The History We Live: A Student's Perspective on the 21st Century

Picture 1

Czech Republic

Chapter 5

Technology & Innovation

1) Artificial Intelligence in Everyday Life

What is AI

Artificial Intelligence is a technology that allows computers to think, learn, and solve problems just like humans. AI can recognize images, language, answer tough questions, and even create text music, or pictures.

Picture 2

AI Tools Used by Students

Artificial intelligence has become a common part of students' everyday lives. Many students use AI because it saves time, helps them complete tasks more efficiently, and provides quick access to information.

In education, students frequently use tools such as ChatGPT for homework support, explanations, and brainstorming ideas. Grammarly is often used to improve English writing by checking grammar and spelling, while Quizlet helps students study and revise through interactive flashcards and learning activities.

AI is also widely present on social media platforms. Algorithms used by TikTok and Instagram analyse users' interests and behaviour to provide personalised content recommendations. In addition, many students use AI-powered filters and photo-editing tools.

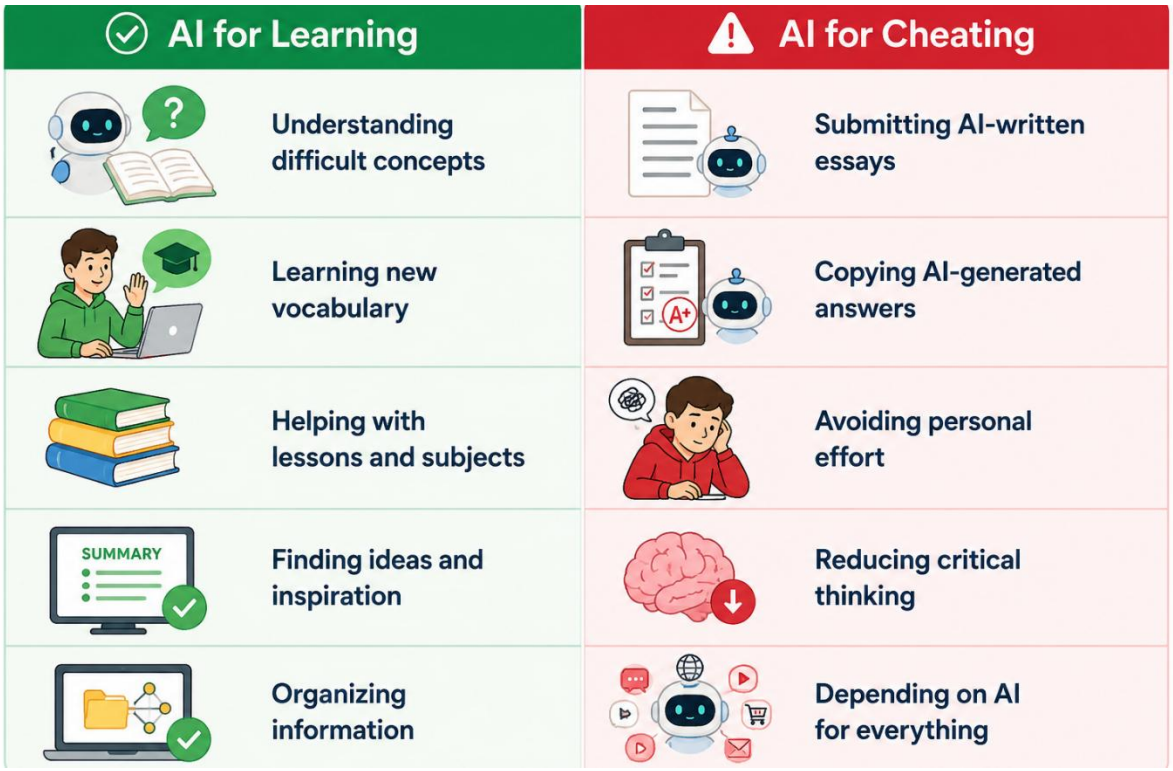
Picture 3

For translation and language learning, students commonly rely on services such as Google Translate and DeepL, which enable fast translation of texts between different languages.

AI in education – help or cheating?

