

Forrester Opportunity Snapshot: A Custom Study Commissioned By Dell | November 2017

The Value Of Modern Workstations To Professional Creators

New Professional Workloads — From AI To VR And Beyond — Drive A Need To Upgrade And Expand Your Workstation Hardware Portfolio

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The Value Of Modern Workstations To Professional Creators

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The New Frontier: Powerful And Innovative Workstations

Organizations need the power of modern workstations more than ever before, since the complexity and sophistication of enterprise workloads continues to increase in the digital age. The performance gap between current workstations and new, innovative ones is becoming more apparent as the manipulation of large data sets — and the rise of emerging technology like artificial intelligence (AI), virtual reality, and production and consumption of 4K graphics — become a standard across the globe.

PROJECT BACKGROUND

In September 2017, Dell commissioned Forrester Consulting to conduct a study to determine how enterprise organizations need the power of modern workstations, which is being driven by increased complexity and sophistication of enterprise workloads, including those involving 3D and/or 4K graphics; manipulation of large data sets for predictive analytics; and the rise of AI, among others. Legacy workstations simply cannot keep up, which is why new, modern, more powerful workstations are required with modern CPU and GPU architectures.



Country

- › APAC: **34%**
- › Europe: **34%**
- › North America: **32%**



Responsibility of respondent

- › Final decision maker for workstation strategy: **38%**
- › Part of a team of decision makers for workstation strategy: **46%**
- › Influence decisions related to workstation strategy: **17%**



Position of respondent

- › Director: **44%**
- › VP: **17%**
- › Manager: **31%**
- › Project manager: **8%**



Industry

- › Advertising or marketing: **32%**
- › Media and entertainment: **18%**
- › Architecture: **16%**
- › Engineering: **14%**
- › Automotive: **13%**
- › Aerospace: **7%**

Note: Percentages may not total 100 because of rounding.

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Workstations Are Widely Used Across Enterprises, But Now Lack Essential Features To Keep Up In The Digital Age

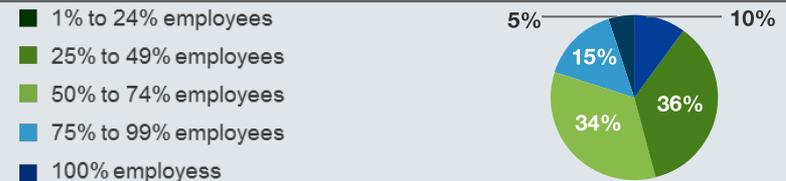
In the digital age, IT personnel are juggling rapidly evolving technology environments. In organizations with design, engineering, video editing, AI/analytics professionals, and other creators, workstations play a critical role in executing professional applications and in driving digital transformation efforts.

However, our survey of senior managers reveals that current workstations lack the features to keep up today — leading to dissatisfaction with legacy equipment. Older workstations struggle with the demands placed on them. For example, today’s applications require more CPU and GPU performance power as well as an increased share (and improved management) of the device’s memory. Attempting to run new, increasingly complex applications on legacy workstations results in performance issues that affect worker productivity and efficiency.

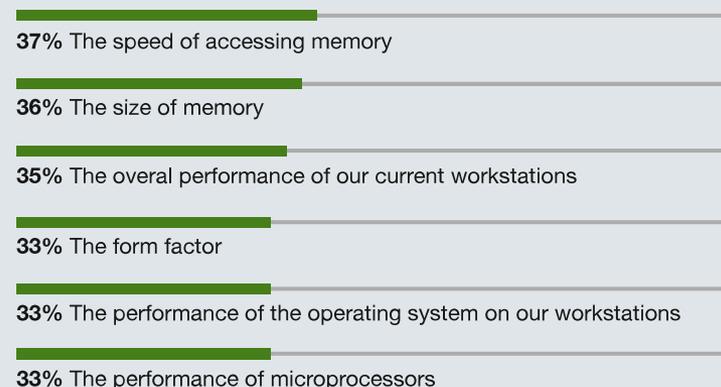
Sixty-four percent of engineering, research, and development teams; 51% of digital design; and 46% of product design largely use workstations in their roles.



“What percentage of workers at your organization currently use workstations?”



“How satisfied are you with the following features of your current workstations?” (Showing “Very satisfied” only)



Base: 272 senior management professionals including design director, creative director, and team lead for end users with functionality of the workstations
 Source: A commissioned study conducted by Forrester Consulting on behalf of Dell, November 2017

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Businesses Have Multiple Incentives To Upgrade Their Workstations

Fortunately, organizations recognize the performance gap and lackluster features of current workstation devices, which is why it is a very strong or strong driver to update workstations for employees. Three factors will drive workstation upgrades:

Professional applications. Driving effective professional application performance matters greatly, from growth in the complexity of application workloads to increased reliance upon data and AI to the growth of VR and AR applications.

