

# Can New Computers with Windows\* 10 Enable Workforce Transformation?

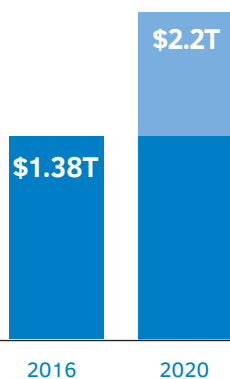
New software may empower new styles of working in the digital world, but the right hardware is crucial for businesses to get optimal results.

New computers running Windows\* 10 can enable workforce transformation and give enterprises what they need in order to achieve their digital transformation goals. However, simply updating their existing computer fleet to Windows 10 could mean that companies miss out on seeing the full benefits from this migration.

By moving to new computers with the latest Intel® Core™ vPro™ processors, companies can ensure that all employees get the device and tools they need in order to work in new, more productive ways fit for the digital age.

## +60%

Spending on transformation initiatives is expected to grow from nearly \$1.4T in 2016 to \$2.2T by 2020, an increase of 60%.



SOURCE: FUTURESCAPE 2017 REPORT, IDC

Digital transformation sits at the heart of the enterprise agenda. It is front of mind for CEOs and CIOs, and research figures back that up.

For example, in a 2015 survey, IDC found that over two-thirds of CEOs at the world's leading companies planned to focus on digital transformation strategies over the next two years, with IDC's *FutureScape 2017 predictions* suggesting that more than 70% of the largest corporations worldwide will have dedicated digital transformation or innovation teams in place by 2020. As such, investment in such transformation initiatives is booming, with IDC forecasting that spending will grow 60% from 2016, to an astonishing \$2.2 trillion by 2020.

This shift—which puts IT and CIOs right at the center of their business—comes at the same time as a radical change is happening in the workforce, with millennials and “Generation Z” set to play a greater role.

Last year's Manpower Group's *Millennial Careers: 2020 Vision* report predicted

that these two groups will make up 59% of the global workforce by 2020, and these groups clearly place greater emphasis on the technology they use for work.

In the words of PwC's *Millennials at Work: Reshaping the Workplace* report, millennial workers “expect the technologies that empower their personal lives to also drive communication and innovation in the workplace. Among the workers surveyed, 59% said that an employer's provision of state-of-the-art technology was important to them when considering a job.”

Indeed, Kaitlin Murphy, director of marketing in the Intel Business Client Platform group, says that this demand from millennials may not even be intentional, with the younger workforce simply never knowing a time when technology was not omnipresent in their lives.

Moreover, “If they feel hindered by the technology in the enterprise, they're more likely to leave,” she says. “And we've also seen in some cases, IT



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— Kaitlin Murphy

Director of Marketing  
Intel Business Client Platform Group  
Intel

organizations saying, ‘You know what: If I’m not giving people the tools that they need, they’re going around my systems. I don’t have control, and I really don’t like that.’ The best way to fix that is to give people the tools they want and that conform to IT security standards.”

But it would be wrong to put this shift simply down to millennials, as technology demands have been quietly shifting in recent years and across all age demographics.

Workers are seeking companies that offer more-flexible and even agile working practices, using advanced technology to carry out their work tasks at any time in any place. This has the potential to improve their work/life balance while ensuring that the employer’s business needs are still met.

“I think end users are a lot more vocal now,” says Murphy. “They know what they want, and they’ll tell their IT organization if they’re not happy.”

Furthermore, there’s evidence that new devices improve not just staff retention and attraction but also productivity and the bottom line.

A [2016 Vodafone\\* survey](#) of 8,000 employers found that 83% felt that flexible working had boosted productivity, and 61% said that it had increased company profits. Meanwhile, a control group study by the University of Minnesota and MIT’s Sloan School of Management discovered that flexible practices increased job satisfaction, reduced psychological distress, and led to workers’ feeling more supported.

### Technology to enable agile and mobile working

So, what part does technology play in this? First of all, agile workers need versatile technology that supports the way they work, enabling them to be productive anywhere at any time, with the hardware and resources they need at their fingertips.

On the software side, there’s an obvious solution to these needs: a move to Windows 10. This operating system has had two years to mature into a platform that meets the needs of workers as well as employers. It covers emerging demands for a slick, modern experience and support for touch, voice, pen, and ink.

Yet although this Windows 10 migration has been ongoing across enterprises over recent years, there is the danger that organizations think they can enjoy all of these advantages, while cutting costs, by simply sticking with hardware that could be up to five years old.

This is a mistake. Refresh cycles are changing. As it shifts from a boxed product to a service model, Windows 10 is moving away from discrete versions toward a cycle of continuous improvement.

