

Independent Tests of Anti-Virus Software



IT Security Survey 2023

LAST REVISION: 13TH FEBRUARY 2023

WWW.AV-COMPARATIVES.ORG

Security Survey 2023

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: **8th December 2022 – 20th December 2022**

Valid responses of real users: **2,668**

The survey ran for about two weeks. It contained various control questions and checks, which helped us to identify and remove invalid responses.

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

Overview

Internet usage has gone down slightly compared to recent years, where people spend more time online in their free time and working from home due measures against the spread of COVID-19. However, working from home has become the norm for millions of people. Internet usage from mobile devices is also becoming more and more widespread. This combined with a massive increase in cybercrime makes security software for both desktop and mobile operating systems more important than ever.

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

Report results are based on the Internet survey run by AV-Comparatives between 8th December 2022 and 20th December 2022. A total of 2,668 users from around the world answered questions on the subject of IT security.

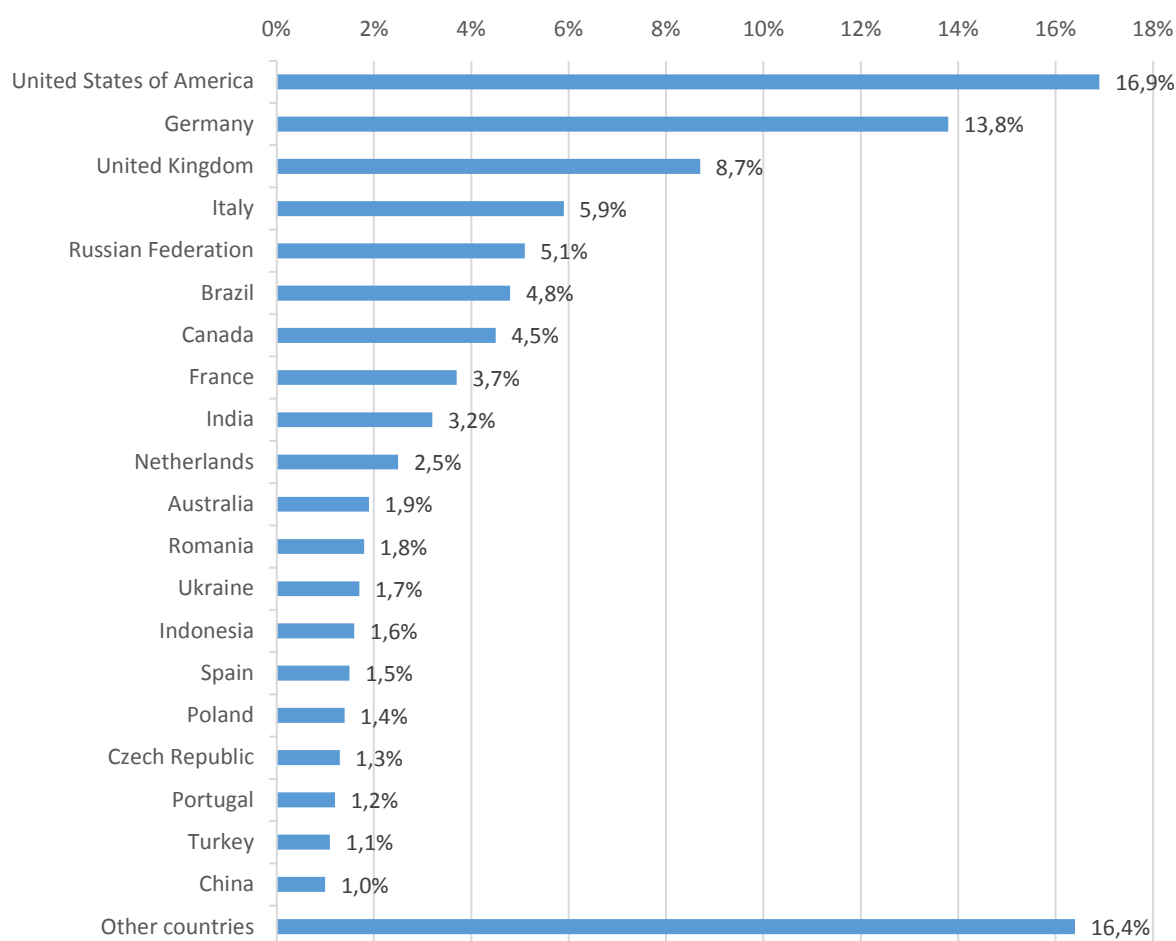
Key Results

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

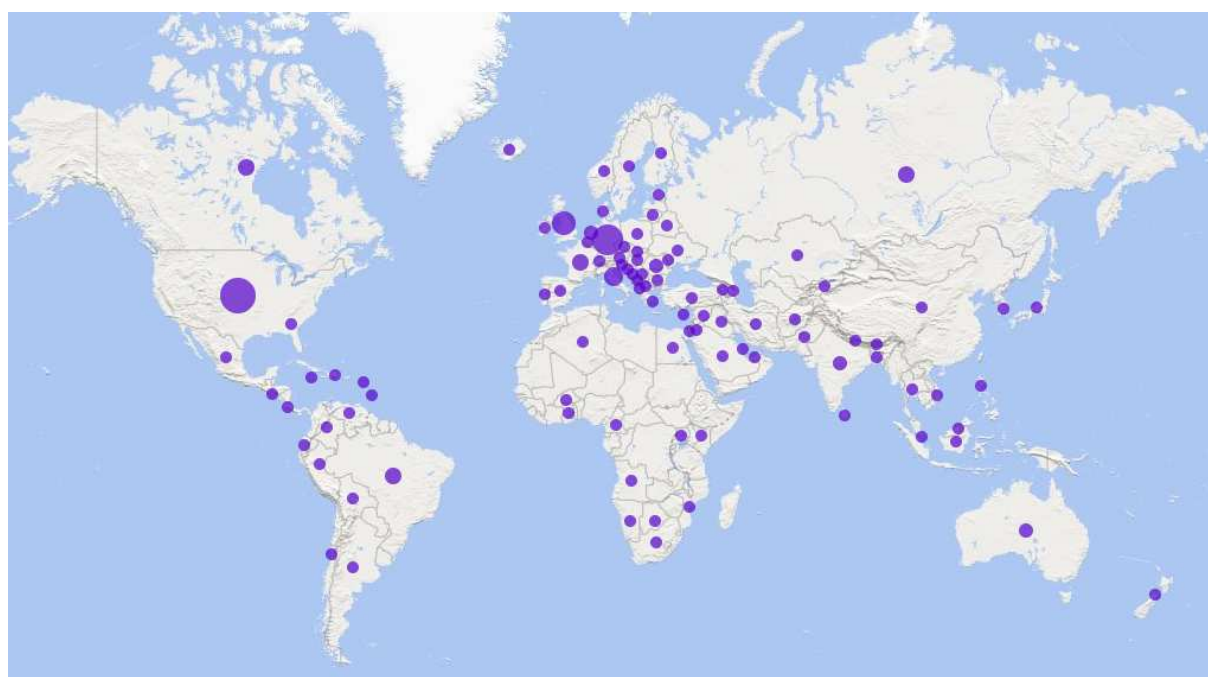
- Windows 10 is still the most used OS with over 50% using it as their primary desktop operating system. However, usage has decreased compared to last year due to the increase of Windows 11 users, with 38% of survey respondents now using this version of Windows.
- With mobile operating systems, there no significant change. Android remains the most popular mobile OS by far, with just shy of three quarters of respondents using it. iOS accounts for almost a quarter of users.
