



UNbreakable Romania is the most complex education program for high school and university students in the country.

Through its activities, UNbreakable provides an x-ray and visualisation of the level of cybersecurity skills nationally.

UNbreakable's mission is to provide young cybersecurity enthusiasts with the most varied resources, both theoretical and practical, so useful for developing the skills needed to become good cybersecurity specialists. In addition to an intensive learning environment, the initiative also provides a competitive, testing virtual space that encourages collaboration and knowledge sharing.

This way, UNbreakable plays an important role in bridging the cybersecurity workforce gap both locally and internationally.

## HOW DOES UNBREAKABLE ROMANIA WORK?

### BOOTCAMP

Participants receive access to theoretical and practical resources to get familiar with the competition format and methodology, and also with basic cybersecurity concepts. They can also get in touch with mentors (industry experts and community alumni), participate in webinars and solve challenges in their dedicated space on the CyberEDU educational platform.

### INDIVIDUAL COMPETITION

Participants will compete for 48 hours. The main objective is to solve as many cybersecurity challenges as possible and send the maximum number of "flags" to reach the top of the leaderboard. At this stage, participants evaluate their technical skills and performance on an individual level to see what areas in their knowledge need improvement.

### TEAM COMPETITION

In cybersecurity, soft skills - such as communication and teamwork - are just as important as technical skills. This phase gives participants the chance to form teams of up to 3 members with complementary knowledge and later solve as many challenges as possible from different areas of cyber security in the timespan of 48 hours.

## WHY UNBREAKABLE ROMANIA?

*We need to work together, to participate in exercises like UNbreakable - it's the only way you can become a professional in this field, to go from an excellent level of knowledge to an exceptional one.*

**DAN CÎMPEAN**  
Director DNSC-National Directorate for Cybersecurity

*We have a legislative framework that lays the foundations for the development of a very strong cyber security field in Romania, we have cyber courses at the university level that are starting to become very, very good, we have the premises to do the same thing at the high school level.*

**ANTONG ROG**  
Director for the Cyberint National Centre

*Much has been said about the strategic importance of cybersecurity - but let's not forget people. It is your job to support them, to help them.*

**SORIN STĂNICĂ**  
Chief Police Commissioner - Institute for Research and Crime Prevention, Romanian Police

*Society as a whole is vulnerable. And if we, together, monitor events and act when we discover things, when we talk to each other and discover that there is a potential for harm or a potential for good, things will go in a direction - constructive or not, it is still a collective effort.*

**ANDREI CRĂCIUN**  
Advisor to the Ministry of Education

*UNbreakable is a tool for you to move forward. It's a tool that creates a bit of emulation in the direction that you could use the knowledge, the processes, the tools that you usually use in a CTF in cybersecurity work later on.*

**IOAN CONSTANTIN**  
Cyber Security Expert Orange România

*UNbreakable exposes you to real-life situations: the scenarios and problems in the competition come from real-life situations, you even get a chance to see what a security incident looks like or what challenges security experts face in real life.*

**ALEXANDRU ANDONE**  
Director European Delivery Center Infrastructure Cegeka România

# 2023 BOOTCAMP

## KICK OFF BOOTCAMP



## #UNR2023BOOTCAMP

**900** registered participants  
**150** challenges  
**20** mentors  
**16** webinars



## WEBINAR TOPICS

- ✦ Challenges in ensuring cyber resilience
- ✦ Cyberprofiling & manipulation vs Profiling & manipulation in the cyberspace
- ✦ LIVE DEMO | Solving *tim3*, *encoding-party*, *encoding-party2* and *c-mon-RSA-do-something*
- ✦ Ethical hacking & penetration testing - career opportunities and how to minimise legal risks
- ✦ LIVE DEMO | Solving *yachtclub* and *neighborhood*
- ✦ LIVE DEMO | Solving *schematics*, *small-data-leak* and *substitute*
- ✦ Security of 5G networks
- ✦ How to kick-start your career
- ✦ Trends and challenges in the security of automation systems
- ✦ Insights from the Front Lines: Real-World Cybersecurity Operations
- ✦ LIVE DEMO - Introduction to Volatility
- ✦ LIVE DEMO - Advanced memory analysis with Volatility
- ✦ LIVE DEMO - How to break @ UNbreakable
- ✦ The future of vulnerability research
- ✦ How to promote and communicate about anything you want - but especially technology - in the United States
- ✦ The relevance of cybersecurity in future wars

