



## Vítejte u prvního čísla magazínu Kyberšikulové!

Ahoj, kyber šikulové! Držte v rukou (nebo spíš na obrazovce) úplně první číslo našeho nepravdělného, ale o to zábavnějšího magazínu Kyberšikulové! Chceme vám přinášet zajímavé články, kvízy a minisoutěže ze světa digitálních technologií a kybernetické bezpečnosti – a to hravě, zábavně a bez nudy!

V tomto prvním čísle se vrátíme k super článku, který v roce 2020 vytvořili členové soutěžního výboru Kybersoutěže pro magazín AFCEA CYBER KIDS. Protože se v IT světě mluví hlavně anglicky, rozhodli jsme se ho vám přinést právě v tomto jazyce!

Zjistíte, co je vlastně AFCEA, jak tahle mezinárodní organizace pomáhá rozvíjet digitální dovednosti, a hlavně – podíváme se na úkoly, které v roce 2020 řešili čtenáři CYBER KIDS!

Tak se pohodlně usadte, připravte myšlenkové procesory a užijte si první číslo! A nezapomeňte – kyber svět je plný výzev, stačí se do nich pustit!

Přejeme vám super zábavu!

**Tým Kyberšikulové**

## The Future of Cyber Starts Here: AFCEA's Legacy in STEM and Security

In 1946, in a meeting area in the Fraunces Tavern in New York, a group of respected military and corporate leaders gathered. Their purpose was to discuss a shared concern, one that was on the minds of many in the aftermath of World War II.

Throughout the war, improved communications and electronics

Products and services such as smartphones, computers or the cloud were beyond the imagination of even the brightest in that room, such as Brig. Gen. David Sarnoff, USAR, who foresaw the combination of radar, televisions and electronics as revolutionizing warfare. While these leaders understood the power that communications technology offered, they could not have predicted how ubiquitous it would become, available to users as young as preschoolers or to enemies who no longer needed a physical command center.

In simplest terms, the goal of the meeting was not to predict the future but to secure it. The leaders were gathered as part of a new organization that would support global defense and security in ways that would transcend the decades. This organization would become the Armed Forces Communications and Electronics Association, better known as AFCEA, and it would empower those in military and industry to advance technology and ensure security by opening channels for collaboration.

As the meeting proceeded, a letter from President Harry S. Truman set the tone, acknowledging the organization as one for fostering "industrial preparedness, which must buttress the future security of our country." Army Chief Signal Officer Maj. Gen. Harry C. Ingles addressed the attendees, and Sarnoff, who became AFCEA's first president, also spoke. Sarnoff led a distinguished broadcasting career that culminated in his service as chairman of the board of RCA. AFCEA's founding fathers also included Darryl F. Zanuck, who was a renowned 20th Century Fox movie producer and covered action in North Africa for the Signal Corps.

Today, the battle against real and growing threats to global security continues to evolve. AFCEA remains true to its founders, sustaining innovation in information and communications technology and providing a forum for collaboration that advances technology and ensures preparedness and strength. Since its inception, AFCEA has continued to grow better, faster and smarter with age, now with more than chapters, an international

headquarters in Fairfax, Virginia, and an office in Brussels, Belgium. At present, AFCEA has almost 40,000 members in more than 130 chapters worldwide. Most chapters were also established with the support of members of the Signal Corps.



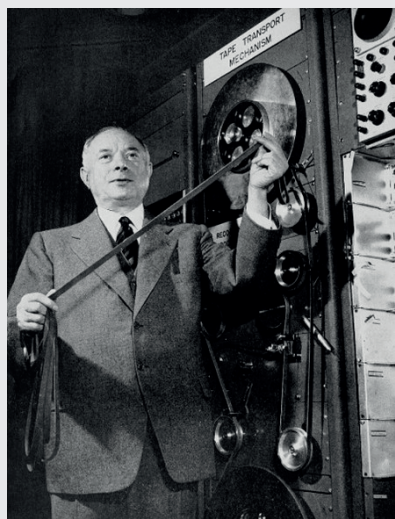
In January of 1945, David Sarnoff receives his brigadier general's star from MGen. Harry C. Ingles, USA. A little more than a year later, these two would found AFCEA

The Signal Corps is not only about communication, but also about modern information technology, command and control support, security and, last but not least, cyber security (CSISTAR).

A brief history of the Signal Corps a little differently. The oldest mentions of attempts to transmit information at a distance can be found in ancient times. King Agamemnon announced his victory over Troy to his wife Klytaylor in Mycenae by means of a chain of fires, up to a distance of more than 500 km.

To call this moment the beginning of a liaison force would, of course, be somewhat exaggerated. However, fire signals retained their significance until the 19th century.