- Compared to previous years there little has changed in browser usage. Google Chrome remains the most widely used browser at about 33%. Mozilla Firefox once again is the second most popular browser among survey participants, with roughly 28% of respondents using it as their browser. Compared to previous years, where its usage was steadily increasing, the percentage of Microsoft Edge users has levelled of. With 18% of respondents using, it as their primary browser, like last year.
- Bitdefender is the most popular mobile security solution overall, with Kaspersky a close second. Bitdefender is the most popular program in both North America and South/Central America. Bitdefender, Kaspersky, ESET and Avast are found in the top four on every continent.
- Kaspersky, Microsoft, Bitdefender and ESET (in this order) are the four most used desktop security products worldwide, and feature in the top five products on every continent.
- Most survey respondents were happy with their current security solution, with 83% stating that they were satisfied or very satisfied.
- Free security programs are more popular with younger respondents, whilst older users are more likely to pay for a security solution.
- Nearly 85% of those surveyed said they will probably or definitely not switch to Windows 11 in the next six months. The two most common reasons given for this is preferring Windows 10 (55%) and missing hardware support and/or software incompatibility (44%).
- Some security testing labs were much better known than others. AV-Comparatives was both the most recognised and the most trusted test lab amongst survey participants. 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 reviews of security products! All AV-Comparatives' public test results are available to everyone free of charge at www.av-comparatives.org

