



# Hellenic Cyber Security Team



## **Prof. Christos Xenakis**

Steering Committee Member of the European Cyber Security Challenge – ECSC

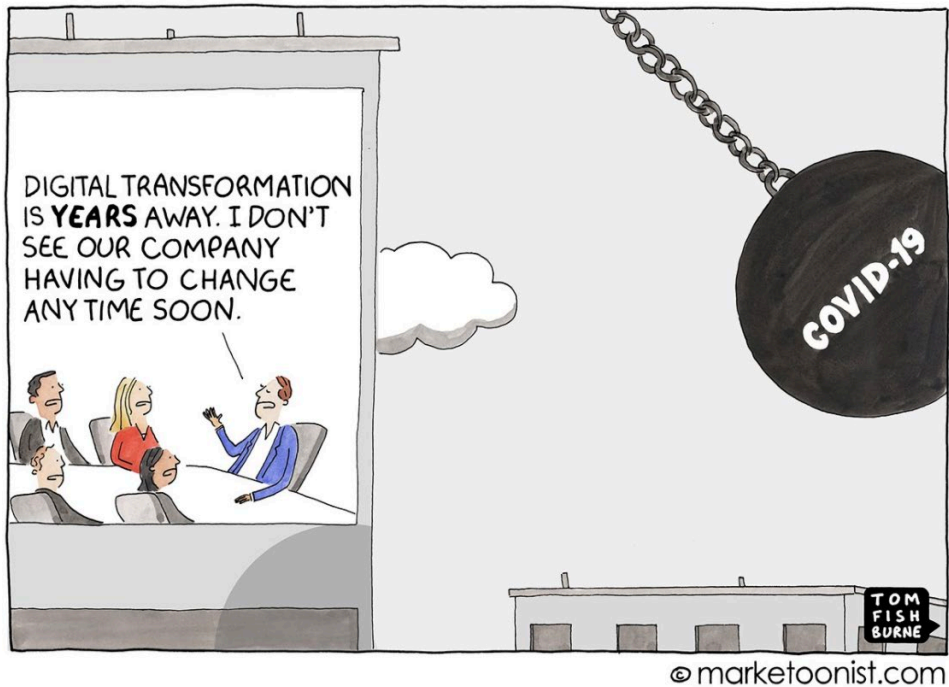
Team Captain of the Hellenic Cyber Security Team

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Director of the MSc “Digital Systems Security”

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## Before COVID-19



## After COVID-19

*"We've seen two years' worth of digital transformation in two months. From remote teamwork and learning, to sales and customer service, to critical cloud infrastructure and security - we are working alongside customers every day to help them adapt and stay open for business in a world of remote everything."*

Satya Nadella  
Microsoft CEO



# Cyber Security Threats in the Health Sector

Fri, Apr 3, 2020

## Healthcare Cyberattacks Increasing During COVID-19



by Kayla Matthews on May 21, 2020

The healthcare sector has long been a preferred industry for hackers to target. Now that many healthcare systems are under extra strain due to the COVID-19 pandemic, these cyberattacks could prove especially devastating.

## Why Do Hackers Focus on the Medical Sector?

## The COVID-19 Coronavirus and the Healthcare Sector – A Targeted Sector in Crisis Mode

### COVID-19 pandemic spurs cyber-attacks on healthcare sector, says report

According to new research, as the healthcare and pharma sector relies on IT throughout the COVID-19 pandemic, cyber-attacks will be inevitable

By Victoria Rees (European Pharmaceutical Review)

21 April 2020

No comments yet

## Cyberattack on Czech hospital forces tech shutdown during coronavirus outbreak

The hospital has one of the largest COVID-19 testing facilities in the Czech Republic.



## Global Ransomware and Cyberattacks on Healthcare Spike during Pandemic

Liviu Arsene on May 13, 2020

### COVID-19-themed cyber attacks hit healthcare bodies

April 15, 2020

INTERNET OF THINGS

MAY 26, 2020 / 8:46 AM / 2 MONTHS AGO

## Red Cross urges halt to cyberattacks on healthcare sector amid COVID-19

## Cyber-attacks on healthcare facilities 'growing threat' during coronavirus pandemic

Acronis believes it is likely cyber government agencies, healthcare professionals treating patients c

### Temporary hospitals are rife with cybersecurity vulnerabilities

Ad hoc COVID-19 medical centers have a unique set of vulnerabilities: They're remote, they sit outside of a defense-in-depth architecture and the very nature of their purpose – care in a time of crisis – means security is a lower priority.