Or the naval flagship signal, created in 1665 by the Duke of York (later King James II of England), also played a significant role in Admiral Nelson's victory at the Battle of Trafalgar in 1805.



David Sarnoff demonstrates the RCA videotape machine. Sarnoff, who became president of RCA, was one of the founders of AFCEA and its first president.

devices had emerged, enhancing military capabilities. These leaders recognized the challenge of not only continuing to advance the technology that had resulted from the war effort, but also of ensuring that military and industry organizations remained in a strong partnership, one that would lead to preparedness for the future.

The details of this meeting would have been communicated via landlines, typewritten reports or telegraph dispatches.



# STEM EDUCATION IN THE CZECH REPUBLIC

Despite the fact, that in European countries Science, Technology, Engineering and Mathematics are taught mainly in separate subjects, part of the teaching has long been an effort to find a solution to a practical problem. And it is the solution of real problems and the connection to the real world that are the main ideas which the STEM is based on. The Czech education system is also based on:

- COMENIUS HANDS-ON ACTIVITIES
- LOGIC & COMMON SENSE
- MATHS
- DIGITAL SKILLS

The following tasks will show you how to connect culture, music and history with modern technology, mathematics and cyber security.

## TASK #1 ABOUT THE PRAGUE GOLEM

The most famous golem (Hebrew: גִּלְגֻל ) narrative involves Judah Loew ben Bezalel, the late 16th century rabbi of Prague, also known as the Maharal, who reportedly “created a golem out of clay from the banks of the Vltava River and brought it to life through rituals and Hebrew incantations to defend the Prague ghetto from anti-Semitic attacks” and pogroms.

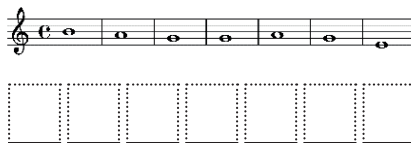
The Golem was called Josef and was known as Yossele. It was said that he could make himself invisible and summon spirits from the dead. The Golem was activated by inserting the shem or deactivated by removing the shem - scroll.

How the shem was used to revive the Golem is hidden in the ciphertext. The Hebrew cipher ALBAM was used for encryption. Decrypting the following text will reveal the secret of the golem.

GURTB YRZJN FOEBH TUGGB YVSRO LVAFR  
EGVAT NFPEB YYVAG BVGFZ BHGUG URTBY  
RZSRY YNFYR RCOLE RZBIV ATGUR FPEBYY

## TASK #2 MUSIC NOTATION

Even sheet music may serve to transfer enciphered information. This is a small example.



## TASK #3 / SIGNIFICANT COMPOSER

What is the name of the most known composition cycle of Bedřich Smetana?

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Hint: One of his six parts has the same name as the longest river in Czechia.

## TASK #4 / LOGO

What 7E4 means in the picture?

**WHY AND HOW TO ENCRYPT A TEXT** Very soon after people came up with the fascinating opportunity to record their thoughts with the help of writing, they also realized that in addition to the immense benefits, this possibility could also bring them problems. The information, which was intended only for someone, could now be read by anyone who came to the written text and read it. They, therefore, began to look for ways to protect their records against unauthorized persons. The solution was found in encryption! This brings us to the definition (simplified) of what encryption is. Encryption is a method used to convert information into a form that is illegible to those to whom the information is not intended, i.e. to people who do not share the secret of how to convert the cypher into legible text.



Czech music has its roots in spiritual music. The oldest spiritual songs came into being at the end of the 10th century. Baroque was an important stage in the development of Czech music (17th and 18th centuries). The most significant Czech composers as **Bedřich Smetana** (on the photograph, 1824 – 1884), **Antonín Dvořák**, **Bohuslav Martinů**, **Leoš Janáček** and others, composed their music predominantly in the 19th century. However, many Czech musicians made a difference in the new genres. In jazz, for example, Jaroslav Ježek, Oskar Nedbal in the operetta, Karel Gott in popular music, or the composer Jan Hammer.

## CZECH MODERN SCIENCE

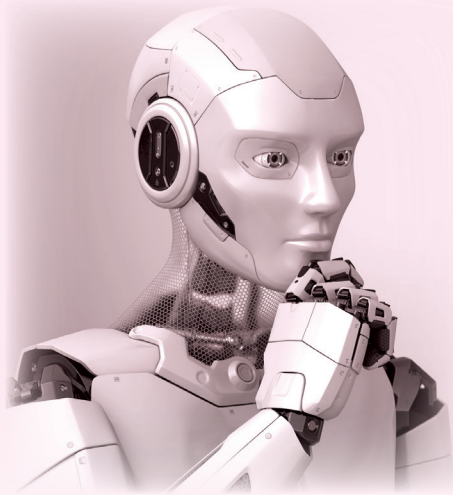
Czech science has a deep tradition reaching as far back as the 9th century. The founding of the Charles University by **King Charles IV<sup>th</sup>** in 1348 gave rise to a development of abstract thinking. **King Rudolph II** (1555-1612) invited to Prague a number of important scientists (**Tycho de Brahe, Johannes Kepler, Jan Gesenius**), which resulted in substantial development of natural sciences, which again brought many notable scientists to Prague. In the 19th and 20th centuries, many world-famous scientists were either born or had lived in the territory of the current Czech Republic, including for example **Albert Einstein, Christian Doppler, Gregor Mendel, František Křížik** or **Ferdinand Porsche**. Modern science greatly impacts at present also the education at the Czech and Moravian universities.