Students have mixed opinions about the role of artificial intelligence in education. Many see AI as a useful tool that can support learning, save time, and make difficult topics easier to understand. However, others point out that AI can also be misused and may encourage students to rely on technology instead of developing their own knowledge and skills.

The following comparison highlights some of the most common benefits and risks associated with the use of AI in education.



Picture 4

Artificial intelligence is neither entirely good nor entirely bad. Its impact on education depends largely on how it is used. When used responsibly, AI can enhance learning; when misused, it can become a substitute for genuine understanding and effort.

Risks of AI (deepfakes, misinformation, privacy)

Although artificial intelligence offers many benefits, it also presents several risks. AI can create realistic fake videos, images, and voices that may be used to deceive people or spread harmful content. It can also generate or spread false information online, and because AI does not truly understand the information it produces, some of its responses may be inaccurate or misleading. In addition, many AI-powered applications collect personal data, and users may unknowingly share sensitive information that can be stored, analysed, or used by companies and other organizations.

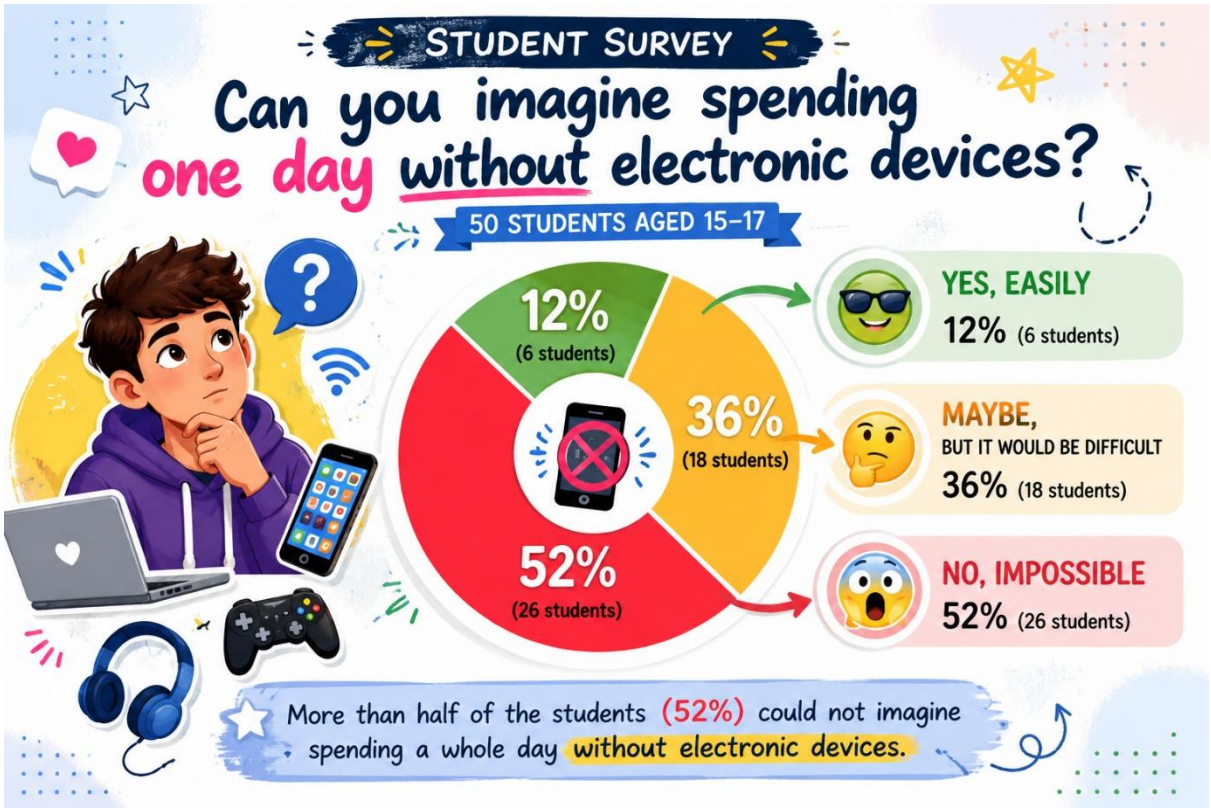
Future of AI – what will change?

