



## BOOTCAMP

### LEARN MORE OR REFRESH YOUR SKILLS

For over 1 month, participants had the opportunity to go **through theoretical resources and solve practical exercises** to help them for the upcoming competitions. Moreover, attendees had the opportunity to **engage and learn from cybersecurity experts** during the 13th webinars scheduled.

## INDIVIDUAL COMPETITION

### ASSESS YOUR INDIVIDUAL SKILLS

For 48 hours, participants had to solve exercises and submit correct flags in order to add their names on the competition leaderboard. This is a good moment to assess performance at an individual level and see what specific cybersecurity concepts and areas should be improved.



## TEAM COMPETITION

### FOCUS ON TEAM COLLABORATION AND COMMUNICATION

For 48 hours, teams should manage to communicate and collaborate in splitting the exercises according to each member's skills. The only limitation is time and who manages to solve exercises first and score the maximum points available.



## ABOUT UNBREAKABLE ROMANIA

UNbreakable Romania is the **end-to-end cybersecurity educational program for high schools and university students** from Romania. It offers an x-ray and visualisation of cybersecurity skills nationally with the sole purpose to identify and encourage talents in order to decrease the impact of the cyber security skills shortage and supporting organisations and institutions to build strong defenses.

The **main goal** is to **increase cybersecurity expertise at a national level** and provide guidance for young talents interested in pursuing a career in the industry.

This model might be replicated at different levels, depending on environment.



# THE CYBER BOOTCAMP

**UN** breakable  
Romania

SPRING - SUMMER SEASON 2021

## SESSION TOPICS



### Kick-off bootcamp

An initial overview of what will happen for over one month, set expectations, inspire and connect.



### Threat intelligence

Get acquainted with tools needed in Open Source Intelligence (OSINT).



### Networking tools

Learn how to use the most necessary tools in networking and pwn.



### Introduction in Crypto

Understand how crypto works and why it is useful and how you can use it.



### Security web application

3 intense sessions with theoretical and practical information on web applications.



### 5G and wireless security

Discover the specifics of wireless security .



### Cloud security

Insights and good practices useful in cloud security.



### Data and memory investigations

Practical introduction on how to investigate data and memory captures with examples.



### How to break at UNbreakable

Highlight benefits of the program, real applicability and study cases with solved exercises.



### Malware in Linux OS

About malware and how to identify it, what tools to use and how to analyse it.



### Start bug bounties

Opportunities and perks for cybersecurity specialists

## RESULTS

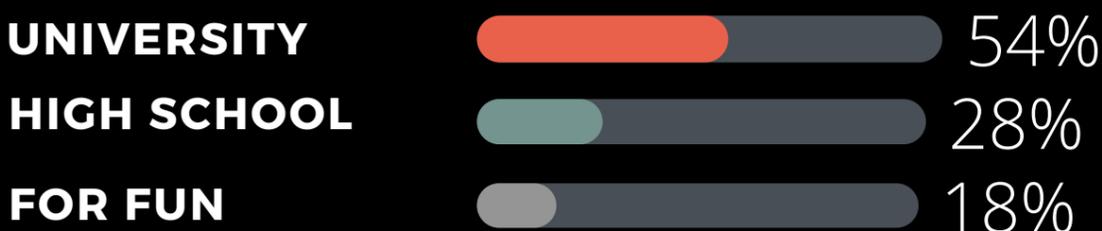
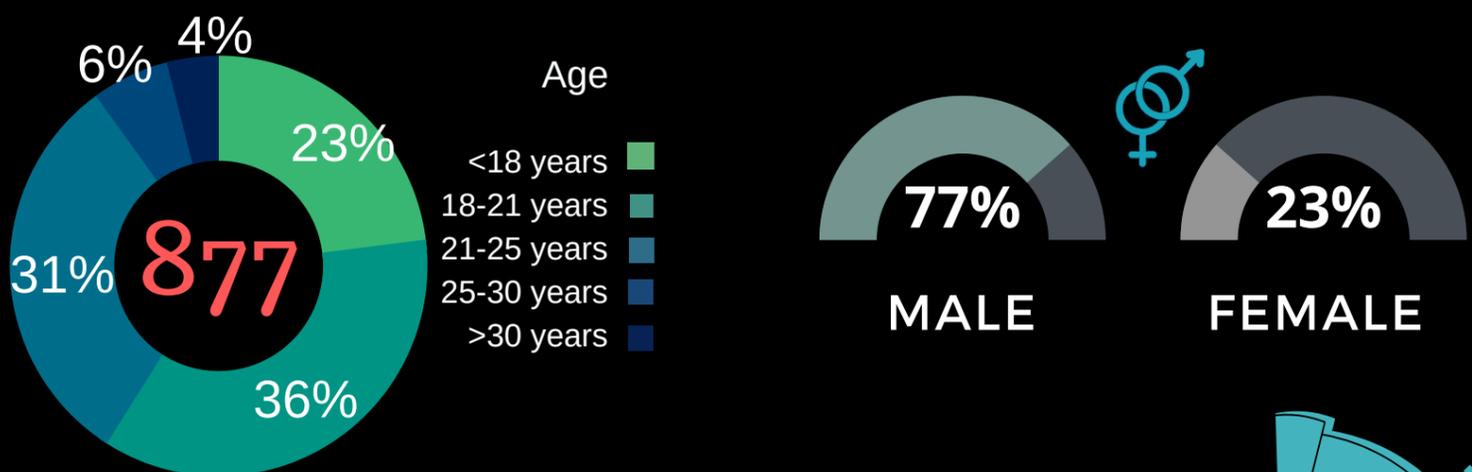
- ✓ 850 registered participants
- ✓ 15 speakers and trainers
- ✓ 350 questions asked and answered
- ✓ 27 hours of webinars

