Biggest Insights in Product Development

Noteworthy trends from a five-year study of *The State of Product Development & Hardware Design* survey

The annual *State of Product Development & Hardware Design (SOPD)* survey report takes the pulse of engineering and manufacturing professionals worldwide. This year's report delves into the accelerating trend of cloud adoption by design professionals and how companies who use cloud-native CAD & PDM are more satisfied than their counterparts.

In 2023, a record 1,400+ product development professionals participated in the SOPD survey, with 70% of respondents having more than 15 years of experience with CAD software.

Below, a look back on the insights over the past five years.

2019-2023: Five years of *The State of Product Development & Hardware Design* survey report.

2019   Communication shortfalls in product development

Respondents wanted most to see their product development processes improve because they correlated efficiency to innovation.

Poor communication emerged as the biggest obstacle to efficiency.

55% of companies had multi-site or dispersed teams.

88% of companies wanted earlier and better communication between extended design teams.

By "better communication," respondents meant the ability to monitor progress anytime - without having meetings, sending emails, or making phone calls.
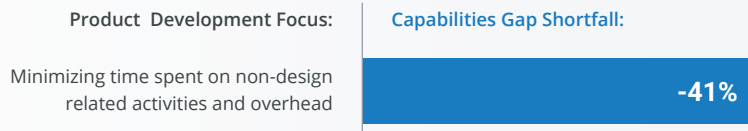
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2020 Time waste becomes a major concern

82% of respondents wanted to spend less time on non-design related tasks.

But a significant disparity emerged. Only half of those respondents considered their proficiency in managing these non-design related tasks as "good or excellent." That means a large capability gap, the difference between the aspirational goal and the actual current performance rating results, became visible.

What Companies Say They Need to Improve the Most

Product Development Focus:

Minimizing time spent on non-design related activities and overhead

Capabilities Gap Shortfall:

-41%

Increasing early communication, visibility and clarity were next on their priority list in terms of improving the design process.

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2021 Dissatisfaction with CAD & PDM legacy software grows

As remote work became the norm in the global pandemic, respondents said their PDM systems were letting them down. Leaders became more concerned about the business impact of lost hours.

50%
of on-premises PDM users said their software 'only replaced one problem with another'.

4 out of **5**
respondents said they had difficulty finding and accessing the data they needed.
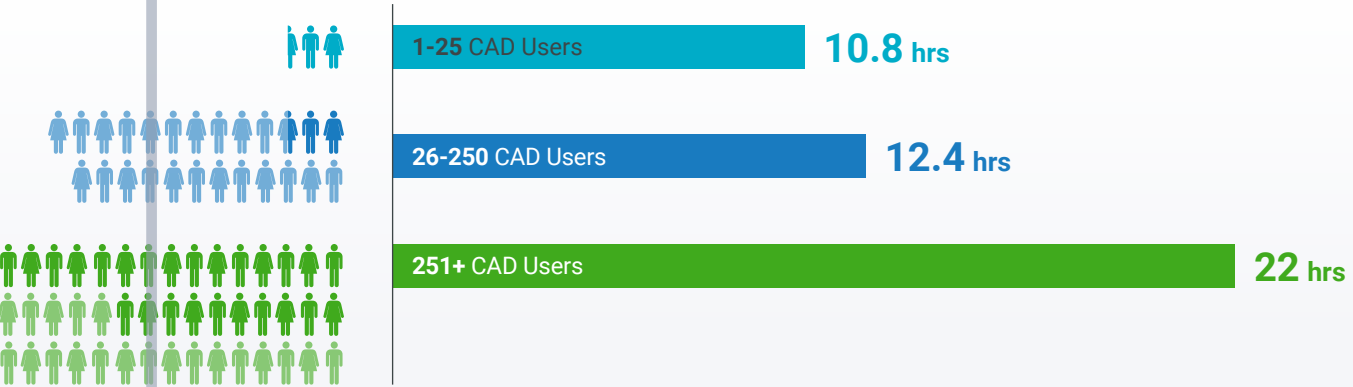
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2022 — Lost time means lost opportunities

Respondents were asked to quantify time-waste at their companies.