# 2023 INDIVIDUAL COMPETITION

62 high schools

29 universities

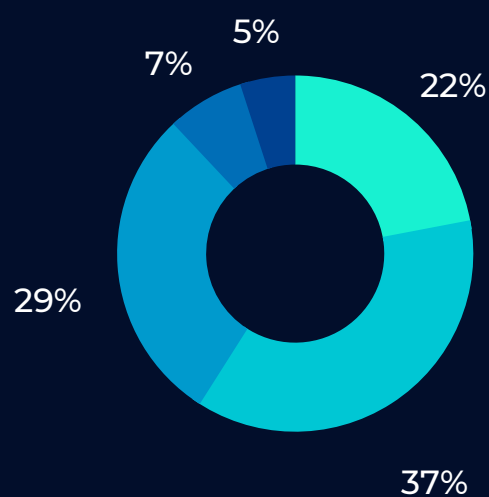
38 counties

21 challenges

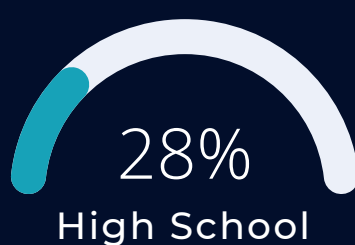
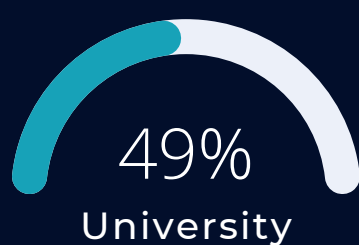
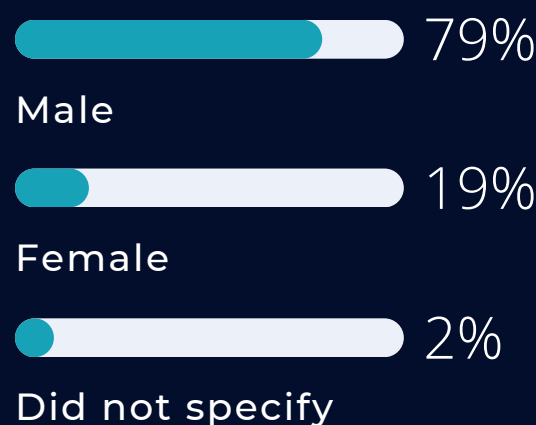


## PARTICIPANTS' DISTRIBUTION

### 622 PARTICIPANTS



- <18 years old
- 18-21 years old
- 21-25 years old
- 25-30 years old
- >30 years old



## RESULTS

### COUNTIES - TOP 5

**1889 points**

Botoșani  
Brăila  
București  
Cluj  
Constanța  
Galați  
Iași  
Maramureș  
Sibiu

**1199 points**

Vâlcea

**1165 points**

Buzău

**1149 points**

Prahova

**999 points**

Suceava



### UNIVERSITIES - TOP 5

**1889 points**

Universitatea Babeș - Bolyai Cluj-Napoca  
Universitatea Tehnică Gheorge Asachi Iași  
Universitatea Politehnica București  
Universitatea de Vest din Timișoara  
Universitatea Tehnică din Cluj-Napoca

**1689 points**

Academia Tehnică Militară din București

**1165 points**

Universitatea Petrol Gaze din Ploiești

**1149 points**

Academia Forțelor Terestre Nicolae Bălcescu din Sibiu

**829 points**

Universitatea din București

### HIGH SCHOOLS - TOP 5

**1889 points**

Colegiul Național de Informatică Tudor Vianu  
Colegiul Național Nicolae Bălcescu Brăila  
Colegiul Economic Octav Onicescu Botoșani

**1199 points**

Colegiul Național Mircea cel Bătrân  
Râmnicu Vâlcea

**926 points**

Colegiul Național Mihai Viteazul

**786 points**

Colegiul Național Militar Ștefan cel Mare Câmpulung Moldovenesc

**632 points**

Colegiul Național Dr. Ioan Meșotă Brașov



# 2023

## INDIVIDUAL COMPETITION

### - FUN FACTS -

The first answer tentative was recorded at 3:59 minutes into the contest.