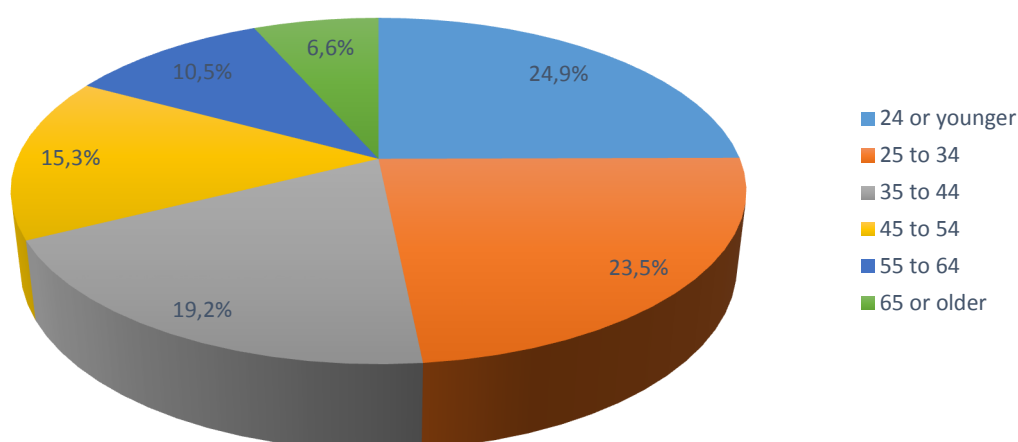
1. Where are you from?



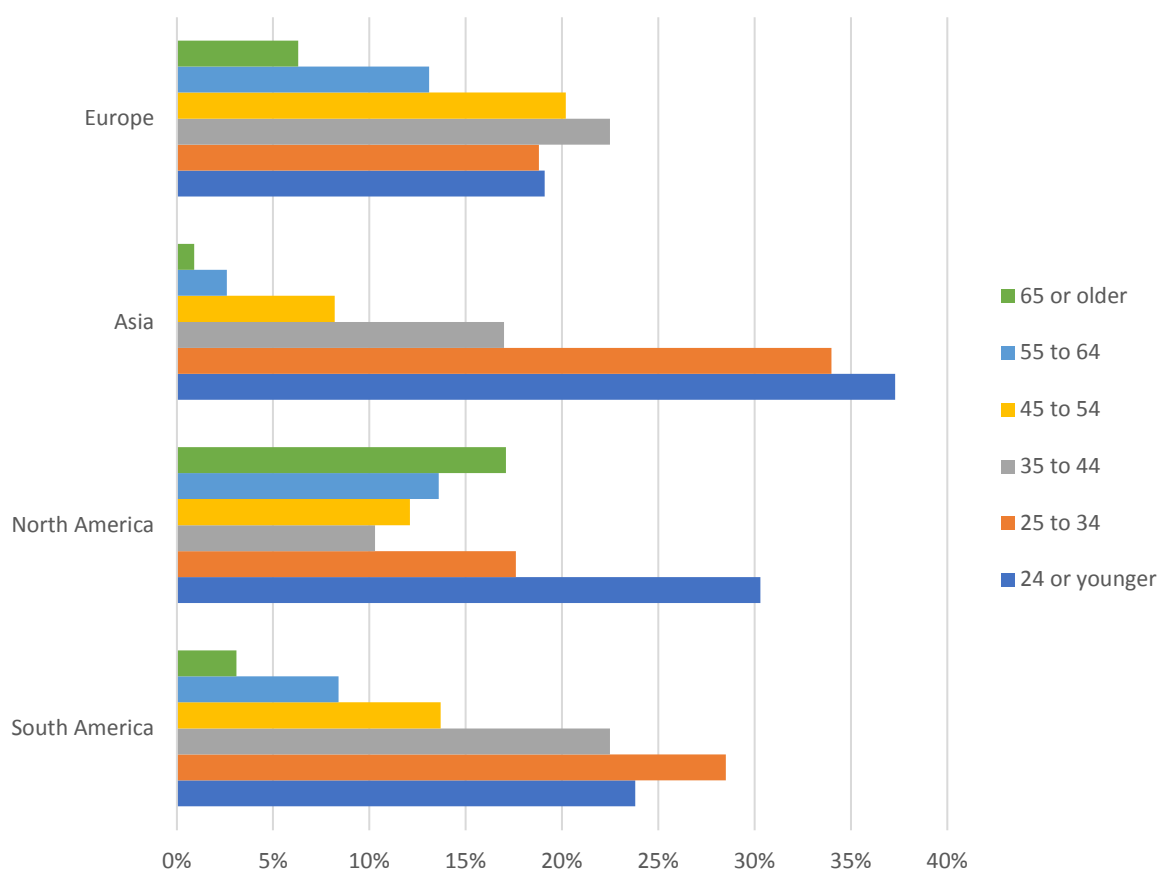
The graph above shows the top 20 countries of origin of our survey participants. Altogether, respondents came from 109 different countries.