JUN 04 | MORE ON MEDICAL DEVICES

## Number of cybersecurity attacks increases during COVID-19 crisis

Hackers are taking advantage of provider distraction to breach health systems.

## Cyberattacks against medical, healthcare professionals persist, says Google

Laura Dyrda (Twitter) - Friday, May 29th, 2020 Print

3 JUNE 2020 ANALYSIS

## Why are healthcare cyberattacks surging amid Covid-19

By Chloe Kent SHARE

### A game of 'cat and mouse': Hacking attacks on hospitals for patient data increase during coronavirus pandemic

Cybercrime targeting healthcare organisations is soaring as a result of the global pandemic. What are the reasons behind this worrying surge, and what can businesses do to protect themselves?

Foreign nation-state hackers are zeroing in on healthcare institutions, pharmaceutical companies and research facilities working on treatments for COVID-19, Ugoretz said. "We have also seen other actors, including nation states, scanning for vulnerabilities, conducting reconnaissance, conducting intrusions, and attempting to steal data from those U.S. universities and research institutions that are really focused on trying to deliver that research in response to the pandemic," she said.

## Cyberattacks in healthcare up to steal COVID-19 treatment, vaccine research

Laura Dyrda (Twitter) - Thursday, June 18th, 2020 Print



# Cyber incidents in the COVID-19

- Since **COVID-19**, the **US FBI** reported an increase of **300%** in reported **cybercrimes**.
- **Cybercrime damage** may cost the world **\$6 trillion** annually by 2021.
- **67% increase** in **security breaches** in the last five years.
- Cost of **ransomware** to businesses will top **\$20 billion** in 2021.
- A **ransomware attack** **every 11 seconds** in 2021.
- **10%** of all breaches **involve ransomware**.



<https://bit.ly/3Df3q99>



# Περιστατικά στο χώρο του σπιτιού

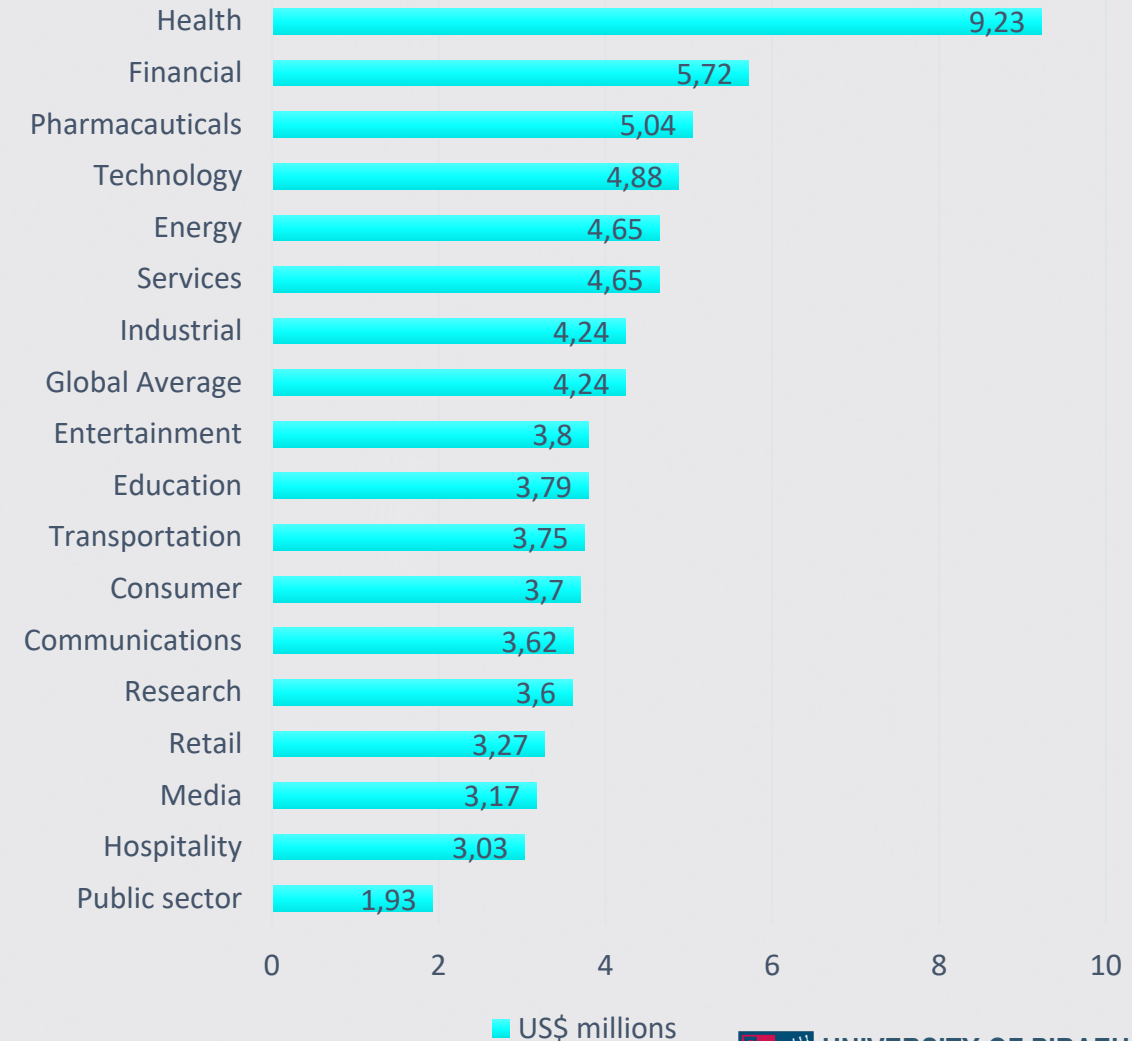
- Η έξυπνη ηλεκτρική σκούπα της LG
- Διαφημίζεται ως σκούπα και συσκευή επιτήρησης χώρου
- Ανακαλύφθηκε μια σειρά από αδυναμίες τόσο στην εφαρμογή ελέγχου όσο και στην ίδια την σκούπα, οι οποίες επέτρεψαν στους Χάκερς
  - Να δίνουν οδηγίες στην σκούπα
  - Να παρακολουθούν την κάμερα
- Ενημερώθηκε η εταιρεία και προέβη σε διορθώσεις



