



# 2020 Common Criteria Statistics Report





**jtsec**

BEYOND IT SECURITY

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# WHO WHO WE ARE



**jtsec** is a company that offers **security evaluation and consultancy** services following the most recognized certifications and standards of the sector (LINCE, PCI-PTS, PCI-CPoC, Common Criteria, FIPS 140-2 or FIPS140-3 etc.) with a customer centric approach.

**jtsec** is made up of a team of recognized professionals in the IT security sector. One of **jtsec's** main strengths is its ability to innovate in the area of cybersecurity, **developing unique tools** that help the market to smooth the processes of cybersecurity certifications.

**jtsec** is a reference in the standardization. Being part of different working groups in charge of developing cybersecurity standards, such as ENISA SOG IS successor scheme, IACS, CTN 320 or SCCG, among others.

# VALUES WHY WE EXIST

## TOP NOTCH EXPERTS

We support you using our **innovative and exclusive framework** automatizing the process and saving time and money.



## YOU ARE UNIQUE

**Feel part of our family!** Our customers do not face unexpected surprises. From day one, you will know how much the project will cost and that is what you will pay at the end.



## TIME TO MARKET

We assure **NO delays!** We are determined to solve your problems, not to create new ones. For every evaluation project, we have an extra engineer available to ensure that the schedule is met.



# Introduction

## *Why this report?*

Historically, the Common Criteria Portal web (<https://www.commoncriteriaportal.org>) has contained the list of evaluated products. Each Certification Body is responsible for sending each new certified product to the web, along with its Certification Report and Security Target.

All this information is provided on the web, which even provides a Statistics section. This section, however, provides no graphical representation of the numbers and there is room for improvement regarding, for example, the evaluation laboratory, evaluation trends regarding the type of products certified (a categorization is provided, but it does not reflect state-of-art in security products) and other things, so we thought that an “all-in-one” report would be great for the Common Criteria community!

During the past 17<sup>th</sup> Common Criteria Conference that took place in Amsterdam in 2018, our team presented a tool that could bring a breath of fresh air to this scenario. The tool was improved during 2019 and we managed to make it better, presenting the improvements in the 18<sup>th</sup> Common Criteria Conference in Singapore, during October 2019. Last year we showed this tool in the ICC2020 with the talk “2020 Statistics Report. Is the industry surviving to lockdown?”

## *How it is created?*

CC Scraper is a python script that analyses automatically the information from the CC portal using OCR capabilities, pdf reading and other features providing a comprehensive statistics report of the CC certifications.

The current version still depends on Common Criteria portal contents, and therefore a mismatch between each CB certified products and the statistics shown in this report may appear if the Certification Bodies do not timely send new updates to the web or the webmaster does not update the product list.

CC Scraper outputs a CSV file from where this report is semi-automatically created.

## *Contribute!*

Feel free to share the results shown in this report, and do not hesitate to tell us any error that you find, we will correct it as soon as possible.

If you want to know a specific statistic or you think that it could be interesting for the community, please share it with us and we will include it in next versions of this report.

# Research & Collaboration

At jtsec, we have always believed in innovation and collaboration in the field of cybersecurity. We are true experts in the Common Criteria methodology. We have been working more than 14 years in the methodology. We are program director of ICCC (International Common Criteria Conference), active editors of the methodology in ISO, only Spanish member of the EUCC Ad-hoc WG (European Common Criteria Scheme) and members of the SCCG being advisors of the European Commission in Cybersecurity Certification.

Some of the most important [examples of talks](#) related to the CC Methodology are here:

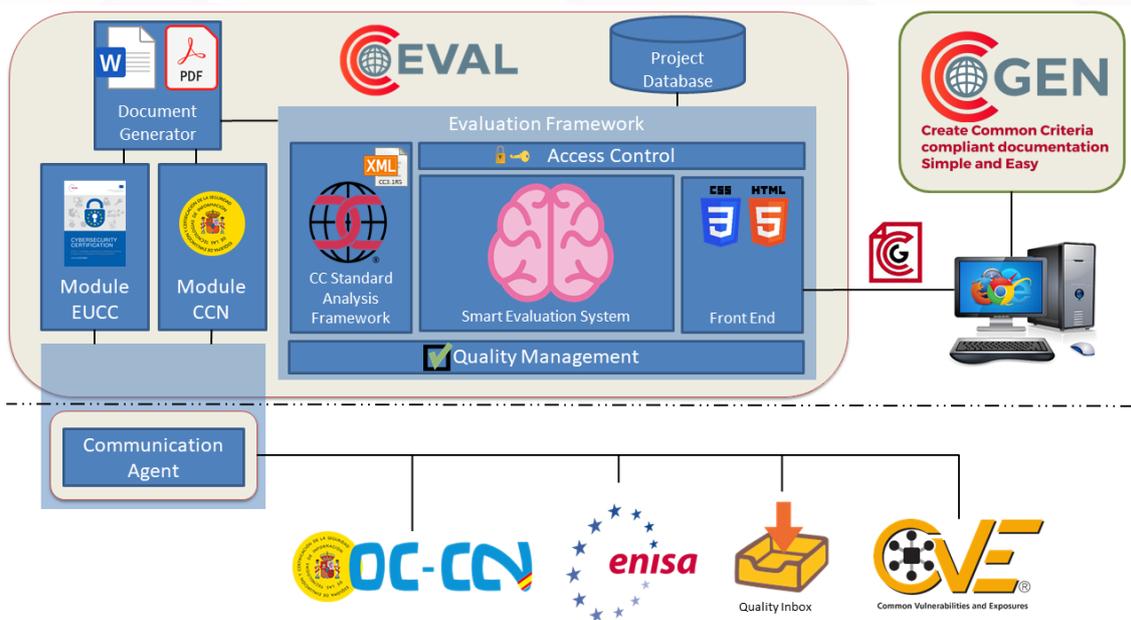
- (EN) ICCC 2020 [2020], "*Industrial Automation Control Systems Cybersecurity Certification - Chapter II*"
- (EN) ICCC 2020 [2020], "*2020 Statistics Report. Is the industry surviving to lockdown?*"
- (EN) ICCC 2020 [2020], "*Towards creating an Extension for Patch Management for ISO/IEC 15408 & 18045*"
- (EN) 18th CCUF Workshop [2020], "*Creating cPPs with CCGen*" :
- (EN) Paris - SC 27 / WG3 meeting [2019], "*Contribution on SP for Evaluation criteria for connected vehicle information security based on ISO/IEC 15408*" :
- (EN) Paris - SC 27 / WG3 meeting [2019], "*Patch Management in ISO/IEC15408 & ISO/IEC18045*"
- (ES) ICCC 2019 Singapur [2019], "*2019 Statistics Report. What's Happening in the Common Criteria World?*"
- (EN) International Common Criteria Conference 2019 [2019], "*Industrial Automation Control Systems Cybersecurity Certification Is CC the Answer?*"
- (EN) XVII International Common Criteria Conference. Amsterdam [2018], "*Full Common Criteria Statistics Report with CC Scrapper*" :
- (EN) XVII International Common Criteria Conference. Amsterdam [2018], "*Using Common Criteria for procurement - International Procurement Initiatives*"
- (EN) ICMC18 International Cryptographic Module Conference. Canada [2018], "*Spanish Catalogue of Qualified Products: A New Way Of Using CC For Procurement*"
- (EN) Common Criteria Users Forum. Amsterdam [2018], "*High EALs, Lightweight Certifications, Low EALs, cPPs - European and American View - Do we understand each other?*"
- (ES) ICMC16 International Cryptographic Module Conference. Canada [2016], "*Testing Fault Injection and Side Channel in FIPS: Vision of a Smart Card Laboratory*"
- (EN) XVI International Common Criteria Conference. UK [2015], "*Is CC ready to lead the future of mobile Security?*"
- (EN) XIV International Common Criteria Conference. USA [2013], "*Lower EALs Evaluations: Are you kidding me?*"
- (EN) XI International Common Criteria Conference. Turkey [2010], "*Overflowing attack potential: scoring defence-in-depth*"
- (EN) XI International Common Criteria Conference. Turkey [2010], "*Evaluating a watermelon: mitigating the threats through the operational environment*"
- (EN) X International Common Criteria Conference. Norway [2009], "*Vulnerability Analysis Taxonomy: Achieving completeness in a systematic way*"
- (EN) X International Common Criteria Conference. Norway [2009], "*The public domain and the CEM attack potential mismatch*"

