



# Automation

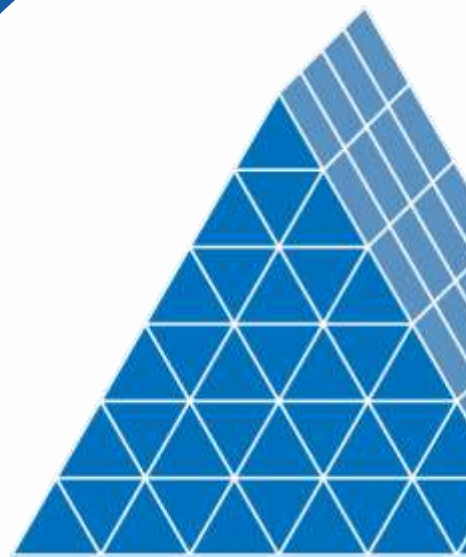


# CAD Customization

We excel in modifying SolidWorks features to meet specific user requirements by developing macro programs, scripts, and adding custom functionalities.

## How CAD Customization is Beneficial?

- Add a new feature or modify existing feature to enhance user experience
- Better compatibility of software with other database management system.
- Improved quality of 3d Models and Drawings.
- Easy integration of design automation.

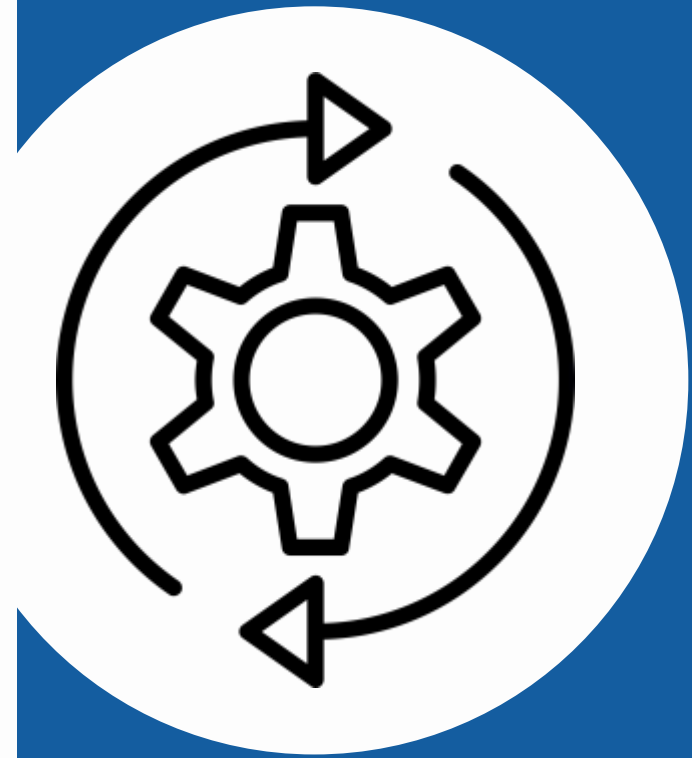


# Design Automation

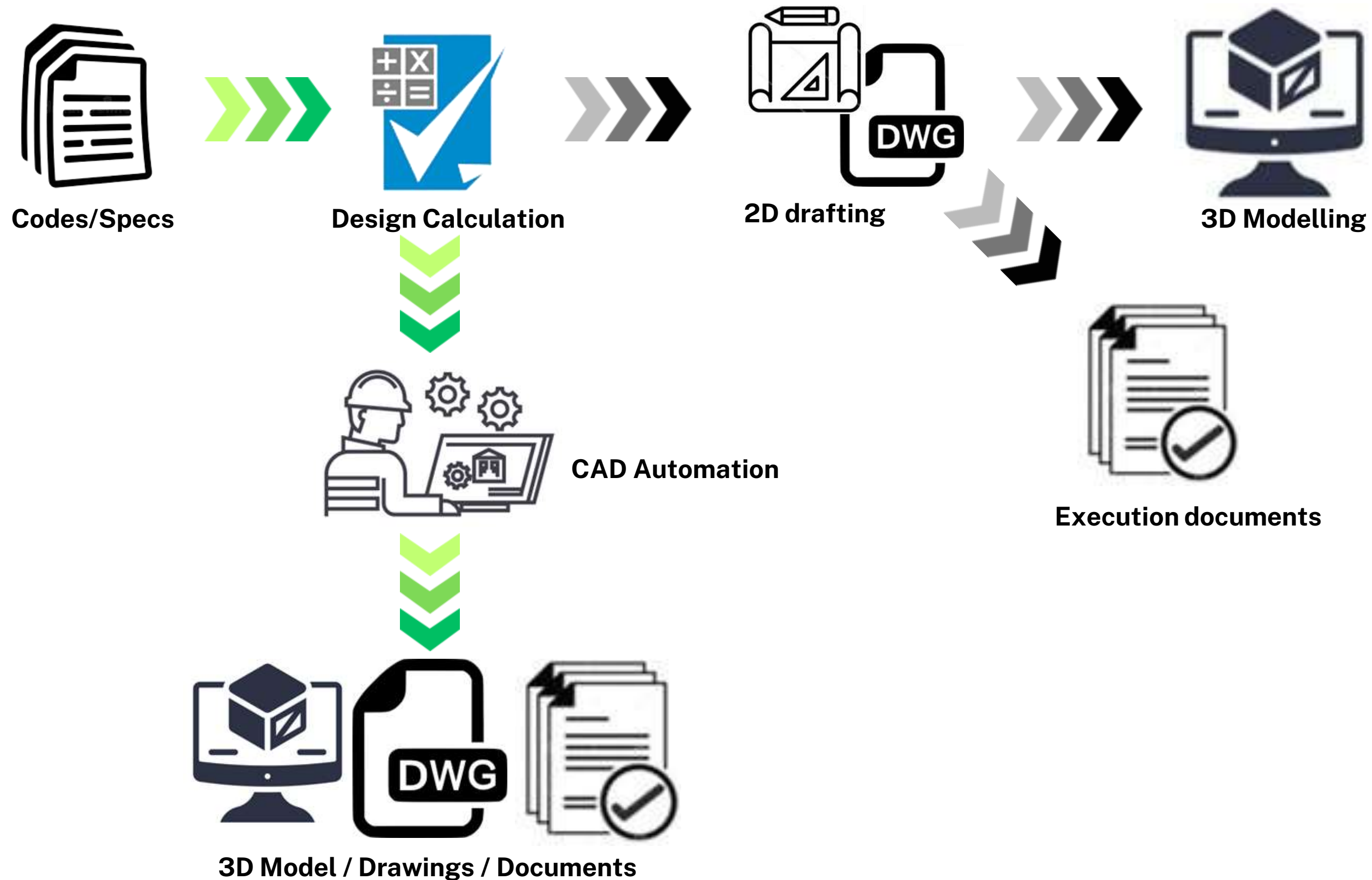
We specialize in automating repetitive design tasks in SolidWorks to generate or modify parts, assemblies, and drawings based on predefined rules, templates, or parameters by using various tools and techniques. We convert standard and engineering logic to Automation CAD

