

Independent Tests of Anti-Virus Software



IT Security Survey 2020

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WWW.AV-COMPARATIVES.ORG

Security Survey 2020

We have conducted our annual survey, which helps us to improve our service to the end-user community. Respondents were asked for their opinions on various topics related to anti-virus software testing and anti-virus software in general. We would like to thank everyone who took the time to complete the survey.

Key data

Survey Period: **11th December 2019 – 25th December 2019**

Valid responses of real users: **2,818**

The survey ran for two weeks. It contained various control questions and checks, which helped us to identify and remove invalid responses. As there was no prize draw this year, the number of users who tried to game the survey was lower than last year.

The survey results are invaluable to us. This report contains the results of the survey questions.

Overview

Use of the Internet by home and business users continues to grow in all parts of the world. How users access the Internet is changing, though. The increase in the use of smartphones and tablets to access the Internet has continued, and this has resulted in a drop in desktop and laptop sales. With regard to attacks by cyber criminals, this means that their focus has evolved.

This annual survey of computer users worldwide also focuses on which security products (free and paid), operating systems and browsers are most widely used.

Survey methodology

Report results are based on the Internet survey run by AV-Comparatives between 11th December 2019 and 25th December 2019. A total of 2,818 computer users from around the world answered the questions on the subject of computers and security.

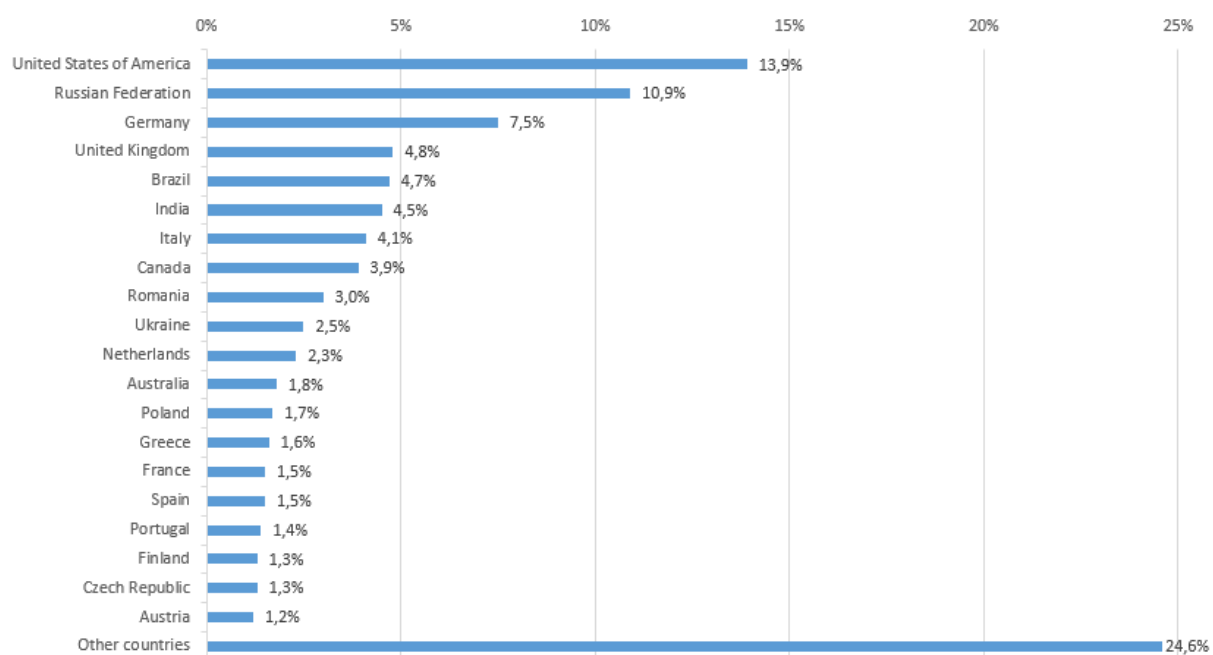
Key Results

Please note that all the points made below refer only to our survey participants, not the general public.