1

**FIRST  
TENTATIVE**

**FIRST  
BLOOD**

2

The first correct answer was sent in 4 minutes and 38 seconds from the start, for the *mad-algo* challenge, by Niță Horia, student at Babeș Bolyai University in Cluj-Napoca.

In the first hour of the competition there were 802 attempts, 185 correct answers and 617 wrong answers submitted by 73 unique players.

3

**AFTER  
1 HOUR**

**AFTER 12  
HOURS**

4

In the first 12 hours of the competition there were 5608 attempts, 1318 correct answers and 4290 wrong answers submitted by 162 unique players.

In the last hour of the competition there were 181 attempts, 50 correct answers and 131 wrong answers submitted by 35 unique players.

5

**1 HOUR  
REMAINING**

**THE HIGHEST  
NUMBER OF  
SUBMITTED  
FLAGS**

6

The most popular challenge was *shazam*, with 131 solutions. The challenge involved applying reverse engineering techniques by analyzing an executable file.

The challenge with the fewest solutions was *code-com*, with 19 sent flags. The challenge involved at least obtaining an XOR key over the randomly generated message header on each connection.

7

**THE LOWEST  
NUMBER OF  
SUBMITTED  
FLAGS**

**COMPETITION  
FINALE:  
ATTEMPTS &  
SOLUTIONS**

8

At the end of the competition, 6708 attempts were registered, of which 2252 were correct.

The fastest player was, as in 2022, Niță Horia (Babeș Bolyai University of Cluj-Napoca). He solved all challenges in just 9 hours and 52 minutes.

9

**THE FASTEST  
PLAYER TO SOLVE  
ALL CHALLENGES**

**PARTICIPANTS  
2023 VS 2022**

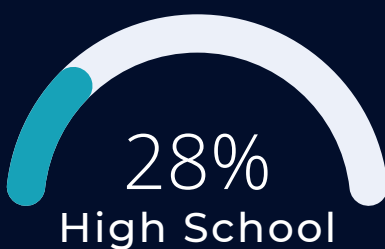
10

30% of those who registered for UNbreakable 2023 were also active in the 2022 program.

