

## Anniversary Report



# 10 years of AV-Comparatives

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[www.av-comparatives.org](http://www.av-comparatives.org)

# Happy Birthday!

## How AV-Comparatives began

Many computer users realise the importance of effective virus protection when their own computer becomes infected. So it was with Andreas Clementi<sup>1</sup>, whose PC was hit by the “November 17” virus – Nov\_17.855 – in 1993. In 1999, Andreas was able to start testing different antivirus products as a student project at the University of Innsbruck. Later he met Peter Stelzhammer<sup>2</sup>, and together they started publishing the results of the tests at [www.av-comparatives.org](http://www.av-comparatives.org)<sup>3</sup>.

## Participants

In total, 36 different vendors have been part of our public main-test series over the years . We have so far not been able to include some other products due to competition for places. Our aim is to test 16-20 products, although in recent years we have allowed over 20 to participate, as our readers and magazines asked for more information.<sup>4</sup>

Product	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Avast	•	•	•	•	•	•	•	•	•	•	•	•
AVIRA	•	•	•	•	•	•	•	•	•	•	•	•
Bitdefender	•	•	•	•	•	•	•	•	•	•	•	•
ESET	•	•	•	•	•	•	•	•	•	•	•	•
Kaspersky Lab	•	•	•	•	•	•	•	•	•	•	•	•
McAfee	•	•	•	•	•	•	•	•	•	•	•	•
AVG		•	•	•	•	•	•	•	•	•	•	•
F-Secure			•	•	•	•	•	•	•	•	•	•
Sophos	•	•			•	•	•	•	•	•	•	•
eScan				•	•	•	•	•	•	•	•	•
Microsoft				•	•	•	•	•	•	•	•	•
G DATA			•	•	•	•	•	•	•	•		
Symantec	•	•	•	•	•	•	•	•				
Trend Micro	•	•					•	•	•	•	•	•
Panda	•						•	•	•	•	•	•
TrustPort			•	•	•	•	•					
Fortinet				•					•	•	•	•
BullGuard									•	•	•	•
Dr.Web	•	•	•	•								
Kingsoft						•	•			•	•	
Qihoo 360								•	•	•	•	
Tencent									•	•	•	•
ThreatTrack Vipre									•	•	•	•
AhnLab									•	•	•	
Emsisoft										•	•	•
Baidu											•	•
Lavasoft											•	•
K7							•	•				
VBA32			•		•							
Webroot								•	•			
QuickHeal												•
Norman			•	•	•	•	•					
F-Prot	•	•	•	•								
PC Tools							•	•	•			
GeCAD	•	•										

<sup>1</sup> <https://www.linkedin.com/in/andreasclimenti/>

<sup>2</sup> <https://www.linkedin.com/in/peterstelzhammer/>

<sup>3</sup> <https://www.linkedin.com/company/217284>

<sup>4</sup> Some of the products we have previously tested have now ceased to exist, or have been merged with other vendors (shown at the bottom of the table in light grey). Others have been suspended for various reasons.

## 10-Year Participation Award

The manufacturers **Avast**, **AVG**, **Avira**, **Bitdefender**, **ESET**, **F-Secure**, **Kaspersky Lab** and **McAfee** have participated continuously in our public main-test series. We would like to congratulate them on their ongoing commitment to product improvement. This sometimes involves accepting a less than perfect result, but leads to better products and better protection for the consumer.

We are delighted to give these eight vendors our **10-Year Participation Award**.



Here's what the eight vendors have to say about us:

**Avast:** *"For the past ten years, AV-Comparatives has delivered valuable insights and transparency both for security vendors, giving them a competitive market comparison, and for customers, by providing them with important information they need to choose the right AV vendor for their needs. The overview AV-Comparatives provides is vital for us and the industry as a whole. We look forward to working with AV-Comparatives for many more years to come and congratulate them on their anniversary."*

**AVG:** *"Over the last ten years, we have worked closely with AV-Comparatives for their benchmark test as part of our commitment to assuring our customers of the quality of our products. In my additional capacity as an AMTSO (Anti-Malware Testing Standards Organization) Executive Team member, I am focused on increasing the recognition of these tests within our industry and the importance of having a consistent approach to all tests. Not only does this help our users make informed decisions about the products they select, it also ensures that we, as providers of those products, continue to be rigorous in our product innovation and development strategy. We are delighted to be a part of AV-Comparatives 10-year testing milestone and look forward to continuing this partnership." Tony Anscombe, Vice President of Compliance, AVG Technologies*

**Avira:** *"It is amazing how many professional tests the guys from AV-Comparatives have already conducted in the past ten years. We are proud to have been tested since the beginning."*

**Bitdefender:** *"A full decade of testing of Bitdefender products has proven that AV-Comparatives test results are a highly accurate measure of quality. The staff is of the highest quality and the analysis has been helpful to Bitdefender experts on many occasions. This quality and dedication has remained true throughout the years and through massive changes in the industry - the advent of ever-more sophisticated malware, the arrival of mobile Internet and the smartphone and more."*