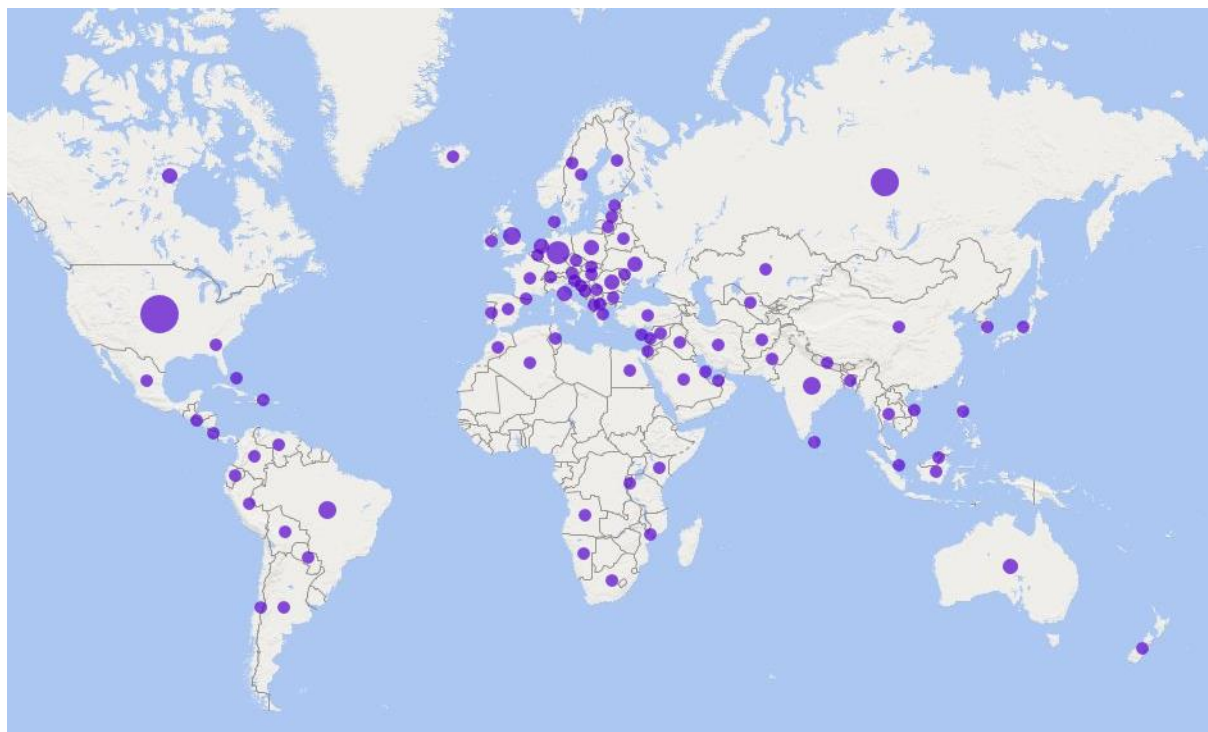
- The number of respondents using Microsoft Windows Defender as a desktop security product has increased considerably, particularly in North America, according to this year's survey.
- Avast, Bitdefender, ESET, Kaspersky and Microsoft (ordered alphabetically) are the five most popular desktop security products worldwide, and feature in the top five products on every continent.
- Bitdefender is the most popular mobile security solution in absolute number of votes. Bitdefender, Kaspersky, ESET and Avast are the only four mobile AV apps found in the top four on every continent.
- Android remains by far the most popular mobile operating system, being used by approximately four fifths of respondents. iOS is the only other mobile OS to reach double figures, at about 18%.
- The great majority of users (89%) reported no malware infections in the last 6 months. 72% of these uninfected respondents declared that they had encountered malware within this time frame, but their desktop security product had successfully protected their systems against these attacks. About a third of all users stated that their security product had blocked malware within the last week.
- The number of respondents using Windows 10 has risen again this year, leaving Windows 7 with under a tenth of users.
- About 45% of respondents use a Virtual Private Network (VPN).
- Google Chrome is the most popular browser, with approximately half of respondents (44.1%) using it. Mozilla Firefox accounts for a lot of the remaining users, with a share of more than a third (34.1%). Despite being built into the increasingly popular Windows 10, and being Microsoft's recommended browser on this OS, Microsoft Edge is only used by 5.7% of users overall.
- Some of the test labs we asked users about were much better known than others, with 94% having heard of AV-Comparatives. As regards user confidence, once again we are delighted to be voted the most trustworthy and reliable among the testing labs, and we would like to thank respondents for their confidence in AV-Comparatives.

We are grateful to everyone who completed the survey. The feedback we have gained will be used to ensure that our tests continue to grow in effectiveness and relevance. This enables manufacturers to further improve their products, benefitting both themselves and their users. We are very pleased to see our test results being quoted by other publications in their review of AV and Internet Security products! All AV-Comparatives' public test results are available to everyone free of charge at www.av-comparatives.org

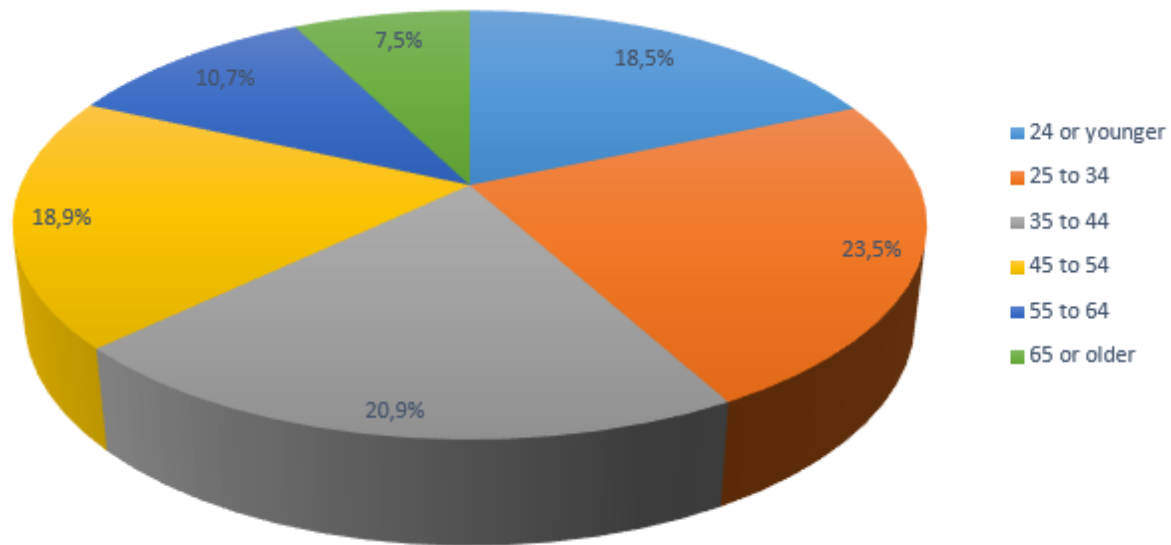
1. Where are you from?