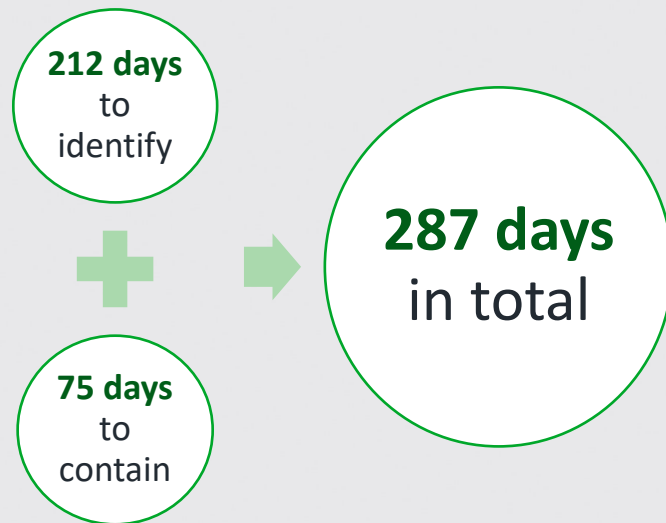
# Impact of cyber attacks in 2021

- For the 11<sup>th</sup> year in a row, **healthcare** organizations had the **highest costs** associated with data breaches.
- **\$9.23M** per breach for **healthcare**
  - 29.5% increase from \$7.13 in 2020.
- **\$1.93M** per breach for the **public sector**
  - 78.7% increase from \$1.08M in 2020.