Artificial intelligence is expected to play an even greater role in our daily lives in the future. As technology continues to develop, AI will become more advanced and widely used in education, healthcare, science, and the workplace.

Future developments may include:

- ✓ Greater use of AI in schools and jobs
- ✓ Faster and more accurate disease detection and medical research
- ✓ Automation of routine and repetitive tasks
- ✓ Smarter robots, virtual assistants, and other AI-powered technologies
- ✓ The creation of new careers and industries related to AI

While some traditional jobs may disappear, new opportunities are likely to emerge as AI becomes an increasingly important part of society.

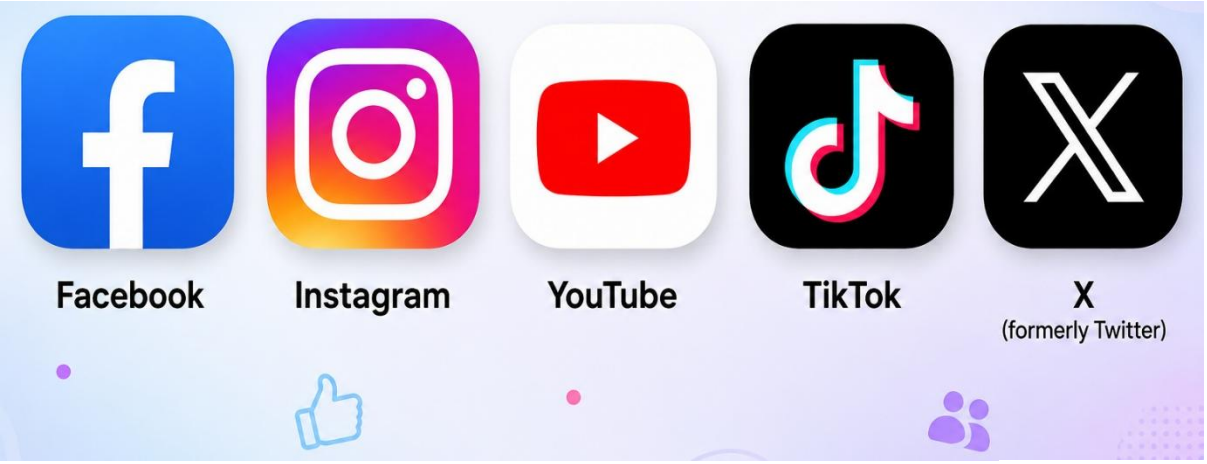


Picture 5

Most reasons are:

- ✓ communication with friends would be difficult
- ✓ social media
- ✓ music and entertainment, games and such
- ✓ schoolwork – most people do their essays electronically
- ✓ boredom without phones

2) Social Media and Digital Society



Picture 6

Most popular platforms

Facebook remains one of the most widely used social media platforms in the world. It is popular for connecting with friends and family, joining communities, buying and selling items through Marketplace, and sharing news and updates.

Instagram is a visual platform focused on photos, Stories, and short videos called Reels. It is especially popular among younger users, influencers, and content creators who share their daily lives, interests, and creative work.

YouTube is the world's leading video-sharing platform. People use it for entertainment, education, tutorials, music, gaming, and live broadcasts. It also provides opportunities for creators to build audiences and earn income from their content.

TikTok is known for its short, engaging videos and rapidly changing trends. The platform is particularly popular among teenagers and young adults and has become an important space for entertainment, creativity, and online culture.

X is a social media platform focused on news, opinions, and real-time discussions. Users often follow current events, public figures, and trending topics, making it a popular source of instant updates and public conversations.

BE CAREFUL ONLINE!
Social media can be useful and entertaining, but excessive use may affect mental health, privacy, and real-life relationships. Always think critically about online content and protect your personal information.

How social media shapes opinions

Social media plays an important role in shaping public opinion. It allows people to access information quickly, share their views, and discuss current events. During major events such as elections, social media can influence how people think and make decisions.