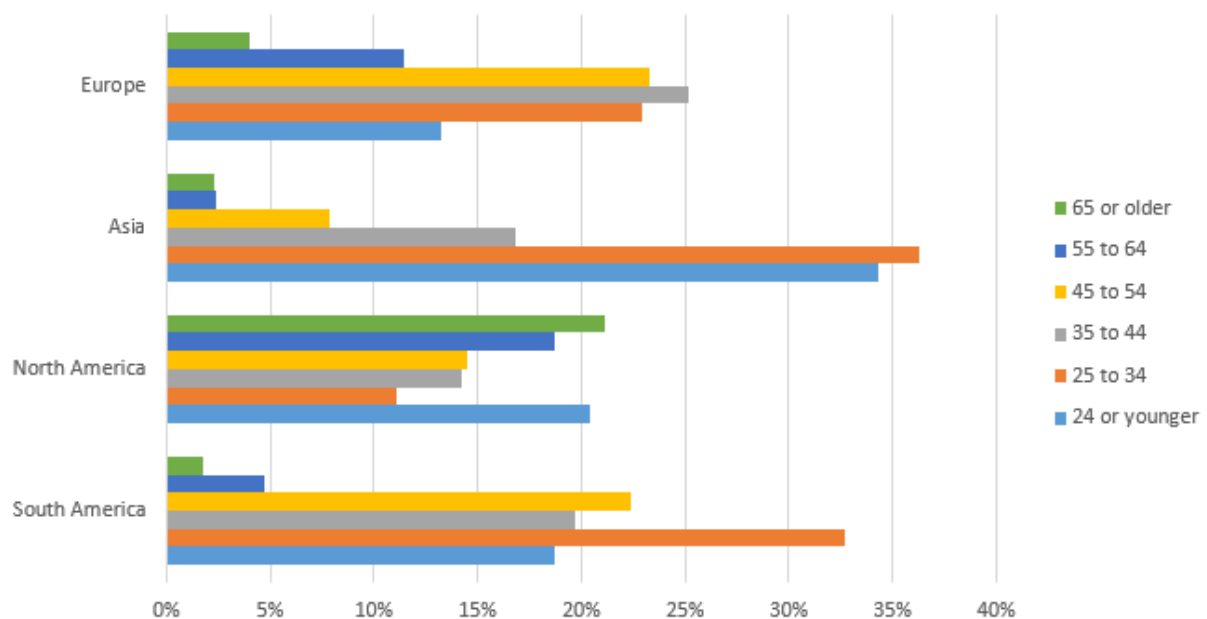
The graph above shows the top 20 countries of origin of our survey participants. Altogether, respondents came from 111 different countries.



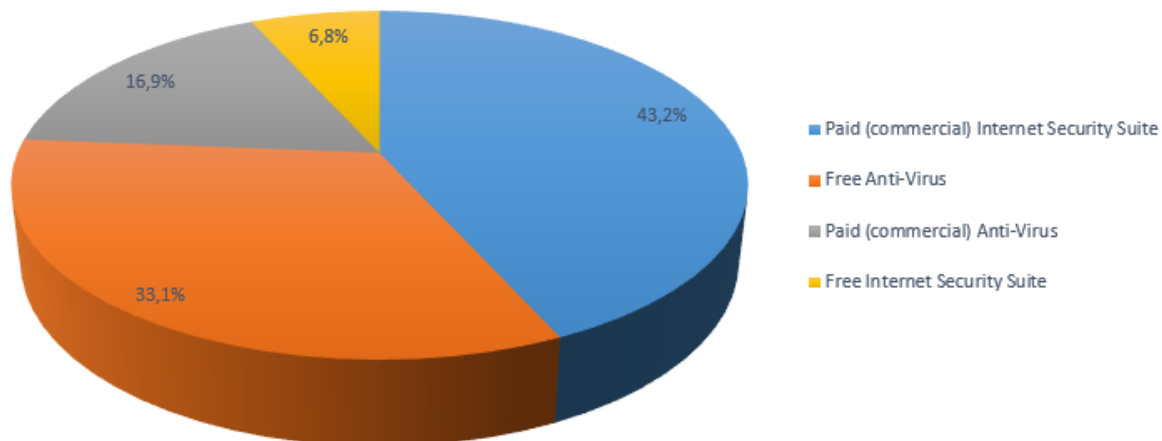
2. What is your age?