## Why Implement Design Automation in SolidWorks?

- Faster Creation of Drawings, Models and Documents
- Increased Efficiency and Productivity of Design
- Elimination of Human Errors
- Cost-Effective Solution



# DFM Documentation Flow :



# Services We Provide:

## CAD Customization:

- Design process automation
- 3D model configurator
- Macros development
- API and toolbar customization
- User interface creation

## Process Automation with CAD Customization:

- Generate bill of materials of developed product with parts lists
- Print bulk sheet job without supervision
- Assign steps with computer or manual decision making
- Generate logs of all processes generated
- CAD models & drawing creation with minimal inputs
- Revise drawing tables
- Configure, Price and quote applications



# Document Automation and Material Property Update Automation

We create document and material property automation specially tailored as per the clients requirement in SolidWorks, streamlining the creation of documents, workflows add and update material property to enhance efficiency and support the design process effectively.

## Documents generated through

### Automation:

- DXF Files
- Step File
- Drawing PDF
- 3D PDF
- Production BOM
- Production Packet
- Rendered Images

## Why Automate Material Property Update?

- Consistency across model and simplified multi-model management
- Quick material selection with pre-defined library
- Streamline workflow in case of design revision, without manual efforts
- Better integration with Bill of Materials
- Customization for specific requirements



# 3D Modelling Automation

## Parametric Modelling:

Parametric modelling allows to define dimension, constraints and relations of 3D Model with parameters like height, width, length, angles, radius and more. It facilitates modification of the 3D model's shape and size by simply adjusting these parameter values, eliminating the need to re-draw and re-design the entire model from scratch.

## Scripting and Macros:

3D modelling automation is done by writing code or commands to instruct the CAD software for creating certain patterns or features without manual intervention.

## Artificial Intelligence and Machine Learning:

With integration of Large Language Models (LLMs), we can enhance user input by making it more interactive.



# Drawings Automation

## How we Automate Drawings in SolidWorks?

We develop customized scripts to automate repetitive drawing tasks in SolidWorks, such as dimensioning, annotating, generating standard views, and applying templates directly from 3D models.