## Average total cost of a data breach by industry



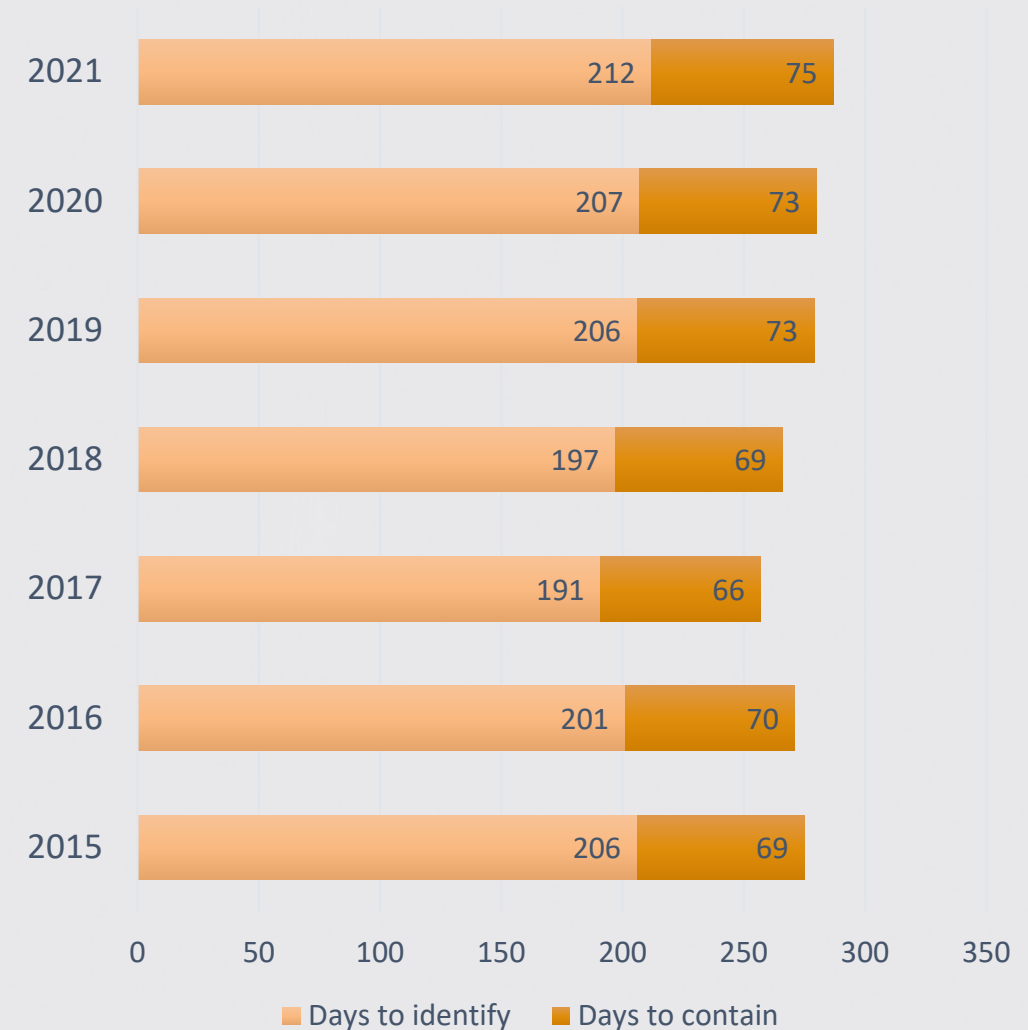
# Impact of cyber attacks in 2021



- If a breach occurred on January 1<sup>st</sup> and it took 287 days to identify and contain, the breach would not be contained until October 14th.

➤ A week longer than in 2020.

