

# Dealing with design challenges

## CAD users' pains and how they are addressing them

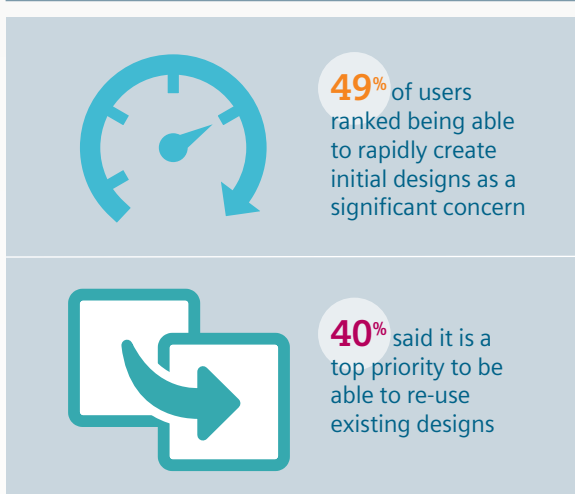
We surveyed over 800 computer-aided design (CAD) users to find out about their projects and challenges, and how industry trends and technology advancements impact them. Here's what they said.

### Top five CAD challenges:



But the top five CAD challenges are only the beginning. Respondents report facing difficulties in every stage of product design, especially four process areas. Consider:

### Creating the initial design

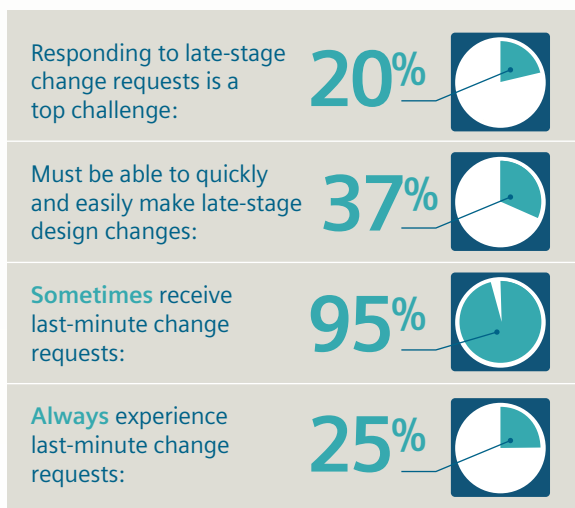


### Using imported CAD data

Working with imported CAD data was users' **number one** CAD challenge.

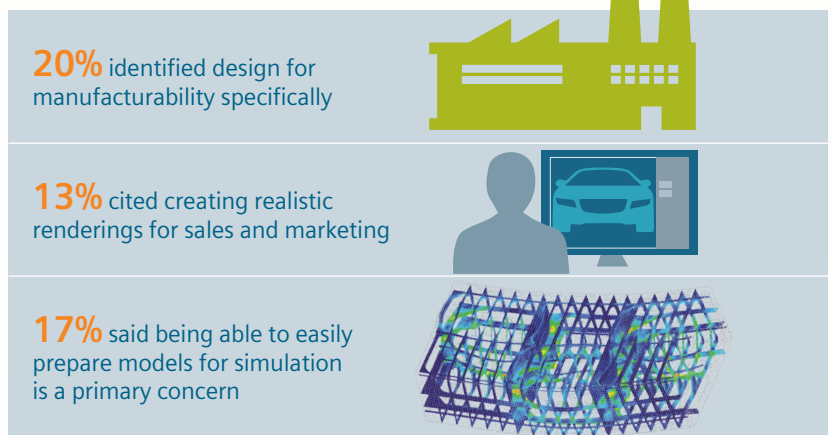


### Late-stage design changes



### Collaborating upstream and downstream

**22%** said that collaboration with internal teams/design and manufacturing partners is a top challenge:



### History-based modeling: powerful but inflexible

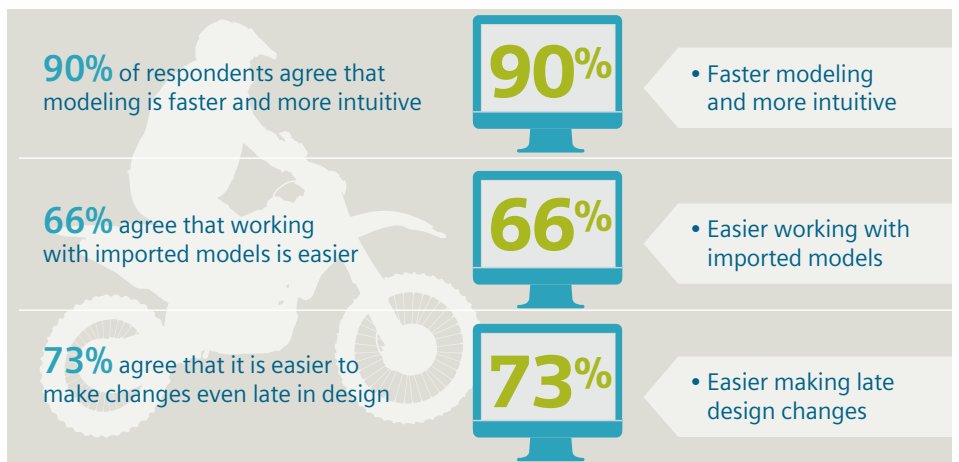
History-based, or ordered, modeling is a structured modeling process, where a history tree of features with parent-child relationships is created to define the model. This requires preplanning for design intent, including dimensions, parameters and relationships.



**62%** of respondents agreed that history-based modeling can be powerful but inflexible, and as a result concept design is slowed by time-consuming preplanning, imported models often have to be recreated and making late-stage design changes is difficult.

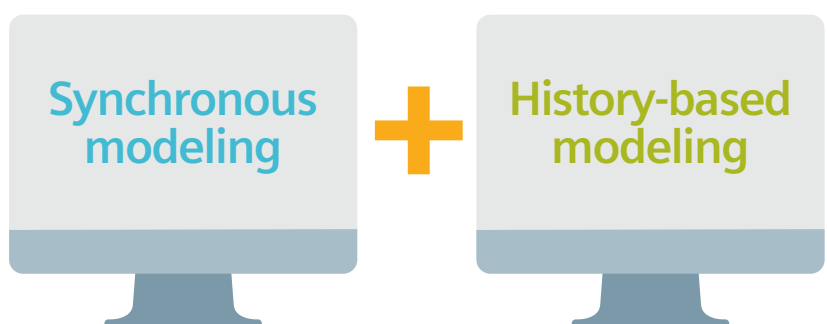
### Synchronous technology: fast and flexible

Synchronous technology combines the speed and simplicity of direct modeling with the flexibility and control of parametric design. Surveyed users also reported that synchronous technology helped them solve some of their top challenges:



### Best of both worlds

**93%** of users reported using a combination of synchronous and history-based modeling combines the best of both options, and allows them to balance design speed and control by choosing the paradigm that is most appropriate for their design task.



### Solid Edge

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