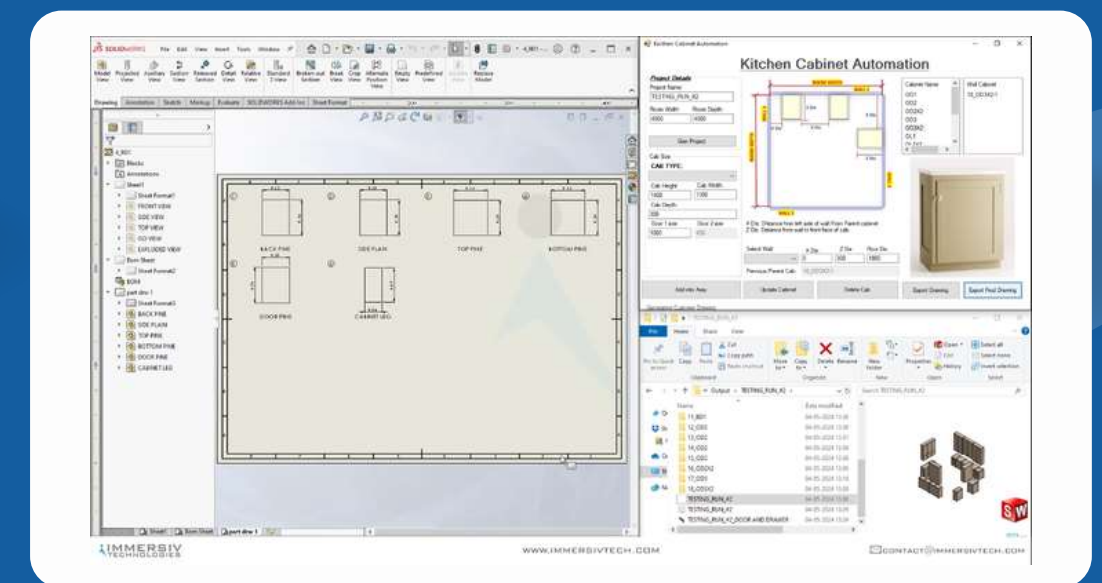
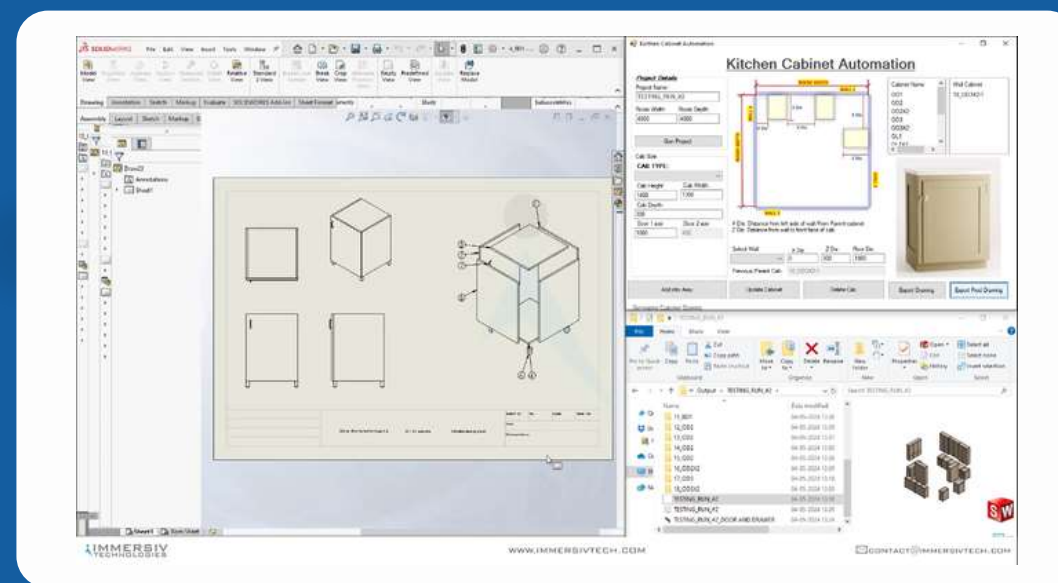
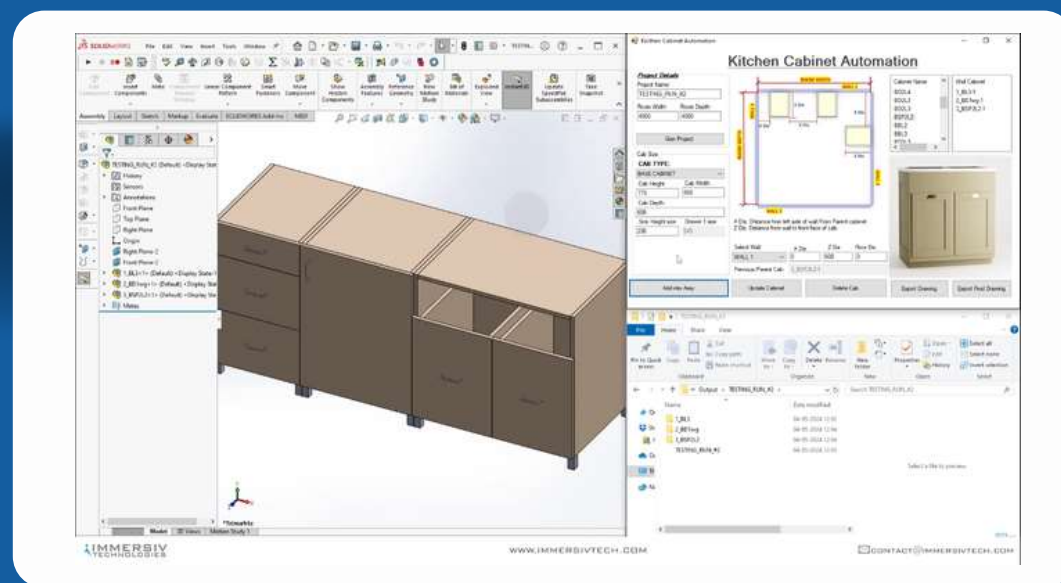