# INDIVIDUAL COMPETITION



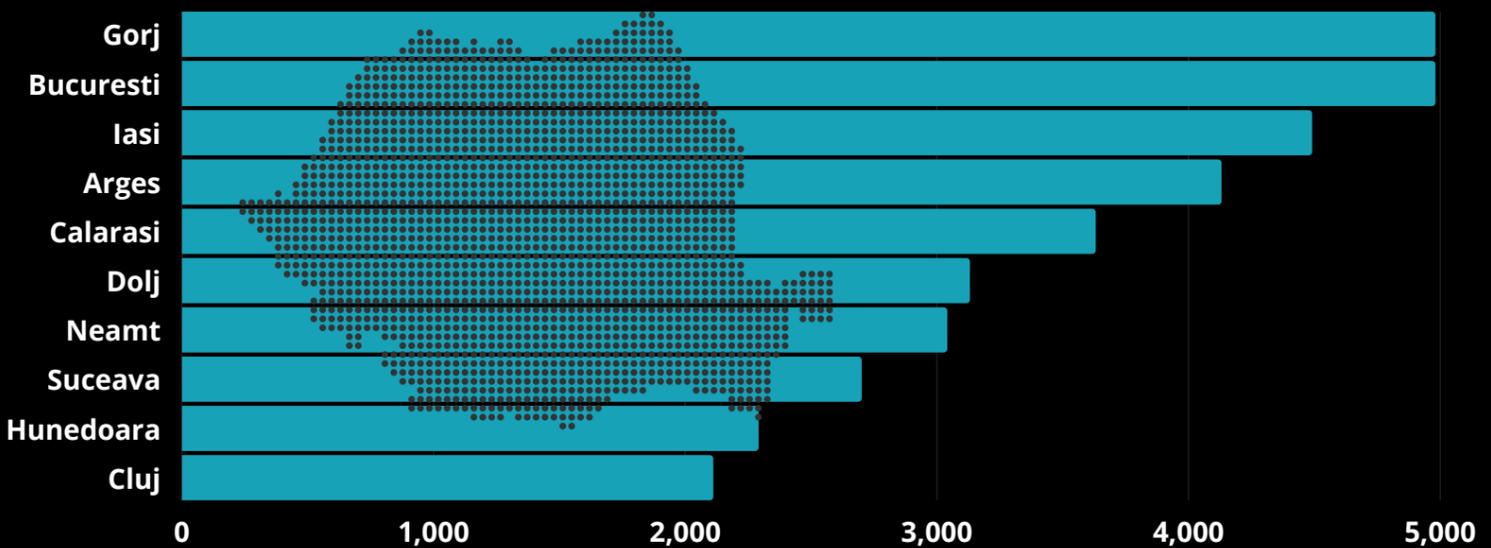
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## PARTICIPANT DISTRIBUTION



## RESULTS

### TOP COUNTIES



### TOP 5 UNIVERSITIES WITH HIGH SCORE



### TOP 5 HIGH SCHOOLS WITH HIGH SCORE



# INDIVIDUAL COMPETITION



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## DID YOU KNOW?

### WHEN DID WE RECEIVED THE FIRST CORRECT FLAG?

The first correct answer was sent **after only 30 seconds** and the first fully solved exercise was completed in just 3 minutes and 13 seconds after the start of the contest.

### 1 HOUR FROM THE START

In just one hour from the start, the exercises were solved **32 times by 55 players**, being sent 2,011 attempts.

