

# CCE Industry Solution Windows & Doors



## About CCE

CCE is a Michigan corporation in business since 1989. Our offices are located in Farmington Hills, Michigan and Fort Lee, New Jersey, as well as a state-of-the-art engineering development center in Chennai, India. CCE is an engineering product development company that offers a comprehensive solution to our clients, to reduce time, cost, and risk inherent in product development.



We help companies across a wide variety of industries with their new product development (NPD) and sustaining engineering needs.

## About Client

The client is a leading manufacturer of high-end Windows and Doors, with products ranging from contemporary to signature versions.



Products are fabricated with three different material combinations of Wood, Aluminum and Vinyl to accommodate any building requirement including residential, commercial and hurricane proof.

## Our Goal

Our goal was to deliver new product designs for Double Hung, Casement, Awning, Slider, and Special Shape Windows. Most importantly, all designs had to meet customer's needs for aesthetics, material, and easy handling.

## Double Hung Windows

CCE provided designs to client for Double Hung windows. This included models and drawings developed from scratch based on client specifications. The designs had to meet client's fabrication and test criterias.



Assembly Model



Exploded View

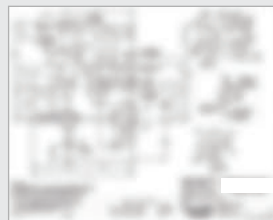


Assembly Drawing

Complete assemblies and sub-assemblies of each module were delivered along with detailed manufacturing drawings.



Profile Model



Profile Drawing



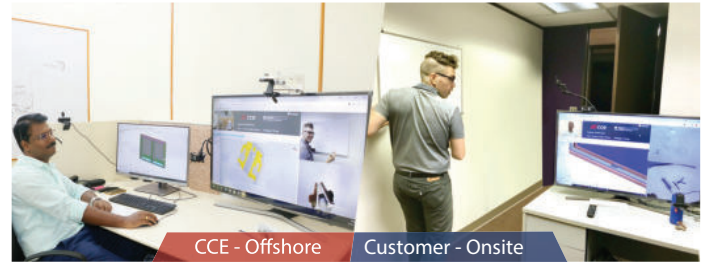
Fabrication Model



Fabrication Drawing

## Natural Collaboration

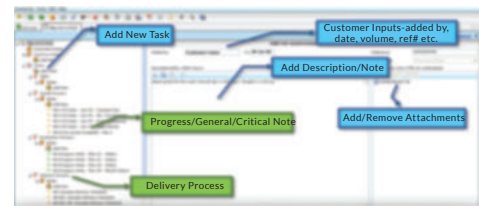
CCE has developed an innovative concept - TrEND (Trusted Engineer Next Door) to establish a reliable & always-on natural communication between our offshore engineers and our client's



TrEND was extensively used daily to coordinate with our client through video, audio, and CAD sharing streams.

## PowerLink

- ▶ CCE's proprietary technology to securely initiate, organize, prioritize and execute engineering services globally, 24X7
- ▶ The work order captures all of the work data including specifications, CAD files, documents, progress notes, and deliverables through a single point of reference



## Work Highlights

- ▶ New product development was done in continuous collaboration with the client's team
- ▶ All modules were designed using SOLIDWORKS
- ▶ The final design, 3D CAD models and manufacturing drawings were delivered to the customer through our proprietary web-based work order management system PowerLink. PowerLink provided control, visibility, traceability, accountability, and helped improve productivity