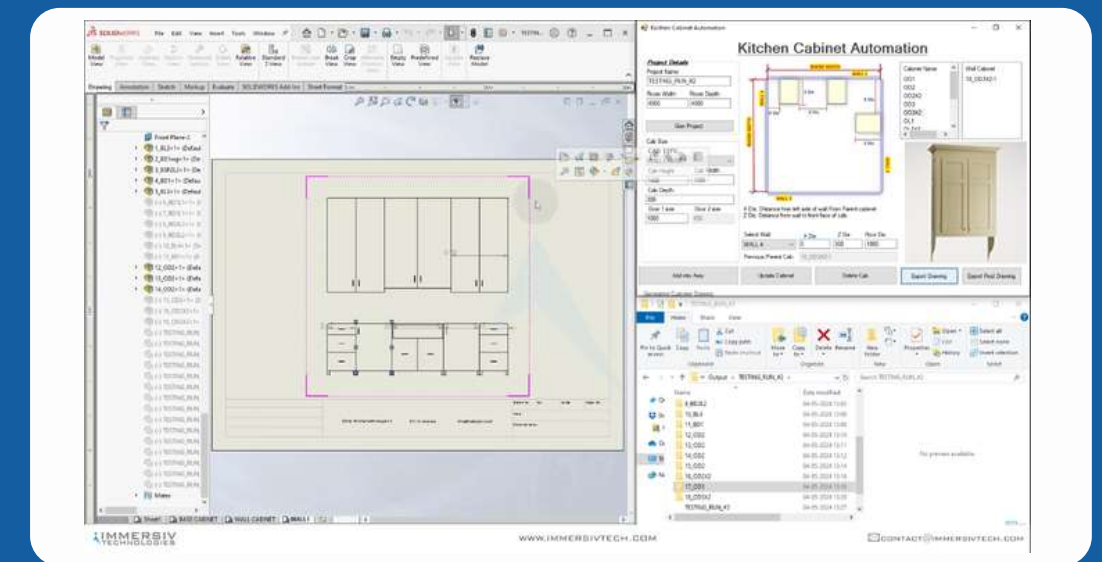
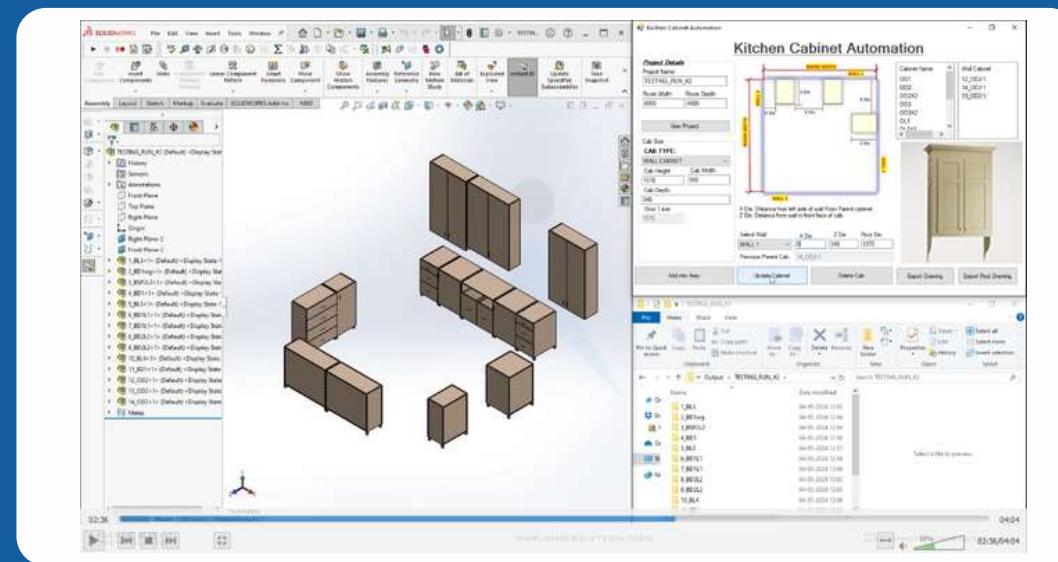
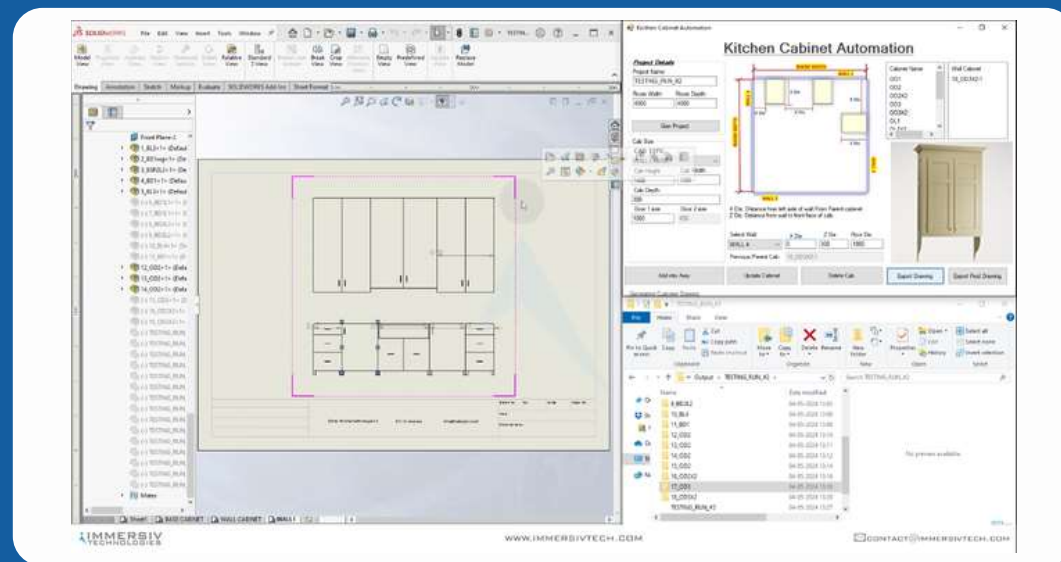
## Why Automate Drawings?

