

# 4 Things Users Hate Most About Their CAD Systems

ENGINEERING.com [recently conducted a survey](#) of 230 product development professionals to better understand their level of satisfaction with their primary CAD software.

The main purpose of the survey was to turn the experience of CAD users into valuable data that provides insight into how design teams can address common issues with their CAD software.

What do you hate most about your CAD software? Here's what 230 product development professionals thought.






## The Top Four Things Users Hate About Their CAD Systems

1. The cost of ownership is too high.
2. It is difficult to import and export files.
3. It is too difficult to use.
4. It is too difficult to find employees with experience in the CAD software that we use.

### Cost of Ownership

Why is it that cost of ownership is such a big deal? And, is it the actual cost that concerns users, or is it more that they don't perceive sufficient value? One possibility is that users may not be aware of the significant new functionality available in modern CAD systems that can greatly enhance product development processes. Some of these features include better ways of managing and creating documentation as well as useful tools such as generative design and simulation.

## How Often Does Your Design Team Experience Cost as an Issue With Your CAD System?

| CAD Systems  | Frequency of Issue    |
|--|-----------------------|
|   | "Rarely"              |
|   | "Rarely to sometimes" |
|   | "Sometimes"           |
|   | "Sometimes"           |
|  | "Sometimes to often"  |

**Derived from 230 CAD software users in our recent survey, this chart shows the frequency with which owners of various CAD software applications complained about cost relative to the number of survey respondents who use each CAD system. Overall, Solid Edge users complained the least frequently about the cost of ownership, contrasted with AutoCAD users, who mentioned it the most frequently.**

To better understand how leveraging new tools or functionality can offset the perception that CAD software costs are too high, we turned to Mack Rasmussen, the director of Technical Support for Alignex, a SOLIDWORKS reseller. Rasmussen has worked in the CAD software industry since the 1980s. Although he spends his time focusing on SOLIDWORKS now, he's worked with several other CAD systems as well, which gives him a unique perspective on this research.

Rasmussen weighed in on how one of these new features, simulation, can help product design teams. “The companies that are catching design issues really early in the design cycle—and I would be willing to bet my next paycheck on this—are actively using simulation in the design phase and integrating that into their design. This use of simulation allows them to iterate the design and make different choices much earlier than having to make that choice later, based on physical prototyping and testing.”






## **Problems Importing and Exporting Files**

In 2017 you might think that being able to import and export files correctly shouldn't be a hassle, but it came in as the second most common complaint among CAD users.

Rasmussen explained that when CAD users are importing and exporting files, the primary problem is that the 3D object loses features—it has no parameters, no intelligence—and is no longer parametric. Sometimes the object is incomplete or just a partial translation, meaning that surfaces are missing.

He also explained that many CAD packages do not provide an ability to read and write other native CAD formats, instead forcing a user to choose to reduce it to a STEP file or some other neutral format. This causes challenges for design engineers who find themselves with disparate data from various sources that they then need to cajole into increasingly complicated product definitions.

## How Often Does Your Design Team Experience Problems with Importing / Exporting as an Issue with Your CAD System?

| CAD Systems  | Frequency of Issue    |
|--|-----------------------|
|   | "Rarely"              |
|   | "Rarely to sometimes" |
|   | "Rarely to sometimes" |
|   | "Sometimes"           |
|  | "Sometimes"           |

**Difficulty importing and exporting models from other CAD programs was number two on the list of things that CAD users hate about their current CAD systems. This chart shows how the various CAD systems measure up in terms of the relative frequency of this complaint. PTC Creo users voiced the most frequent complaints about importing and exporting files versus SOLIDWORKS users, who reported the fewest issues.**






## The Difficulty of Learning CAD Software

The amount of time it takes for users to learn new features of their chosen CAD software is critical to how quickly and easily design teams can turn their ideas into models.

According to Rasmussen, when companies provide coherent, specific and comprehensive training, the results are impressive. But it’s not just training, of course; it’s also the user interface of CAD software that makes a difference.

Rasmussen pointed out that the early success of SOLIDWORKS was driven in large part because it was the first modern 3D system that was built with an interface like Windows. The idea, which turned out to be correct, was that if potential users were already experienced with Windows and classic applications like Word and Excel, then they’d be right at home in SOLIDWORKS. The User Interface (UI) designers at SOLIDWORKS worked hard to give their customers a more familiar way to access and execute many of their commands from within the modeling window. This in turn, increased their efficiency and level of productivity.

How Often Does Your Design Team Experience Ease of Use as an Issue with Your CAD System?

| CAD Systems   | Frequency of Issue    |
|---|-----------------------|
|  | "Rarely"              |
|  | "Rarely to sometimes" |
|  | "Rarely to sometimes" |
|  | "Sometimes"           |
|  | "Sometimes"           |

**Time is of the essence, and participants in our survey ranked**

**difficulty with ease of use as the third most hated thing. This chart shows how CAD software users rated the ease of use of software from Easier to Use to Harder to Use. AutoCAD users were the most concerned, saying the software was too hard to use. Conversely, SOLIDWORKS CAD users raised the least number of complaints about ease of use.**






## **The Difficulty Employers Face When Looking for Experienced New Hires**

Sometimes an employer hiring CAD designers or engineers has chosen one (or possibly two) CAD software product exclusively—and is seeking the skill set required to use it—and it might not be the one local designers and engineers are well-versed in.

Even if a potential employee is versed in the CAD software that an employer requires, they may not be advanced enough in its use to warrant getting hired. This catch-22 can be resolved if the hiring company invests properly in training their employees.

Rasmussen said, “Either companies feel that training is unnecessary, or they’re unwilling to invest in the proper amounts of training. Sometimes, instead of looking for new hires who require investment capital for training, they look to hire candidates who claim to possess high-level of expertise in the company’s primary CAD software. From my perspective, it’s obvious that the companies that invest in proper training—actively keeping their employees schooled in the latest software releases and their new feature sets—are the forward-thinking companies who produce better users.”

## How Often Does Your Design Team Experience Difficulty Finding Trained Employees as an Issue with Your CAD System?

| CAD Systems   | Frequency of Issue    |
|---|-----------------------|
|    | "Never to rarely"     |
|    | "Rarely to sometimes" |
|    | "Rarely to sometimes" |
|    | "Sometimes"           |
|  | "Sometimes"           |

**Difficulty finding employees who were skilled in the company's primary CAD software was the fourth thing CAD users said they hated the most. This chart lays out the frequency that users of various primary CAD systems reported this difficulty as an issue. Our data shows that Solid Edge users reported this issue most frequently, while SOLIDWORKS users reported this issue the least frequently.**

### Bottom Line

Product development professionals want a CAD system that they can afford and that delivers value to their designs. Interoperability issues are a major

hindrance that seems wildly unnecessary and outdated at this point. Design professionals want their CAD system to be easier to use, and they want that ease of use to translate into an easier search and hiring process.

[To see the full report, please click here.](#)

*SOLIDWORKS has sponsored this story and the research study. All opinions are mine, except where quoted or stated otherwise. —Andrew Wheeler*