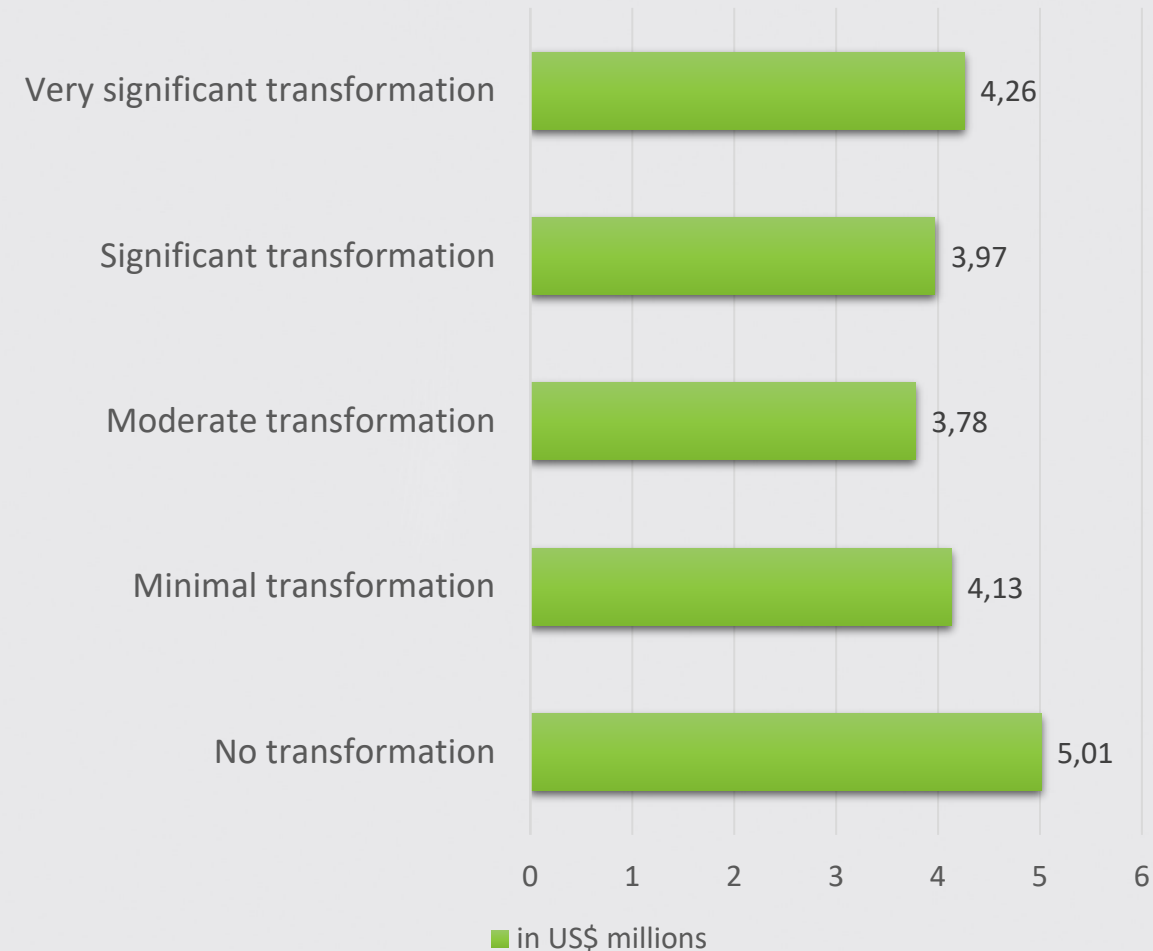
Days to identify and contain a data breach by industry sector



# Impact of cyber attacks in 2021

- The cost of a breach was **higher** than average at organizations that had not undergone a digital transformation due to COVID-19.
- When organizations made no effort at digital transformation the average cost of a breach was **\$5.01 million**.
  - **\$0.77 million** more than the global overall average of \$4.24 million.