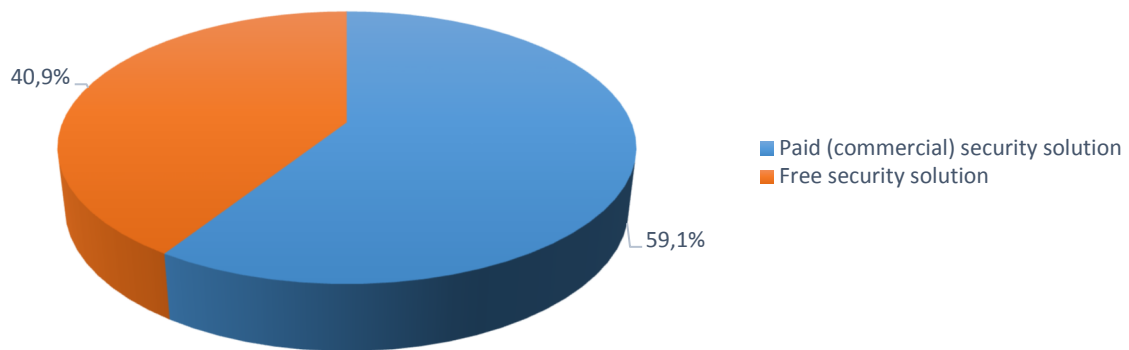
2. What is your age?



Age distribution by continent is shown below. Asia had the youngest respondents, with about 71% being younger than 35. North America had the oldest respondents, with over 30% of them being older than 55 years. South America had about 51% in the 25 to 44 age groups, and Europe had about 43% aged between 35 and 54. This year we had a lot more younger respondents, compared to previous years.

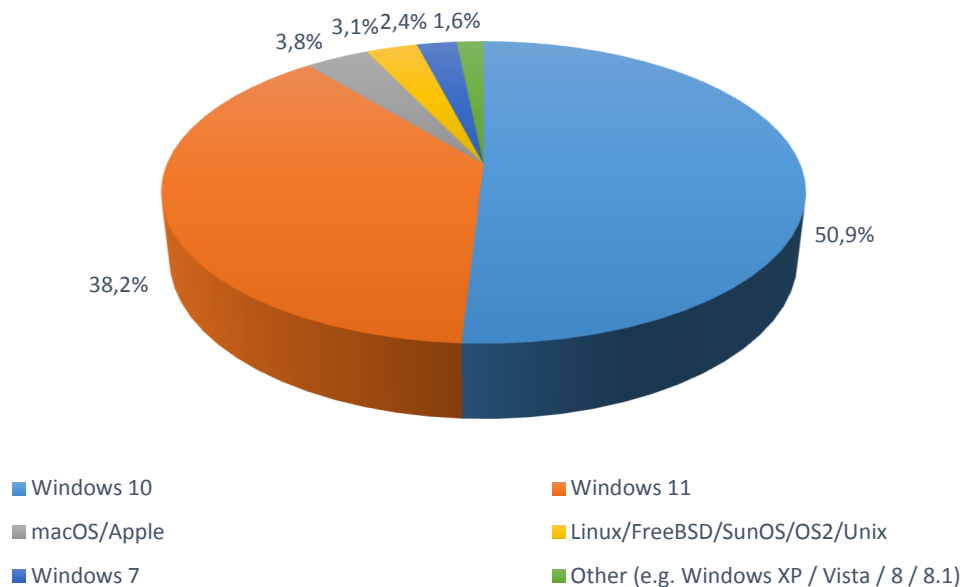


3. Which type of security solution do you primarily use?



About 59% of users pay for a security solution. Free solutions are used more by the younger generation (24 or younger) to about 60%, while of the older generation (above 55), only about 28% use free versions.

4. Which desktop operating system do you primarily use?



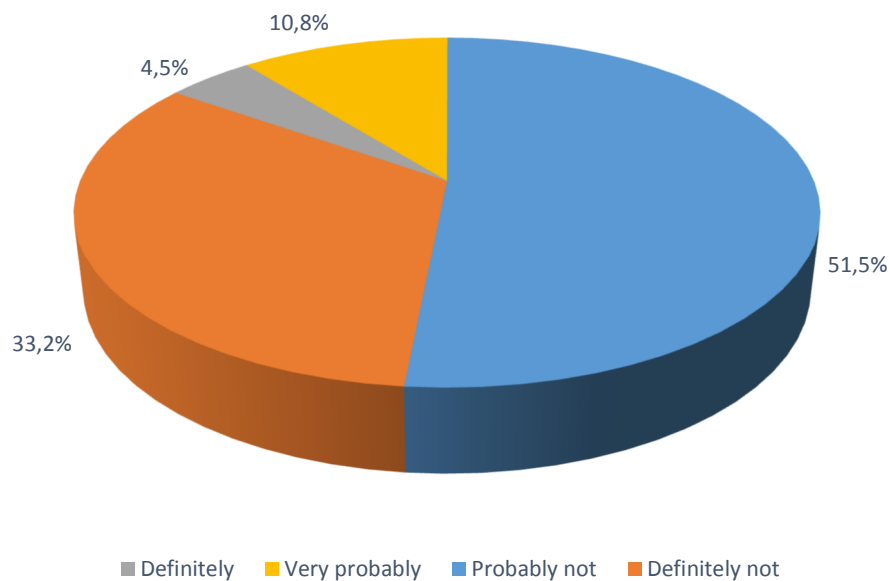
The most widely used operating system amongst respondents is Windows 10, accounting for nearly 51% of the total OS usage. As of January 10th 2023, all Windows version before Windows 10 have reached end of support¹. These Windows versions are used by less than 4% of respondents. About 38% are already using Windows 11. This suggests that the survey's audience might be very tech-oriented, as Windows 11 usage among the general public is only about 17%, according to statistics². Over 3% of respondents use macOS. 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 products³ is available at <https://www.av-comparatives.org/consumer/testmethod/mac-security-reviews/>