### 12 HOURS FROM THE START

In 12 hours of competition, the exercises were solved **326 times**

### 24 HOURS FROM THE START

**9,181 flags** were sent after 24h and the exercises were solved **438 times**.

### EXERCISE

#### "CRAZY-NUMBER"

It is the exercise with **the most solutions (90 solutions)**. It involved disassembling an executable and recovering a message encoded with an algorithm developed by the author. How? By reversing the encoding algorithm

### EXERCISE

#### "PINGSTER"

Is is the exercise with **the fewest solutions sent (only 2)**. Participants had to exploit a classic vulnerability in web applications, such as SSRF (Server Side Request Forging).

### ALL EXERCISES SOLVED BY ONLY 2 ATTENDEES

The fastest participant was **adragos** who solved all the exercises **in just 28 hours** after the start of the contest

### OTHER INTERESTING FACTS & FIGURES

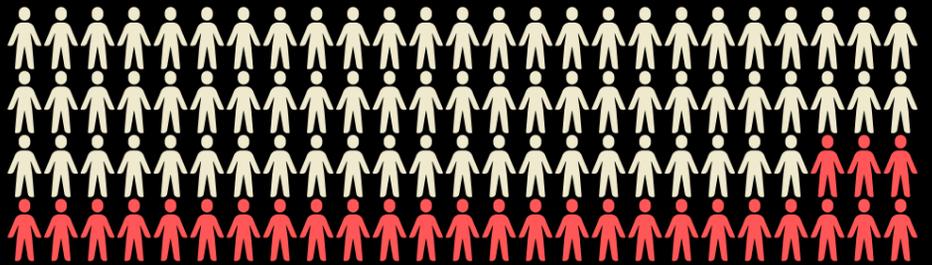
- The **Reverse Engineering category** of exercises gave the biggest headaches to the participants, with only **7.5% of solutions** while the category of **vulnerabilities in web applications** had **26.40% of solutions**
- At the end of the competition, a total of **11,940 attempts** were registered, of which only **3,918** were successful
- In the **last hour** of the competition, **195 answers** were sent



# TEAM COMPETITION



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Seventy two percent (72%) from the teams registered in the UNbreakable Romania team competition managed to solve at least one exercise — which means that the bootcamp and the individual competition were useful for learning and practicing cybersecurity.

“ The main characteristics of the Romanian cyber security specialists are related to very good technical abilities as well as a very developed teamwork spirit.