- Precision in Drawings
- Accelerate the design process
- Maintain consistency and standardization
- Improved communication



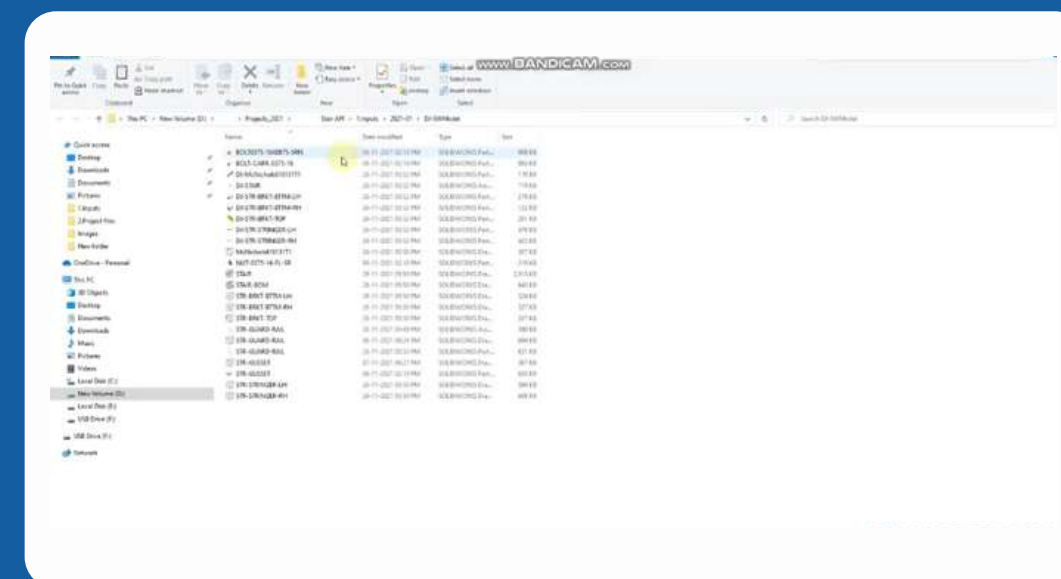
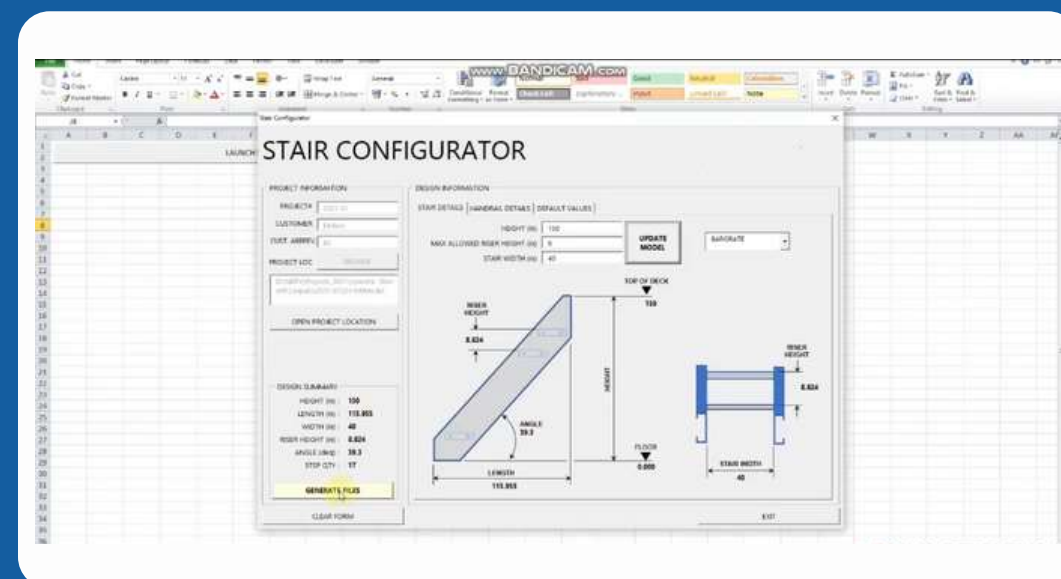
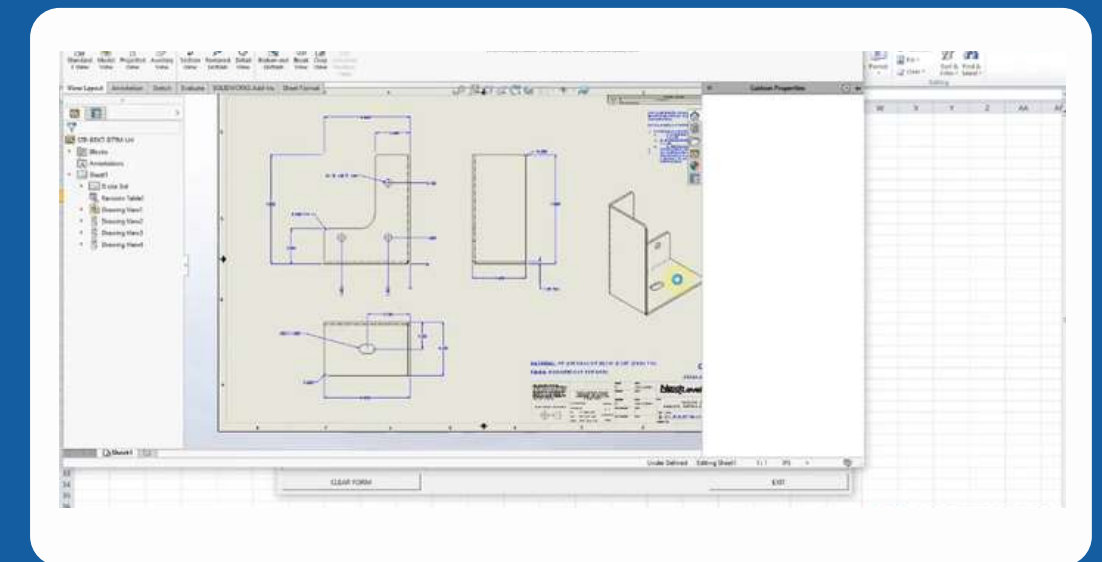
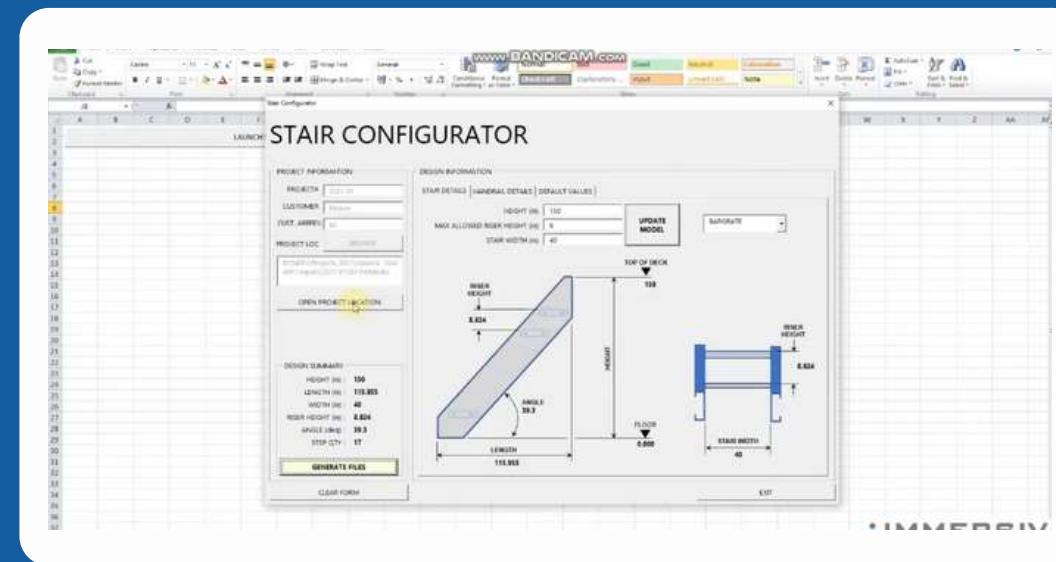
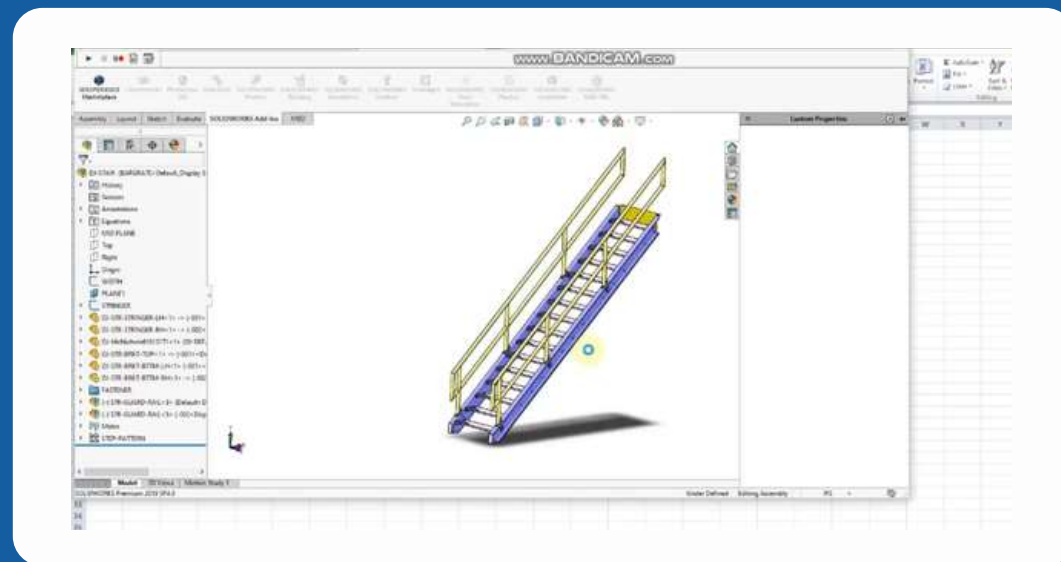
# Kitchen Cabinet Layout and 2D Fabrication Drawing Automation

Developed a Design Automation tool using SolidWorks API, VB.NET, and Excel to create Kitchen cabinets layout with SolidWorks 3D model and Quote drawing with BOM. The tool also create fabrication drawing for each cabinet with individual parts drawing and DXFs in provided folder structure. This tool also export the excel report of price quote.