Older devices may not be equipped to take advantage of these enhancements, so as new features are rolled out, their users won’t benefit.

By contrast, new computers powered by the latest-generation Intel Core vPro processors provide a stable foundation for Windows innovation moving forward while delivering on the enterprise requirements for great performance, stability, security, and manageability—and this can only have a positive impact on business performance and overall workforce transformation.

### New hardware drives innovation; old hardware holds it back

Using old hardware could be hugely detrimental to businesses’ efforts to achieve this workforce transformation. In particular, older devices could stifle business agility and seriously set back attempts to attract and retain the best workforce. At best, it may limit the potential of Windows 10 to support new modes of working. However, by switching to new PCs based on the latest-generation Intel vPro Platform, organizations can realize the full



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With Windows 10 and the latest Intel Core vPro processors powering a wider range of different form factors and specifications, it's possible for companies to find a best-fit device for every role—and deliver the optimal personal experience that the new workforce demands.

benefits of the upgrade to Windows 10. We can see this play out across these five key areas.

**Devices that support new working styles:**

Over the last five years, the improved energy efficiency and lower thermal requirements of modern processor technologies has fueled a renaissance in form-factor innovation.

While the standard clamshell-style laptop remains popular, more and more manufacturers are giving us a wider range of thin and light laptops and 2 in 1 form factors, including detachables and convertibles, using either detachable keyboards or ingenious folding designs for both laptop and tablet functionality in one device.

These convertible devices are nothing if not highly versatile. With the keyboard folded back and an active pen or stylus, they become a digital notebook, ready to capture and store notes and ideas in an archivable, fully searchable format. With the keyboard detached or the laptop in a stand or tent mode, they become an effective tool for ad hoc presentations or customer-facing applications. These are scenarios that few five-year-old laptops can support.

**Thin and light form factors without compromise:** The “ultra-portables” of the past are often thicker and heavier and have a much shorter battery life than today’s devices, not to mention being significantly less powerful. Over the past five years, Intel has developed processor and platform technologies that enable thinner and lighter form factors without compromising performance. Today’s more energy- and thermally-efficient processors reach higher maximum clock speeds and do more with every last MHz than the equivalents of five years ago. Intel’s latest implementation of Hyper-Threading optimizes the execution of multiple threads across each processor core while Intel Speed Shift Technology

gives the processor more-responsive and granular control over the frequency those cores operate at. With today’s processor technology, a 1.6Kg, 13-inch laptop can still do the work of a powerhouse PC: multitasking being 2.1x as fast<sup>1, 2, 3</sup> and productivity being 80% better<sup>2, 3, 4</sup> in tests, compared to a five-year-old PC.

What’s more, new working styles and new applications put more emphasis on multitasking and a slick, responsive experience, regardless of processes that may be running in the background. Where the latest-generation Intel Core vPro processors are built for this kind of workload, the processors of a five-year-old PC can’t provide the immediate responsive computing experience that a fast-moving, agile workforce requires.

**Work without the wait:** Five years of progress influences every aspect of performance. The widespread adoption of solid-state drives (SSDs), for example, has led to radical reductions in startup and application load times. With a desktop based on the 8th Gen Intel Core i5+ vPro platform, featuring Intel Optane™ memory<sup>5</sup>, users can experience responsiveness that is up to 2.2x as fast as that of a five-year-old PC.

**The right PC for every role:** Today’s workforce isn’t looking for a one-size-fits-all PC or laptop, or even a handful of configurations customized for different teams. With Windows 10 and the latest Intel Core vPro processors powering a wider range of different form factors and specifications, it’s possible for companies to find a best-fit device for every role—and deliver the optimal personal experience that the new workforce demands.

These aren’t minor or theoretical improvements but technologies that transform the way companies and their employees work.

“The devices of today are considerably thinner and lighter than a PC of a couple



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Computers powered by the latest-generation Intel Core vPro processors offer improved protections at the BIOS, boot, and virtualization layers, and while the ability for hackers to impersonate the user is significantly reduced, thanks to Intel Authenticate, which supports biometric login through fingerprint sensors or infrared face-recognition cameras.

years ago,” says Murphy. “You can get form factors that are designed for the way you want to work. Do you want a detachable? Do you want a 2-in-1? Do you want just a thin and light machine? The diversity of form factors has exploded in the last five years.”

### Securing the new workforce

Empowering a more mobile, agile workforce isn't without its challenges, specifically when it comes to security. “Businesses need PCs that are incredibly secure,” says Intel's Kaitlin Murphy. “They're concerned about all the threats that they know of and all the threats that they don't know of. They also need their PCs to be manageable.”