jtsec belongs actively to the following associations:



# Other Common Criteria tools

CCScraper is not the only tool for Common Criteria developed by jtsec. We have created CCToolBox which is composed of two tools: CCGen and CCEval. CCGen allows generating all the CC evidences and CCEval allows jtsec to speed up and smooth the evaluation. CCToolBox is a web-based tool framework using the most advanced state-of-art web technologies like HTML5, CSS3 and AngularJS.



## CCGen:

One of the most problematic issues one may find during the CC documentation creation phase is the constant reappearance of inconsistencies (for example, changing the name of an SFR iteration, the name of an objective or the code of a test). Consultants can lose lot of time, avoiding inconsistencies instead of employ it in creating quality documentation that eases the understanding of the product internals and can pass the evaluation without problems.

With a wizard like Approach, CCGen will guide consultants step by step, taking care of every possible inconsistency in the documentation process, accompanied of expert comments and tips and hints regarding how to easily fulfil the CC standard for a product.

## CCEval:

CCEval allows jtsec to write and generate evaluation reports in a very consistent and quick way.

Moreover, if CCGen has generated the documentation, CCEval allows carrying out automatically some evaluation tasks.

This tool is important for two main reasons:

1. Because evaluation reports are validated by the Certification Body and the Appearance of inconsistencies may delay the process in unexpected ways.
2. Because the use of automated tools allows providing the best time-to-market, ensuring that the certification process is always on time.

# CC Statistics for 2020

These are the statistics on Common Criteria certifications for 2020. CCScraper has gathered the latest information about Common Criteria certified products and has generated related statistics up to 2020-12-31.

In 2020, **388** products have been certified, while 368 were certified in 2019. These numbers vary from those published solely in [commoncriteriaportal.org](https://www.commoncriteriaportal.org), since CCScraper also takes into account those products published in the web portals of Certification Bodies websites.

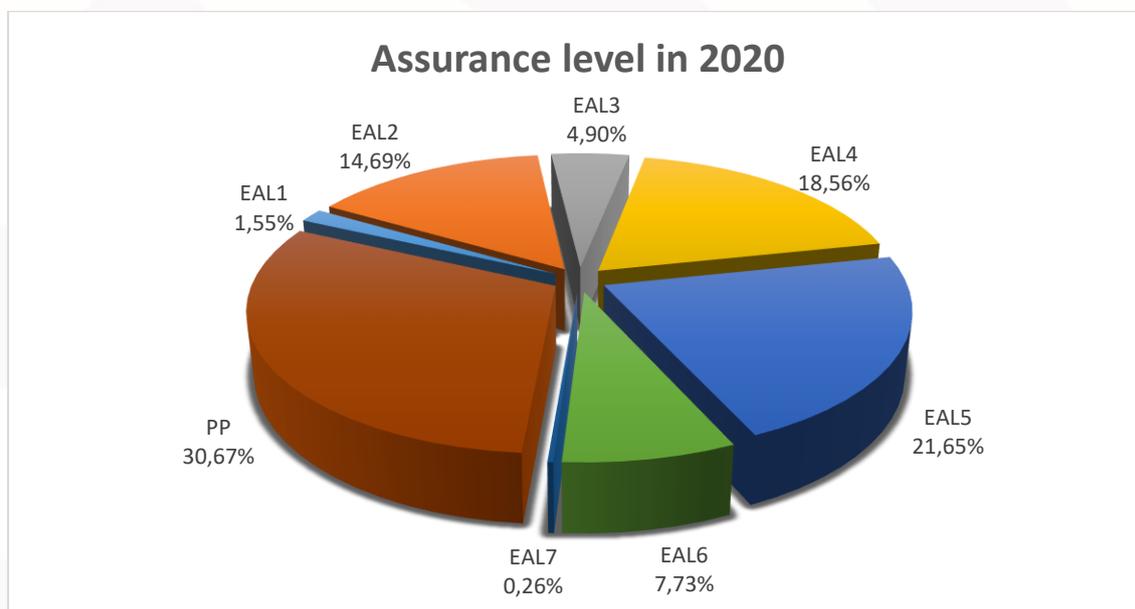
The details on those certifications are provided throughout this report.

## Assurance levels

In 2020, 187 high assurance evaluations (EAL<sub>4</sub>-EAL<sub>7</sub>) were carried out. Among those, we can find 72 EAL<sub>4</sub> evaluations, 84 EAL<sub>5</sub> evaluations, 30 EAL<sub>6</sub> evaluations and 1 EAL<sub>7</sub> evaluation. In total, 48.2% of the certifications were high-assurance.

