![Avast logo]

Avast® PC Trends Report 2019

Contents

![avast logo]

A 2018 Summary & 2019 Predictions

This report covers the most popular PCs, software, and hardware used worldwide today, looking at the impact and risks of outdated software, as well as what the PC landscape will look like in 2019.

MOST PCs COME WITH 2 CORES AND 4GB OF RAM

The report reveals the majority of consumers (75%) own a dual-core CPU and nearly half (45%) have 4 GB of RAM. Most consumers store data on traditional mechanical HDs, with only 15% using a modern flash-based SSD and that's not going to change until at least 2021, when SSD shipments are expected to overtake HDDs.
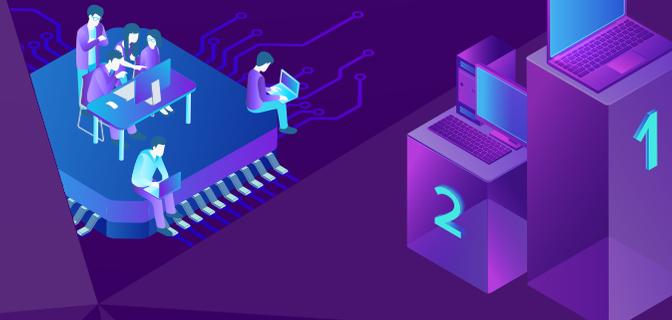
67% OF PCs ARE LAPTOPS OR TABLETS

Traditional PC usage continues to decline, a trend that is likely to persist. Currently two-thirds of Avast users own a Windows laptop.

THE AVERAGE PC IS 6 YEARS OLD

Our data shows that the average age of desktop PCs and laptops used by consumers is increasing, with the average age being six years old (up from five and a half years old in 2017), meaning people are not buying new computers as often as they were a year ago. In 2019, we'll likely see this trend continue as even 6+ year old hardware is enough for day-to-day tasks.

TOP 5 APPS INSTALLED

Based on the top applications consumers have installed, most people use their computers to browse the web, view and create content, using Chrome, Adobe Reader, Office, WinRAR and Firefox. Based on trends in our data, Adobe Reader and Skype installations are expected to increase.

55% OF ALL SOFTWARE IS OUTDATED

Users continue to not apply the latest updates to their software, making them vulnerable to security threats, incompatibilities or other issues.

40% OF USERS RUN WINDOWS 10

Windows 7 is still the most popular, with 43% global usage, closely followed by Windows 10 with 40%. There are still millions of users running the now unsupported and insecure Windows XP and Windows Vista releases, which are more than a decade old. In 2019, Windows 10 is expected to overtake Windows 7 and become the most used OS worldwide.

PC Insights & Analysis - Software
Avast PC Trends Report 2019

PC Insights & Analysis
SOFTWARE **B**

B Installed Programs
Chrome is 2018's most installed PC program

Browsers, readers, and Office top the list of most installed apps worldwide.

Nearly half of users have an additional browser installed, such as Mozilla Firefox which is installed on 42% of computers.

Looking at productivity applications, Microsoft Office appears to be the most popular as it is installed on 45% of computers. The versions installed range from Office 2007 to Office 2016 and Office 365. While the newer versions receive updates, millions of consumers and businesses are using older versions no longer supported, putting them at risk from security threats.

About 16% of users worldwide have Windows Live Essentials installed, a product suite introduced in 2006 to supplement Windows with functionality that had previously been removed, such as a dedicated Movie Maker or a desktop mail application. This is worrying as the suite was retired by Microsoft in January 2017 and is no longer supported.

Top Installed Programs

#	Program		%	
1	Google Chrome	Google Inc.	91% TOTAL INSTALLS	
2	Adobe Acrobat Reader	Adobe Systems	61% TOTAL INSTALLS	
3	Winrar	win.rar gmbh	48% TOTAL INSTALLS	
4	Microsoft Office	Microsoft Corporation	45% TOTAL INSTALLS	
5	Mozilla Firefox	Mozilla corporation	42% TOTAL INSTALLS	
6	VLC Media PLayer	Videolan	32% TOTAL INSTALLS	
7	Skype	Skype Technologies s.a.	30% TOTAL INSTALLS	
8	CCleaner	Piriform	25% TOTAL INSTALLS	
9	iTunes	Apple Inc.	18% TOTAL INSTALLS	
10	Teamviewer	Teamviewer	18% TOTAL INSTALLS	
11	Windows Live Essentials	Microsoft corporation	16% TOTAL INSTALLS	
12	7-Zip	Igor Pavlov	14% TOTAL INSTALLS	
13	Steam	Valve Corporation	11% TOTAL INSTALLS	
14	Dropbox	Dropbox	11% TOTAL INSTALLS	
15	Opera	Opera Software	11% TOTAL INSTALLS	
16	Cyberlink Powerdvd	Cyberlink Corporation	10% TOTAL INSTALLS	
17	Cyberlink Powerdirector	Cyberlink Corporation	10% TOTAL INSTALLS	
18	HP Photo Creations	Hewlett Packard	9% TOTAL INSTALLS	
19	Cyberlink YouCam	Cyberlink Corporation	8% TOTAL INSTALLS	
20	Cyberlink Power2Go	Cyberlink Corporation	7% TOTAL INSTALLS	

B Tools & Frameworks

The hidden danger: Many frameworks are outdated

Visual C++ Redistributable & Flash Player
are the top two most installed tools

Frameworks are programs that run other programs and websites. Most come preinstalled with PCs or with third party software. For example, when users install a game on Steam, it often requires Visual C++ Redistributable in order to run properly. Our report shows that the number of installed tools and frameworks is higher than 'real' apps, such as Office or Skype. In some cases, these aren't being kept up-to-date by the user or are abandoned by the vendor, such as Microsoft's Silverlight. Users should carefully evaluate whether they need these frameworks - and uninstall the ones they don't need.