¹ <https://www.microsoft.com/en-us/windows/end-of-support>

² <https://gs.statcounter.com/os-version-market-share/windows/desktop/worldwide>

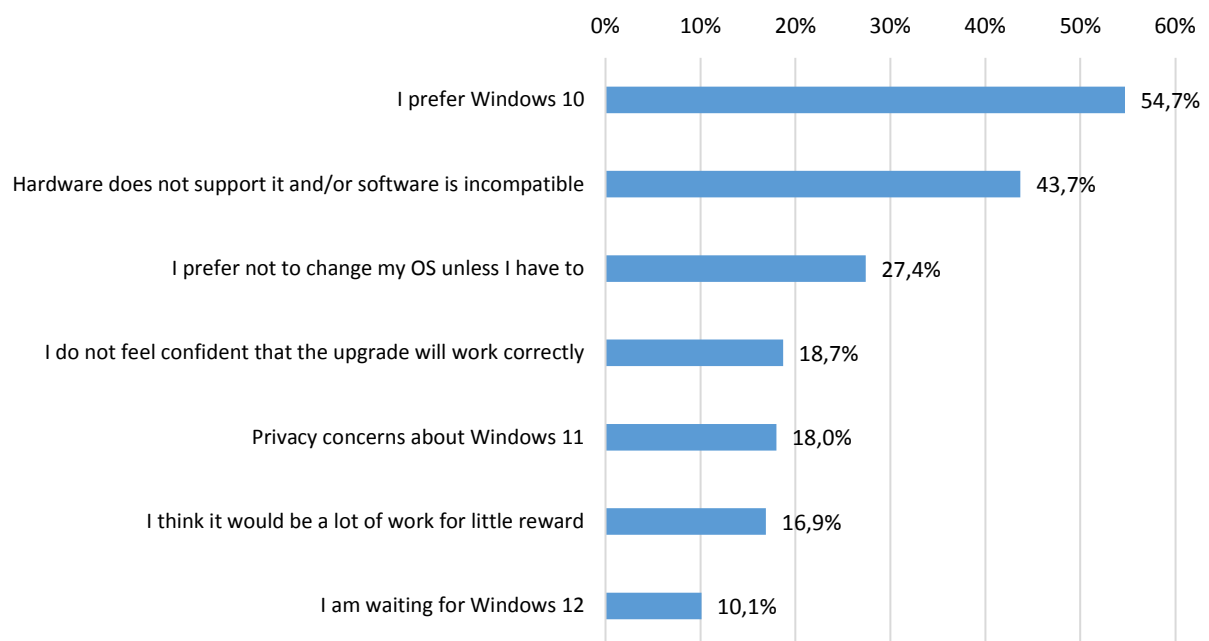
³ A list of Mac security products can be found here: <https://www.av-comparatives.org/list-of-av-vendors-mac/>

5. How likely is it that you will switch to Windows 11 in the next six months?



Nearly 85% of respondents stated, that they will *probably not* or *definitely not* switch to Windows 11 in the next six months.