PROS	CONS
Quick spread of information	**Quick spread of misinformation**
Freedom of expression	**Pressure to follow trends**
Opportunity to ask for help and support	**Cyberbullying and online harassment**
Easy access to different viewpoints	**Creation of echo chambers and biased content**

Picture 7

Social media can be a powerful tool for communication and learning, but users should always think critically about the information they encounter online.

THINK BEFORE YOU BELIEVE

Not everything shared on social media is true. Algorithms often show users content that matches their interests and opinions, which can create a distorted view of reality. Always verify information from reliable sources and think critically before sharing or trusting online content.

Cancel culture & online conflicts

Social media allows people to share their opinions and connect with others, but it can also lead to disagreements and online conflicts. Arguments in comment sections, personal attacks, and cyberbullying are common examples of conflicts that can quickly spread online.

One example is cancel culture, where individuals or public figures face strong criticism or lose support because of their actions or statements. While some people see this as a way of holding others accountable, others believe it can lead to unfair judgment and online harassment. These issues raise important questions about freedom of expression, responsibility, and respectful communication in digital spaces.

Discuss!

1. Do you think cancel culture is a fair way to hold people accountable? Why or why not?
2. Should people be held responsible for things they post online, even many years later?
3. When does criticism on social media become cyberbullying?

THINK BEFORE YOU POST

Comments, photos, and opinions shared online can spread quickly and remain visible for a long time. Before posting, consider how your words may affect others and whether the information you are sharing is accurate and respectful.

STAY RESPECTFUL ONLINE

Online disagreements are common, but personal attacks, harassment, and cyberbullying can have serious consequences. If you experience or witness abusive behavior online, report it to the platform, a trusted adult, teacher, or another responsible person. Respectful communication helps create a safer online environment for everyone.

Mental health and screen time

Digital devices and social media have become an important part of everyday life. While technology helps people communicate, learn, and stay entertained, excessive screen time can negatively affect mental health. Spending too much time online may increase stress, reduce sleep quality, and contribute to feelings of anxiety or loneliness. Maintaining a healthy balance between screen time and offline activities is important for overall well-being.

Picture 8

Online identity and influencers

An online identity is the image a person creates on the internet through social media, posts, comments, photos, and other digital activities. It can influence how others perceive us and may have a lasting impact on our personal and professional lives.

Like many other countries, Czechia has its own influencers and online personalities who shape the opinions and interests of large audiences. Social media platforms such as YouTube, Instagram, Twitch, and TikTok play an important role in everyday life, especially among younger generations. Below are some of the most well-known Czech online creators.

Picture 9

It's Video Time![1]

Disscuss!

1. Would you like to become an influencer? Why or why not?
2. Do you think being an influencer is a good career choice? Why or why not?
3. What are the advantages and disadvantages of being an influencer?
4. Would you enjoy the lifestyle of an influencer? Explain your answer.

What Social Media Doesn't Show

Social media often presents an idealized version of reality. People usually share their best moments, carefully selected photos, and personal achievements, while everyday problems, mistakes, and ordinary situations remain hidden. As a result, social media can create unrealistic expectations and encourage comparisons with others.

The following examples illustrate the difference between how things may appear online and what reality can actually look like.

Picture 10

Student example: How a single photo can change the story. Different angles or cropped images can create completely different impressions of the same event.

Picture 11

REMEMBER!
Photos and videos on social media do not always show the full picture. Always consider the context before forming an opinion.

Disscuss!

1. Do people show their real lives on social media? Why or why not?
2. Why do you think people usually share only their best moments online?
3. Have you ever compared your life to what you saw on social media? How did it make you feel?

3) Smart Technology and Daily Life

Smart Homes

Picture 12

Smart home technology uses the internet and artificial intelligence to connect and control devices within a home. Virtual assistants such as Amazon Alexa and Google Home can operate lights, music, televisions, and other smart devices through voice commands, making everyday life more convenient and efficient. Smart security systems, including cameras, smart locks, alarms, and motion sensors, allow homeowners to monitor their property remotely and receive instant notifications on their smartphones. While these technologies can improve comfort, safety, and energy efficiency, they also raise concerns about privacy, internet dependence, cybersecurity, and technical failures.