Age distribution by continent is shown below. Asia had the youngest respondents, with about 71% in the <25 and 25-34 brackets. North America had the oldest respondents, with over 54% of them being in the 45-54, 55-64 or 65+ groups. South America had about 33% in the 25 to 34 age group and Europe had about 25% in the 35 to 44 age group.

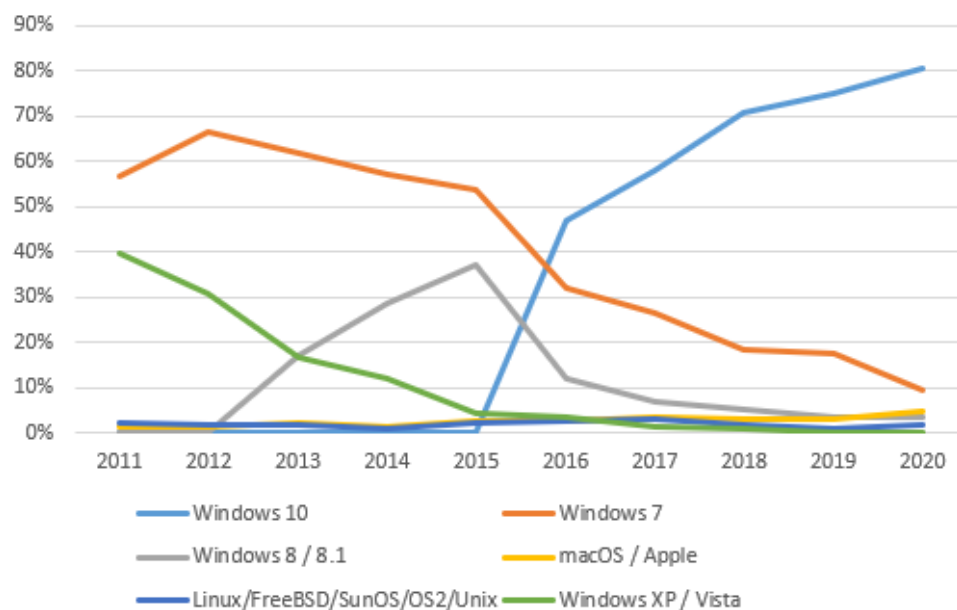


3. Which type of security solution do you primarily use?



Overall, 60.1% of users pay for a security solution. In North America, the number of respondents using a paid Internet security solution declined by about 10% compared to last year. This year, paid Internet security suites are 10% less popular among North American users than among users from the rest of the world .

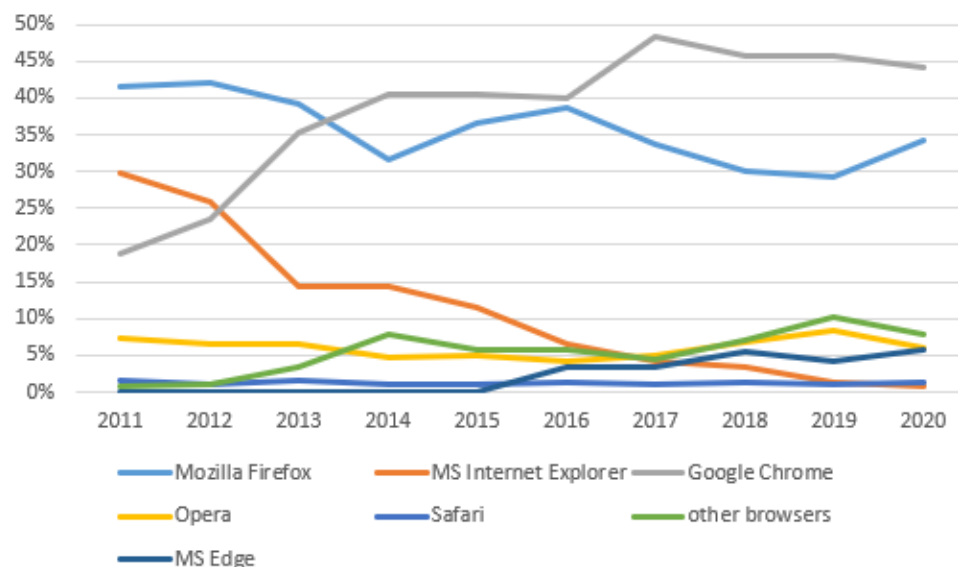
4. Which desktop operating system do you primarily use?