Top Installed Tools & Frameworks

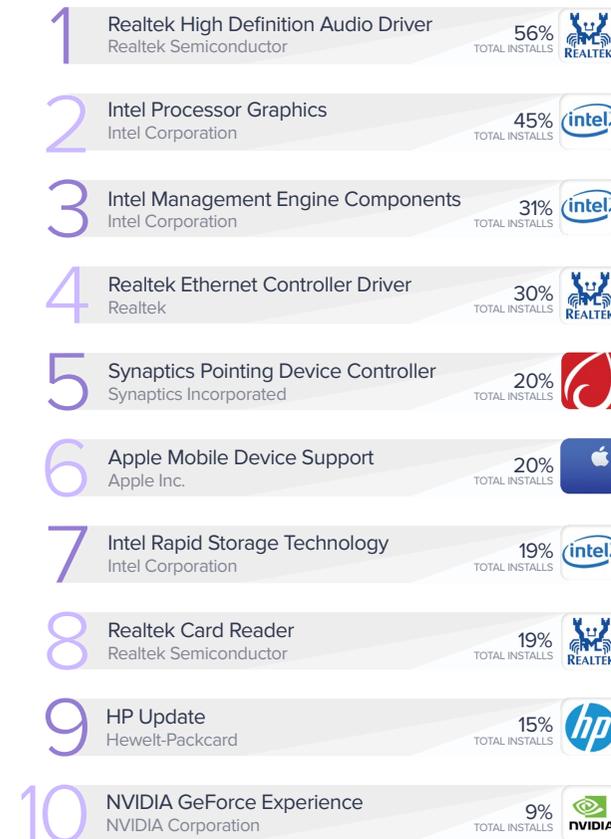| #	Tool	Vendor	Total Installs
1	MS Visual C++Redistributable	Microsoft Corporation	89% TOTAL INSTALLS
2	Adobe Flash Player Activex	Adobe Systems	79% TOTAL INSTALLS
3	Microsoft.net Framework	Microsoft Corporation	41% TOTAL INSTALLS
4	Adobe Flash Player Plugin	Adobe Systems	34% TOTAL INSTALLS
5	Adobe Flash Player Npapi	Adobe Systems	30% TOTAL INSTALLS
6	Java 8	Oracle Corporation	30% TOTAL INSTALLS
7	Bonjour	Apple Inc.	28% TOTAL INSTALLS
8	Microsoft Silverlight	Microsoft Corporation	27% TOTAL INSTALLS
9	Update for Windows	Microsoft Corporation	24% TOTAL INSTALLS
10	Apple Software Update	Apple Inc.	22% TOTAL INSTALLS

B Drivers

The Most Installed Device Drivers & Software

Under the hood, most PCs and laptops are powered by the same components. The list of top drivers shows what's inside PCs worldwide.

For sound, video or a printer to properly function or even work at all, drivers are needed, and in many cases are bundled with other programs. The most installed driver is Realtek's HD Audio driver, which powers their sound chip. It's closely followed by Intel's graphics software, a driver for the widely popular Intel HD and Iris line of integrated graphics processors. Both chips are found in roughly half of all PCs and laptops worldwide.

Top Installed Device Drivers & Software

#	Driver/Software	Company	Total Installs	
1	Realtek High Definition Audio Driver	Realtek Semiconductor	56% TOTAL INSTALLS	REALTEK
2	Intel Processor Graphics	Intel Corporation	45% TOTAL INSTALLS	intel
3	Intel Management Engine Components	Intel Corporation	31% TOTAL INSTALLS	intel
4	Realtek Ethernet Controller Driver	Realtek	30% TOTAL INSTALLS	REALTEK
5	Synaptics Pointing Device Controller	Synaptics Incorporated	20% TOTAL INSTALLS	
6	Apple Mobile Device Support	Apple Inc.	20% TOTAL INSTALLS	
7	Intel Rapid Storage Technology	Intel Corporation	19% TOTAL INSTALLS	intel
8	Realtek Card Reader	Realtek Semiconductor	19% TOTAL INSTALLS	REALTEK
9	HP Update	Hewelt-Packcard	15% TOTAL INSTALLS	hp
10	NVIDIA GeForce Experience	NVIDIA Corporation	9% TOTAL INSTALLS	NVIDIA

PC Insights & Analysis - Software

Avast PC Trends Report 2019

B Out-of-date Programs
55% of all programs worldwide are out-of-date

According to our data, **48%** of applications installed on PCs worldwide were out-of-date in 2017 and that has now risen.

Not updating applications can cause bugs and incompatibility problems. More importantly, many outdated applications, including frameworks and tools, contain vulnerabilities and for security reasons should be updated immediately. For example, in May 2018 7-ZIP fixed an issue in the RAR extraction logic that could allow a DoS attack or execute harmful code embedded in RAR files.