Wearables

Wearable technology has become an increasingly common part of everyday life in Czechia. Devices such as smartwatches and fitness trackers gained popularity during the mid-2010s and are now widely used by people of all ages.

These devices can monitor health indicators such as heart rate, sleep quality, stress levels, blood oxygen saturation, and physical activity. Many models also offer advanced features, including GPS tracking, ECG monitoring, fall detection, and emergency assistance. Wearables are often connected to smartphones, allowing users to receive notifications, messages, and calls directly on their wrists.

In Czechia, wearable technology has benefited from the widespread use of contactless payments, with services such as Apple Pay, Google Pay, and Garmin Pay becoming increasingly popular. Support for eSIM technology has also enabled some smartwatches to make calls independently without requiring a smartphone nearby.

Wearables have influenced lifestyle habits by encouraging physical activity, health monitoring, and preventive healthcare. At the same time, they contribute to a more connected lifestyle, raising questions about privacy, digital well-being, and constant online availability.

Technology in transport

Transportation has changed significantly in the 21st century. New technologies have made vehicles more environmentally friendly, safer, and increasingly automated.

One of the most important developments has been the rise of electric vehicles. Unlike traditional cars powered by petrol or diesel, electric vehicles use rechargeable batteries and electric motors. Their growing popularity reflects a global effort to reduce emissions and create more sustainable forms of transport. Improvements in battery technology have also increased driving range and performance, although charging infrastructure remains a challenge in some areas.

Another major innovation is the development of autonomous vehicles. These cars use cameras, sensors, and artificial intelligence to analyze their surroundings and assist with driving. While fully self-driving cars are not yet common, many modern vehicles already include autonomous features such as lane-keeping assistance, automatic parking, and adaptive cruise control. These technologies have the potential to improve road safety and transform the future of transportation.

Together, electric and autonomous vehicles represent a shift towards smarter, cleaner, and more efficient mobility.

Further Reading

1. Diamandis, Peter H., & Kotler, Steven. *The Future Is Faster Than You Think: How Converging Technologies Are Transforming Business, Industries, and Our Lives.* Simon & Schuster, 2020.
2. Lipson, Hod, & Kurman, Melba. *Driverless: Intelligent Cars and the Road Ahead.* MIT Press, 2016.
3. Isaacson, Walter. *Elon Musk.* Simon & Schuster, 2023.
4. Johnson, Steven. *How We Got to Now: Six Innovations That Made the Modern World.* Riverhead Books, 2014.
5. Lee, Kai-Fu. *AI Superpowers: China, Silicon Valley, and the New World Order.* Houghton Mifflin Harcourt, 2018.

Technology in school

Digital technology has transformed education in Czechia. Traditional teaching methods are increasingly complemented by computers, tablets, educational apps, and online platforms that make learning more interactive and accessible.

School management systems such as Bakaláři and Škola Online have replaced many paper-based processes, allowing teachers, students, and parents to communicate more efficiently. Educational applications and online exercises help students practice subjects in a more engaging way, while artificial intelligence is becoming a useful tool for explaining difficult topics, creating study materials, and personalizing learning.

Picture 13

Online courses and tutoring platforms have also expanded access to education, enabling students to prepare for exams and learn new skills from anywhere.

Despite these benefits, digitalization brings challenges such as unequal access to technology, cybersecurity concerns, and the need to maintain healthy study habits. Nevertheless, digital literacy has become an essential skill for students in the 21st century.

Technology in medicine

Modern technology is transforming healthcare and improving the way diseases are diagnosed, treated, and prevented. Innovations such as artificial intelligence, robotics, wearable devices, and genetic research are helping doctors provide faster, more accurate, and more personalized care.

Artificial intelligence can analyze medical images and large amounts of data, helping doctors detect diseases earlier and develop new treatments more efficiently. Telemedicine allows patients to consult doctors online, while wearable devices such as smartwatches can monitor heart rate, sleep, and other health indicators in real time.

Robotic systems assist surgeons during complex operations, increasing precision and reducing recovery times. At the same time, advances in genetics and technologies such as CRISPR are opening new possibilities for personalized medicine tailored to an individual's DNA.