**ESET:** *“ESET would like to congratulate AV-Comparatives on their 10<sup>th</sup> anniversary. Over the last decade, they have continuously worked on improving their testing methodology in order to provide meaningful and relevant tests, and have become one of the leading security-software testing labs in the world.”*

**F-Secure:** *“We are happy to have been part of AV-Comparatives’ tests more or less since day one. We want to provide our customers with the best protection against malware, and have continuously improved our products with the help of tests such as AV-Comparatives’.”*

**Kaspersky Lab:** *“We value the productive feedback we have had from AV-Comparatives over many years, and use this to help enhance our protection technologies to the point where we deservedly receive top ratings. This independent and highly professional research team at AV-Comparatives also provides an important service to users, helping them to choose the best protection solutions.”*

**McAfee / Intel Security:** *“There are many testers in the world but the number of high quality testers can be counted on the fingers of one hand. AV-Comparatives in Austria is one such tester. Over the years they have continued to challenge security vendors with tests that amplify the customer’s voice in highlighting strengths and weaknesses across protection, performance and usability. We are grateful for the robust debates that they have engaged us in, which have helped drive improvements in the protection and performance of Intel Security/McAfee products.”*

## Website

Our website has evolved considerably over the years. This reflects the fact that we have increased the number and types of tests and reviews we do, and that we try to make all our reports easily accessible to the public. Before the av-comparatives.org website was unveiled to the public in 2004, we had our web space hosted by the University of Innsbruck. It had no graphical interface and was only used for reports stored as text files.

Our first public web page had a relatively simple design, with a single menu column. Five years later, we completely overhauled the website, both graphically and in terms of navigation. The result was a bright, easy-to-read modern design, which allowed for a greater number of reports and reviews. It also enabled us to introduce polls and surveys, and to link with the increasingly popular social networking sites such as Twitter and Facebook.

In 2013, the website was again reworked to provide for new and more comprehensive reports, such as the Proactive/Behavioural Test and the Mac Security Test/Review. Increased use of graphics helped to emphasize our most recent reports. A refinement of this came the following year, with a carousel cycling through our latest reports, and links to our latest news stories.

We hope that the next incarnation of av-comparatives.org will provide readers with even greater accessibility whilst retaining our familiar graphic theme.



2004 - 2008



2009 - 2012



2013 - 2014



2014 - 2015



from 2015

## Tests

AV-Comparatives began with a file-detection test for antivirus products for Microsoft Windows; this relevant test is still carried out today. In 2008, we started including a false-positive test with this, to ensure that products cannot score highly simply by having over-sensitive heuristic settings.

Since 2004, a number of other tests have been added, the most important of which is the Real-World Protection Test. This was first performed in 2010, and has since become the standard by which other such tests are measured. A third protection test is the Proactive Test (run since 2004). This began as a straightforward retrospective heuristic scan test, and evolved to include a proactive test of behavioural protection in which malware is executed.

We also measure how much security software slows down a computer, in our Performance Tests, and how effective different products are at removing malware from an already infected system, in the Removal Test. The Anti-Phishing and Parental Control Tests check how effective security products are at blocking phishing sites and e.g. adult websites, respectively. Two of the reviews mentioned below (Mac OS and Android) also include a malware-protection test, in addition to a number of other specific tests such as the Exploit Test.

TESTS/REVIEWS	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Real-World Protection Tests</b>						•	•	•	•	•	•	•
- incl. False Alarm Tests						•	•	•	•	•	•	•
<b>File Detection Tests</b>	•	•	•	•	•	•	•	•	•	•	•	•
- incl. False Alarm Tests					•	•	•	•	•	•	•	•
- incl. PUA detection Tests	•	•	•	•	•	•	•					
- incl. Scanning Speed Tests	•	•	•	•	•							
- incl. Polymorphic Virus Detection Tests	•	•	•	•	•							
<b>Performance Tests</b>					•	•	•	•	•	•	•	•
<b>Malware Removal Tests</b>						•	•	•	•	•	•	•
<b>Heuristic/Retropective Tests</b>	•	•	•	•	•	•	•	•				
- incl. False Alarm Tests					•	•	•	•				
<b>Proactive/Behavioural Tests</b>									•	•	•	•
- incl. False Alarm Tests									•	•	•	•
<b>Anti-Phishing Tests</b>								•	•	•		•
- incl. False Alarm Tests								•	•	•		•
<b>Summary Reports &amp; Reviews</b>			•	•	•	•	•	•	•	•	•	•
<b>Corporate/Business Reviews</b>						•	•	•	•	•	•	•
<b>Mobile Security Tests &amp; Reviews</b>							•	•	•	•	•	•
<b>Mac Security Tests &amp; Reviews</b>									•	•	•	•
<b>Linux Tests &amp; Reviews</b>												•
<b>Firewall Tests &amp; Reviews</b>											•	•
<b>Parental Control Tests &amp; Reviews</b>											•	•
<b>Exploit Tests</b>											•	•
<b>Single Product Tests &amp; Reviews</b>	•	•	•	•	•	•	•	•	•	•	•	•

## Reviews and Reports

In addition to testing the effectiveness of products, AV-Comparatives also review the features and user interfaces of a number of security products. The end-of-year Summary Report includes an ease-of-use review for all the (consumer) security products for Microsoft Windows included in our main test-series. We also publish reviews of antivirus products for Windows business systems, Apple’s Mac OS, Linux and the Android operating systems, covering user interface and features.

