

Digital Transformation through CAD Automation and Customization for Discrete Manufacturing



Case Study

Client

The client is a global leader in furniture, case goods, seating, storage, and partitioning systems for offices, hospitals, classrooms, and residential interiors.

Business Challenges

- **Inefficient Quality Control:** The manual review and quality checks of numerous CAD model configurations were cumbersome and time-consuming, causing bottlenecks in the design process
- **Lack of Centralized Configuration:** The absence of a centralized platform for generating configuration design data based on specific customer requirements led to inconsistencies and delays
- **Inconsistent Validation:** Ensuring consistent validation of CAD models across multiple configurations was challenging, often resulting in errors and rework

ITC Infotech developed a user-friendly automated tool with a graphical interface that utilizes Creo Toolkit functionality. This tool allows customers to input variables to generate 3D CAD models and their corresponding drawings. For convenience, the tool generates PDFs of the selected configurations for easy viewing. Detailed elements of the solution are provided below:

ITC Infotech Solution

- ❖ **Requirement Analysis:** We conducted a comprehensive evaluation of the client's current workflows to identify inefficiencies, bottlenecks, and areas suitable for automation. This was followed by a thorough assessment of the technical feasibility of integrating automation tools with the existing CAD systems, ensuring compatibility and scalability.
- ❖ **Automation Prerequisites:** We identified the necessary level of customization for various CAD models, tailored to meet specific customer configurations and adhere to industry standards.
- ❖ **Automation Tool Development:** We developed a robust automated tool that streamlined the entire process, from configuration input to final output, significantly reducing manual effort.
- ❖ **Custom Utility Integrated with CAD Tools:** A Java-based graphical user interface (GUI) was designed to leverage input variables, automating the tool's core functions and making it accessible to CAD users.
- ❖ **Web-Based Interface:** A web-based GUI was implemented to connect user inputs outside the CAD environment, providing a flexible and scalable solution that can be accessed remotely by non-CAD users.
- ❖ **Seamless Integration:** CAD models were directly linked with the automated tool, ensuring seamless integration and reducing the complexity of managing multiple configurations.
- ❖ **Automated Validation:** The validation process was automated using a comprehensive checklist, ensuring accurate and consistent verification and generation of CAD models across different configurations.

Customer Benefits

- ❖ **Enhanced Efficiency:** Automation reduced the time required for configuration and model validation by 60%, significantly accelerating project timelines.
- ❖ **Significant Cost Savings:** Automation led to substantial reductions in labor costs, resulting in considerable financial savings for the client.
- ❖ **Improved Accuracy:** The solution ensured higher accuracy and consistency in CAD model generation and validation, reducing the likelihood of errors and rework.
- ❖ **Superior User Experience:** The intuitive GUI enhanced user interaction with complex CAD systems, making it easier for users to manage and customize designs.

About ITC Infotech

ITC Infotech is a leading global technology services and solutions provider, led by Business and Technology Consulting. ITC Infotech provides business-friendly solutions to help clients succeed and be future-ready, by seamlessly bringing together digital expertise, strong industry specific alliances and the unique ability to leverage deep domain expertise from ITC Group businesses. ITC Infotech is a wholly owned subsidiary of ITC Ltd., a 100-plus-year-old diversified conglomerate with businesses spanning Hotels, Consumer Goods, Paperboards & Packaging, Agri Business, and Information Technology. ITC Ltd. has been in the hospitality business for over 4 decades. It has over 100 properties across 70+ destinations. The hospitality practice at ITC Infotech is 800+ people strong and most have experience in the hospitality domain leading to a high-quality IT service experience for its hospitality customers.