The most widely used operating system amongst respondents is Windows 10, accounting for over 80% of the total OS usage. Windows 7 is the second most popular system, with just under 10% of participants using it. In North America, Apple's macOS is more commonly used than in the rest of the world, with about 9% market share. Our review/test of Mac security products¹ is available at <https://www.av-comparatives.org/testmethod/mac-security-reviews/>

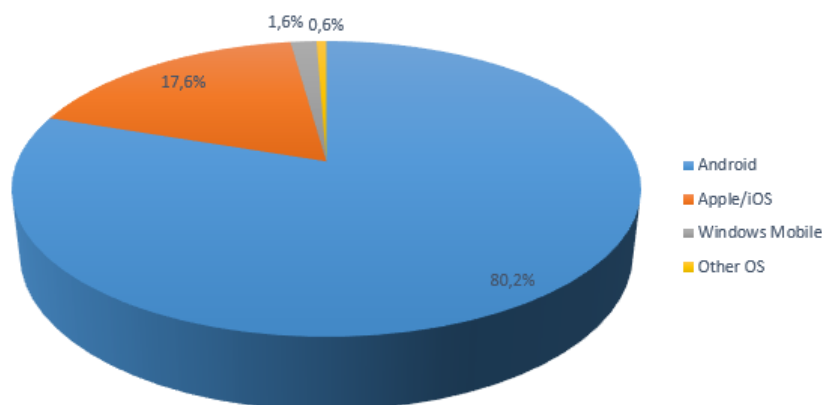
¹ A list of Mac security products can be found here: <https://www.av-comparatives.org/list-of-av-vendors-mac/>

5. Which browser do you primarily use?



As shown in the diagram, Google Chrome is the most popular browser amongst survey participants worldwide, with 44.1% of respondents using it. In second place is Mozilla Firefox (34.1%). The Yandex browser is very popular in Russia (17%). Even though approximately 80% of survey respondents use Windows 10, only 5.7% of all participants use the Edge browser (mostly in North America – 8%). Only 0.8% of survey participants still use the Internet Explorer browser, whereas 1.3% use Apple Safari.

6. Which mobile operating system do you use?



Android is the most popular mobile OS with our survey participants, accounting for about 80% of users worldwide. In North America, iOS is more popular than in other regions, accounting for about 28%. In Asia and South America, most users (over 90%) use Android. Our Mobile (Android)² security review/test report is available at <https://www.av-comparatives.org/testmethod/mobile-security-reviews/>

² An overview of security products for Android can be found here: <https://www.av-comparatives.org/list-of-mobile-security-vendors-android/>

7. Do you use a VPN and if yes, which one?

According to the survey, almost 45% of users overall make use of Virtual Private Network (VPN) software.

Below are the 20 most common responses:

1. NordVPN	14.0%
2. Windscribe	10.9%
3. ProtonVPN	6.6%
4. VPN of my employer/company OR self-hosted VPN	6.3%
5. Opera VPN	5.1%
6. Bitdefender Premium VPN	4.6%
7. Kaspersky VPN	4.3%
8. F-Secure Freedome	3.6%
9. Avast SecureLine	3.5%
10. Private Internet Access	3.4%
11. ExpressVPN	3.0%
12. Avira Phantom VPN	2.6%
13. CyberGhost	2.6%
14. AnchorFree Hotspot Shield	1.8%
15. TunnelBear	1.6%
16. AVG Secure VPN	1.6%
17. BrowSec	1.5%
18. TorGuard	1.4%
19. HideMyAss	1.3%
20. Cisco AnyConnect	1.3%
21. Other VPN software	19.0%

8. Which mobile anti-malware security solution do you primarily use on your smartphone?

40.4% of respondents overall do not use any security solution on their mobile phones.

Worldwide, the ten most commonly used manufacturers of mobile security products are, in decreasing order: Bitdefender, Kaspersky, ESET, Avast, Sophos, McAfee, Norton, Avira, F-Secure and AVG.

The list below shows the 10 most popular mobile security manufacturers used by survey participants, according to continent. There were not enough responses from some regions to produce significant results. Therefore, Australia/Oceania and Africa are not shown.

Europe	North America	Asia	South/Central America
1. Bitdefender	1. Bitdefender	1. Bitdefender	1. Kaspersky
2. Kaspersky	2. ESET	2. Kaspersky	2. ESET
3. ESET	3. Avast	3. ESET	3. Bitdefender
4. Avast	4. Kaspersky	4. Avast	4. Avast
5. Sophos	5. McAfee	5. Dr.Web	5. Avira
6. Norton	6. Lookout	6. McAfee	6. AVG
7. F-Secure	7. Sophos	7. Sophos	7. McAfee
8. McAfee	8. Norton	8. Avira	8. Panda
9. Avira	9. MalwareBytes	9. Trend Micro	9. Sophos
10. Panda	10. AVG	10. Tencent	10. Norton

Bitdefender and ESET were in the top three on all four continents with significant results, and Avast and Kaspersky in the top four.

Major products for mobiles were reviewed by AV-Comparatives in a report³ in 2019.

AV-Comparatives offers a free scan service (AVC UnDroid) to check Android apps for suspicious traits. It is located at <https://www.av-comparatives.org/specials/undroid/>

³ <https://www.av-comparatives.org/testmethod/mobile-security-reviews/>

9. Which desktop anti-malware security solution do you primarily use?

Worldwide, the twelve manufacturers of anti-malware products for Windows platforms most commonly used by survey participants are (in this order): Kaspersky, Microsoft, Bitdefender, ESET, Avast, NortonLifeLock, Avira, F-Secure, McAfee, Panda, AVG and Trend Micro.

