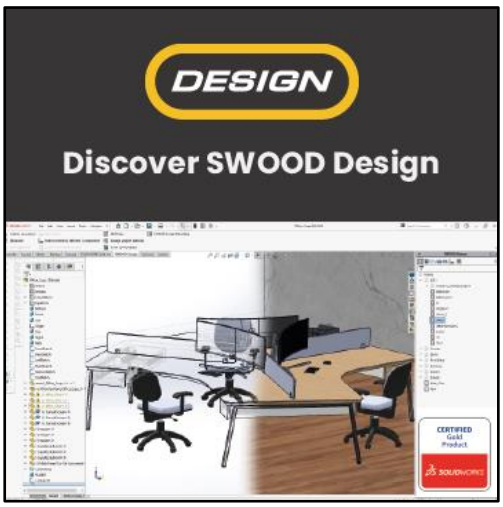
BEACON Newsletter - October 2024

SWOOD Insight: Recarving Digital Woodworking Journey

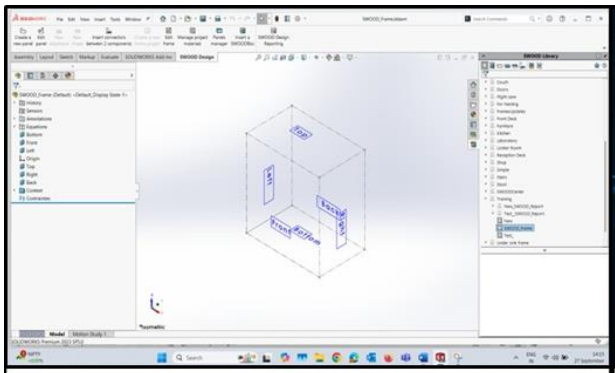


Being in the SOLIDWORKS community, the SOLIDWORKS Design engineers are well verse of the capabilities of SOLIDWORKS Software along with the extents of use. One of which is while working in the industries associated with the use of furniture's and accessories related to it.

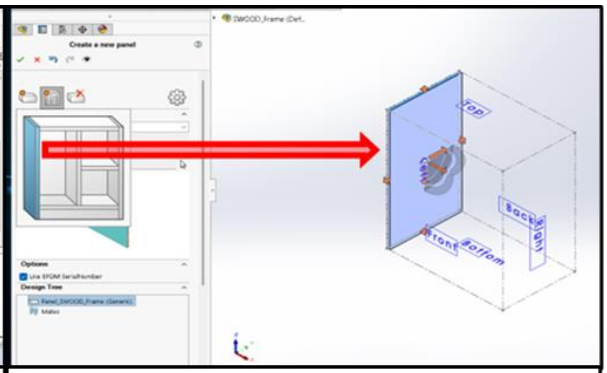
To help or to overcome the challenges with an easy and familiar manner, SOLIDWORKS is integrated with the SWOOD, a software tool which helps the user who are seeking ease of work and documentation while dealing with wood working designs or projects. SWOOD acts as an Add-In in SOLIDWORKS. As it uses SOLIDWORKS User Interface, user won't feel the any detachment from SOLIDWORKS Software.

SWOOD is designed to help reduce waste and optimize the woodworking process from design to manufacturing. SWOOD comes with the three main domains namely as Design, CAM & Nesting. All these domains are connected in such a manner that the user doesn't need to worry about other.

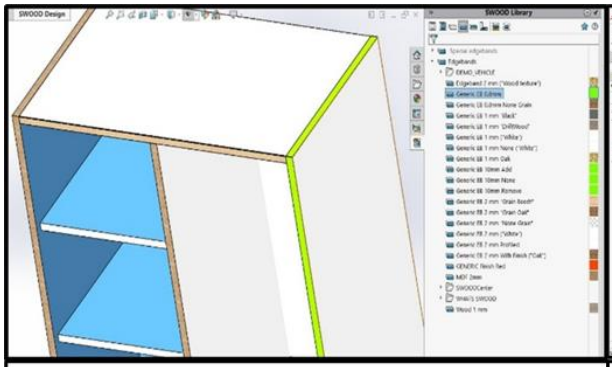
SWOOD Design: Lets you create quickly standards models using libraries and then customize it into new projects. Also, complete more flexible designs with woodworking features. It offers to drafters, engineers a unique method that guarantee to putting your more complex projects into production. The library consists of Materials, Panels, Frames, Boxes, Edge bands, Connectors like dowels, pins, rastex with Hardwares like drawers, hinges, locks, etc. All these library items are customizable as per one's requirement. Users are suggested to make their own company specific products and used them as standards for any new enquiry to deliver the results in less time.