Dan Cimpean,  
General Director CERT Romania

## PARTICIPANT TEAMS DISTRIBUTION



College/University



High School

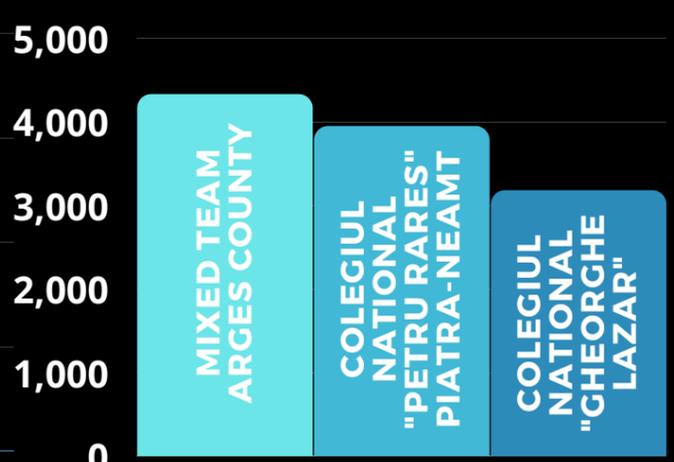


Play for fun

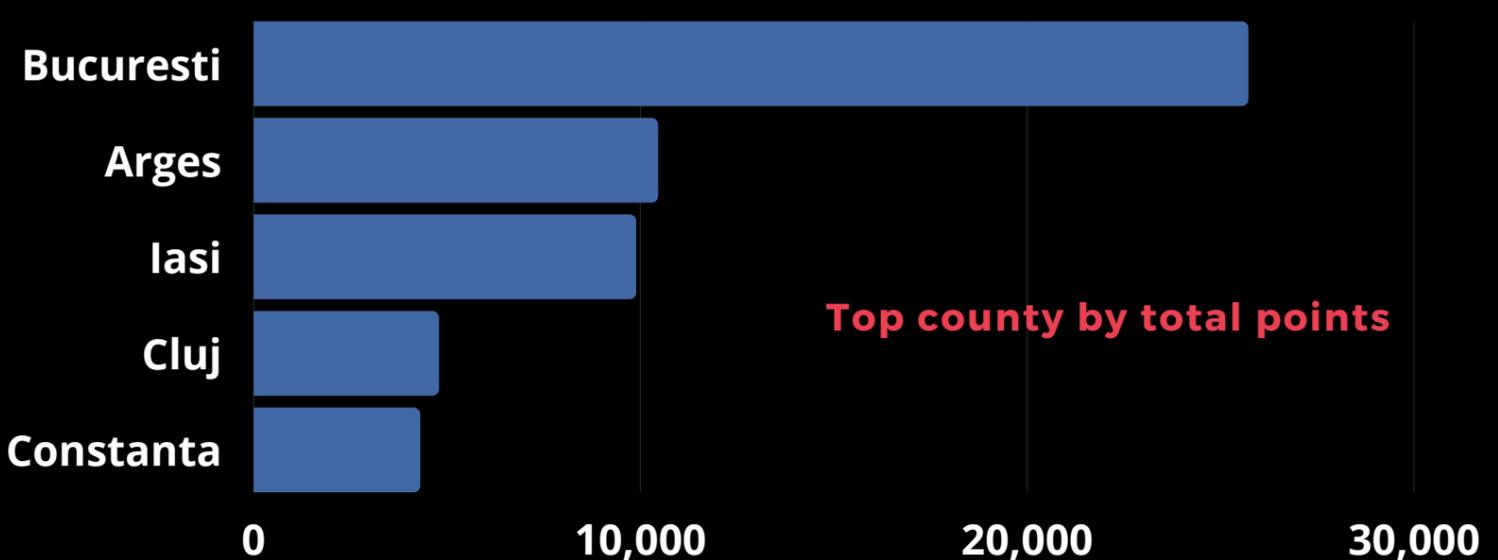
## RESULTS



Top 3 teams from universities



Top 3 from high school



Top county by total points

# TEAM COMPETITION



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## DID YOU KNOW?

### WHEN DID WE RECEIVED THE FIRST CORRECT FLAG?

The first correct answer was sent **after 3 minutes and 47 seconds** after the start of the contest.

### 1 HOUR FROM THE START

In just one hour from the start, the exercises were solved **22 times by 21 teams**, being sent 327 attempts.

### 12 HOURS FROM THE START

In 12 hours of competition, the exercises were solved **154 times**

### 24 HOURS FROM THE START

**368 flags** were sent after 24h and the exercises were solved **173 times**.

### EXERCISE ARE EXTRATERRESTRIALS SECRETIVE

Is the exercise with **the fewest solutions sent (only 2 teams)**. Participants had to apply reverse engineering techniques to recover the encryption algorithm, then it was necessary to decrypt some images using the recovered technique.

### EXERCISES THE MOST SOLVED

**Three exercises** managed to be solved by **28 teams**. These were part of the following categories: web security, exploitation binaries and investigation of logs.

### ALL EXERCISES SOLVED BY ONLY 2 TEAMS

The teams who managed to solve all exercises are **pwnibuc** from **University of Bucharest** and **RopTilDrop** from **Politehnica University** from Bucharest who managed to score 7514 points each..

### OTHER INTERESTING FACTS & FIGURES

- The **Code review category** of exercises gave the biggest headaches to the teams, with only **2,7% of solutions** while the **misc category** scored **65% of correct solutions**
- At the end of the competition, a total of **4,209 attempts** were registered, of which only **591 were successful**
- In the **last hour** of the competition, **106 answers** were sent



# UN breakable

Romania

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## MEET THE PARTNERS

### Event powered by\_



### With the support of\_



### Institutional partners\_



CENTRUL NATIONAL DE RĂSPUNS LA INCIDENTE DE SECURITATE CIBERNETICĂ - CERT-RO



### Media partners\_



Revealing the national cybersecurity talent from Romania!



Go to <https://unbreakable.ro> for more information

# UN breakable

Romania

The end-to-end cybersecurity educational program from Romania.

## INTENSE TRAINING

Theoretical resources, webinars, mentors and hands on sessions



## INDIVIDUAL ASSESSMENT

Prove skills in a competitive environment, get creative while solving exercises and develop knowledge.



## TEAM COMPETITION

Form new teams with people close to you, learn to effectively communicate and split tasks.



## MAKE IT COUNT!

- Get an overview on cybersecurity skillset at a national level
- Nurture and grow the future line of defense from your country
- Increase and develop cybersecurity capabilities
- Empower young people to kickstart a cybersecurity career path



Go to <https://unbreakable.ro> for more information