On all 4 continents, the same 5 vendors take the top 5 places. These are (alphabetically): Avast, Bitdefender, ESET, Kaspersky and Microsoft. In North America, Microsoft is now clearly the most used AV among the survey participants.

Differences between continents

The table below shows the twelve products most commonly used by survey participants, by continent:

Europe	North America	Asia	South/Central America
1. Kaspersky	1. Microsoft	1. Kaspersky	1. Kaspersky
2. Bitdefender	2. Bitdefender	2. Microsoft	2. Bitdefender
3. Microsoft	3. Kaspersky	3. Bitdefender	3. Microsoft
4. ESET	4. ESET	4. Avast	4. Avast
5. Avast	5. Avast	5. ESET	5. ESET
6. NortonLifeLock	6. NortonLifeLock	6. Avira	6. Avira
7. F-Secure	7. McAfee	7. AVG	7. NortonLifeLock
8. Avira	8. F-Secure	8. K7	8. AVG
9. McAfee	9. Avira	9. AhnLab	9. McAfee
10. Panda	10. MalwareBytes	10. F-Secure	10. Panda
11. Sophos	11. Sophos	11. McAfee	11. Sophos
12. G DATA	12. Webroot	12. Tencent	12. Emsisoft

10. Which CONSUMER/HOME-USER desktop security solutions would you like to see in our yearly public main-test series?

Below are the 15 most-requested consumer/home-user products:

1. Kaspersky
2. Bitdefender
3. ESET
4. Microsoft
5. Avast
6. AVIRA
7. NortonLifeLock
8. McAfee
9. F-Secure
10. Trend Micro
11. Panda
12. AVG
13. G DATA
14. VIPRE
15. Sophos

11. Which BUSINESS/ENTERPRISE desktop security solutions would you like to see in our yearly public main-test series?

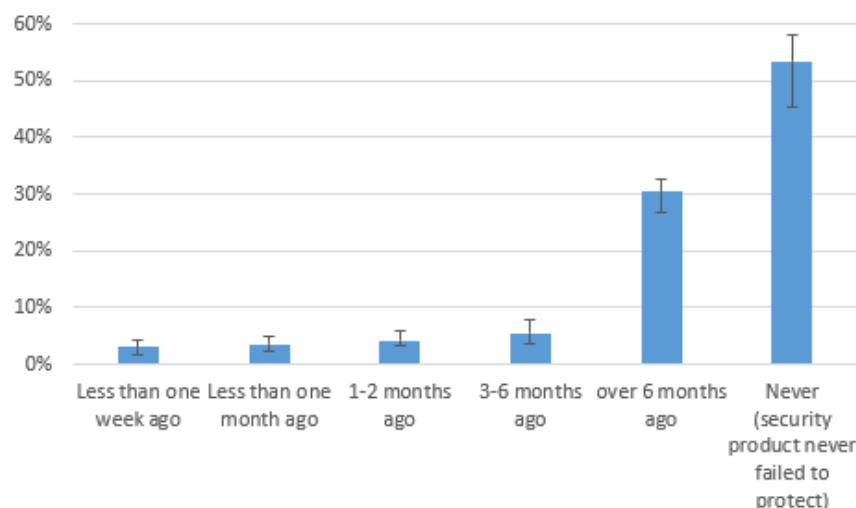
Below are the 20 most-requested business/enterprise products:

- | | |
|----------------|------------------------|
| 1. Kaspersky | 11. CrowdStrike |
| 2. Bitdefender | 12. Panda |
| 3. ESET | 13. Cisco |
| 4. Microsoft | 14. FireEye |
| 5. Symantec | 15. CarbonBlack |
| 6. Avast | 16. Fortinet |
| 7. Sophos | 17. Palo Alto Networks |
| 8. McAfee | 18. SentinelOne |
| 9. Trend Micro | 19. MalwareBytes |
| 10. F-Secure | 20. Cylance |

Most of the popular vendors are usually included in at least some of our public tests and reviews⁴, while most of the other vendors commission separate tests and/or participate privately in certain tests.

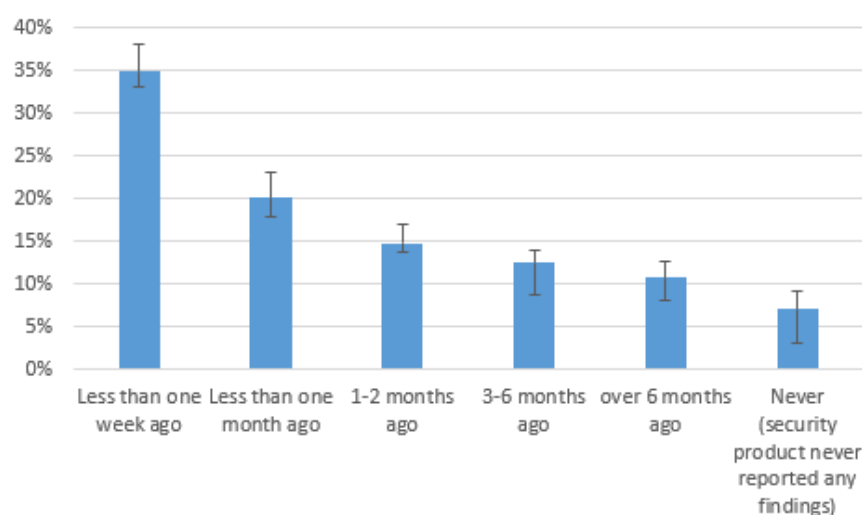
⁴ <https://www.av-comparatives.org/enterprise/>