Another popular example is Java: Versions 6, 7 and 8 are still widely installed and no longer up-to-date. Even users who are on the latest Java version 10 release should check for updates regularly to avoid any security issues.

One of the most out-of-date applications is the VLC Media Player. This is likely due to older versions of the software not notifying the users about updates. Skype closely follows, as most users are still on the older version, Skype 7 Classic. Microsoft has not enforced the update to the new Skype 8, but Microsoft has been gathering user feedback and encouraging users to upgrade.

Most Out-of-Date Programs

#	Program	Vendor	%
1	Adobe Shockwave	Adobe Systems	96% TOTAL INSTALLS
2	VLC Media Player	Videolan	94% TOTAL INSTALLS
3	Skype	Skype Technologies	94% TOTAL INSTALLS
4	Java Runtime Environment 6-8	Oracle Corporation	93% TOTAL INSTALLS
5	7-Zip Filemanager	Igor Pavlov	92% TOTAL INSTALLS
6	Foxit Reader	Foxit Software Inc.	91% TOTAL INSTALLS
7	Adobe Air	Adobe Systems	88% TOTAL INSTALLS
8	InfranView	Infran Skiljan	86% TOTAL INSTALLS
9	Mozilla Firefox	Mozilla Corporation	85% TOTAL INSTALLS
10	DivX Plus Web Player	DivX Inc.	79% TOTAL INSTALLS
11	WinZip	Corel	78% TOTAL INSTALLS
12	iTunes	Apple Inc.	77% TOTAL INSTALLS
13	Nitro PDF Professional 9	Nitro Software Inc.	76% TOTAL INSTALLS
14	GOM Media Player	GOM & Company	75% TOTAL INSTALLS
15	WinRAR Archiver	win.rar Gmb	71% TOTAL INSTALLS
16	Skype 8	Skype Technologies	67% TOTAL INSTALLS
17	Java Runtime Environment 10	Oracle Corporation	65% TOTAL INSTALLS
18	Nitro PDF Professional 10	Nitro Software Inc.	63% TOTAL INSTALLS
19	Mozilla Thunderbird	Mozilla Foundation	60% TOTAL INSTALLS
20	Mozilla HP Photo Creations	Hewlett Packard	54% TOTAL INSTALLS

PC Insights & Analysis - Software
Avast PC Trends Report 2019

**B** Global Windows Usage
Windows 7 still most used OS: **43%** usage

Windows 7 usage is slowly dropping from 45% to **43%** of installations when compared to Q3 2017, while Windows 10 has increased share from 35% to **40%**.

Despite a 5% rise in Windows 10 usage compared to Q3 2017, Windows 7 is still the most used operating system worldwide.. Windows Vista is rarely used, with only 1.3% of users actively running it, compared to 2% in mid-2017. Even Windows XP usage dropped significantly from 4.6% in Q3 2017 to 3.1%.

40%
Windows 10

12%
Windows 8

3%
Microsoft Windows xp

2%
Windows Vista

43%
Windows 7

GLOBAL WINDOWS
USAGE
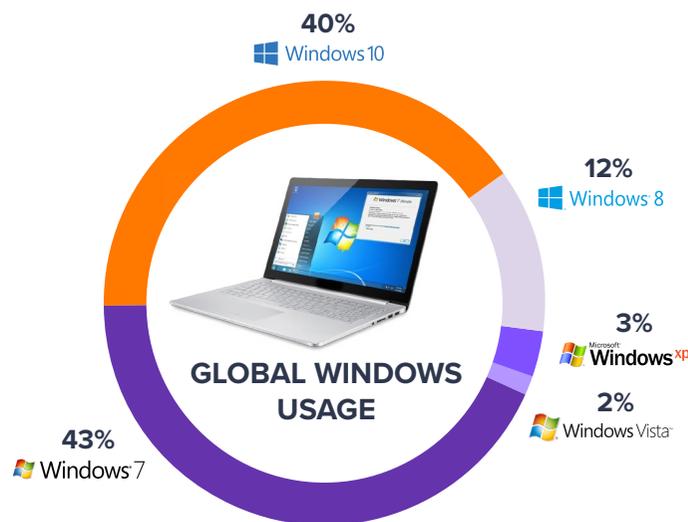
15% of Windows 7 systems are out-of-date

Microsoft ended support for the initial release of Windows 7 (RTM - Release to Manufacturing) in 2013 and is not delivering any major security updates to those 15% of users that do not have SP1 installed.

Windows 7 build type
More than 15,000 consumers are still using a pre-release (beta) version of Windows 7, leaving them vulnerable, as security updates are not available for the version.