These innovations make healthcare more accessible, efficient, and effective. However, challenges remain, including privacy concerns, cybersecurity risks, high costs, and ethical questions surrounding the use of advanced technologies.

As technology continues to develop, it is expected to play an even greater role in improving healthcare and quality of life around the world.

Picture 14

New inventions in 21th century

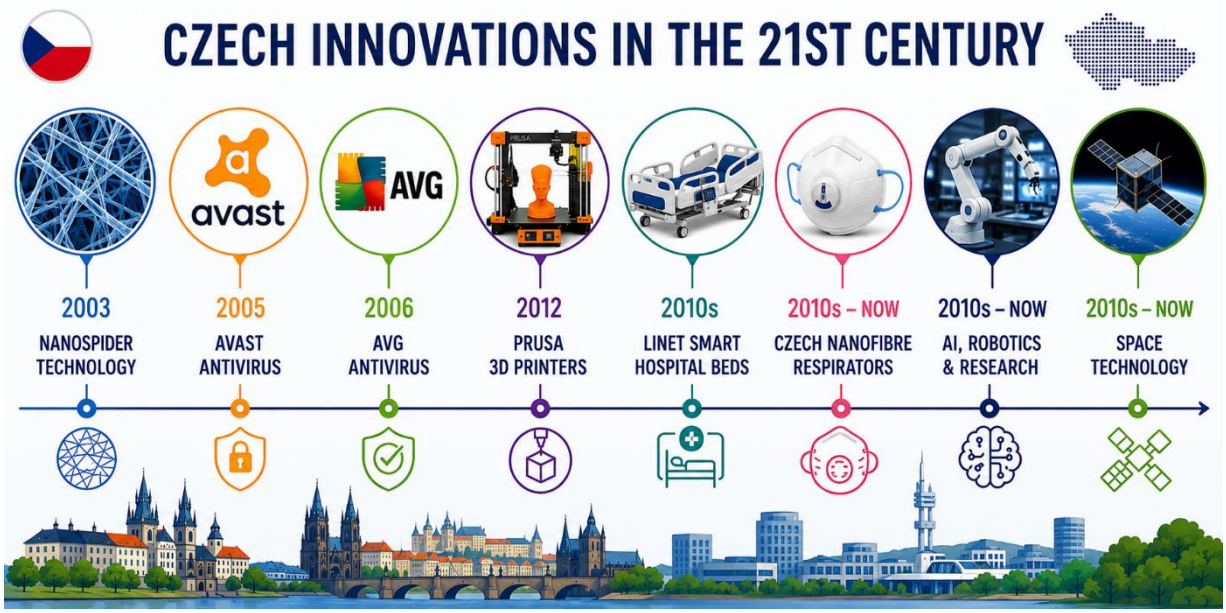
The 21st century has brought many technological innovations to Czechia. Czech scientists, engineers, and companies continue to contribute to fields such as medicine, nanotechnology, cybersecurity, and advanced manufacturing.

One important area is nanotechnology, where Czech researchers have become world leaders in the development of nanofibers. These ultra-thin materials are used in healthcare, filtration systems, and environmental protection. Czech companies have also gained international recognition in cybersecurity, developing software that helps protect computers and networks from digital threats.

Another growing field is 3D printing, which is increasingly used in industry, medicine, and education. Czech researchers and innovators are also involved in the development of modern medical technologies, artificial intelligence, and sustainable energy solutions. These innovations demonstrate how Czechia continues to contribute to technological progress in the 21st century.

Important Czech Innovations of the 21st Century:

- ✓ **Nanospider Technology (Elmarco)** – a revolutionary method for the industrial production of nanofibres used in medicine, filtration, and industry.
- ✓ **Prusa 3D Printers** – among the world's most popular and widely used 3D printers.
- ✓ **Avast Antivirus** – one of the world's leading cybersecurity solutions, developed here.
- ✓ **AVG Antivirus** – another internationally successful Czech cybersecurity product.
- ✓ **Linet Smart Hospital Beds** – advanced hospital beds used in healthcare facilities around the world.
- ✓ **Czech Nanofibre Respirators** – innovative protective equipment developed using Czech nanotechnology.
- ✓ **AI and Robotics Research** – contribution to artificial intelligence, robotics, automation.
- ✓ **Modern Medical Technologies** – Czech scientists are involved in research related to biotechnology, genetics, and advanced healthcare solutions.
- ✓ **Electric and Autonomous Mobility Projects** – Czech companies and universities participate in the development of smart transportation technologies.
- ✓ **Space Technology** – Czech engineers contribute to international space missions through sensors, software, and satellite technologies.