## Average cost of a data breach based on level of digital transformation due to COVID-19



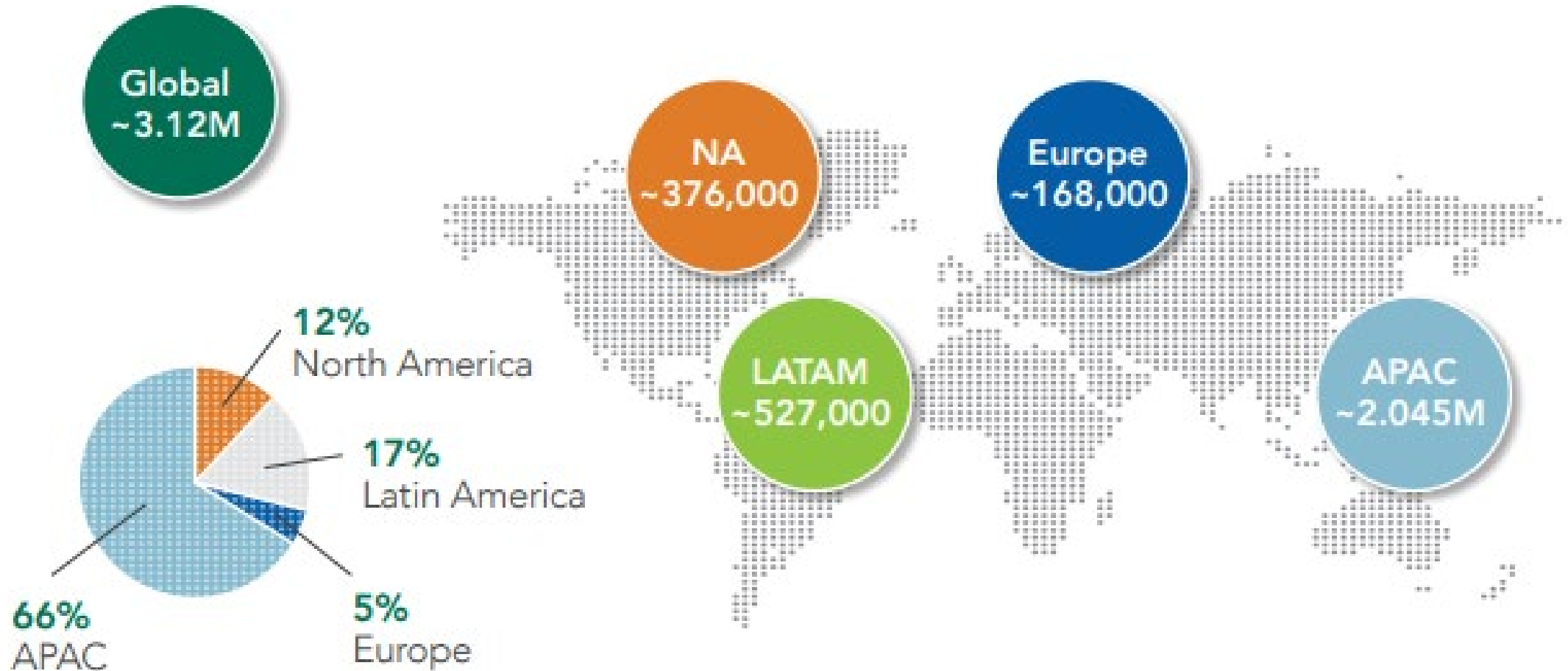


What do we  
need to  
protect our  
world ?

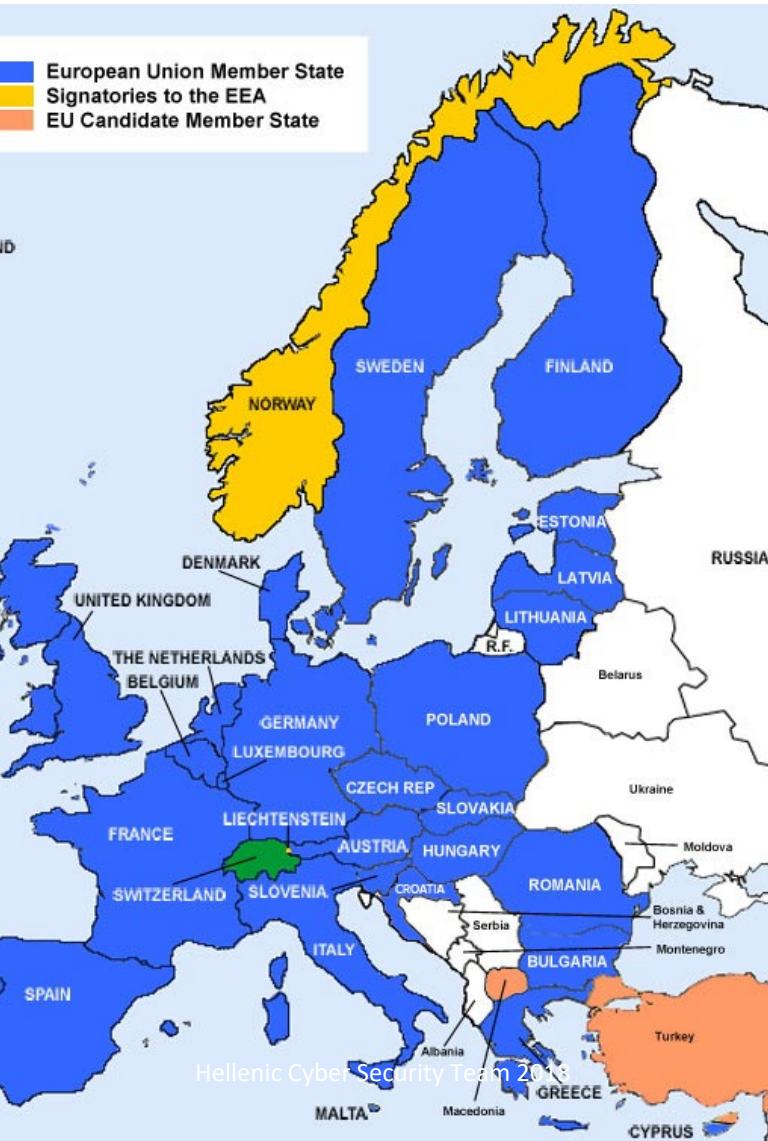


*"Do you have any references besides Batman?"*

# Global Cybersecurity Workforce: 3.12M Positions Unfilled in 2020



# What ECSC is about



- **Goals**

- Promote national CTF competitions
- Raise awareness and promote cyber security
- Identify cyber security talents
- Develop human networks
- Promote ethics and values in cyber security