0.02%
Windows 7 Beta

15.06%
Windows 7 RTM

OUT-OF-DATE
WINDOWS 7
USAGE

84.92%
Windows 7 SP1

PC Insights & Analysis - Software
Avast PC Trends Report 2019
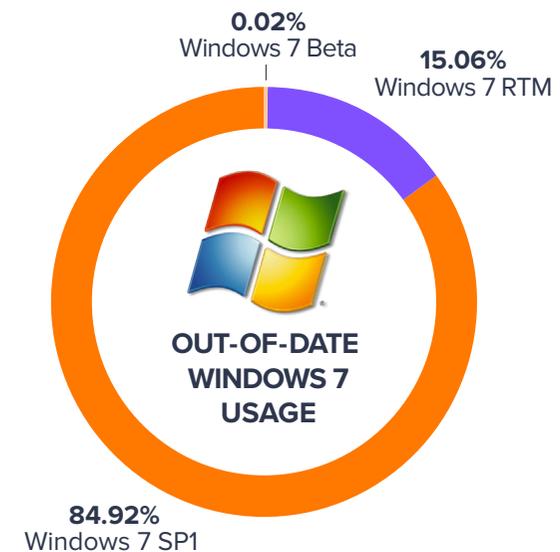
B Out-of-Date Windows 10 devices
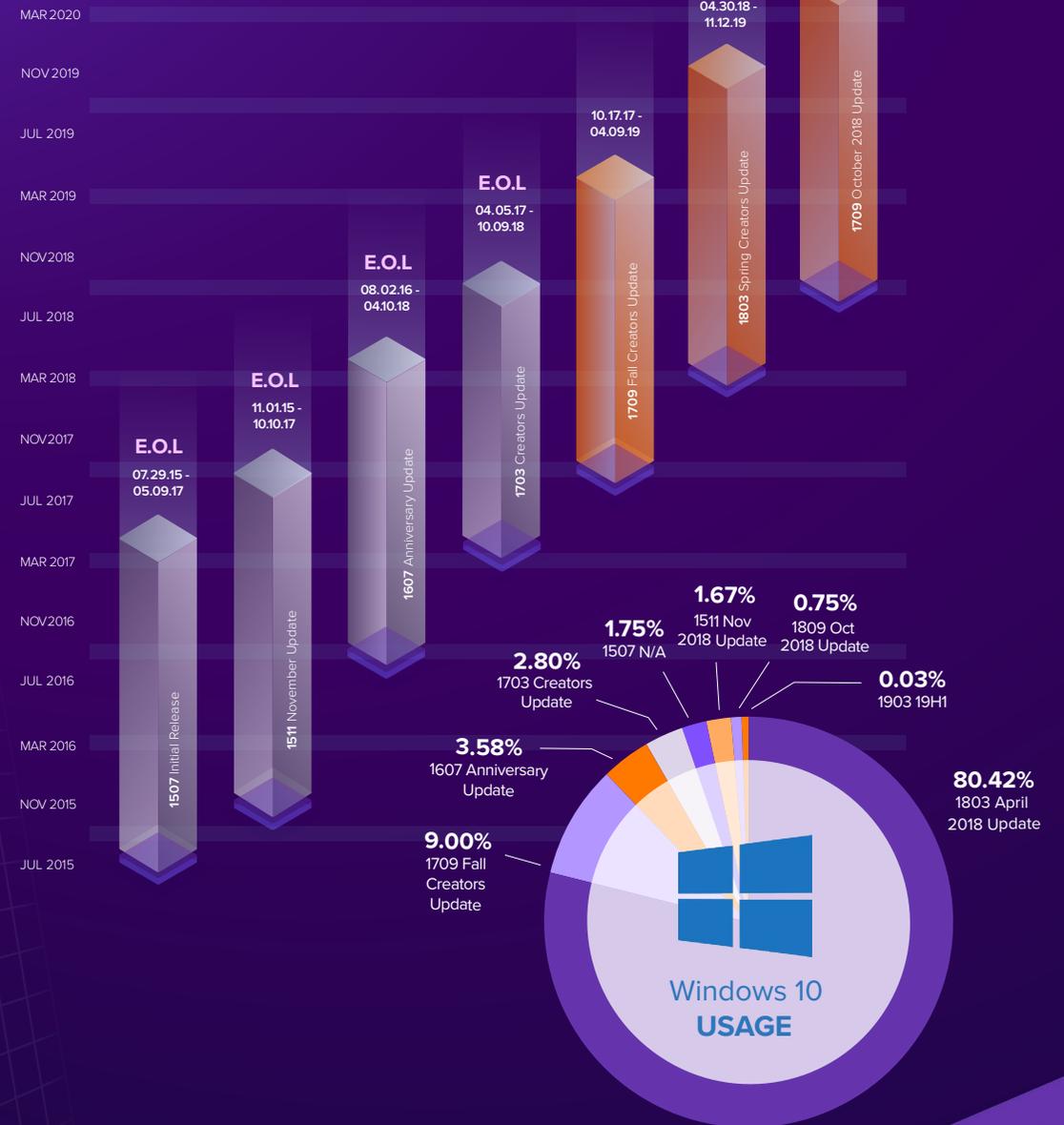## **8%** of Windows 10 devices vulnerable

Millions of users are running outdated versions of Windows 10.

Instead of traditional big releases, such as Windows 2000, Windows XP and Windows 7, Microsoft is issuing more frequent incremental upgrades, for free. However, this didn't quite solve the problem of users staying on their older operating systems:
Eight out of ten users worldwide are on the 1803 update from earlier 2018, while only less than 1% are on the infamous October 2018 update, which has been delayed and rolled back for various issues.

The 1709 release from September 2017, used on 9% of all PCs worldwide, is still serviced with security updates, while all older versions are no longer supported, including everything from the initial 1507 (RTM) release to the Spring Creators Update 1703 from April 2017. Only educational users and businesses are receiving updates, all others should upgrade to the latest release, if possible. Combined, 9% of all Windows 10 operating systems used by users globally are out-of-date and potentially vulnerable.

