selection Method
- Material Validation Test
- Lightweighting Material
- Future Material trend on Electric Vehicle







DIMENSIONAL MANAGEMENT

MODULE-4

CONTENT:

- GD&T Concepts
- GD&T on Product Design
- Product Qualification
- Stack-up Analysis Method
- Product Gap & Flush Study

FEA ANALYSIS & REGULATIONS

MODULE-5

CONTENT:

- FEA Lab Practise Session
- Design Validation Plan
- Automotive Regulations
- Mandatory Test Regulation
- EV Crash & Safety Aspects

PRESS TOOL DESIGN & CHECKING GAUGE

MODULE-6

CONTENT:

- Press Tool Design Concept
- Formability Analysis
- Checking Gauge Concepts
- Checking Gauge Design
- Part Inspection Methodology

Duration: 3-5 Days / Full day / Online & Classroom Interactive session with Project work.

Project: Post completion of the session, an **Industrial-oriented project** will be provided to gain Domain Expertise & Skill-set.