## CZECH CYBER SECURITY COMPETITION

The Czech Cyber Security Competition came into being in 2006 and has as its objective the increasing of general awareness and spotting talents in the ICT and cyber security areas. The competition is focused both on the technical aspects of cyber security as well as on logical thinking and analytical abilities of the participants, team cooperation and interconnecting cyber security and ICT with the areas of daily life. Almost 20,000 young people aged 9-25 take part annually in the competition and many accompanying events. The competition is a part of the European initiative European Cyber Security Challenge.





You probably know what the word **ROBOT** means. In movies, you can often see human-like robots that are capable of doing almost everything. In real life, you will find less human-like but much more useful robots that help people to deal with heavy loads, perform precise welding or even help doctors to cure patients. But how about the word Robot itself - it doesn't sound too English, right? Yes, the word was invented by Czech writer **Karel Čapek** back in the 1920s when he used it in his theater play **RUR** - a fiction about intelligent machines. The name itself comes from an old Czech word '**robota**' which means heavy work. Thus the **ROBOT** originally meant a **WORKER**.



**John Amos Comenius** (1592 – 1670) was a Moravian (Czech territory) teacher, educator, bishop, and writer. He is considered the father of modern education because he advocated universal education in his book *The Great Didactic*. Comenius revolutionized education in three ways: school systems, educational theories, and educational methods. (Schwarz G. & Martin J., 2012).

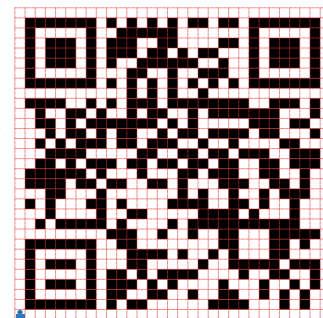
## TASK #5 / ROBOT

You are now an operator of a painting robot. It is the tiny blue machine in the left bottom corner of the picture. Your goal is to paint a few tiles of the picture to finalize the secret code that will bring you to the next challenge. Follow the instructions in the robot's program and paint the right tiles (your pencil will do just fine in tiles painting):

Your robot starts the work right there in the left-bottom corner:

1. Go four tiles up
2. Go three tiles right
3. Repeat the following task three times:
  - Paint the tile you are standing on
  - and then move one step right
4. When done move 17 tiles to right (count carefully)
5. Go three tiles up and paint the tile you stand on

Well done! Now turn off your robot and scan the picture with a QR reader app in your smartphone.



Let us use the national flags of selected states of the European Union for our role. Will they be able to figure out what these flags represent? We will tell you that this is the name of one important organization that has existed for 79 years.



The first letters of the names of the states represented by the flags

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Soutěž: Odhalte nedokonalosti generativní AI v ilustracích KYBERPOHÁDEK



Více informací zde:  
<https://forms.office.com/e/7Q904QCcyv>

Zaregistrujte se k odběru časopisu Kyberšikulové e-mailem



Více informací zde:  
<https://forms.office.com/e/LDKmLX2Wbf>



# CYBER SECURITY COMPETITION CZECHIA

## Národní finále

9. ročníku Národní soutěže ČR v kybernetické bezpečnosti  
10. dubna 2025  
areál SŠ IPF, Čichnova 23, Brno



jiho**m**oravský kraj

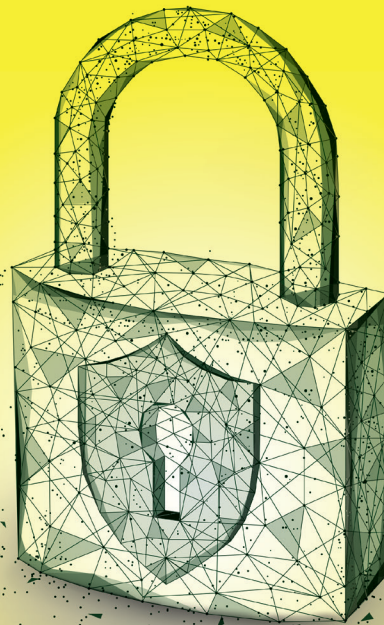
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