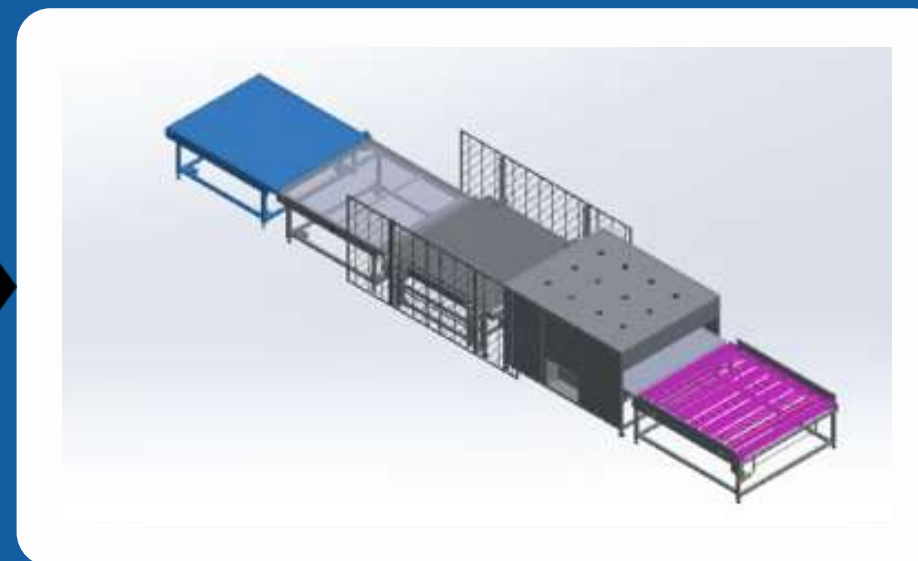
# Stairs Configuration and Auto drawing generation

Developed a CAD automation tool using SolidWorks API, VBA, and Excel to create 3D model configurator for stairs and 2D fabrication drawings. The tool also create fabrication required CAD file such as DXFs, step files and drawing PDF with provided folder structure. This solution improved accuracy, reduced manual effort, and streamlined documentation processes.



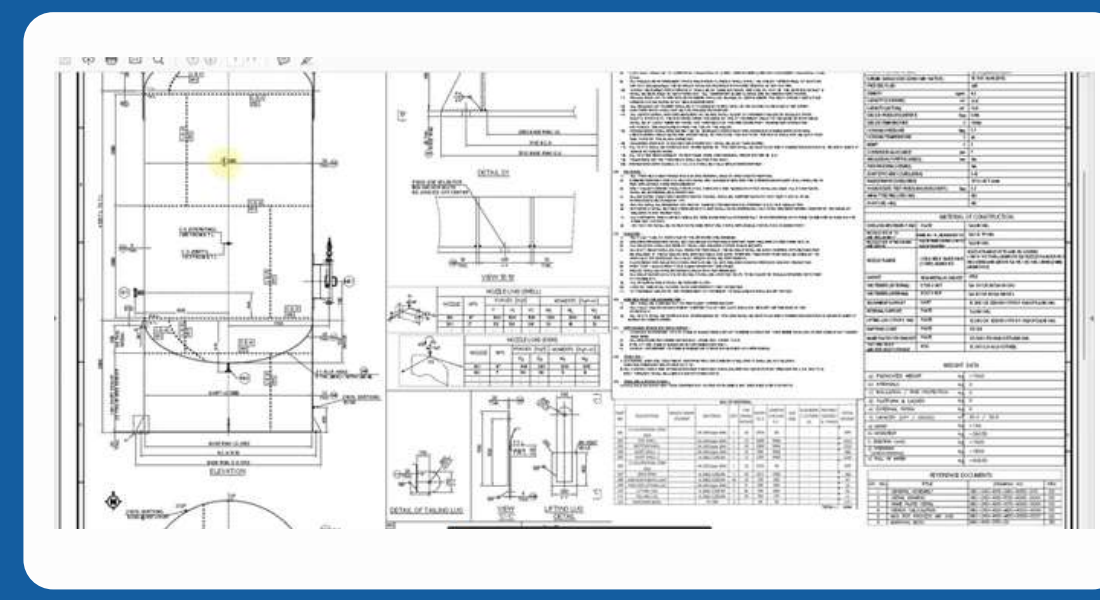
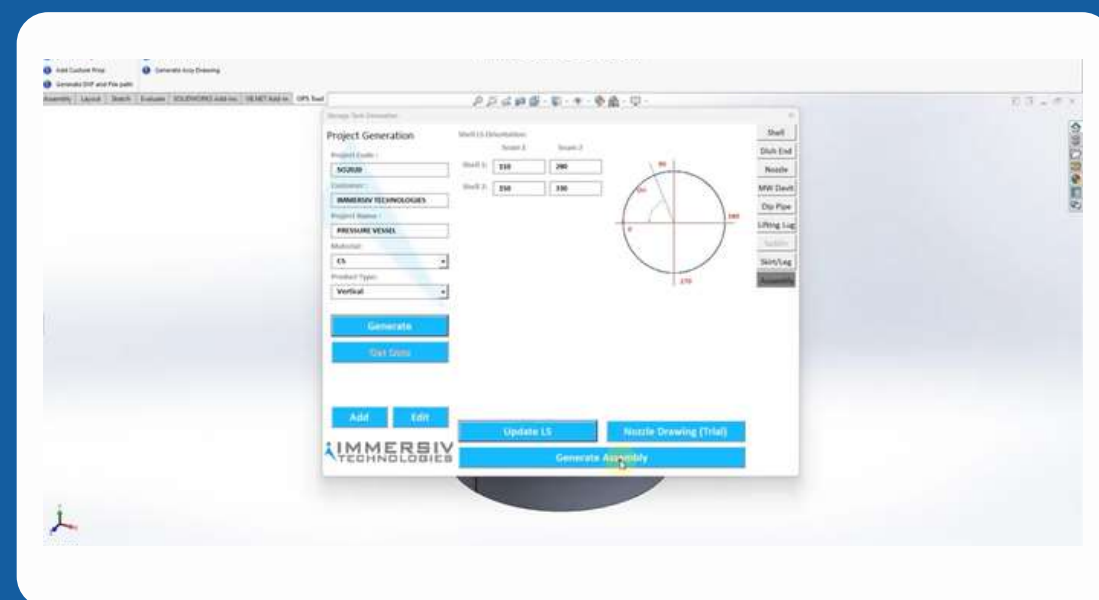
# Automation of Machine Layout

Developed a SolidWorks VBA tool to automate the creation of machine layouts on the shop floor. The tool enables users to define floor dimensions, position machines dynamically, and generate 3D models and detailed 2D drawings. This automation streamlined the layout process, reduced design time, and ensured accuracy in machine placement.