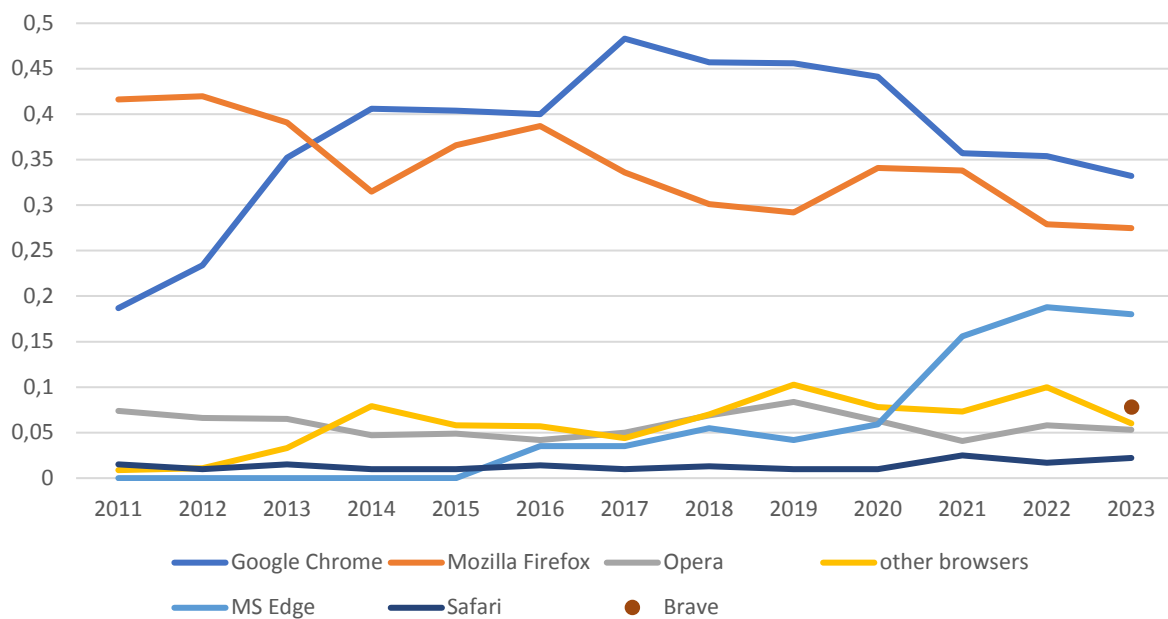
6. What are your main reasons for not switching (multiple answers were possible)?



There are a variety of reasons given for not switching to the newest version of Windows. The most common one, given by 55% of respondents, being that they simply prefer Windows 10. 44% gave hardware and software incompatibility as the reason for not switching.

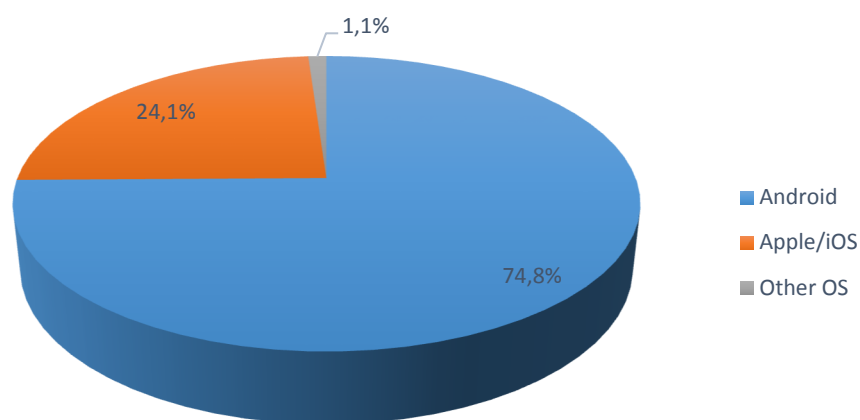
Due to the specific hardware requirements of Windows 11, and with Windows 10 being supported until at least October 2025, it seems that many users don't see much benefit or need for switching to Windows 11 anytime soon.

7. Which browser do you primarily use?



As shown in the diagram, Google Chrome is still the most popular browser amongst survey participants worldwide, with 33.2% of respondents using it. In second place is Mozilla Firefox (27.5%). Microsoft Edge reached the third place with 18.1%. We would encourage AV vendors who use browser plug-ins for their URL-blocking features to make these work for as many browsers as possible, not just the most popular ones. Microsoft Internet Explorer is now defunct and is not shown in the above graph anymore. The Brave browser is a new entry at 7.8%, surpassing Opera and Safari.

8. Which mobile operating system do you use?



Android is the most popular mobile OS among our survey participants, accounting for nearly 75% worldwide. In North America, iOS is more popular than in other regions, accounting for about 37%. In Asia and South America, most users (over 83%) use Android. Our Mobile (Android)⁴ security review/test report is available at <https://www.av-comparatives.org/consumer/testmethod/mobile-security-reviews/>

⁴ An overview of security products for Android can be found here: <https://www.av-comparatives.org/list/mobile-security-vendors-android/>

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

44.5% 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, Norton, AVG, McAfee, Malwarebytes, Sophos and Avira.

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. Kaspersky	1. Kaspersky
2. Kaspersky	2. Kaspersky	2. Bitdefender	2. Bitdefender
3. ESET	3. Malwarebytes	3. Avast	3. ESET
4. Avast	4. Avast	4. ESET	4. Avast
5. Norton	5. ESET	5. Avira	5. AVG
6. F-Secure	6. Lookout	6. Trend Micro	6. McAfee
7. Sophos	7. AVG	7. McAfee	7. Norton
8. AVG	8. Norton	8. Norton	8. Avira
9. McAfee	9. Sophos	9. AVG	9. Malwarebytes
10. Avira	10. McAfee	10. Dr.Web	10. Panda

Avast, Bitdefender, ESET and Kaspersky were the most popular mobile security product in all 4 regions.