The chart on the right indicates which releases are no longer available (E.O.L - End of Life) and which are still being officially supported.

MAR 2020
NOV 2019
JUL 2019
MAR 2019
NOV 2018
JUL 2018
MAR 2018
NOV 2017
JUL 2017
MAR 2017
NOV 2016
JUL 2016
MAR 2016
NOV 2015
JUL 2015

E.O.L 07.29.15 - 05.09.17

E.O.L 11.01.15 - 10.10.17

E.O.L 08.02.16 - 04.10.18

E.O.L 04.05.17 - 10.09.18

10.17.17 - 04.09.19

04.30.18 - 11.12.19

10.02.18 - 04.13.20

1507 Initial Release
1511 November Update
1607 Anniversary Update
1703 Creators Update
1709 Fall Creators Update
1803 Spring Creators Update
1709 October 2018 Update

1.75% 1507 N/A

1.67% 1511 Nov 2018 Update

0.75% 1809 Oct 2018 Update

2.80% 1703 Creators Update

0.03% 1903 19H1

3.58% 1607 Anniversary Update

80.42% 1803 April 2018 Update

9.00% 1709 Fall Creators Update

Windows 10
USAGE

B Out-of-Date Office programs
15% of Office 2007 and 2010 users at risk

Office is one of the most used applications
worldwide and one of the most out-of-date.

15% of users have Enterprise 2007 installed,
which is officially no longer supported by
Microsoft since 2017, meaning Microsoft does
not issue any security patches or bug fixes.

The same will happen soon for Office 2010, as
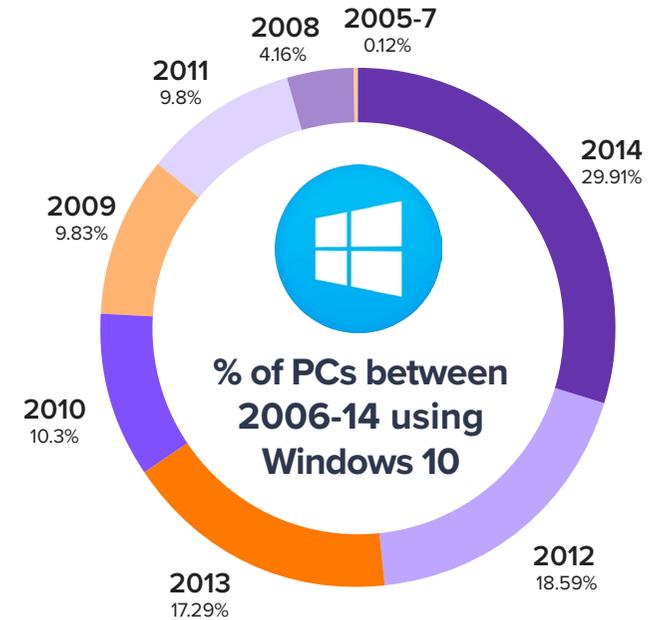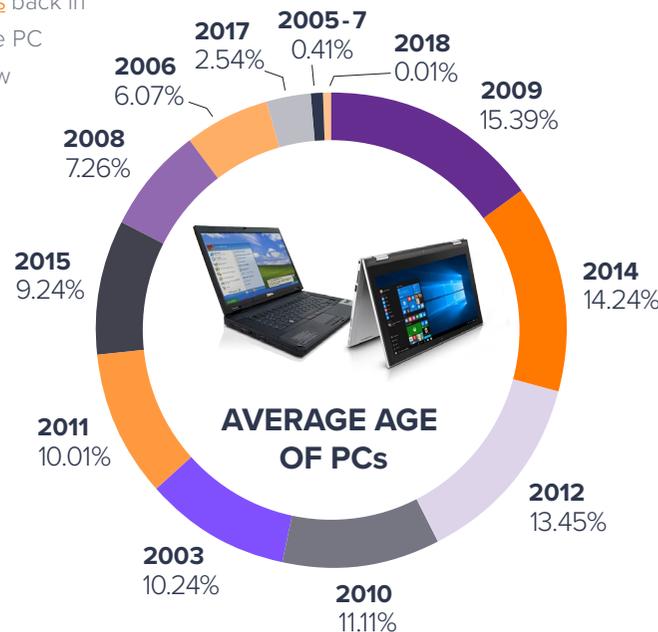its lifecycle will end in 2020, although it's only
installed on 3% of PCs worldwide.

Most Out-of-Date Office Programs

1	MS Office Enterprise 2007 Microsoft Corporation	15% TOTAL INSTALLS		4	MS Office Professional Plus 2016 Microsoft Corporation	5% TOTAL INSTALLS	
2	MS Office Professional Plus 2013 Microsoft Corporation	10% TOTAL INSTALLS		5	MS Office Professional Plus 2007 Microsoft Corporation	3% TOTAL INSTALLS	
3	MS Office 365 Microsoft Corporation	8% TOTAL INSTALLS		6	MS Office 2017 Microsoft Corporation	3% TOTAL INSTALLS	

PC Insights & Analysis - Software
Avast PC Trends Report 2019

PC Insights & Analysis
HARDWARE C

C Average Age of PCs
The average PC is 6 Years Old

In 2017, we reported that the average age of a PC was five and a half years old - that number is rising.