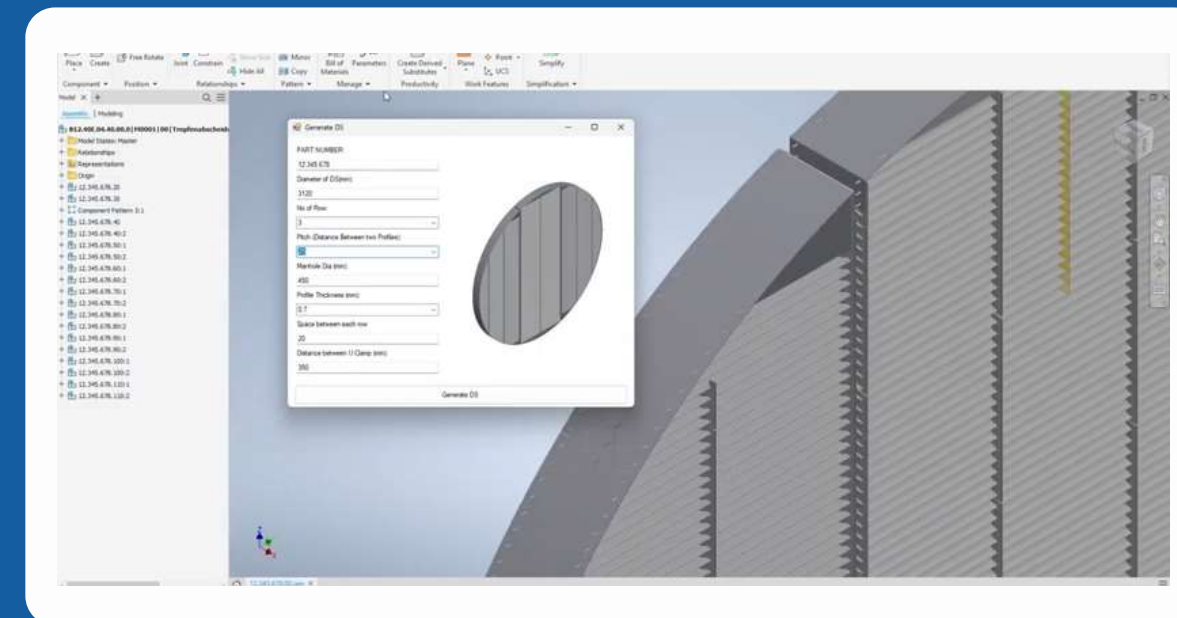
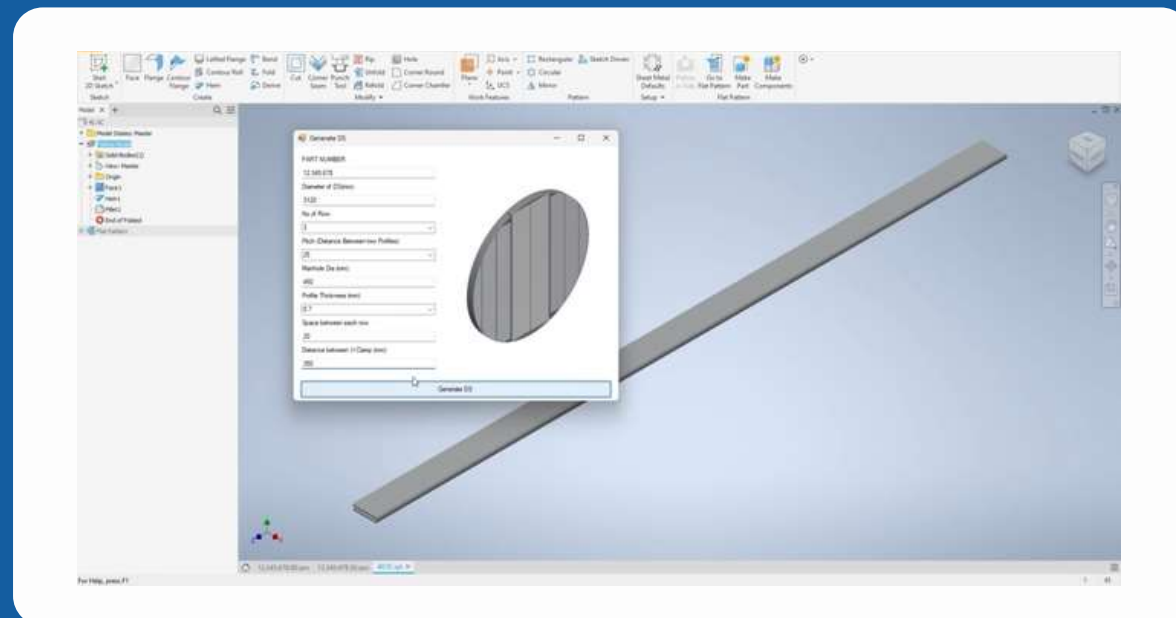
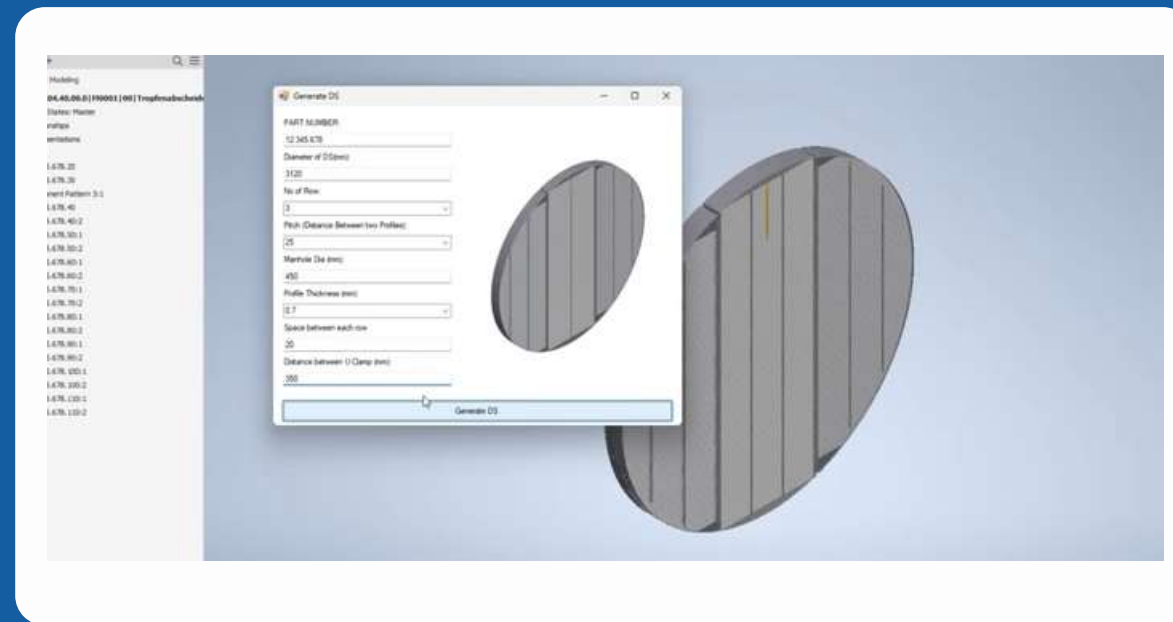
# Pressure Vessel 3D Model Automation