- **Target audiences**

- **Young students:** career opportunities
- **European industries:** scouting and mentorships
- **General public:** placing cyber security on the public agenda







# Ιστορική αναδρομή

## ECSC 2015

Διοργάνωση: 1<sup>η</sup>

Τόπος: Ελβετία-Λουκέρνη

Ομάδες: 6

Διαγωνιζόμενοι/ομάδα: 10

Νικήτρια ομάδα: Αυστρία



## ECSC 2016

Διοργάνωση: 2<sup>η</sup>

Τόπος: Γερμανία

Ομάδες: 10

Διαγωνιζόμενοι/ομάδα: 10

Νικήτρια ομάδα: Ισπανία



## ECSC 2017

Διοργάνωση: 3<sup>η</sup>

Τόπος: Ισπανία

Ομάδες: 15

Διαγωνιζόμενοι/ομάδα: 10

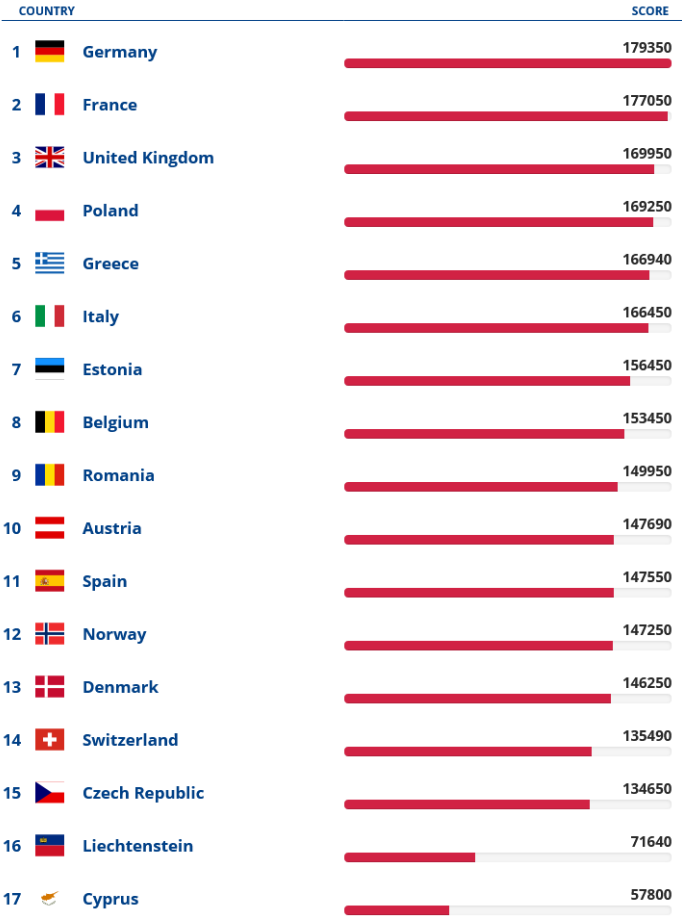
Νικήτρια ομάδα: Ισπανία



2019 edition in Bucharest, Romania



2018 took place in London, United Kingdom





# EUROPEAN CYBER SECURITY CHALLENGE

📅 28 September to 1 October 2021

📍 Prague, Czech Republic

[PARTICIPATE](#)



LIVE ECSC 2022

## 2022 Leaderboard

COUNTRY		SCORE
1	Germany	9033
2	Poland	8736
3	Italy	8380
4	France	7285
5	Denmark	7088
6	Cyprus	6977
7	Portugal	5806
8	Belgium	5607
9	Netherlands	5512
10	Austria	5424
11	Switzerland	5327
12	Spain	5281
13	Greece	5120
14	Romania	4351
G	Slovakia	3596
15	Slovenia	3060
16	Ireland	3041
17	Malta	1722





# International Cybersecurity Challenge



14th – 17th June 2022







ATHENS, GREECE

## ICC 2022

## TEAM

## SCORE

1		Europe	12961
2		Asia	10724
3		United States of America	7765
4		Oceania	7447
5		Canada	3643
6		Latin America	1722
7		Africa	981