Major products for mobiles were reviewed by AV-Comparatives in a report⁵ in 2022.

⁵ <https://www.av-comparatives.org/consumer/testmethod/mobile-security-reviews/>

10. 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, Norton, Malwarebytes, F-Secure, Avira, AVG, McAfee and Panda.

On all 4 continents with significant results, the same 4 vendors can be found in the top 4 places. These are (alphabetically): Bitdefender, ESET, Kaspersky and Microsoft.

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. Bitdefender	1. Kaspersky	1. Kaspersky
2. Microsoft	2. Kaspersky	2. Microsoft	2. Microsoft
3. Bitdefender	3. Microsoft	3. Bitdefender	3. Bitdefender
4. ESET	4. ESET	4. ESET	4. ESET
5. Avast	5. Malwarebytes	5. Avast	5. Avast
6. F-Secure	6. Norton	6. Avira	6. Malwarebytes
7. Norton	7. Avast	7. Norton	7. Norton
8. Malwarebytes	8. AVG	8. Malwarebytes	8. AVG
9. G Data	9. F-Secure	9. McAfee	9. Avira
10. Panda	10. Webroot	10. K7	10. McAfee
11. Avira	11. McAfee	11. AhnLab	11. G Data
12. AVG	12. Sophos	12. Trend Micro	12. Panda

Over 83% of the survey participants are *satisfied* or *very satisfied* with their current security solution.

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

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

1. Kaspersky
2. Bitdefender
3. Microsoft
4. ESET
5. Avast
6. Avira
7. Norton
8. F-Secure
9. Malwarebytes
10. McAfee
11. Trend Micro
12. G Data
13. Sophos
14. Panda
15. AVG

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

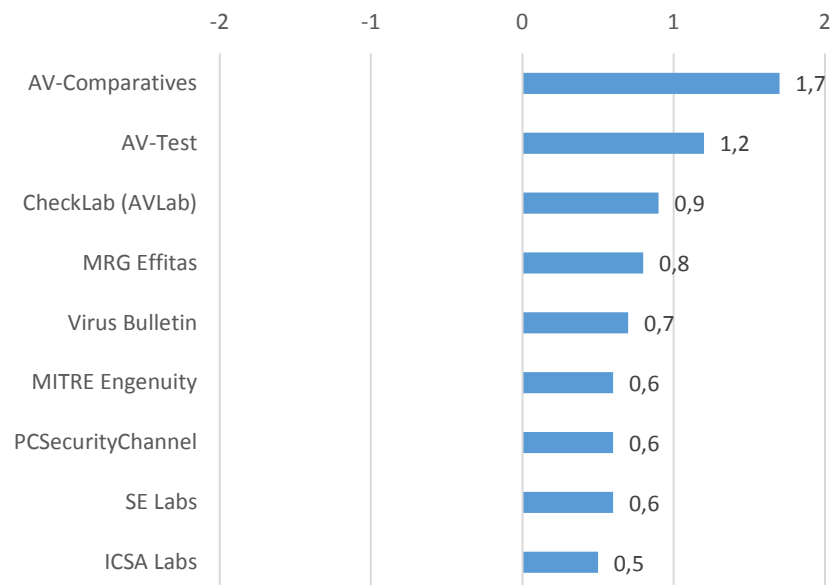
Below are the 20 most-requested business/enterprise products:

- | | |
|------------------|-------------------------|
| 1. Kaspersky | 11. Trend Micro |
| 2. Bitdefender | 12. Fortinet |
| 3. ESET | 13. Symantec (Broadcom) |
| 4. Microsoft | 14. G Data |
| 5. Avast | 15. Check Point |
| 6. Sophos | 16. VMware CarbonBlack |
| 7. CISCO | 17. Palo Alto Networks |
| 8. CrowdStrike | 18. WatchGuard (Panda) |
| 9. Trellix | 19. VIPRE |
| 10. Malwarebytes | 20. Acronis |

Most of the popular vendors are usually included in at least some of our public tests and reviews⁶, while most of the other vendors commission separate tests and/or participate privately in certain tests.

⁶ Consumer: <https://www.av-comparatives.org/consumer/>
Enterprise: <https://www.av-comparatives.org/enterprise/>

13. 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. The chart above only shows labs which were known by 70% or more of respondents.