The larger the company, the more time was wasted on non-design related tasks, harming opportunities for a post-pandemic return to growth.
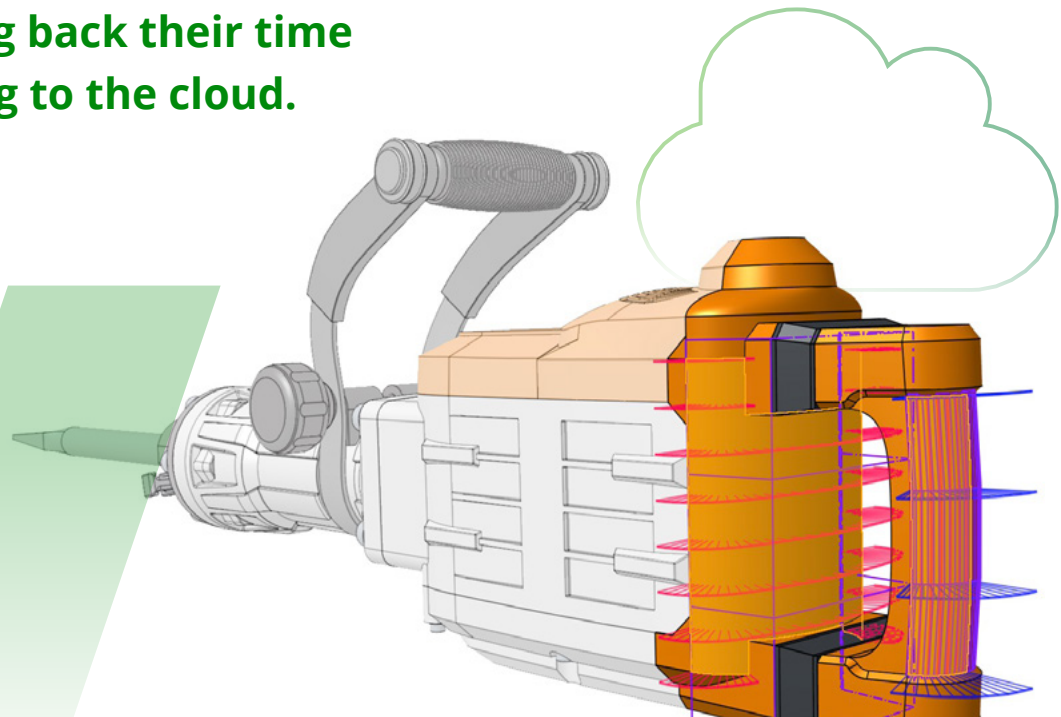
Average Hours Wasted on Non-Design Work (By Company Size)

Average Hours Wasted Per Week
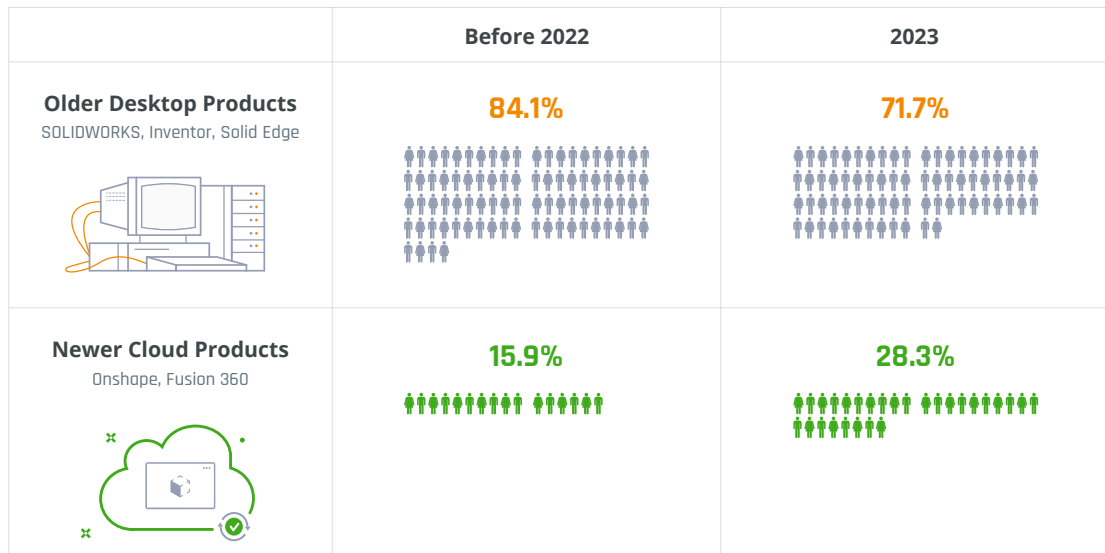
1-25 CAD Users	**10.8** hrs
26-250 CAD Users	**12.4** hrs
251+ CAD Users	**22** hrs

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Product development professionals are taking back their time by moving to the cloud.

2023 Momentum is building for cloud-native CAD & PDM

The most innovative companies are stepping away from older desktop products and moving to newer cloud products that are faster, more efficient, and easier to manage.