A total of 82 products were certified using low assurance evaluations (EAL<sub>1</sub>-EAL<sub>3</sub>), representing 21.14% of all the evaluations. The most frequent low assurance EAL was EAL<sub>2</sub>, with 57 certifications.

On the other hand, the trend to use Protection Profiles on evaluations has been even larger in 2020. Certifications using a Protection Profile with no EAL assigned were very frequent in 2020. In total, 119 products were certified with a Protection Profile without assigned EAL, representing 30.67% of all certifications in 2020.

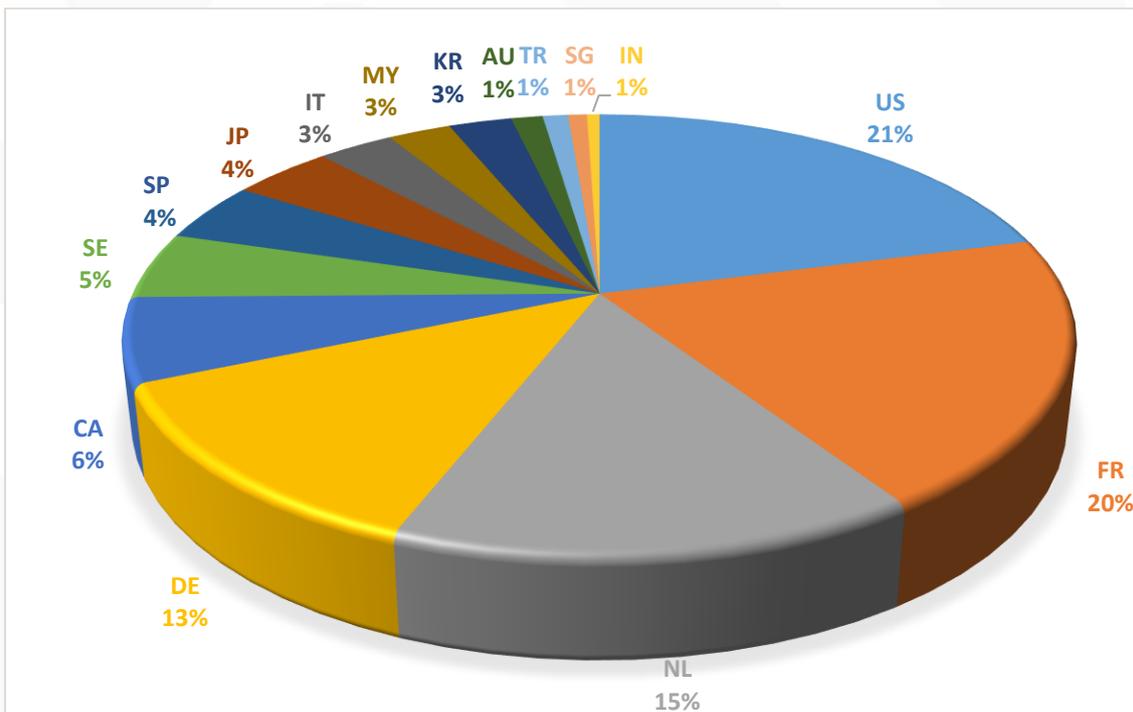


### Top Certifying Schemes

The top-three certifying schemes in 2020 United States, France and Netherlands with 81, 77 and 59 certified products respectively. These were followed by Germany (49), Canada (24) and Sweden (19).

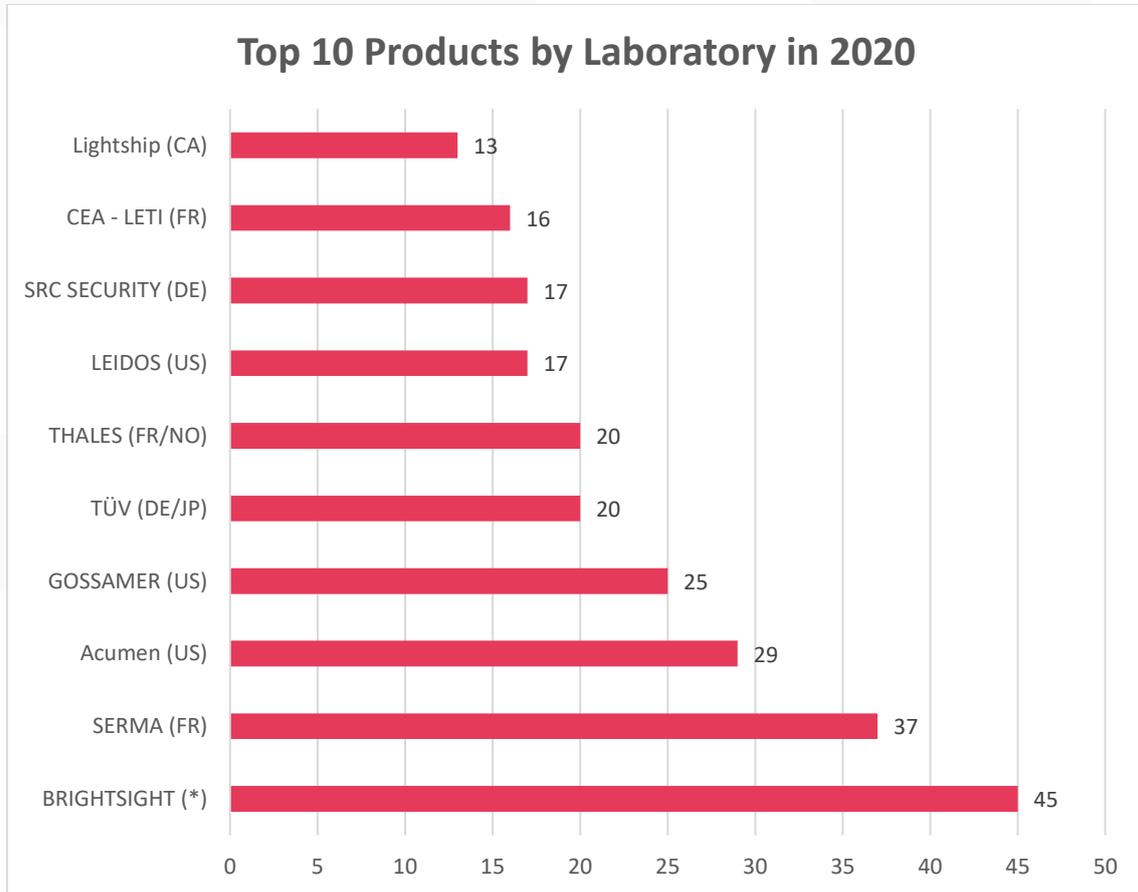


In terms of percentages, Top 3 schemes occupy the 56% of the certifications, while the next three schemes summed 24%. The total is 101 due to the fact that the schemes marked with 1% are rounded up.