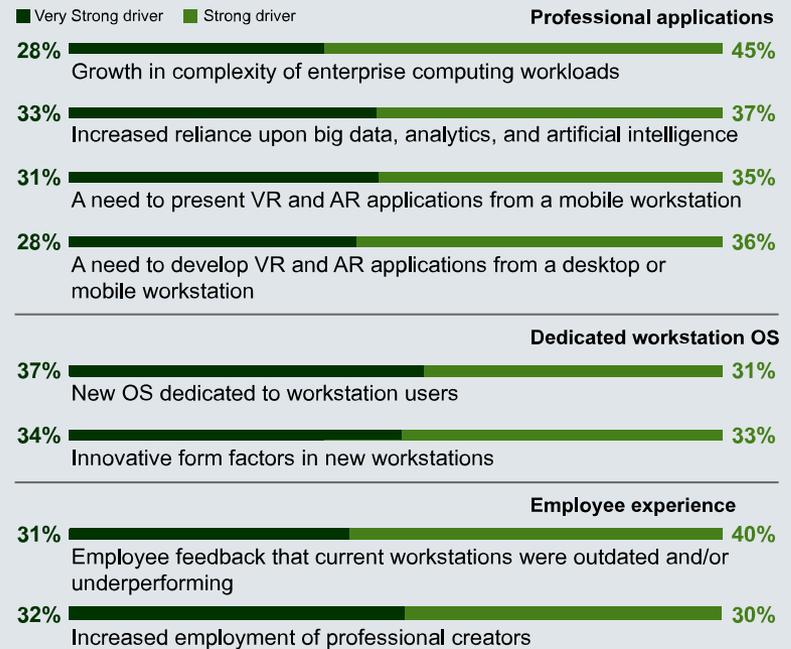
Dedicated workstation OS. The availability of a new, modern OS — delivered as OS-as-a-service — promises to drive stability, and respondents see it as a potential driver of hardware upgrades, powering innovative new hardware form factors as well.

Employee experience. The mix of human talent — and keeping that talent happy and productive — is the final piece of the upgrade puzzle. Employee feedback matters to senior managers, who are also employing more professional creators in their ranks.

Eighty-four percent of respondents said it is a critical or important requirement to upgrade or expand the purchase of new workstations.



“Which of the following business imperatives would drive your organization to upgrade its workstations for employees?”
(Showing “Very strong” and “Strong” driver only)



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New Workstations Boost Power And Workforce Mobility

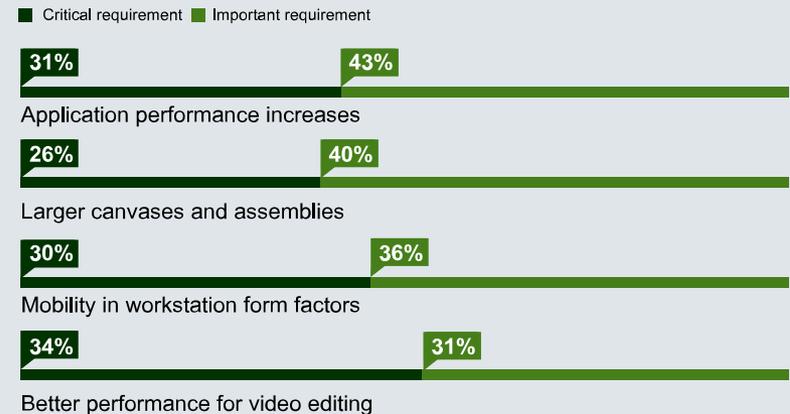
Workstations are all about performance, and managers have high expectations for the new capabilities when upgrading or expanding their purchasing. Application performance increases, the ability to tap into larger canvases and assemblies, and better performance for video editing all rank high on managers' list of expectations.

Making sure employees have access to practically unlimited variety of applications almost instantly drives a newer expectation: mobility. Mobile workstations take the computing power directly to the work site or customer. In manufacturing contexts, mobile workstations empower workers to make significant design changes or to run updated analytics in real time. Mobile workstations also power the next generation of VR experiences, bringing best-in-class VR experiences to employees and to customers.

Eighty-three percent of decision makers say workstations will continue to grow in importance with the likes of new applications like VR and AI.



“How important will each of the following capabilities be when your organization upgrades and/or purchases new workstations?”