## Staff

AV-Comparatives was started by Andreas Clementi. He was later joined by Peter Stelzhammer, and the institute's staff has been growing ever since. There are now a dozen permanent staff members (nearly all graduates), enabling AV-Comparatives to perfect and expand its range of tests and reviews. We are a really multinational team, with colleagues from five different nations working in our Innsbruck office. Our work is also supported by a number of volunteers from more than 20 countries and 8 different universities, whose contribution is invaluable.

## Funding and Partners

As an institute that works for the common good, AV-Comparatives is supported by numerous academic and public bodies, including the following:

- The State of Austria
- The European Union
- Laura Bassi Center of Expertise, Innsbruck
- University of Innsbruck, Research Group for Databases and Information Systems
- University of Innsbruck, Research Group Quality Engineering
- University of Innsbruck (IT Security Lab)
- Hong Kong University of Science and Technology
- National Taiwan University of Science and Technology
- Brandeis University Massachusetts, Computer Science Department
- Management Center Innsbruck

As the operation of AV-Comparatives is subsidised, test fees for manufacturers are kept low, meaning that smaller vendors can afford to participate. All manufacturers pay the same fee, ensuring absolute neutrality.

## Thanks

We would not have been able to get as far as we have without the competence and dedication of our staff, or the excellent co-operation with research institutes and all other partners.

## Headquarters

Our office is situated in the Tyrolean capital of Innsbruck, a beautiful and historic city with spectacular views of the mountains. (© Tourismusverband Innsbruck)



## Notes and publishing magazines

AV-Comparatives' test results are used by nearly all major IT security magazines, also by the analysts at the research companies Gartner, Forrester etc., and are often quoted by antivirus vendors. Some AVC publications are used as standard reference texts at universities. We aim to be as open as possible, and so vendors and media can visit our offices and observe tests being carried out.

Some tests are regularly commissioned/published by specialist IT magazines: Computerbild, c't magazin, Chip, PCgo, PC Magazin and many more.

## Memberships

AV-Comparatives is a member of several organisations, including: Anti-Malware Testing Standards Organisation (AMTSO); European Expert Group for IT Security (EICAR) and Working Group 2; Association of AntiVirus Asia Researchers (AVAR), Institute of Electrical and Electronics Engineers (IEEE).

## Certifications

AV-Comparatives is an ISO 9001 certified organisation. We received the certificate of TÜV Austria for our management system for the scope "Independent Tests of Anti-Virus Software", which is recertified every year.



## Awards

AV-Comparatives and its test methodologies have been awarded several times in the past years.

- **Constantinus Award** for Computer Science and Special Award International Project – given by the Professional Association of Management Consultancy and Information Technology
- **Cluster Award** – given by the Standortagentur Tirol for the best IT innovation of the year
- **Austrian eAward** – given by the Office of the Federal Chancellor
- **Innovationspreis IT** - "Best Of" – given by Initiative Mittelstand Germany
- **Best Paper Award** at Malware Conference

## Conferences

Attending conferences is important for us, as it allows us to network with colleagues in the field of IT security networking. We frequently give presentations - sometimes in cooperation with our partner universities - and are able to keep our finger on the pulse of developments in the field. Conferences regularly attended include the following: Virus Bulletin\*, BlackHat, DefCon, FIRST, MalCon\*, AMTSO\*, EICAR\*, AVAR\*, RSA, CARO, InfoSecurity, SourceConference\*, WATeR\*, and BSides\* (\* as speakers).

## Comparison of comparative antivirus testing labs

AV-Comparatives is one of a number of labs<sup>5</sup> worldwide which perform comparative antivirus testing – that is to say, they rate the tested products relative to one another, rather than simply providing a certification pass or fail. As of December 2014, the numbers of tests conducted, products tested and sample sizes were (according to the labs' own websites) as follows:

Comparative Testing Lab	Real-World Protection Test	No. of test cases/month (approx.)	File Detection Test	No. of test cases (approx.)	Performance Test	Behavioural Test	Malware Removal Test	Vendors tested (approx.)	ISO certified
AV Comparatives	✓	750	✓	125,000	✓	✓	✓	25	✓
AV-Test	✓	75	✓	12,500	✓	✗	✓	25	✗
Dennis Technology Labs	✓	50	✗	N/A	✗	✗	✗	10	✗
PC Security Labs	✓	N/A	✓	20,000	✓	✓	✗	25	✗
Virus Bulletin	✗	N/A	✓	125,000	✓	✗	✗	50	✗

AV-Comparatives recognises that constant development of anti-malware testing is necessary in order to remain relevant; testing labs should continuously improve their testing procedures in order to keep up with the rapid changes in malware and the corresponding development of security products.

<sup>5</sup> <http://www.av-comparatives.org/list-of-av-testing-labs/>

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

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