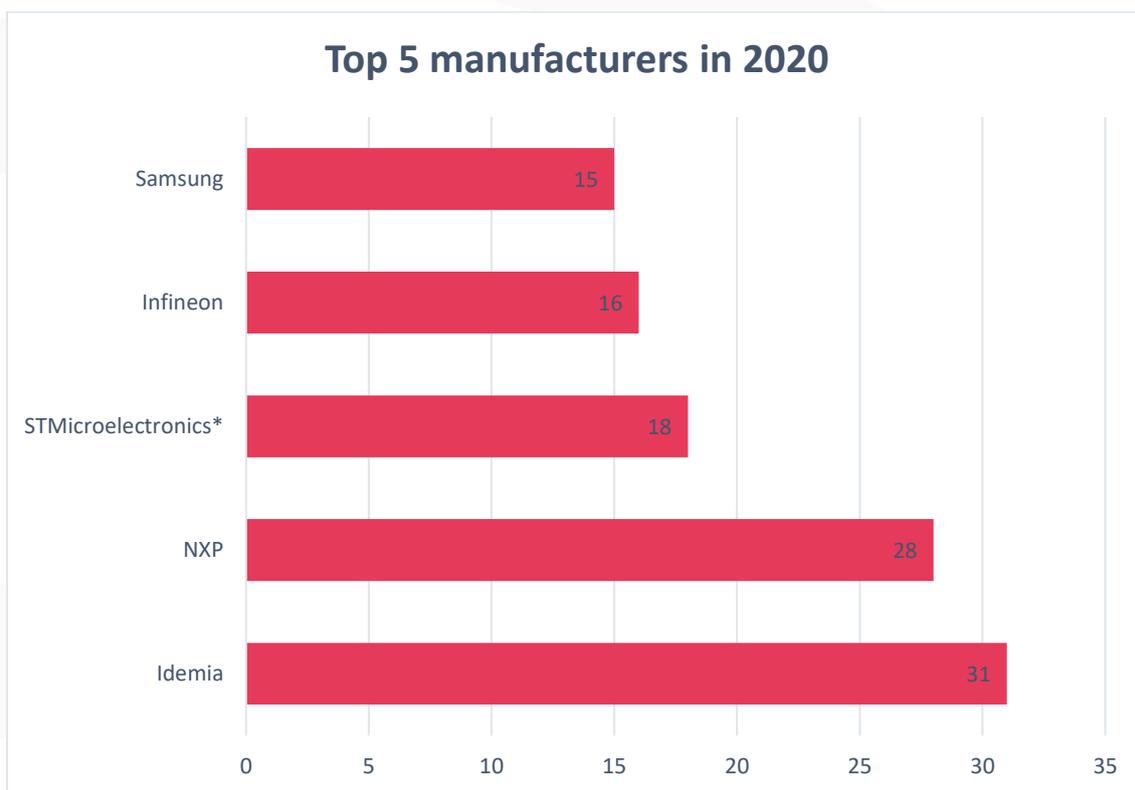


### Top evaluation laboratories

The lab that evaluated the most products during 2020 was Brightsight. The Dutch firm took the first place with 45 products evaluated. SERMA (37), Acumen (29), Gossamer (25), TÜV and Thales (20) carried out a considerable number of evaluations as well, also in the top 6.



## Top manufacturers



In the manufacturers ladder, we have Idemia on the first place with 31 certified products. The French firm has conducted 11 evaluations more than last year (20 in 2019). NXP Semiconductors is in the second place with 28 evaluations, completing the podium we find STMicroelectronics with 18 certified products, followed by Infineon with 16 and Samsung with 15.

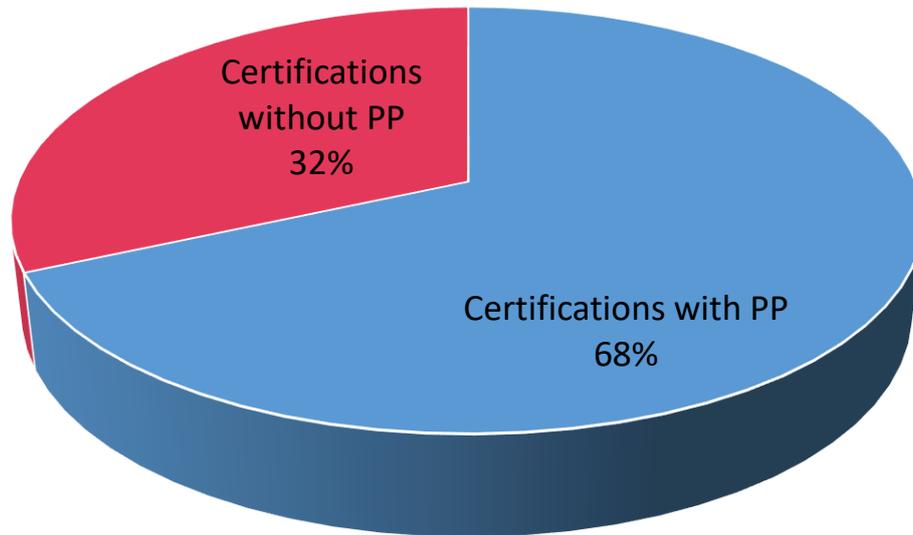
The next ones in the list, although they are not represented in this chart with 10 or more certifications are CISCO (13), and Huawei (10).

A lot of manufacturers have certified between 5 and 10 products, like Ricoh (9), Juniper (8), HP (7) or Xerox and Masktech(6).