12. When was the last time that your PC was (unintentionally) infected/compromised by malware (i.e. that your security product failed to stop malware)?



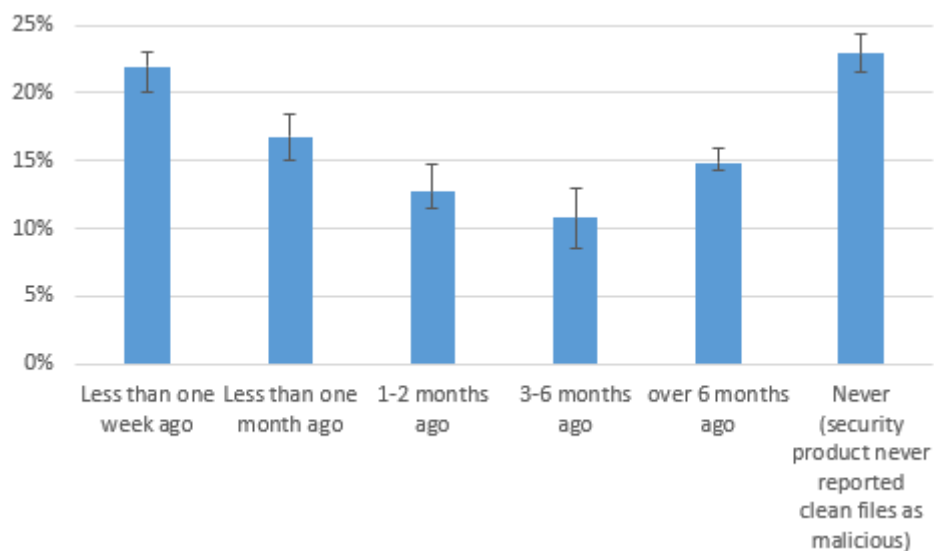
1.6% of respondents stated that their security product failed to protect their system within the last week. Over 89% stated that the last time their security product had failed to protect their system was either over six months ago or not at all.

13. When was the last time your security product found/blocked or warned about a malicious file/website (i.e. that your security product successfully protected your system against a malware attack)?



About a third of the respondents state that less than a week ago they encountered malware and their security product successfully protected their system. Over 10% of users said that the last time their security product appropriately warned of/protected them against malware was over six months ago. About 8% have never had any warnings from their security product.

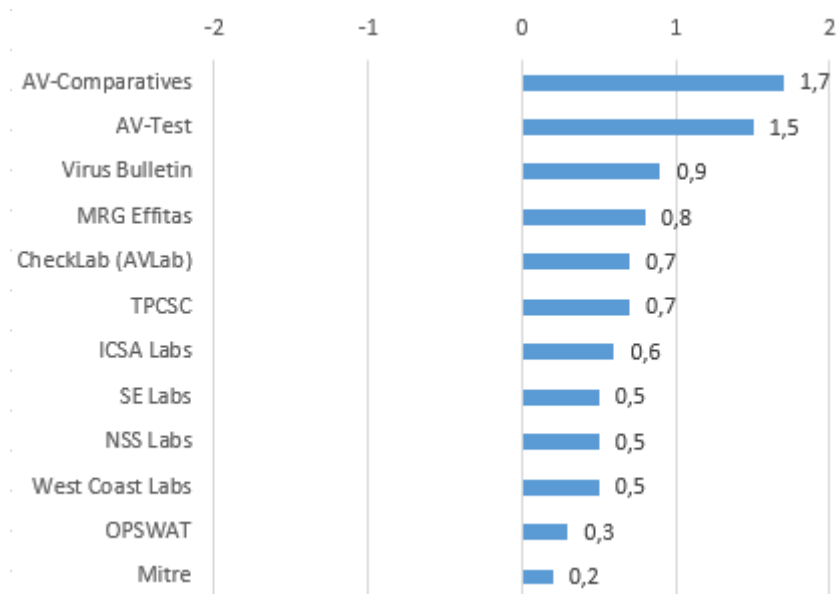
14. When was the last time your desktop security product blocked a file or website which (as far as you know) was NOT malicious, i.e. a false positive / false alarm?



This year the distribution was quite even, showing that false alarms are a common occurrence.

The combined results of questions 12, 13 and 14 may provide some insight into the effectiveness of current security software.