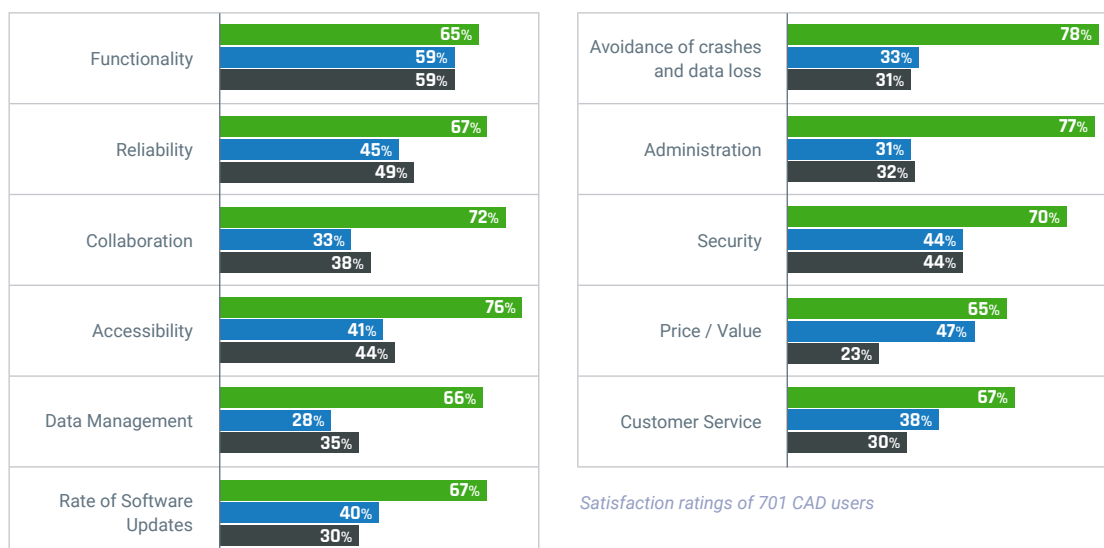|	Before 2022	2023
Older Desktop Products SOLIDWORKS, Inventor, Solid Edge	**84.1%**	**71.7%**
Newer Cloud Products Onshape, Fusion 360	**15.9%**	**28.3%**

Satisfaction with cloud software is high

Users of cloud-native CAD software were the most satisfied across all categories, and 20 times more likely to recommend their solution to others than were users of older desktop products.

Satisfaction with CAD and PDM in the Mainstream Market

*Percentage of Respondents choosing 4-5 (Good or Excellent)*

■ Desktop (SOLIDWORKS, Solid Edge, Inventor)   ■ Hybrid-Cloud (Fusion 360)   ■ Cloud-Native (Onshape)

Category	Cloud-Native	Hybrid-Cloud	Desktop
Functionality	65%	59%	59%
Reliability	67%	45%	49%
Collaboration	72%	33%	38%
Accessibility	76%	41%	44%
Data Management	66%	28%	35%
Rate of Software Updates	67%	40%	30%
Avoidance of crashes and data loss	78%	33%	31%
Administration	77%	31%	32%
Security	70%	44%	44%
Price / Value	65%	47%	23%
Customer Service	67%	38%	30%

Satisfaction ratings of 701 CAD users

CAD Net Promoter Score (NPS) by Architecture
Likelihood to Recommend

59	**11**	**3**
Cloud-Native	**Hybrid-Cloud**	**Desktop**
Onshape	Fusion 360	SOLIDWORKS, Inventor, Solid Edge
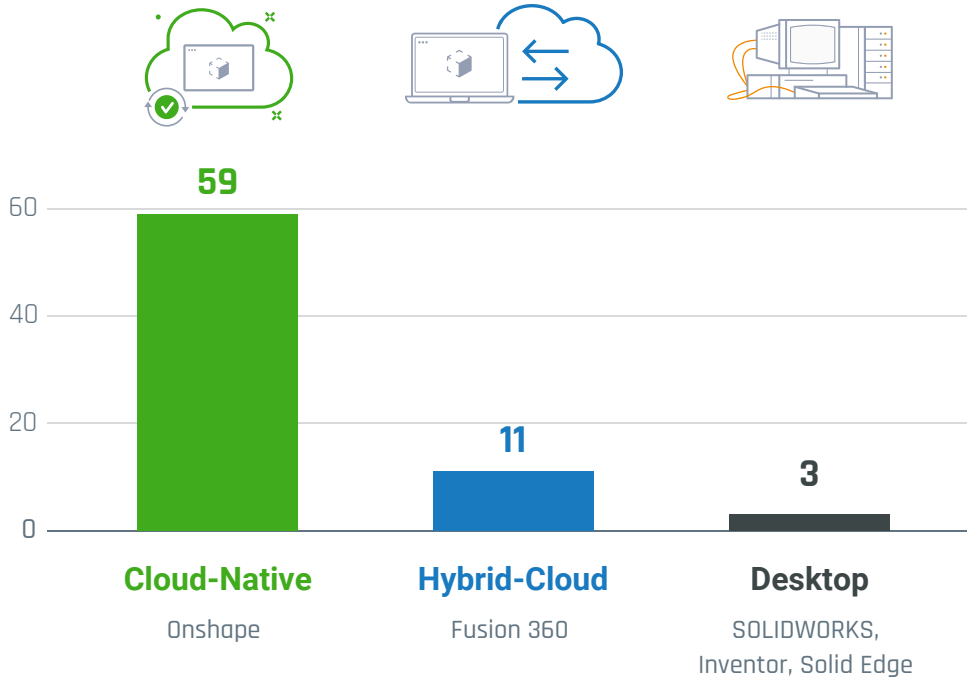
NPS tells the tale.

NPS is the most commonly used customer satisfaction measure across many industries. It is computed by asking 'How likely is it that you would recommend your primary CAD system to a friend or colleague?' and converted to a -100 to 100 scale. For software products, 30 is considered a median score.

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It's clear that the future of CAD lies in the cloud, where efficiency meets innovation.

Don't get left behind – join the most satisfied professionals in the industry and experience the power of cloud-native CAD & PDM with Onshape.

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