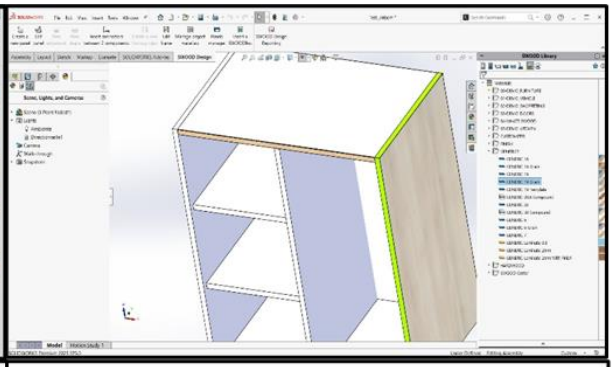
Create New Frames



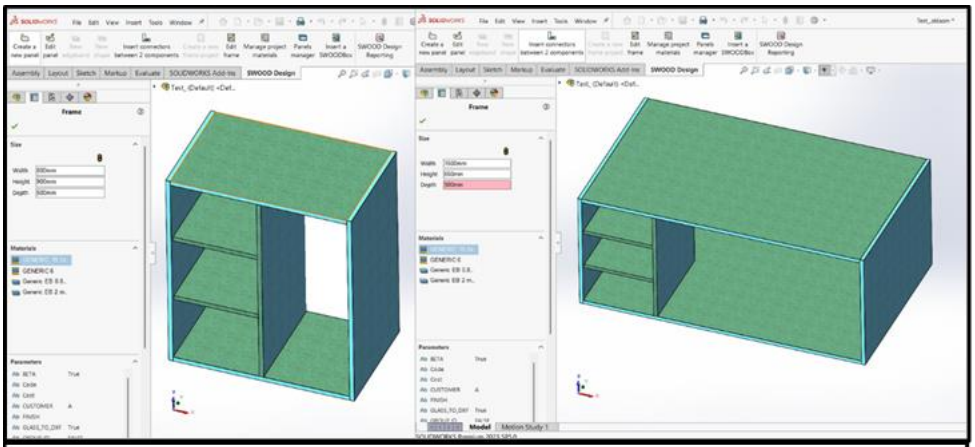
Add Panels



Apply Edge Band

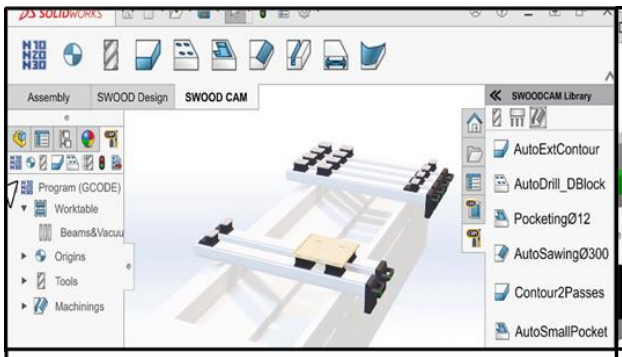


Apply Material

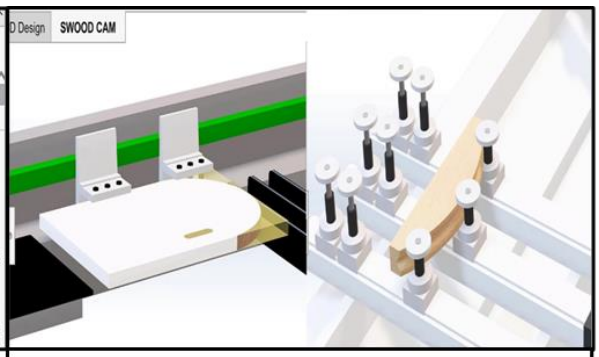


Parametric Design Changes

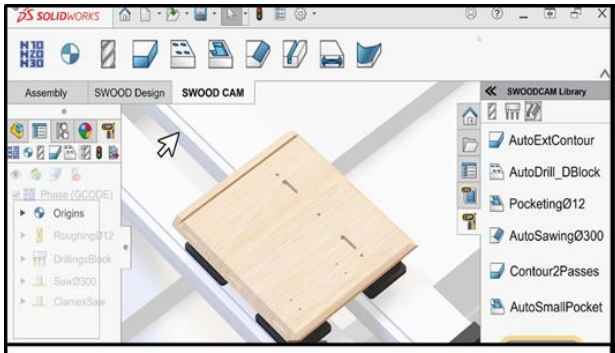
SWOOD CAM: combines EFICAD's experience in the sector with associativity between the 3D files and the toolpaths. A simple change in your design and all the entire SWOOD digital chain is updated with a single click. SWOOD CAM manages all the machine technologies of the market and the various manufacturing processes.