In 2018, the average has increased to six years. PCs at a certain age require regular maintenance, when it comes to both software and hardware. This data is in line with other surveys and statistics, such as Statista's report* from 2017, which dates the average PC age at five and a half years. Former Intel CEO, Brian Krzanich, predicted this back in 2016, saying: "[The] replacement cycle for the PC has extended. Four years was the average, now it has moved to about five to six years."

% of PCs between 2006-14 using Windows 10

2008 4.16%
2005-7 0.12%
2011 9.8%
2014 29.91%
2009 9.83%
2010 10.3%
2012 18.59%
2013 17.29%

62% of PC users upgraded to Windows 10 on their older PCs

This data shows the distribution of Windows 10 on computers made before its release in 2015

Microsoft offered Windows 10 as a free upgrade to all Windows 7 and 8 users and it worked: The majority of users appear to have taken advantage of the offer.

AVERAGE AGE OF PCs

2017 2.54%
2005-7 0.41%
2018 0.01%
2006 6.07%
2009 15.39%
2008 7.26%
2014 14.24%
2015 9.24%
2011 10.01%
2012 13.45%
2003 10.24%
2010 11.11%

C Brands & Type of PC
63% of PCs are laptops

Desktop computers aren't obsolete, but in the consumer space more people are opting for laptops, convertibles, and pure tablets running Windows.

Convenience and freedom might be a reason, a dramatic increase in performance another: mobile processors and even GPUs have become significantly more powerful over the past years and can almost compete with their desktop counterparts.

Desktop PCs, on the other hand, are still faster, especially in areas such as gaming or high-end productivity applications, like software development or multimedia editing.

LAPTOP vs. DESKTOP

Desktop
37%

Laptop
63%

TOP PC BRANDS

msi 2.74%
SONY 1.98%
SAMSUNG 3.45%
GIGABYTE TECHNOLOGY 4.74%
TOSHIBA 4.87%
DELL 9.90%
Lenovo 9.93%
ASUS 9.96%
acer 10.14%
HP 19.92%
OTHER 16.45%
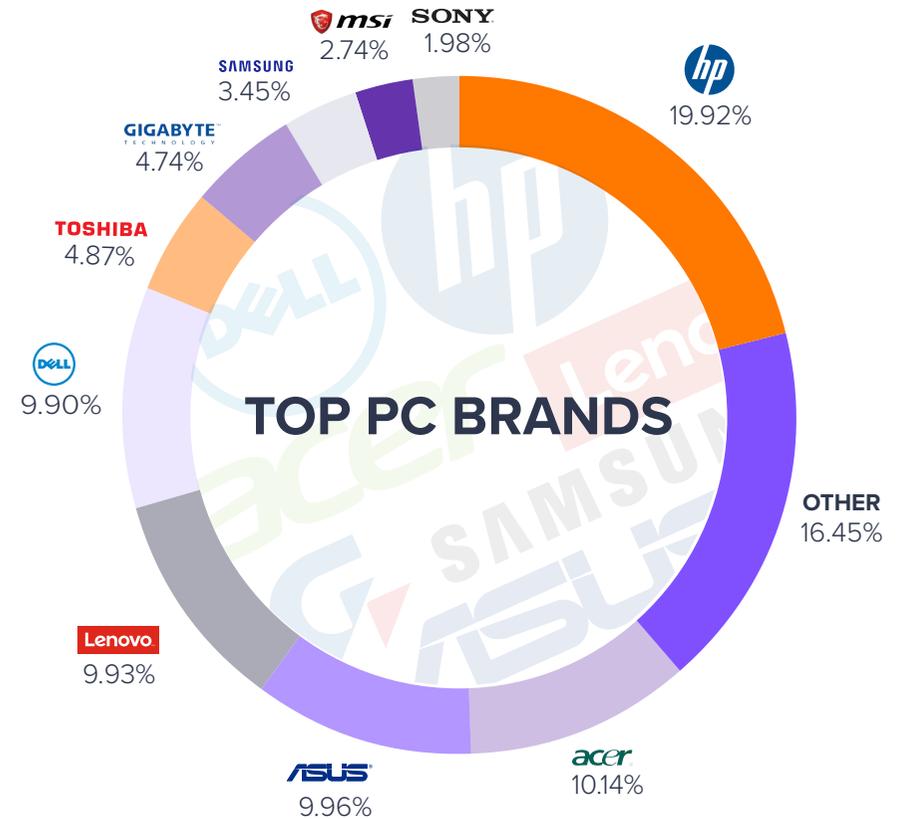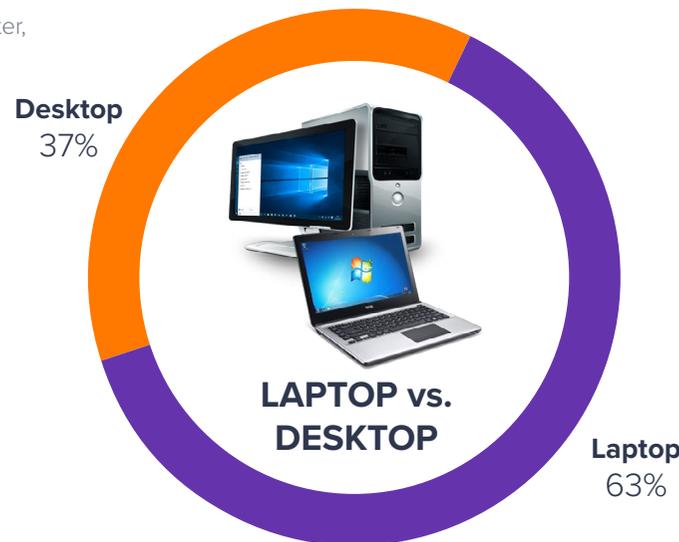
HP owns the top spot for PC ownership