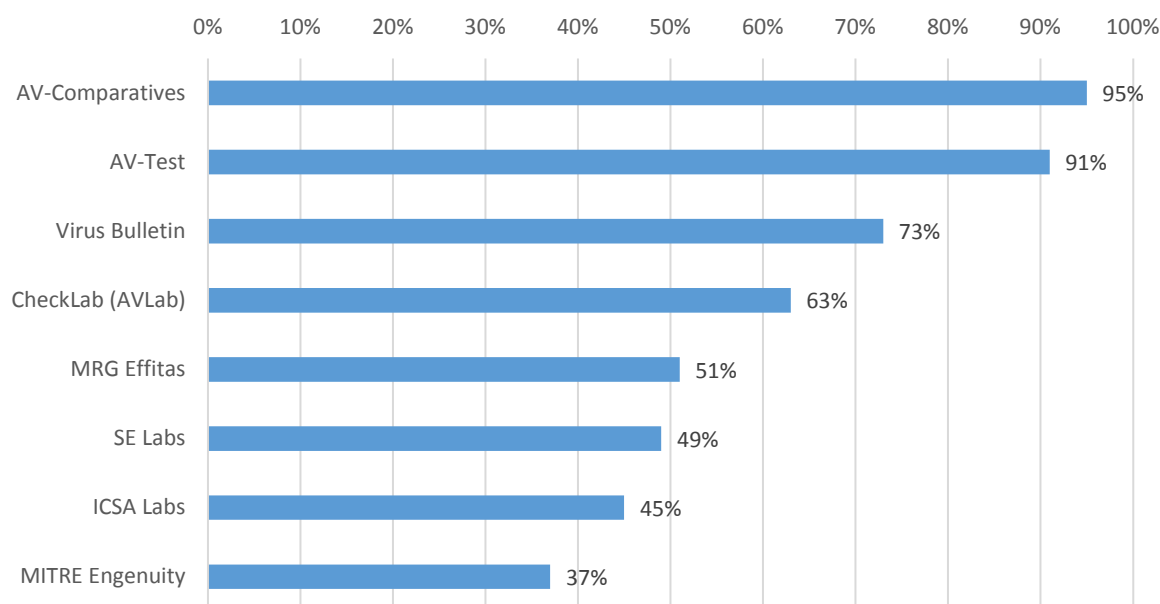
Only AV-Comparatives and AV-Test reached a score higher than 1. We hope that our high rating is down to the carefully prepared methodology of our tests, meaningful number of samples, transparency, and freely available test reports, which describe the tests in detail. Our willingness to allow other publications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

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/>

14. 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 tried to remove the survey responses that came directly from our website, our newsletter and our social media accounts, in order to create a level playing field. Testers that were unknown by over 70% all survey participants have been removed from the results shown below.

Below you can see the percentages of participants that have heard of the respective labs:



AV-Comparatives and AV-Test are the best-known labs overall, and in each of the four regions.

The table below ranks the testing labs based on how well they are known on each continent:

Europe	North America	Asia	South/Central America
1. AV-Comparatives	1. AV-Comparatives	1. AV-Comparatives	1. AV-Comparatives
2. AV-Test	2. AV-Test	2. AV-Test	2. AV-Test
3. Virus Bulletin	3. Virus Bulletin	3. Virus Bulletin	3. Virus Bulletin
4. CheckLab (AVLab)	4. CheckLab (AVLab)	4. CheckLab (AVLab)	4. CheckLab (AVLab)
5. MRG Effitas	5. MRG Effitas	5. PCSecurityChannel	5. MRG Effitas
6. SE Labs	6. PCSecurityChannel	6. MRG Effitas	6. PCSecurityChannel
7. ICSA Labs	7. MITRE Engenuity	7. SE Labs	7. ICSA Labs
8. MITRE Engenuity	8. ICSA Labs	8. MITRE Engenuity	8. SE Labs

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. MITRE seems to almost unknown in South America.

Please note, that while 45% of the participants have heard of ICSA Labs, this AV testing lab is now defunct.

15. Which of the following AV-Comparatives' test reports have you seen in the last 2 years? (multiple answers were possible)

Consumer	Enterprise
1. Malware Protection Test	1. ATP Test
2. Real-World Protection Test	2. EPR Test
3. ATP Test	3. Enterprise Summary Report
4. Performance Test	4. Single Product Tests
5. Anti-Phishing Test	5. LSASS Test
6. Mobile Test	
7. False-Positives Test	
8. Consumer Summary Report	
9. VPN Test	
10. Single Product Tests	
11. Mac Test	
12. Parental Control Test	
13. Stalkerware Test	
14. Uninstall Test	

The table above shows which of AV-Comparatives' test reports were seen by the respondents in the last two years. The tests are split into consumer and enterprise tests and are ordered by popularity. The Enterprise Report and the Consumer Summary Report also contain the Real-World Protection Test, the Malware Protection Test, the Performance Test, the False-Positives Test, and single product reviews.

16. Which of these are of the most interest to you, and why?

Users responded, that the [Real-World Protection Test](#), [Advanced Threat Protection](#), [Malware Protection](#), [Performance](#) and [False Positive](#) Tests are the most relevant tests for them. All of these tests are part of our main-test series (although the [Advanced Threat Protection](#) Test is an optional test). [False Alarm](#) Tests are included in all protection tests.



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

AV-Comparatives
(February 2023)