# EUROPEAN CYBERSECURITY CHALLENGE



13 to 16 September 2022



Vienna, Austria

**PARTICIPATE**



CONTEST STARTS IN

71

DAYS

00

HOURS

37

MINUTES

# Competition

- It will be based on the **educational exercise Capture-The-Flag (CTF)**, which gives the participants experience in:
  - **Securing a machine or an application**
  - **Conducting and reacting to attacks** found in the **real world**
- Challenges will include:
  - **Reverse engineering, network sniffing, protocol analysis**
  - **System administration, programming, cryptoanalysis**
  - **Web security, forensics, mobile security**
- In both styles: (a) **attack/defense** and (b) **Jeopardy**



# Competition - Required skills



Operating Systems



Forensic Analysis



Web Hacking



Crypto Puzzles



Malware Analysis



Reverse Engineering



Social Engineering



Mobile Security



Esteganography



Database Security



Code Analysis



Cryptography



Secure Programming



Penetration Testing



Network Security



Miscellaneous



Compete in  
3 Rounds

First training round:  
March 19th

FINALS

September  
15<sup>th</sup>

Become  
openECSC-  
Champion 2022!

Online  
Cyber Security  
Challenge

Individuals

(Mixed) Teams

Find  
Teammates  
online!

All genders,  
all ages

Open for  
everyone!



Registration open March 1<sup>st</sup>! More infos: [ECSC2022.EU](https://ECSC2022.EU)





# The Hellenic Team 2022

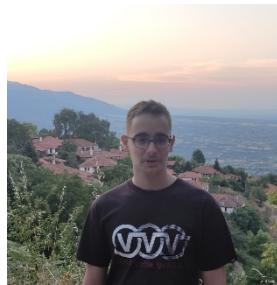


Κωνσταντόπουλος Αθανάσιος  
– Αναστάσιος  
Forensics, Reversing, Stego



Φίλιππος Φλώρος  
rev, mobile , stego

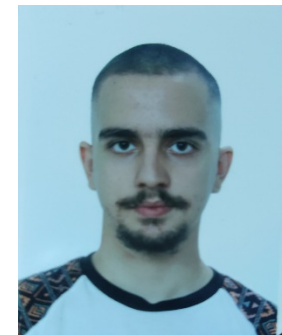
## Junior Team < 21



Αθανάσιος Μητράγκας  
Pwn, Web, Rev



Μιχαήλ Τσαπαρλής  
Pwn Reverse Misc



Παναγιώτης Παπακωνσταντίνου  
Forensics, web, stego

# The Hellenic Team 2022



Αλεξία Κωνσταντινίδη  
Forensics, OSINT,  
Steganography, Attack & Defense

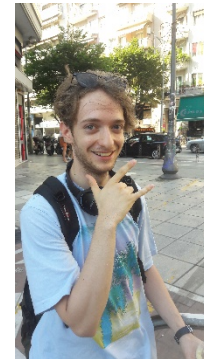
Senior Team > 20



Αριστομένης Τρέσζος  
Crypto, Forensics,  
Reversing (+ Mobile)



Γεώργιος Δημοσχάκης  
Pwn, Rev, Mobile



Γιώργος Μαμιδάκης  
Crypto, Reversing,  
Blockchain

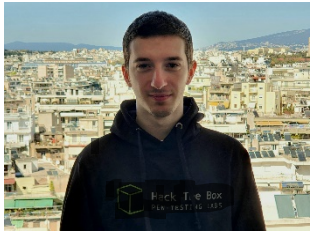


Ιάσωνας Κωνσταντίνος  
Μάνθος  
Reverse - Hardware - Pwn

# The Hellenic Team 2022



Ηλίας Φιωτάκης  
crypto, hardware, misc



Κωνσταντίνος Σπυρίδων  
Μόκος  
Hardware, ML, Mobile



Μελέτης Μιχαήλ  
Forensics,  
Attack/Defense,  
Machine Learning



Νικόλαος Μουρούσιος  
web, mobile, pentest,  
rev



Μιχάηλ Τακαρώνης  
Project Manager / Coach /  
Συντονιστής προπονήσεων

Η ομάδα υποστηρίζεται ενεργά



Με την υποστήριξη

**ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ**

Υπουργείο Ψηφιακής Διακυβέρνησης



**UNIVERSITY  
OF PIRAEUS**

# Private sponsorships

## Air Carrier Sponsor



# Private sponsorships

## Diamond Sponsors



uni.systems



# Private sponsorships

## Platinum Sponsors



# Private sponsorships

## Gold Sponsors



## Silver Sponsors





# Σας ευχαριστώ



[www.ecsc.gr](http://www.ecsc.gr)



@ECSC2017HellenicTeam



European Cyber Security Challenge - Hellenic Team



@ECSCGR



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