# 2023 TEAM COMPETITION

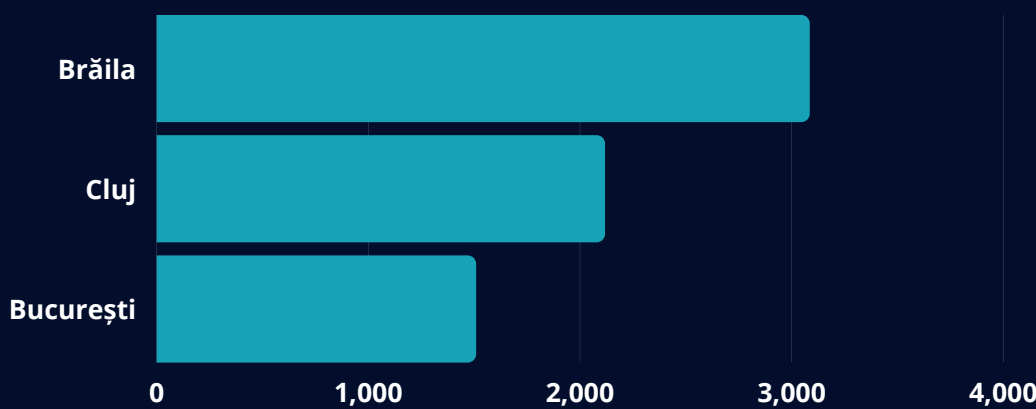
## TEAM DISTRIBUTION

85 TEAMS

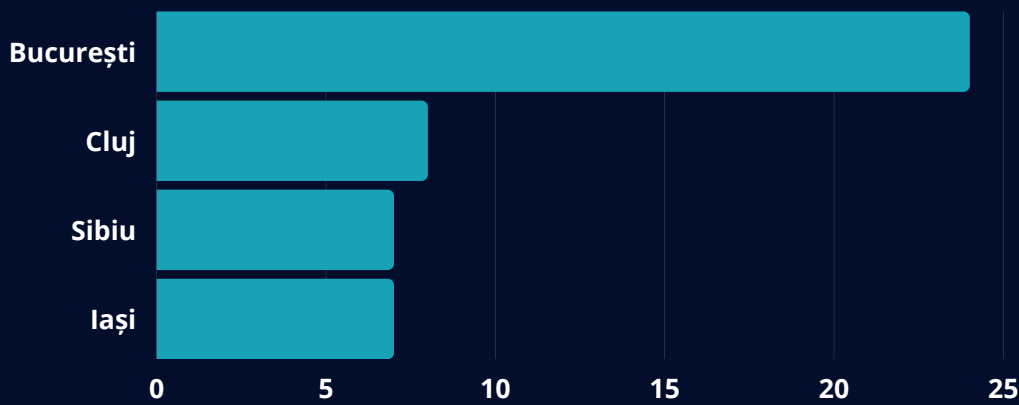


## RESULTS

### TOP COUNTIES BY POINTS AVERAGE



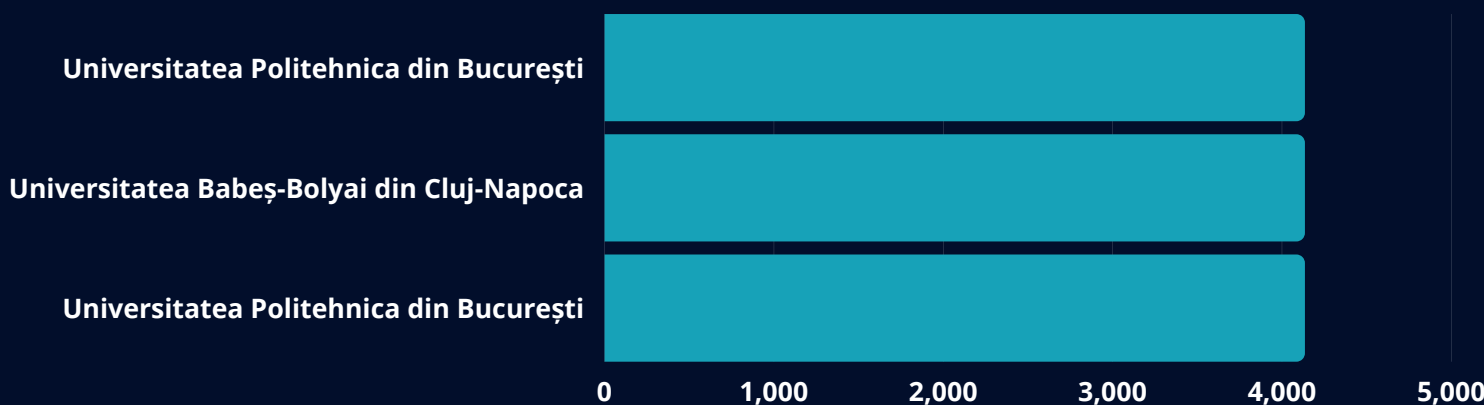
### TOP COUNTIES BY TEAM NUMBER



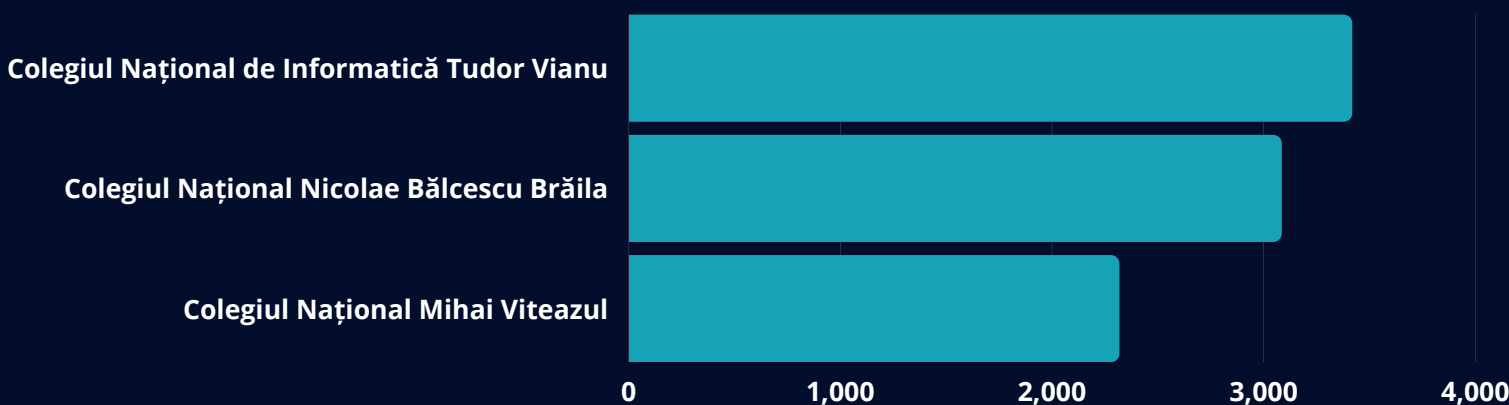
### EDUCATIONAL INSTITUTIONS WITH THE HIGHEST NUMBER OF TEAMS

11 TEAMS	Universitatea Politehnica București
7 TEAMS	Academia Forțelor Terestre Nicolae Bălcescu din Sibiu
6 TEAMS	Universitatea Babeș - Bolyai Cluj-Napoca
6 TEAMS	Colegiul Național de Informatică Tudor Vianu
5 TEAMS	Colegiul Național Militar Ștefan cel Mare Câmpulung Moldovenesc

### TOP 3 UNIVERSITY TEAMS WITH THE HIGHEST SCORE



### TOP 3 HIGH SCHOOL TEAMS WITH THE HIGHEST SCORE



55 teams solved at least 1 of the 21 challenges.

# 2023 TEAM COMPETITION - FUN FACTS -

The first correct answer was submitted in the first 58 seconds by The Few Chosen team from Babeş Bolyai University in Cluj-Napoca.

1

**FIRST  
BLOOD**

**AFTER  
1 HOUR**

2

In the first hour of the competition there were 47 correct answers submitted, for 21 exercises, from 30 teams - and 182 failed attempts.

In the first 12 hours of the competition there were 306 correct answers submitted, for 21 exercises, from 55 teams - and 927 failed attempts.