15. Which of the following testing labs are, in your opinion, reliable and trustworthy?



Users had to rate various security product testing labs and institutes by giving a score from -2 to +2, where +2 meant reliable/trustworthy and -2 unreliable/biased. Note that not all respondents were aware of all the labs, so each lab was only rated by those who were aware of it. For more information, please see the next page.

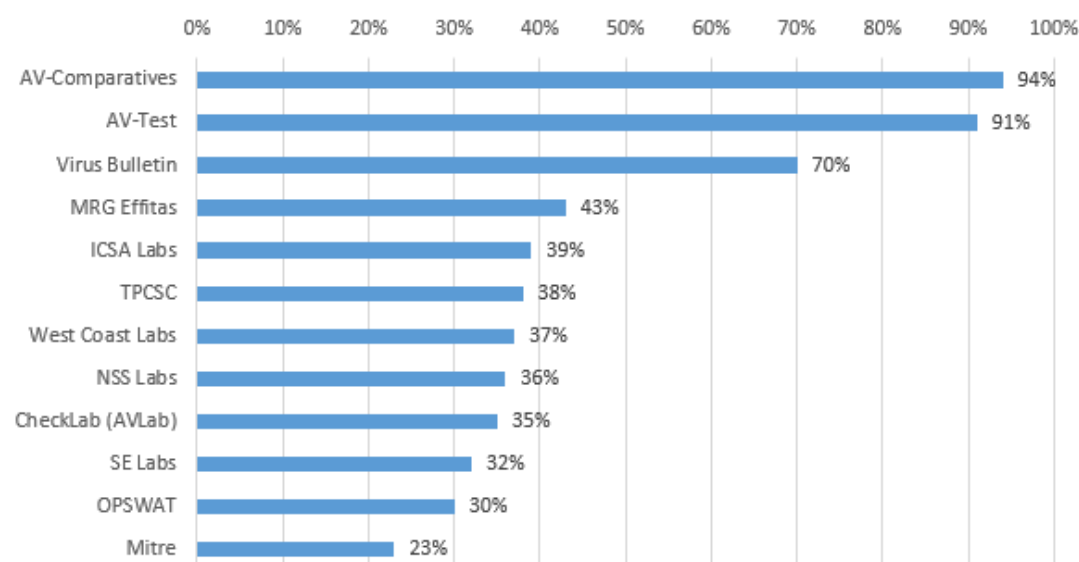
AV-Comparatives and AV-Test reached a score higher than 1. Together with Virus Bulletin, they are the best-known AV testing labs in the world. We hope that our high rating is down to the carefully prepared methodology of our tests, meaningful number of samples, transparency, and freely available test reports, which describe the tests in detail. Our willingness to allow other publications to cite our results (subject to proper attribution) also increases our visibility.

3 testing labs received negative ratings (below 0) by our survey participants. They are not shown on the graph above.

For products that are not tested by us, we recommend our readers to look at the tests done by other well-known testing labs or at least certification bodies. For a list of some other testing labs, go to <http://www.av-comparatives.org/list-of-av-testing-labs/>

Which are the best-known AV testing labs?

We asked which testing labs were known to the survey participants. Obviously, anybody who has seen our website, newsletter or social media accounts will be aware of AV-Comparatives. Consequently, for AV-Comparatives we removed the survey responses that came from via website, our newsletter and our social media accounts, to create a level playing field. Below you can see the percentages of participants that have heard of the respective labs:



Below the testing labs are ranked based on how well they are known on the various continents:

Europe	North America	Asia	South/Central America
1. AV-Comparatives	1. AV-Comparatives	1. AV-Test	1. AV-Comparatives
2. AV-Test	2. AV-Test	2. AV-Comparatives	2. AV-Test
3. Virus Bulletin	3. Virus Bulletin	3. Virus Bulletin	3. Virus Bulletin
4. CheckLab (AVLab)	4. West Coast Labs	4. ICSA Labs	4. ICSA Labs
5. TPCSC	5. ICSA Labs	5. TPCSC	5. MRG Effitas
6. MRG Effitas	6. TPCSC	6. West Coast Labs	6. West Coast Labs
7. SE Labs	7. NSS Labs	7. CheckLab (AVLab)	7. NSS Labs
8. ICSA Labs	8. MRG Effitas	8. OPSWAT	8. OPSWAT
9. West Coast Labs	9. CheckLab (AVLab)	9. MRG Effitas	9. TPCSC
10. NSS Labs	10. Mitre	10. SE Labs	10. CheckLab (AVLab)
11. OPSWAT	11. OPSWAT	11. NSS Labs	11. Mitre
12. Mitre	12. SE Labs	12. Mitre	12. SE Labs

NioGuard, PCSL (Pitci) and SKD Labs are unknown by over 85% all survey participants in all continents and have therefore been removed from the above lists (and will not be included in future surveys).

Please note that not all the testing labs have the same testing focus. That is to say, some may test only business products, others only consumer products; some may only provide certification (i.e. simply verify that products reach a certain minimum level, without providing comparative data); some may limit their tests to products from a particular country or region, or in a certain language.



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For more information about AV-Comparatives and the testing methodologies, please visit our website.

AV-Comparatives
(January 2020)