The PC market is dominated by five brands, namely HP, Acer, Asus, Lenovo and Dell, with the other 50% made up of smaller or country-specific brands.
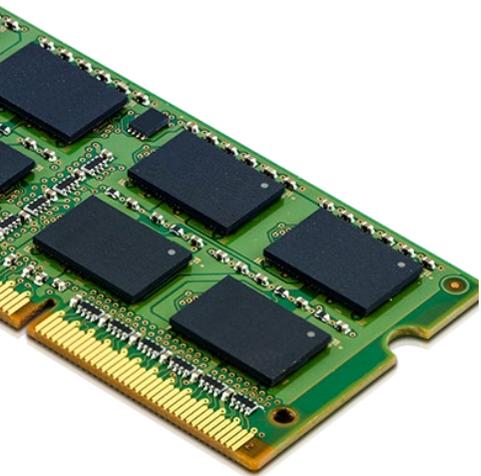
C Memory Size & CPU Cores
Half of users have 4 GB of memory

The majority of devices have 4, 8 or more GB of RAM installed, enough to handle most applications.

Browsing the web, working with more resource-intense applications or games, could lead to significant slowing down for users with 2 GB or less memory, which is the case on 22% of all PCs worldwide. Four GB is a more common size, and should lead to less slowdowns when running multiple programs simultaneously.

CPU PHYSICAL CORES

Single Core
4.93%

6 Core
0.41%

8 Core
0.10%

Quad Core
20.35%

Dual Core
74.20%

MEMORY SIZE

16GB+
3.49%

12GB
1.23%

OTHER
0.17%

6GB
5.76%

8GB
17.02%

4GB
50.72%

2GB or less
21.63%
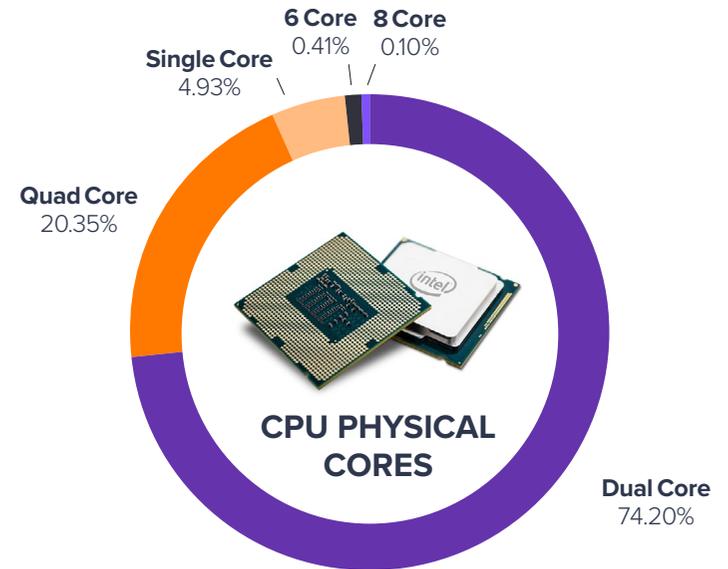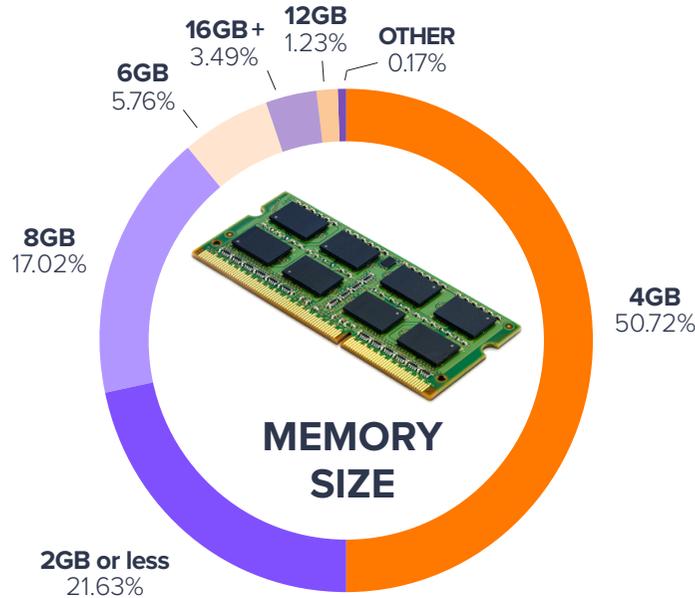
Most CPUs are Dual-Core