3

**AFTER  
12 HOURS**

**1 HOUR  
REMAINING**

4

In the final hour of the competition there were 17 correct answers submitted, for 15 exercises, from 10 teams - and 34 failed attempts.

The *messed-signal* challenge had 44 solutions. It was an introductory cryptography exercise where the objective was to recover an obfuscated message using various techniques.

5

**THE HIGHEST  
NUMBER OF  
SUBMITTED  
FLAGS**

**THE LOWEST  
NUMBER OF  
SUBMITTED  
FLAGS**

6

The *goran* challenge was solved by 8 teams. It was a ransomware application written in the golang language: the objective was to apply reverse engineering techniques to recover a hidden message.

The WEB challenge category had 101 solutions.

7

**THE MOST  
POPULAR  
CATEGORY**

**THE LEAST  
POPULAR  
CATEGORY**

8

The MOBILE challenge category had 17 solutions.

At the end of the competition there were 967 failed attempts and 460 correct answers.

9

**COMPETITION  
FINALE: ATTEMPTS  
& SOLUTIONS**

**THE TEAM THAT  
SOLVED ALL  
CHALLENGES**

10

4 teams solved all 21 challenges: bau-bau boys , The Few Chosen, panik and otelul.

## POWERED BY



## WITH THE SUPPORT OF



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