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Overcoming Obstacles To Upgrading Or Expanding Purchasing Of Workstations

Upgrading to new workstations currently takes a lot of time, with most companies requiring at least six months to plan and prepare. One culprit? Lack of budget, which plagues four out of 10 companies.

There's hope for the future, however. Companies that upgrade to the latest workstation OS can compress the time it takes to upgrade to new workstations: By moving to PC-as-a-service and cloud-based management tools, these companies will require less time in testing applications, changing OS versions (because they can upgrade in place), and making new hardware transitions.

And organizations don't *lack* a business case, with only 8% citing this as an inhibitor. Overcoming this and other inhibitors requires building consensus outside the IT department: with business leaders and directly with users, to build momentum for upgrading.

Sixty-one percent of firms plan to use new workstations for at least two and a half years before they're replaced, while 38% plan to use new workstations for more than three years before replacing them.



“Which of the following factors would stop your organization from upgrading or expanding purchasing of new workstations?”
(Select one)

41% Lack of budget

33% Lack of innovations in the workstation market

26% Our current workstations offer sufficient capabilities

19% We don't have a clear set of priorities for new workstations

13% None — there are no inhibitors

8% We don't have a business case to justify purchasing them

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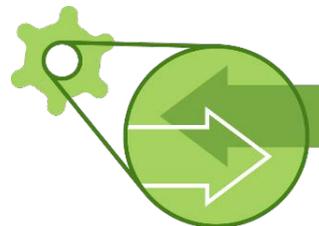
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Workstations Drive Innovation, Supported By Security And Employee Experience

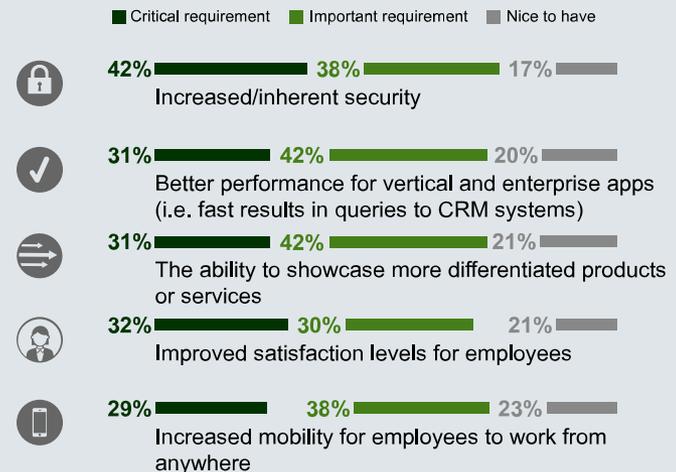
Performance and security complement one another: Managers seek the innovations derived from more effective enterprise applications and the ability to showcase products and services designed by creators — but with an underlying layer of increased and/or inherent security. Today’s employees are more mobile and are responsible for the firm’s intellectual property, yielding a need for mobile, yet secure, workstation form factors.

Employee experience has risen as a concern for all technology implementations in the past five years, and this concern now registers with a strong majority of workstation buyers as well. Improved satisfaction levels for employees (62%) and increased mobility for employees to work from anywhere (67%) are also a critical or high requirement for over two-thirds of workstation buyers.

Leveraging workstations to power AI applications for security and risk management is a popular and specific wish-list item for managers (78%).



“How important is the centralization of your workstation assets to securing your intellectual property?”



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Computing Workloads Are Evolving, Requiring Businesses To Adapt

Enterprise application workloads are growing: For every workload tested, at least four out of five are increasing. Growth and hardware upgrades are interdependent, but not always symmetrical; even a 1% growth in compute-intensive workloads like complex 3D graphics applications, artificial intelligence, or scientific applications can stress aging workstations.

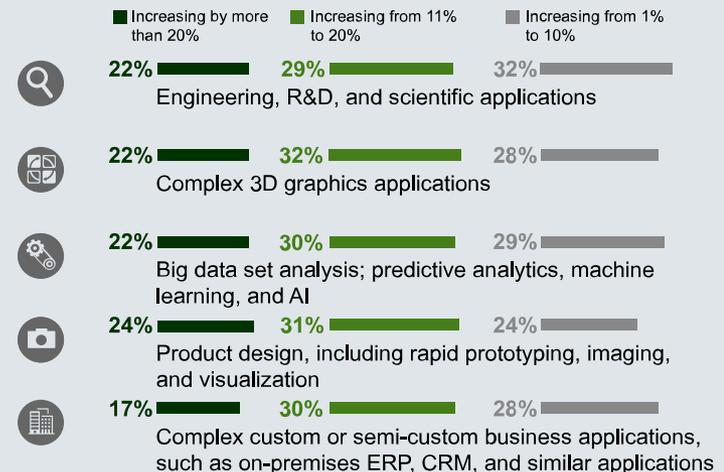
Designing, rendering, animating, and editing visualizations, like product prototypes, video content, and VR or other 3D experiences benefit from upgraded GPUs, the latest OS, and access to storage and memory. AI applications now represent one of the fastest-growing drivers of GPUs, adding to the landscape of applications being pursued on workstation hardware.