### Protection profiles

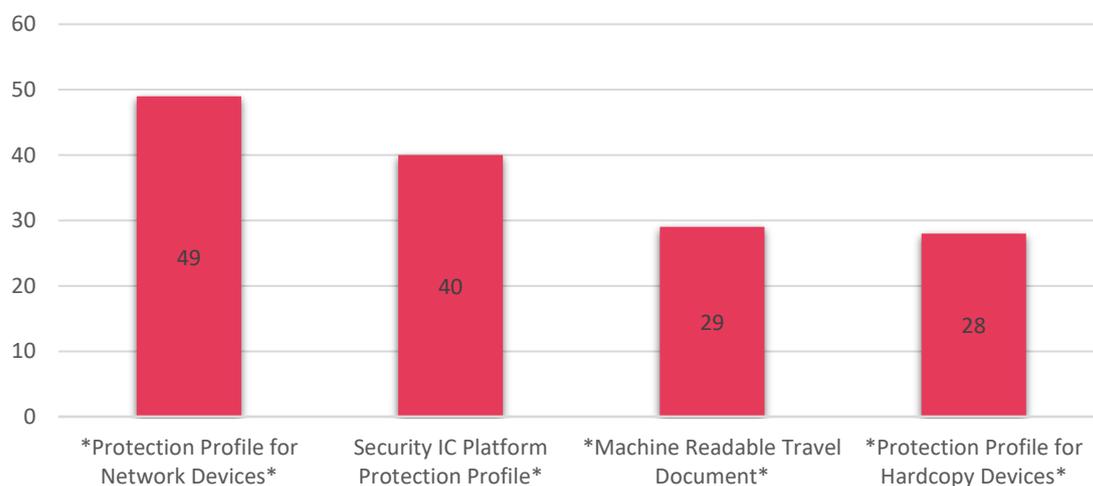
In 2020, 265 products out of 388 were certified using a Protection Profile (with or without EAL assigned), representing the 68% of the certifications in that year.

#### Certifications with Protection Profiles in 2020



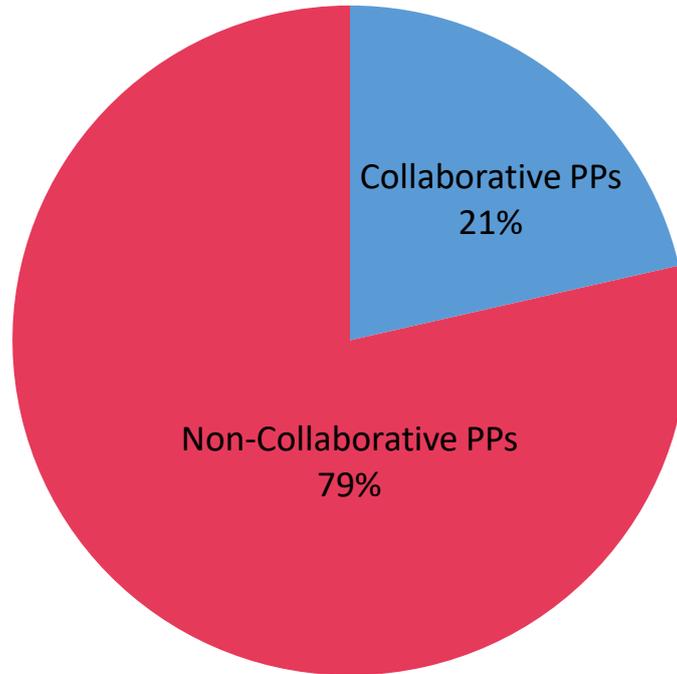
The statistic for top used PPs shows that the Protection Profile for Network Devices was the most used in 2020, with 49 products certified with compliance to it. It is followed by Security IC Platform PP with a total of 40 products. On the third place, we can find 29 product certifications used the Protection Profile for Machine Readable Travel Document. On the fourth place, 28 certifications used the Hardcopy Device (above Protection Profile for Application Software, which ranked fourth in 2019)

#### Most used Protection Profiles in 2020



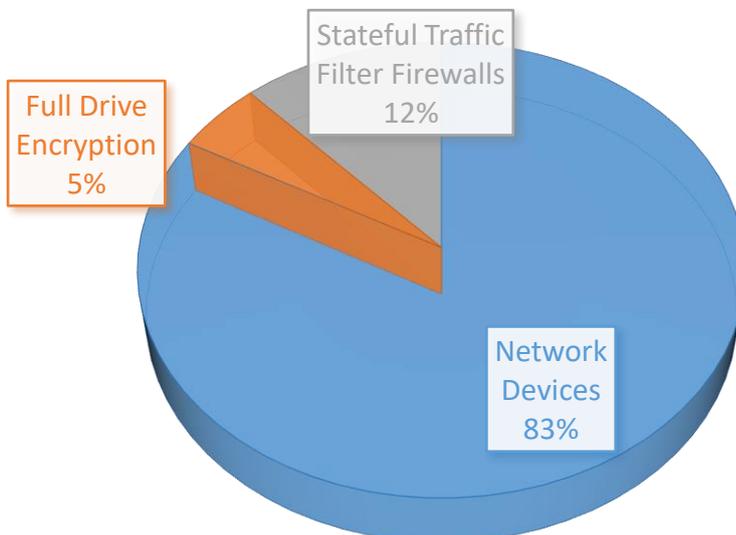
The use of Collaborative Protection Profile was very popular during 2020, representing 21% of total Protection Profile compliant certifications.

### Collaborative PPs vs Non-Collaborative PPs



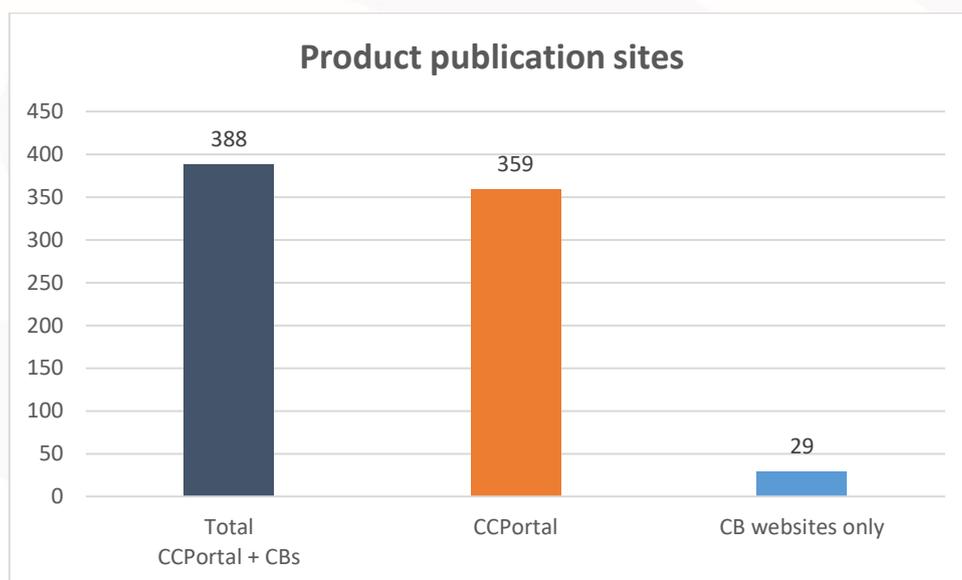
Among the Collaborative Protection Profiles, Network Devices Collaborative PP was by far the most significant: 83% of products certified in compliance with a Collaborative PP declared compliance with this protection profile.