“Workforces are getting globally distributed” she adds. “You have people working from home and working in different locations more frequently. And there's also downward pressure on IT for pricing, so they need to do things more economically.”

Here, too, modern PCs have clear advantages over the PCs of five years ago, built for an era when the threat landscape was very different and when security was more focused on the network than the endpoint and based in software rather than hardware. Computers powered by the latest-generation Intel Core vPro processors offer improved protections at the BIOS, boot, and virtualization layers, and the ability for hackers to impersonate the user is significantly reduced, thanks to the [Intel Authenticate Solution](#), which supports biometric login through fingerprint sensors or infrared face-recognition cameras.

### Seamless hardware-based

**authentication:** Many new devices feature fingerprint or facial authentication, but those with the latest Intel vPro platform go further by supporting the Intel Authenticate Solution.

This goes beyond a single factor, such as a password or a fingerprint, to validate two factors, which may include a fingerprint, proximity of a Bluetooth device, a protected PIN, a virtual smart card, or location detection. These factors are captured, encrypted, and stored in hardware, making them inaccessible to unauthorized parties. The result is a system that's easy to deploy and manage—that won't slow workers down—and one that, being rooted in hardware, safeguards identity to a degree that software multifactor authentication solutions can't match. Stolen credentials no longer give cybercriminals the key to the estate.

**Remote management made easy:** An agile, geographically diverse workforce creates new challenges for management. How can enterprises support devices operating beyond the corporate estate? The Intel vPro platform makes this easier through [Intel Active Management Technology](#) (Intel AMT). This works with integrated platform capabilities, third-party management applications, and the features built into Windows 10 to enable IT teams to discover, secure, repair, and recover Windows 10 devices remotely. Geographical distance is no longer a barrier to control.

### Delivering the workforce transformation promise

Windows 10 delivers an environment for new working styles, improved productivity, and digital transformation, and the Intel vPro platform powers the platforms on which these benefits can fly. Only with new form factors, cutting-edge multitasking performance, and hardware-level management and security do you get devices that empower workforce transformation. All this, and more, can be found in the latest-generation Intel Core vPro processor-based computers.





<sup>1</sup> Slack is open in the background while a 2.28 MB, Microsoft PowerPoint.ppt presentation is exported as a 1920x1080 H.264 .mp4 video presentation. While the video presentation is being created 1) a 6.49 MB, 844 page, Microsoft Word .docx document is converted to a 7.98 MB, PDF file and 2) a 70.4 MB, Microsoft Excel .xlsm macro-enabled worksheet that is recalculated.

<sup>2</sup> **Refresh configurations**

NEW: Intel® Core™ i7-8650U (Intel Reference Platform), 15W, 4C8T, Turbo up to 4.2GHz, Memory: 2x4GB DDR4-2400, Storage: Intel® 6000p SSD, Graphics: Intel® UHD Graphics 620, BIOS version 117.07 with MCU 0x84, OS: Windows\* 10 (version 10.0.16299.192)

4-YEAR-OLD: Intel® Core™ i7-4600U (Intel Reference Platform), 15W, 2C4T, Turbo up to 3.3GHz, Memory: 2x4GB DDR3-1600, Storage: Intel 540s SSD, Graphics: Intel® HD Graphics 4400, BIOS version 139 with MCU 0x23, OS: Windows\* 10 (version 10.0.16299.192)

<sup>3</sup> Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit [www.intel.com/benchmarks](http://www.intel.com/benchmarks). The benchmark results reported above may need to be revised as additional testing is conducted. The results depend on the specific platform configurations and workloads utilized in the testing, and may not be applicable to any particular user's components, computer system or workloads. The results are not necessarily representative of other benchmarks and other benchmark results may show greater or lesser impact from mitigations.

<sup>4</sup> SYSmark\* 2014 SE is a benchmark from the BAPCo\* consortium that measures the performance of Windows\* platforms. SYSmark 2014 SE tests four usage scenarios: Office Productivity, Media Creation, Data/Financial Analysis, and Responsiveness. SYSmark contains real applications from Independent Software Vendors such as Microsoft\* and Adobe\*.

<sup>5</sup> As measured by SYSmark\* 2014 SE Responsiveness Subtest comparing 8th Gen Intel® Core™ i5+ 8500 (1TB HDD + 16GB Optane) vs. 3rd Gen Intel® Core™ i5-3570 (1TB HDD)

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Cost-reduction scenarios described are intended as examples of how a given Intel-based product, in the specified circumstances and configurations, may affect future costs and provide cost savings. Circumstances will vary. Intel does not guarantee any costs or cost reduction.

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