

**REVERSE ENGINEERING**

# REVERSE ENGINEERING



**INDUSTRIAL  
MRO**

We understand industrial language

MRO Engineering & Supplies Pvt. Ltd, provides 3D laser scanning, 3D modeling, design, and drafting services with related industrial engineering applications to the maritime, offshore, construction, and oil and gas sectors.

Every scan precisely locates/positions millions of data point within a given space. The 3D point cloud that is established can be navigated, drafted, and modeled in commonly used computer-assisted drafting (CAD) and other software applications. Our high technology software enables us to apply manufacturing skills, functional skills, and knowledge to deliver product model and quality drawings.

## THE NUMEROUS POSSIBLE USES FOR THE POINT CLOUD INCLUDE:



Conversion/  
Retrofit Plans.



Reverse  
Engineering Steps.



Conceptual  
Designs.



Detailed  
Engineering.



3D Laser  
Scanning

## APPLICATIONS

### 3D Modelling

MRO Engineering provides 3D modeling, design, and drafting services to offshore, construction, maritime, and oil and gas industries. Our designers use the latest 3D CAD Modeling software to prepare 3D Concept models and detailed fabrication drawings for ship conversions and plant upgrades, including custom part and assembly modeling, prototype design, complex construction design, structural layouts, and machinery. Our team carries out extensive research before conceptualizing the final job.

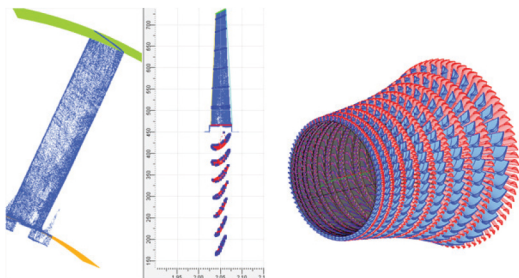
This helps us to offer accuracy while identifying the clients' needs. We offer our services to various industries which includes Architecture and Construction, Oil and Gas, Shipping, Medical, Wind Energy, Offshore, Mining, Aerospace





## Plot Plans

The laser scans of the plant and structure, machinery, electrical cabling, and piping systems are extracted from the point cloud to create isometric drawings. Our designers use AutoCAD software to generate these plot plan drawings



## INDUSTRIES

### Construction

3D scanning and measurement are integral elements of architecture, engineering, and construction from the design to the inspection stage. For contractors, laser scanning lowers risk by ensuring complete and accurate as-built drawings and exposing any inaccuracies early



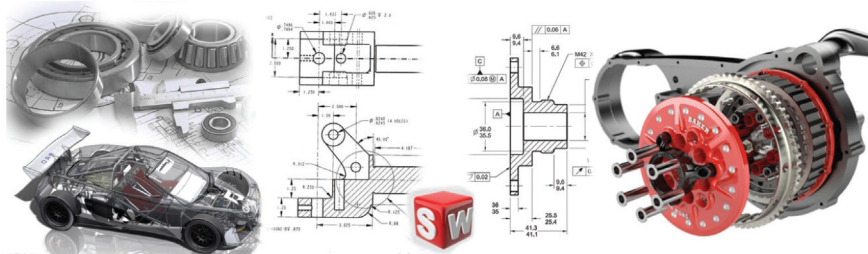
### Oil & Gas

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## Engineering Drafting

The 3D laser scan data is an irreplaceable tool in developing engineering design packages. Our designers combine the processed scan data, 3D models, existing arrangements, engineering design, & client requirements to create the required engineering deliverables: Conversion Specifications, Plans, and Detailed Fabrication drawings



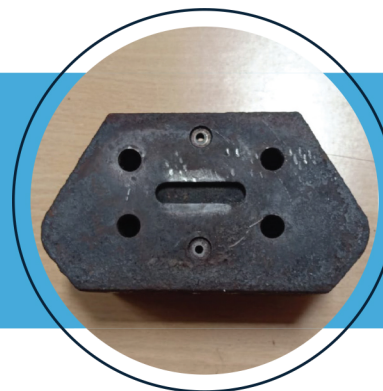
### Mining

Our scanning services provide civil engineering and construction firms with mines and mining machinery representations. Accurate as-built documentation helps engineers determine and ensure safety standards. 3D Laser Scan measures and monitors the stability of rock faces and slopes to improve safety. This provides an early warning of movement and, therefore, potential failures in the active mining area that may impact production, cause damage to equipment or even cause injury to personnel. 3D scanning is an integral element of architecture, engineering, and construction applications from the design to the inspection stage.



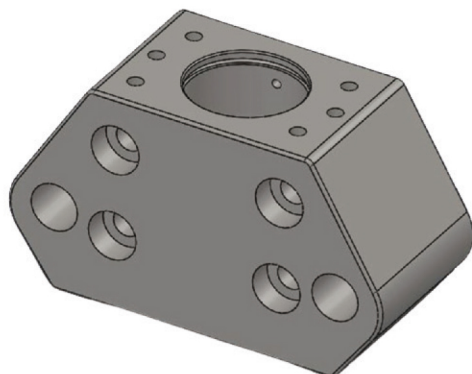
Post processing the point cloud data with CAD software's

## COMPONENT WE NEED TO DO REVERSE ENGINEERING



### 3D MODELLING

3D modeling is the process of creating a mathematical representation of a 3-dimensional object or environment using specialized software. The model can then be rendered into a 2D image or animation, or used in virtual reality or video game applications. The process typically involves creating a wireframe of the object and then adding textures, lighting, and other details.

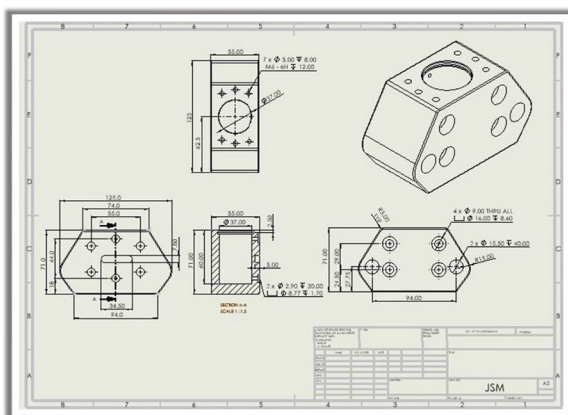


### 3D SCANNING

3D scanning is the process of using specialized hardware and software to capture a physical object or environment and convert it into a digital 3D model. The process typically involves using a laser or structured light source to scan the object or environment, and then using software to process the data and create a 3D model.



### PRODUCTION DRAWING



These drawings typically include detailed dimensions, tolerances, and other information necessary for the production process, such as material specifications and assembly instructions. They may also include information about surface finish, hardware, and other features



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