### Collaborative PPs used in 2020



### CCScraper statistics vs Common Criteria Portal statistics

CCScraper has counted 388 products certified in 2020. However, if we check the statistics of Common Criteria Portal, only 359 are reported as certified during 2020. This is because the data gathered by CCScraper include those products that are also published in the web portals of the different Certification Bodies. 29 products out of 388 were reported only in the websites of the different Certification Bodies and not in commoncriteriaportal.org.

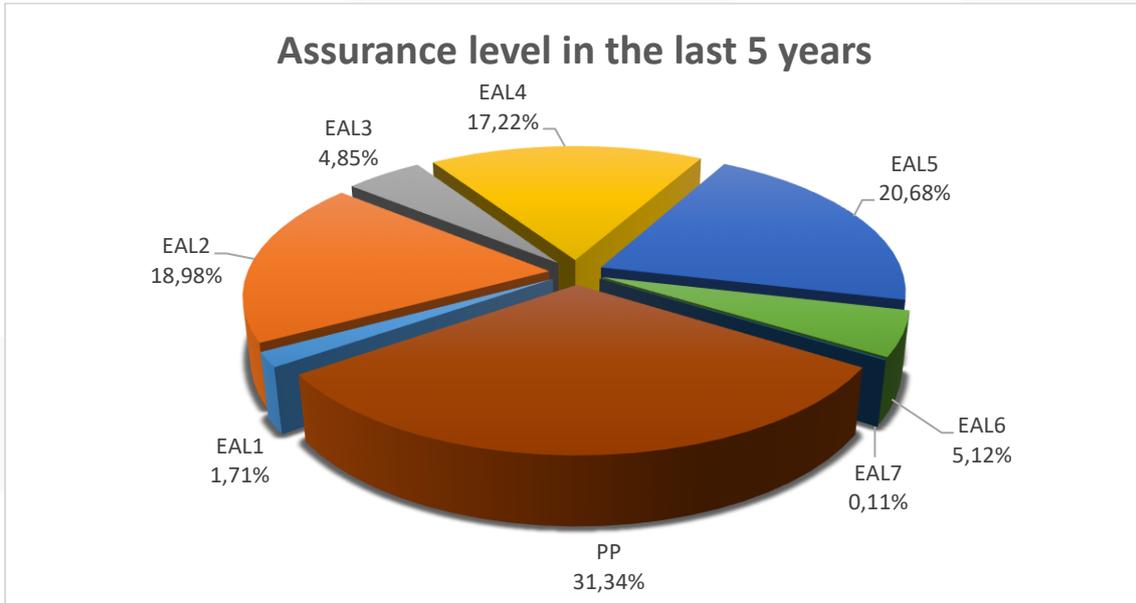


Among them, some products were duplicated, meaning the same product was reported multiple times either in Common Criteria Portal and/or in their respective Certification Body Portal. In Common Criteria Portal, some products are reported multiple times for different categories. This case is not common in the websites of Certification Bodies, nonetheless, one duplicated product was found in one of those websites. CCScraper takes care of this situation and correlates the duplicated information, in different websites or on the same website, in a smart way.

# Statistics for 5 years

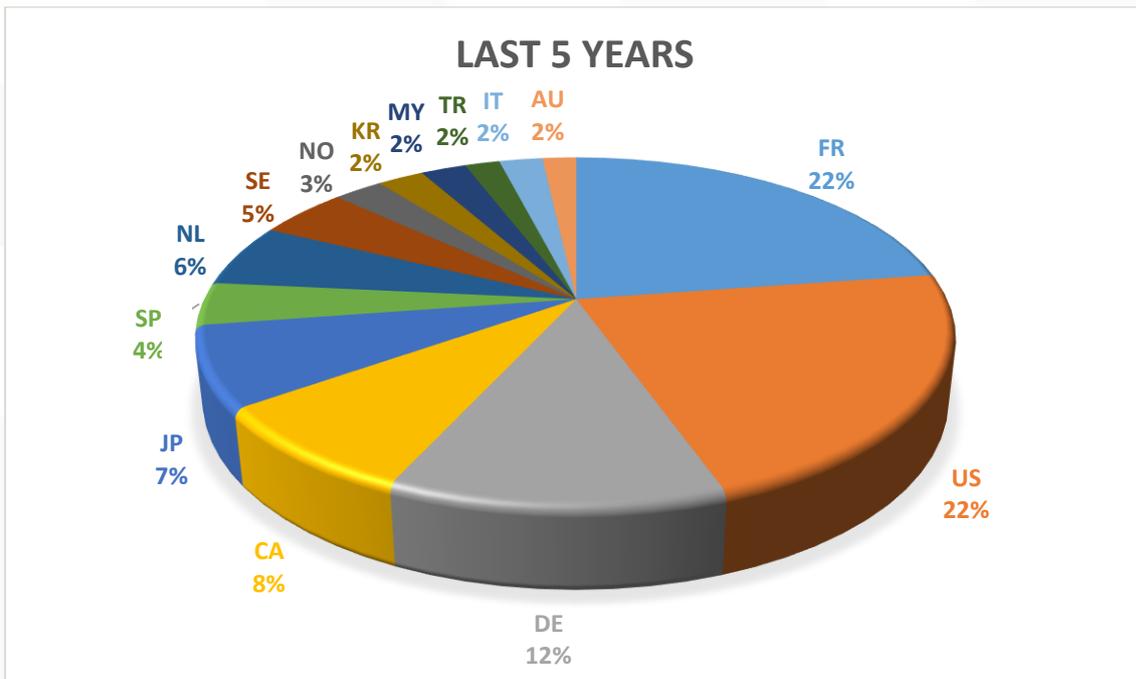
This section contains the trends in the last 5 years of Common Criteria, including products with certificate issued between 2016 and 2020, both included.

## Most used assurance levels



The trend during the last 5 years indicates that about 31.34% of the products are certified as PP-compliant (with no EAL assigned). EAL2 (18.98%) was the most used low assurance EALs (25.54%), while high EALs (43.13%) were very frequent with EAL5 being the most used.