Picture 15

Space exploration

Picture 16

Although Czechia does not operate its own space programme, it plays an active role in international space research through its cooperation with the European Space Agency (ESA). Since joining ESA in 2008, Czech scientists, engineers, and companies have contributed to numerous space missions and technological projects.

Czech researchers help develop instruments for the exploration of the Moon and other planets, study solar activity and space weather, and participate in projects searching for conditions suitable for life beyond Earth. They are also involved in research on black holes, gravitational waves, and other phenomena that help scientists better understand the Universe.

In addition, Czech companies are developing technologies for future lunar missions, including scientific instruments, advanced materials, and systems for analysing the Moon's surface. These activities demonstrate how Czechia contributes to the exploration of space and the advancement of modern science.

Green technology

Over the past two decades, Czechia has made significant progress in environmental protection and green technology. While the country was once heavily dependent on coal and traditional industry, it is now investing in renewable energy, sustainable manufacturing, and innovative environmental solutions. One of the most important developments has been the expansion of recycling and renewable energy sources, particularly solar power. More recently, battery storage systems and community energy projects have helped households, schools, and businesses make better use of locally produced electricity.

Picture 17

Czech scientists have also achieved international success in nanotechnology. Nanofibres and nanomembranes are used to improve water purification, air filtration, and environmental protection. Other innovations include biodegradable materials made from waste products and advanced battery technologies designed to support the transition to cleaner energy.

Today, Czechia is also exploring hydrogen-powered transport, smart agriculture, and sustainable methods of recycling valuable materials such as lithium. These innovations show how technology can help create a more sustainable future while supporting economic growth and scientific development.

Robots

Robotics and automation are transforming the Czech labour market, particularly in industry, manufacturing, and logistics. Robots increasingly perform routine, repetitive, and physically demanding tasks, allowing people to focus on more complex and creative work.

As automation expands, new professions are emerging, including robotics engineers, data specialists, AI developers, and technicians responsible for maintaining automated systems. At the same time, many jobs will continue to rely on unique human skills such as creativity, empathy, communication, and decision-making.

Healthcare workers, teachers, managers, and skilled tradespeople remain difficult to replace because their work requires personal interaction and adaptability. Rather than eliminating jobs completely, automation is changing the skills people need for the future.

The success of future workers will depend on digital literacy, flexibility, problem-solving abilities, and lifelong learning.

Picture 18

Brain Battle Arena²

Jobs of the future

Technological progress is changing the labour market and creating entirely new career opportunities. As artificial intelligence, robotics, biotechnology, and renewable energy continue to develop, the demand for digital and technical skills is growing. Future professions may include AI specialists, robotics engineers, cybersecurity experts, renewable energy technicians, genetic researchers, and virtual reality designers. At the same time, many careers will require creativity, communication, problem-solving, and adaptability—skills that technology cannot easily replace.

The jobs of the future may look very different from today's professions, but lifelong learning and digital literacy will remain essential for success.

Disscuss!

1. Which future job would you like to have and why?
2. Do you think AI will create more jobs or replace more jobs?
3. What skills will be most important in the future?

Problem: Many people ignore the early signs of illness, dehydration, stress, or nutrient deficiencies until their condition becomes more serious. Regular medical testing is often inconvenient and time-consuming.

Technology: NeuroPatch is an ultra-thin, transparent, and biodegradable smart patch that continuously monitors a person's health through sweat and interstitial fluid.