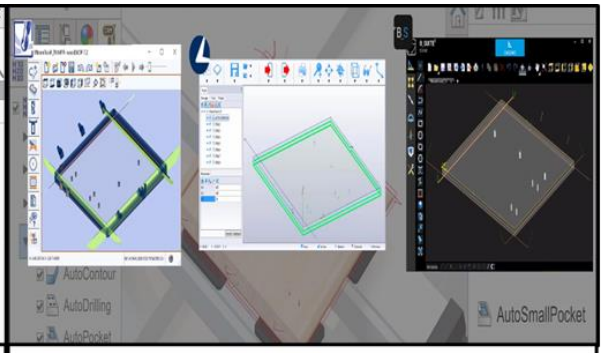
CAM Machining Set-up



Camping Set-up



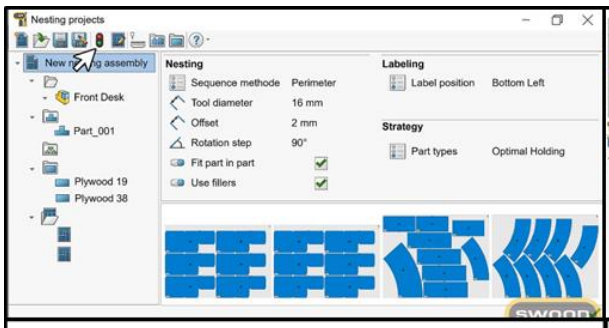
Contour | Pocketing | Drilling | Grooves | Sawing



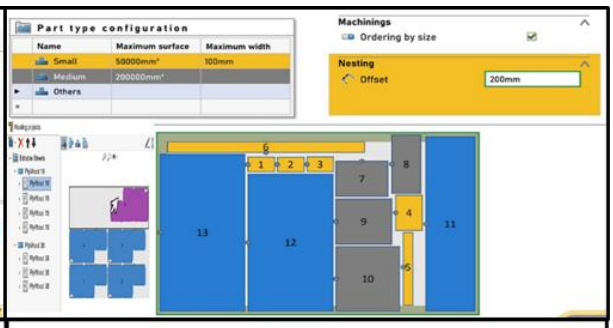
Automated Toolpath & Machining Codes

SWOOD Nesting: complements SWOOD CAM for your nesting process. It helps to optimize material usage and reduce machining times. It uses a nesting algorithm to arrange parts on panels to minimize waste. Some features of SWOOD Nesting include:

- Sorting panels by thickness and material
- Optimizing sheet and machining toolpaths
- Generating programs and documentation
- Nesting each layer of a multi-layered material separately
- Grain matching



Setting-up Nesting Layout



Nesting Customization

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Why SWOOD?

SWOOD stands out from its competitors due to its deep integration with SOLIDWORKS, which gives it several advantages for users in the woodworking and furniture design industries. Here are some key aspects that make SWOOD unique compared to its competitors:

1. **Integration with SOLIDWORKS**
   - **Complete SOLIDWORKS Integration:** SWOOD is fully integrated within SOLIDWORKS, one of the most powerful and widely used 3D CAD platforms in the world. This gives SWOOD users access to all of SOLIDWORKS' advanced design, simulation, and collaboration tools.

   - **Parametric Design Capabilities:** SWOOD allows users to easily modify their designs with parametric relationships, which makes adjusting dimensions and updating designs faster and more accurate.

2. **Specialization in Woodworking**
   - **Tailored for the Wood Industry:** While many CAD/CAM tools can be adapted for woodworking, SWOOD is specifically built for designing wood products. It includes features like grain management, panel sizing, and material handling that are tailored to the wood industry, which many general-purpose CAD tools lack.

   - **Cabinetry and Furniture Design:** SWOOD's modules, such as **SWOOD Design** and **SWOOD CAM**, are specialized for cabinet and furniture design, which simplifies workflows that other tools may not directly support without customization.