Developed a SolidWorks automation tool using VBA to streamline the design and generation of 3D model for Pressure vessel. The tool allows users to input project-specific parameters such as material, nozzle specifications, dimensions, and product type. Upon data input, the program automatically generates 3D models and assemblies of the storage tank, reducing manual effort and improving design accuracy. This solution significantly enhances productivity for repetitive design tasks.

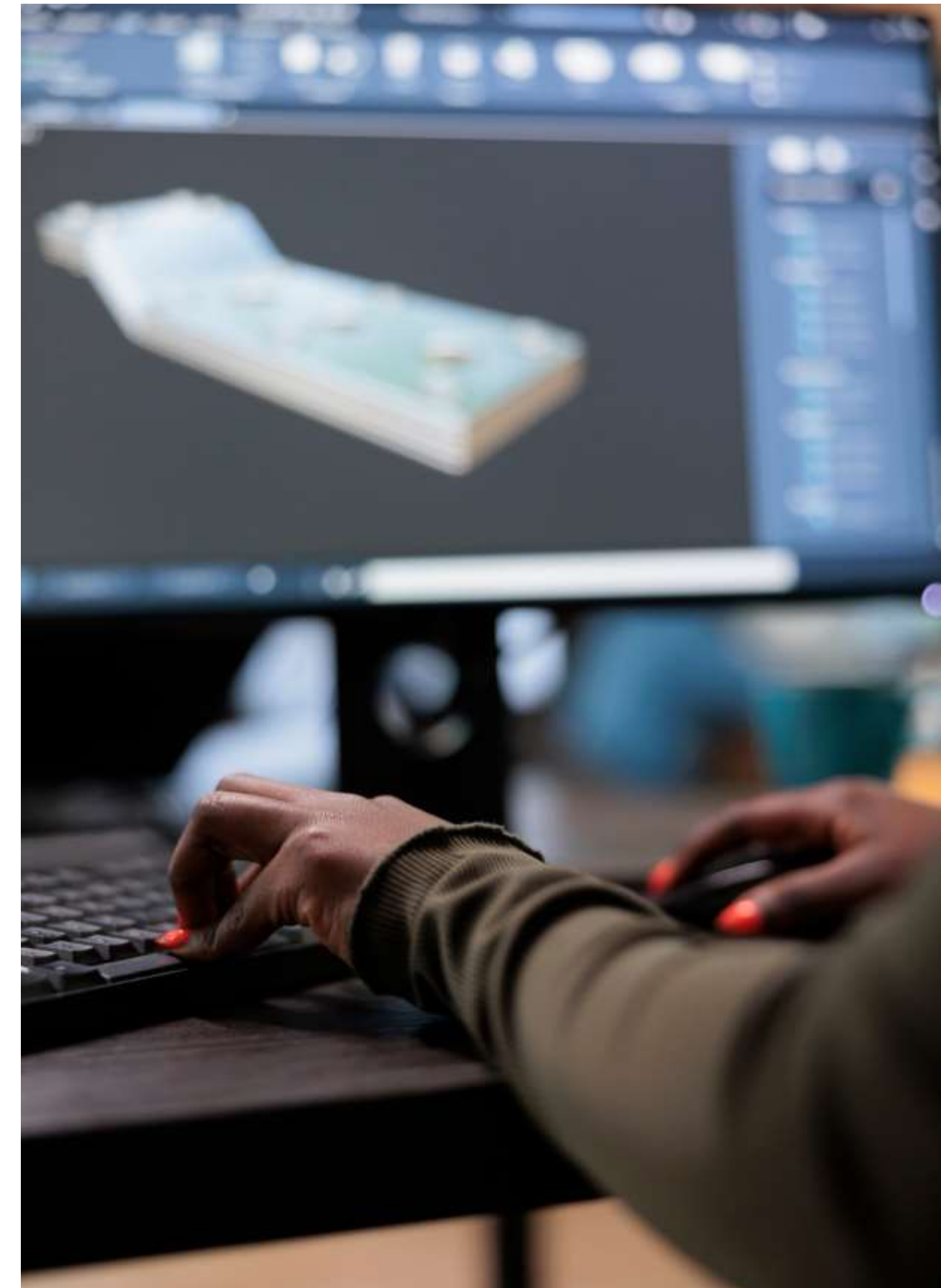


# Droplet Separator 3D Model Automation

Developed a Design automation tool using VB.NET to streamline the design and generation of 3D model for Droplet separator. The tool allows users to input project-specific parameters such as project name, Number of row, distance between each row etc. Upon data input, the program automatically generates 3D models.



**Do you have any repetitive design tasks that are draining your time?  
Let's chat about how automation can streamline your workflow.**



# THANK YOU!



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