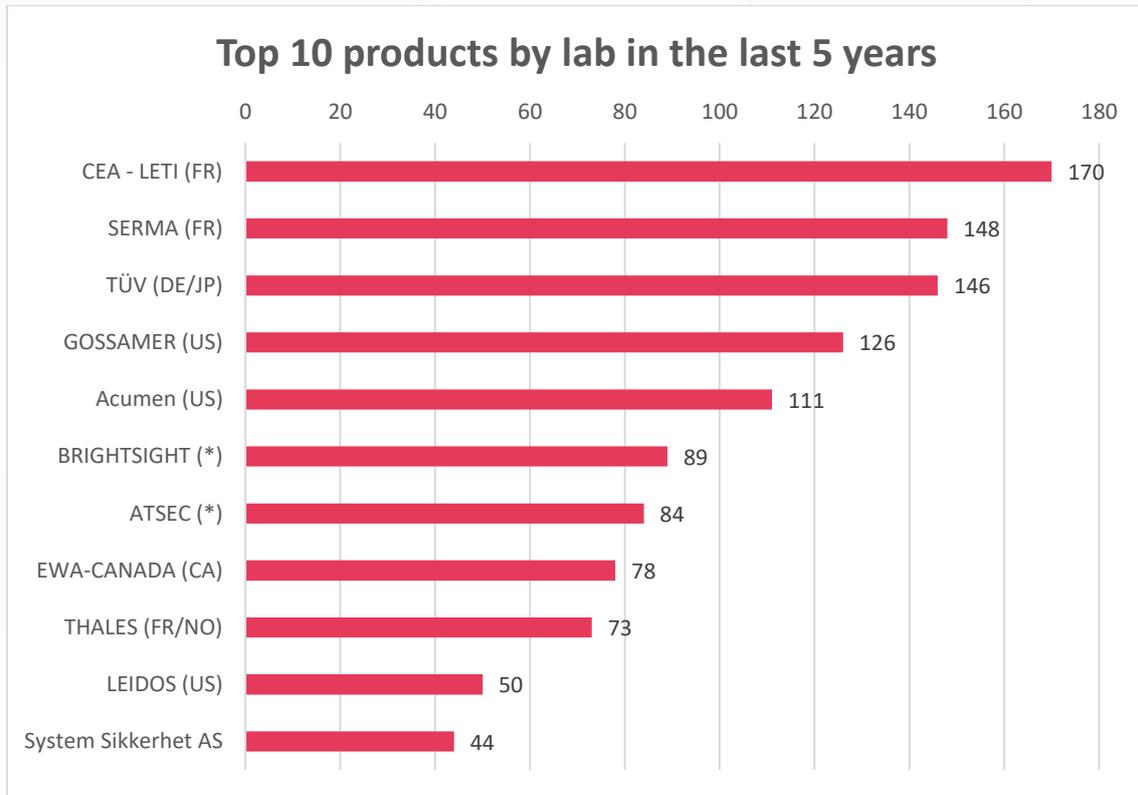
## Top certifying schemes



The French and the American scheme were the ones with most certifications during the last 5 years (22% out of total each one) followed by Germany, Canada and Japan were in the top 5

during that time. Spain, with 4%, was the fifth European scheme with most certification and the eighth in the world.

### Top laboratories

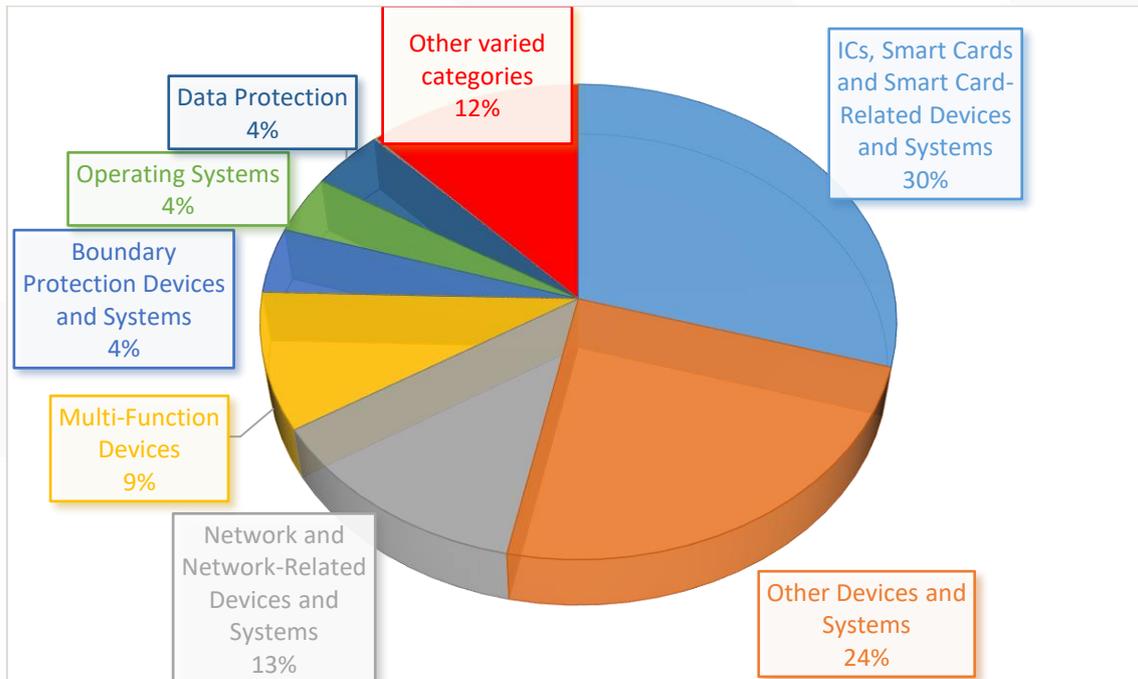


The trend for top laboratories is very similar to that in 2019, although with no variations in the order of the top 5 labs. CEA-LETI, TÜV and SERMA are the winners, followed by Gossamer and Acumen.

# Historical trends

This section contains historical trends from the very beginning of Common Criteria. Archived products (products where the certificate status is no longer valid) are included for the sake of completeness.