We can't forget about more traditional business applications, with customizations requiring heavyweight computing power.

Sixty-eight percent of respondents believe that artificial intelligence in general will be important or critical to the future of their organizations.



“How are the following enterprise computing workloads changing at your organization?”



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Complex Enterprise Workflows Are Business-Critical, Requiring Upgraded Workstations

New, innovative workstations enable firms to ensure that emerging technologies have a place in the organization. Respondents indicate that key workstation scenarios are important or critical to the future of their organizations.

AI and related applications. AI will be infused into a wide array of workflows in most enterprise companies, building upon the big data revolution. A number of technologies matter here: artificial intelligence, whether general or in its more specific forms, like machine learning and deep learning, NLP, or predictive analytics. Leveraging AI for security and risk management is a popular specific requirement.

Video and VR. Video experiences, including 4K video and VR, AR, and MR, form a part of innovation strategies, driving everything from customer-facing experiences to product design to workforce enablement.

Enterprise applications. Vertical and other enterprise applications continue to be a driver of workstation use as well, taking advantage of performance increases to become more effective.

“How important are each of the following technologies to the future of your organization?” (Showing “Critical” or “Important” requirement only)

78% Security and risk management from AI

78% Big data analytics, predictive analytics

72% Vertical enterprise applications

70% Machine learning and deep learning

68% AI (generally)

66% Speech processing (e.g. NLP)

65% 4K video

65% 3K video

62% Augmented reality

61% Other enterprise apps

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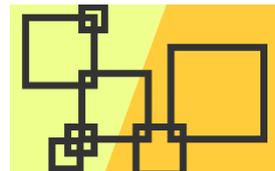
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The Importance Of Workstations Is Mismatched With The Age Of Hardware

Workstations are crucial . . . Overwhelmingly, respondents agree that workstations play a key role in operating their business. They see workstation technology as improving and innovating, necessitating upgrades. A majority indicate that specific groups of employees must have updated, modern workstations to be successful in their jobs. And many see the influx of new applications like AI and VR driving further need for modern workstations.

. . . yet not always modern. And yet, some 60% of respondents indicate that their companies use workstations that are three-plus-years-old. In other words, there is a mismatch that implies opportunity for convincing workstation users that they need to move even faster than planned.

It's in the gap between these two sentiments — the recognition of the exceptional importance of workstations and the use of legacy hardware — where the opportunity for growth and improvement lies.



“How would you characterize your organization’s current usage of workstations?”

89% Workstations play a key role in operating our business

85% Advances in workstation technology mean that upgrades will be necessary in the coming year

83% Certain employee groups must have updated, modern workstations to get their jobs done

82% Workstations are growing in importance as new applications like VR and AI come into our company

79% My company is likely to upgrade to new workstations in the next year

60% My company uses workstations that are three-plus-years-old year

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Upgrade And Expand Modern Workstation Usage To Drive Employee, Customer, And Business Value

Organizations employing professional creators — engineers, designers, scientists, data scientists, and others using AI — already see the centrality of workstations to their technology portfolios. But the need to execute increasingly complex and sophisticated applications, combined with a need for top-notch employee experiences, means that many organizations must upgrade or expand their use of modern workstation technologies in the coming year. These firms should:

- › **Build cross-functional business cases.** To create budget, organizations with designers should not rely upon an IT budget alone; instead, they should work with business leaders to build a visionary business case. This includes not just efficiency and productivity, but intangible benefits: Would modern workstations help product designers develop more innovative products for your company?
- › **Enable a modern architecture.** Only the most up-to-date OS can be delivered as a service. Moving to a modern OS platform with updated hardware can eliminate many headaches with application testing, security, and training. An up-to-date OS creates better performance for new applications like AI, too. Seize the opportunity to move both the hardware and management systems in 2018.

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METHODOLOGY

This Opportunity Snapshot was commissioned by Dell. The custom survey questions were fielded to 272 information workers across media and entertainment and engineering, including automotive, aerospace, and architecture. The survey was conducted in APAC, Europe, and North America.

The custom survey began in September 2017 and was completed in November 2017. For more information on Forrester's data panel and tech industry consulting services, visit Forrester.com.

Project Director

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