How It Works: Tiny built-in sensors analyse the body's chemical signals in real time and send the data to a smartphone via Bluetooth. The patch can detect dehydration, vitamin and mineral deficiencies, elevated stress levels, and even early signs of infection before symptoms appear. Using artificial intelligence, the accompanying app provides personalised recommendations, such as increasing water intake, improving nutrition, reducing stress, or seeking medical advice.

Benefits: NeuroPatch could help people identify health problems earlier, improve preventive healthcare, and make monitoring personal health easier and more accessible for everyone.

Picture 19

INVENT YOUR OWN TECHNOLOGY!
Imagine a technology that could solve a real-world problem or improve people's lives in the future.

Resources

Pictures

Picture 1: Ilustrační obrázek k tématu digitálních technologií a umělé inteligence. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 2: Ilustrační obrázek k tématu umělé inteligence. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 3: Ilustrační obrázek znázorňující využití umělé inteligence ve vzdělávání, na sociálních sítích a při překladech. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 4: Obsah vytvořen žáky na základě vlastního brainstormingu. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 5: Data z vlastní ankety realizované mezi studenty VOŠ, SŠ, COP Sezimovo Ústí (n = 50, věk 15–17 let). Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 6: Ilustrační přehled sociálních sítí (Facebook, Instagram, YouTube, TikTok a X). Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 7: Obsah vytvořen na základě diskuse a analýzy vlivu sociálních médií v rámci projektu *The History We Live – A Student's Perspective on the 21st Century*. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 8: Obsah vytvořen na základě debaty žáků o vlivu digitálních technologií na duševní zdraví v rámci projektu *The History We Live – A Student's Perspective on the 21st Century*. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 9: Výběr českých influencerů vytvořen na základě diskuse žáků o nejvýznamnějších osobnostech českého online prostoru v rámci projektu *The History We Live – A Student's Perspective on the 21st Century*. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 10: Obsah vytvořen na základě diskuse žáků o rozdílech mezi prezentací života na sociálních sítích a skutečným životem v rámci projektu *The History We Live – A Student's Perspective on the 21st Century*. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování, 2026.

Picture 11: Kopecký, Kamil. Úhel pohledu – vybrané formy manipulace s fotografiemi v online prostředí. E-Bezpečí, 2018. Citováno 21. 6. 2026.

Picture 12: Ilustrační obrázek chytré domácnosti. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování pro projekt *The History We Live – A Student's Perspective on the 21st Century*, 2026.

Picture 13: Ilustrační obrázek využití technologií ve školství a digitálního vzdělávání. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování pro projekt *The History We Live – A Student's Perspective on the 21st Century*, 2026.

Picture 14: Ilustrační obrázek technologií v medicíně (umělá inteligence, telemedicína, robotická chirurgie, 3D tisk, nositelná elektronika a genetika). Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování pro projekt *The History We Live – A Student's Perspective on the 21st Century*, 2026.

Picture 15: Časová osa českých inovací 21. století. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování pro projekt *The History We Live – A Student's Perspective on the 21st Century*, 2026.

Picture 16: European Space Agency (ESA) – ESA logo. Citováno 21. 6. 2026.

Picture 17: Ilustrační obrázek udržitelné energie, recyklace, nanotechnologií a zelených inovací v České republice. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování pro projekt *The History We Live – A Student's Perspective on the 21st Century*, 2026.

Picture 18: Ilustrační obrázek robotiky a automatizace zobrazující spolupráci lidí a robotů na budoucím trhu práce. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování pro projekt *The History We Live – A Student's Perspective on the 21st Century*, 2026.

Picture 19: NeuroPatch – studentský koncept chytré náplasti pro monitorování zdravotního stavu. Grafické zpracování pomocí nástrojů generativní umělé inteligence (AI), vlastní zpracování pro projekt *The History We Live – A Student's Perspective on the 21st Century*, 2026.

Links:

[1] YouTube. *České Youtube Celebrity Které Neznáte, YouTube, kanál Bige. Dostupné z: https://www.youtube.com/watch?v=DoxuqNRLftE (cit. 21. 6. 2026).*

[2] Wordwall. Interaktivní vzdělávací aktivita. Dostupné z: Wordwall – aktivita č. 115296266. Cit. 21. 6. 2026.