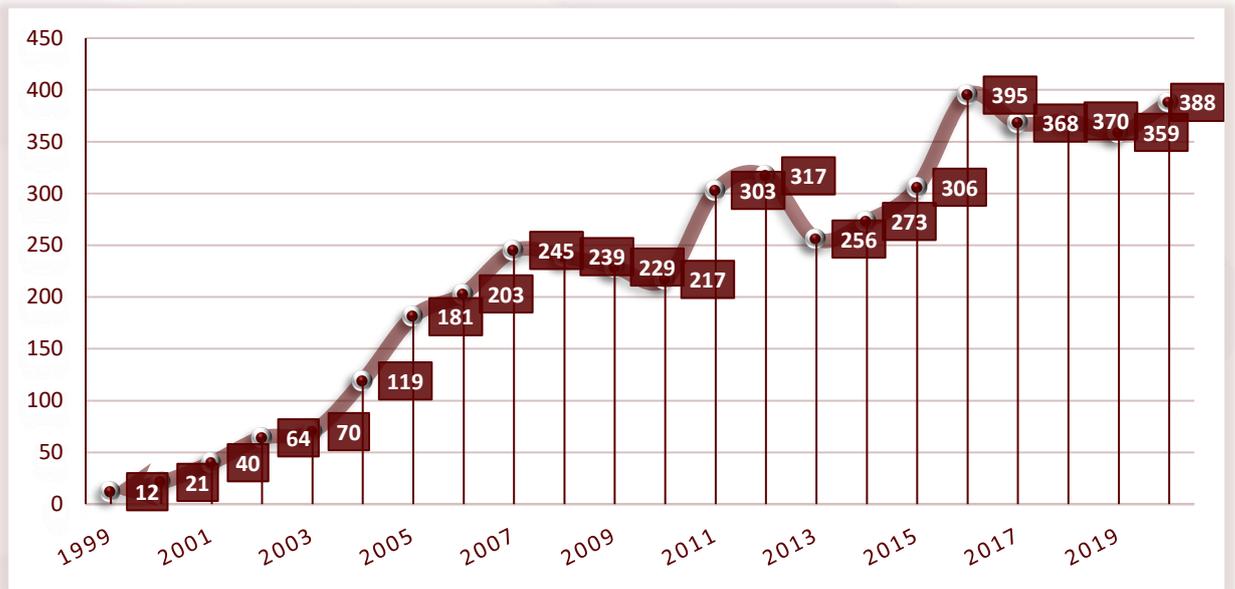
## Product categories



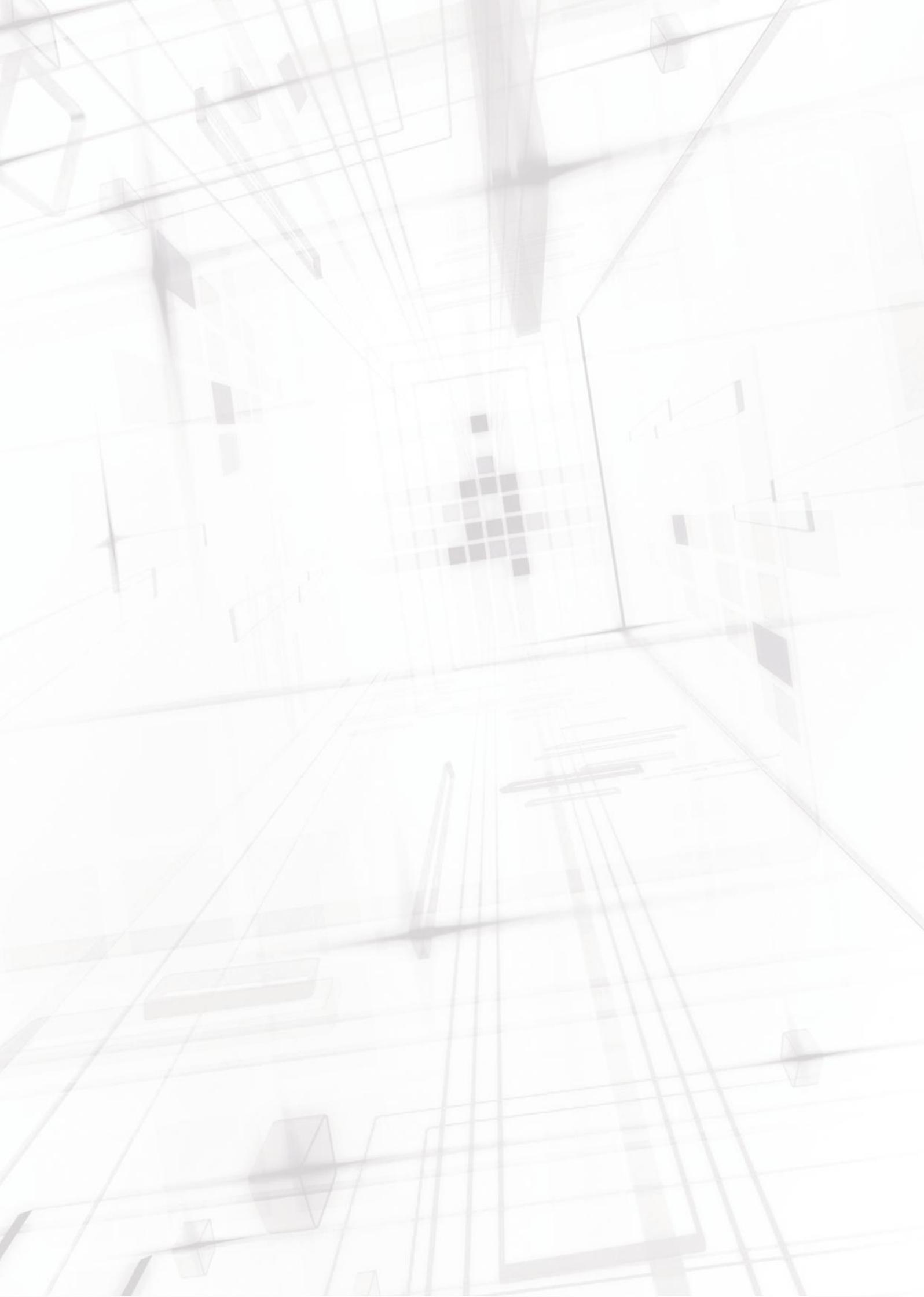
High-security ICs, smartcards and similar devices are the top certified category, with 30% of the total number of certifications. Network and multi-function devices, as well as other devices and systems complete the top-4, which mainly correspond to lower EALs.

Other varied categories add up to 12% of the total, some of them are: Access Control Devices and Systems, Products for Digital Signatures and Databases, Detection Devices and Systems, Key Management Systems, Trusted Computing, Mobility or Products for Digital Signatures

Total number of certified products by year:



The overall historical trend is upwards without a doubt, although it has stabilized over the past five years. 2020 is the second year with more certifications in Common Criteria, just 7 less than 2016. This ensures a continued rise from 2018 that will hopefully continue in 2021



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# CR

Career

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