Higher core counts lead to significantly more performance when running multiple apps or resource intense applications, such as video rendering or gaming. That said, three quarters of users own a processor with two physical cores (dual-cores). Newer quad-core CPUs make up 20% of all processors worldwide.
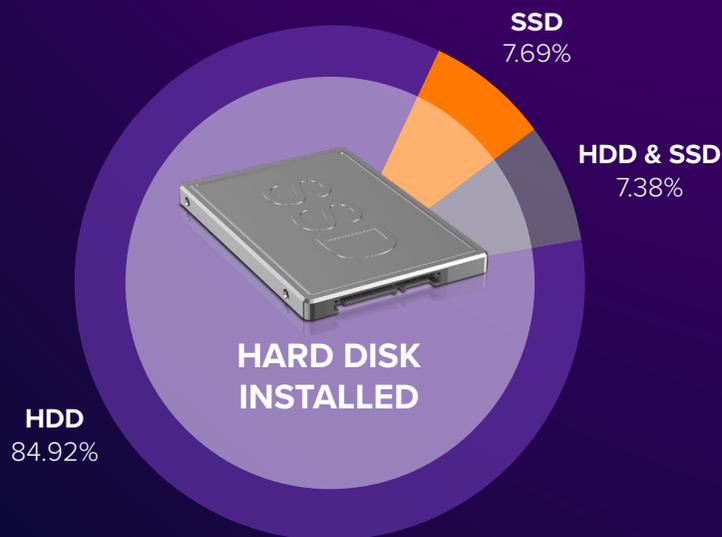
C SSD vs. HDD
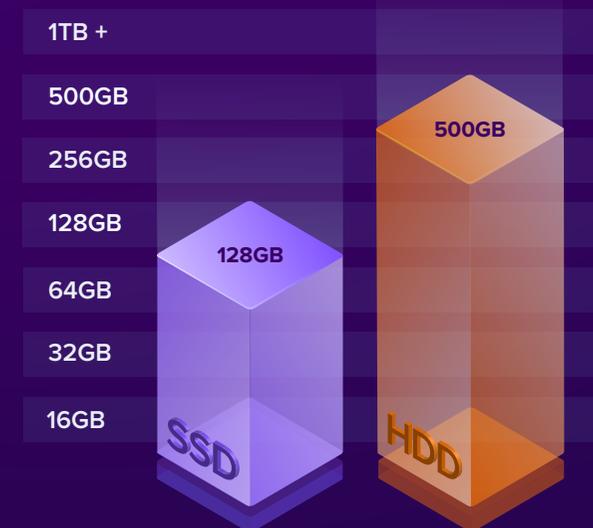## Only **15%** of users own a fast SSD

Despite being the significantly faster and reliable choice, modern SSD (Solid State Disks) are nowhere near commodity — with only 15% of users owning one.

Just 7.7% of users own a PC or laptop with an SSD only. Another 7.4% have a combination, typically a smaller SSD as their primary drive for Windows and applications, a traditional Hard Disk Drive as their secondary data drive.

According to a _recent prognosis_ by Statista*, SSD shipments are expected to overtake HDDs by 2021 — meaning it will be many more years before old PCs with HDDs are replaced.

Most Common
SSD & HDD sizes

SSD
7.69%

HDD & SSD
7.38%

**HARD DISK
INSTALLED**

HDD
84.92%

1TB +

500GB

256GB

128GB

64GB

32GB

16GB

500GB

128GB

SSD

HDD

# D Methodology

The core data used in this report is collected through the Automatic Software Updater feature, a functionality included in Avast and AVG security software and consists of anonymized datasets from a total of 163 million devices.

Using a combination of real-world data and global statistics from Statista and other sources, this report is able to paint a picture of the state of the PC in 2018.

We have excluded our Avast, AVG and other third party security solutions to prevent potential data bias in the security category.
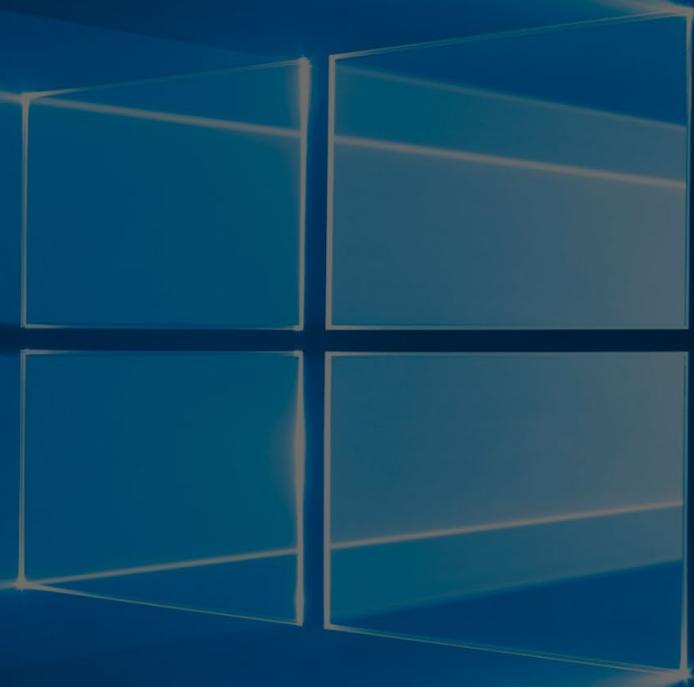
avast

Contact
Information

pr@avast.com