3. **SWOOD Libraries and Components**
   - **Built-in Libraries:** SWOOD provides a wide range of standard component libraries (e.g., hinges, drawers, and doors) that help users create detailed designs quickly. The pre-configured components save time and reduce errors in assembly.

   - **Customizable Libraries:** Users can create and store custom components or reuse parts from previous projects, making it easier to standardize and automate repetitive design tasks.

4. **Seamless CAM Integration**
   - **Direct CNC Integration:** SWOOD integrates both design and manufacturing processes through its **SWOOD CAM** module. Once a design is completed in SWOOD Design, users can generate CNC machine instructions directly, streamlining the production process.

   - **Toolpath Optimization:** SWOOD CAM generates optimized toolpaths for CNC machines, including automatic nesting and cut list generation, which can improve material usage and reduce production time.

5. **Material Management and Nesting**
   - **Grain and Material Optimization:** SWOOD considers wood grain direction when designing and manufacturing components, which is crucial for both aesthetics and structural integrity in woodworking.

   - **Nesting Capabilities:** SWOOD's automatic nesting function arranges parts on sheets of material in the most efficient way, which reduces waste and maximizes material utilization during the CNC cutting process.

6. **Advanced Assembly Management**
   - **Automatic Assembly Creation:** SWOOD automatically manages connections between parts, such as dowels and fasteners, and adjusts the design when parameters are changed. This automation reduces manual labour and improves accuracy when assembling large furniture pieces or cabinetry.

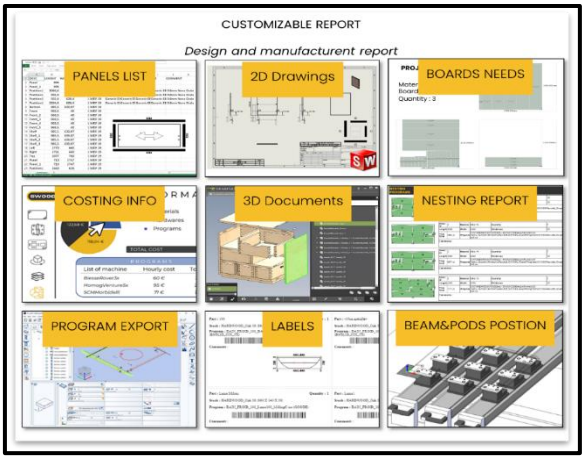
   - **Dynamic Connection Features:** It includes intelligent connectors that automatically apply necessary joinery techniques, ensuring that designs are production-ready without requiring manual adjustments.

7. **User-Friendly Interface**
   - **Familiar SOLIDWORKS Environment:** Since SWOOD operates entirely within SOLIDWORKS, users who are familiar with the SOLIDWORKS interface will find the learning curve significantly reduced. This is advantageous for companies already using SOLIDWORKS for other design tasks.

   - **Intuitive Workflow:** SWOOD's tools are designed with the specific workflow of woodworking professionals in mind, making it easier for users to complete complex tasks without excessive customization or additional plugins.

8. **Industry-Specific Tools**
   - **Support for Edge Banding and Surface Treatments:** SWOOD Design includes specialized tools for managing edge banding, veneers, laminates and surface treatments, which are critical for high-quality woodwork.

   - **Cut Lists and BOMs:** SWOOD automatically generates accurate cut lists and bills of materials (BOMs), which can be customized for production needs. This helps streamline the production process and reduces human error.



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Conclusion:

SWOOD stands out because it is tailored specifically for the woodworking industry while leveraging the powerful features of SolidWorks. It streamlines the entire process from design to manufacturing, integrates seamlessly with CNC machines, and offers specialized tools like grain direction management, component libraries, and nesting optimization. For woodworking professionals who are already familiar with SolidWorks or need a solution specifically for cabinetry and furniture, SWOOD offers a robust, specialized package that competitors often lack.

Targeted Audience:

INTERIORS

Hotels | Residential | Commercial | Architectural

SHOP

Shopfitting | Retail | Refrigerated displays

FURNITURE

Office | Bathroom | Kitchen |Furnishing

VEHICLES

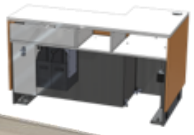
Jet/Yacht/Liner | RV | Food truck | Corporate

JOINERY

Doors | Windows | Stairs | Gates

CONSTRUCTION

Modular | Wood frame | Carpentry | Playground



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