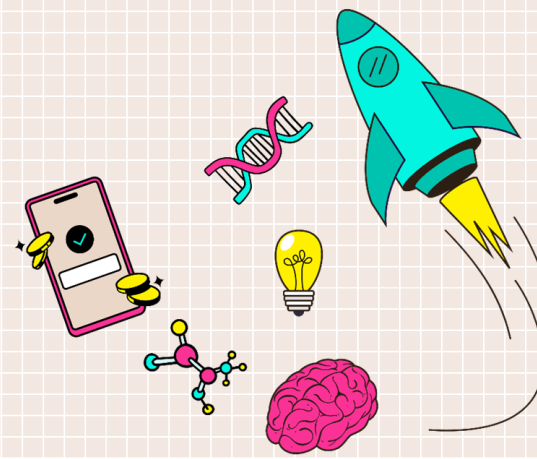


# We Did It In Poland!



**Lesson duration:** 45 minutes

**Target audience:** Students of grades 1, 2, and 3 of primary school

## General objective



Students will learn about examples of contemporary achievements of Polish women and men – from technological startups, through scientific discoveries, to social innovations and civic activities.

## Knowledge | The Student:



- understands the concepts of invention and innovation and can indicate the differences
- between them using simple examples;
- knows selected Polish innovations and their creators, including InPost Parcel Lockers, the Bionic Pancreas, the Kalman Rover, Vidre+, BLIK, Eye Payment, ElevenLabs;
- knows that Poland is a modern and creative country where solutions that change the world are being developed;
- understands the importance of innovation for improving people's lives and protecting the environment;
- can list examples of future technologies developed in Poland (e.g. 3D printing, artificial intelligence, robotics);
- knows that scientists, entrepreneurs, and young inventors can come from Poland and work globally.

## Skills | The Student:



- can recognize Polish innovations by name or illustration;
- can analyze information from worksheets, films, and presentations;
- can search for data needed to complete tasks;
- collaborates in a group or pair, sharing tasks and listening to others;

- formulates conclusions and reflections – can say which innovation is the most interesting and, in their opinion, the most useful;
- connects knowledge with emotions – can express pride in the achievements of Polish scientists and inventors;
- creates their own idea for an innovation that could help people in everyday life.

### **Attitudes | The Student:**



- feels pride in modern solutions created in Poland that support the development of the world;
- believes in their own agency – understands that they too can be a creator of ideas or inventions;
- values cooperation and creativity as essential in teamwork;
- respects the work of scientists, engineers, and innovators – sees them as contemporary heroes;
- develops cognitive curiosity and a desire to learn new things;
- understands the importance of technology and innovation for the common good.

## **Forms of work**

- individual – completing tasks in the “We Did It In Poland” booklet, participating in a quiz, final reflection;
- in pairs – discussion about inventions and their applications, jointly defining concepts (invention/innovation);
- group – working at task stations on specific innovations, filling out worksheets;
- frontal – watching presentations and films together, summary discussions, knowledge quiz;
- movement-based and interactive – rotating between stations;
- reflective – carpet discussion, sharing observations and emotions after the lesson.

## **Methods**

- discussion and guided talk – introduction of concepts, reflection on the importance of innovation;

- brainstorming – jointly searching for examples of Polish achievements;
- task station method (rotational) – independently discovering information about various Polish innovations;
- mini-project – proposing own innovation as an exercise in creative thinking;
- educational games – final quiz consolidating knowledge.

## Materials

- multimedia presentation/PDF with photos and short descriptions of Polish innovations;
- information cards with illustrations;
- educational films;
- projector/computer to display video materials;
- knowledge quiz;
- board/flipchart – for writing definitions, examples, and associations;
- crayons, pencils, paper sheets.

## LESSON PROCEDURE

### PREPARATORY PHASE – INTRODUCTION

**Time. 5 min**

The teacher, referring to the sense of pride that students discussed in the previous lesson, asks them to think in pairs or groups of 3-4 about what they are proud of today. Something may have happened recently that made them very pleased with themselves. Students' answers may vary greatly, but because this is a task based on the students' general knowledge, it is worth giving them 2-3 minutes as a group to think about it.

Example prompts and guiding questions for the teacher: *In the previous lesson, we talked about pride. We mentioned our own achievements and the achievements of Poles that we are proud of. Some time has passed, so talk in pairs about what you are proud of today. How do you feel with this emotion?*

The teacher asks willing students to share their thoughts with the group.

## IMPLEMENTATION PHASE

Time 35 min

### 1. Introduction to the topic (approx. 5 min)

The teacher asks students to think in pairs about what an invention is and what an innovation is.

Information for the teacher:

*An invention is an idea for something completely new that did not exist before, e.g., a new type of toy that solves a problem.*

*An innovation, on the other hand, is an idea that is new but has already been applied in practice to improve something or create something better. For example, if a new, faster way of moving was invented and then improved to make it even faster and better for everyone, that is an innovation.*

A simple definition example for children:

*Invention: something that did not exist before, e.g., inventing the wheel was an invention because no one had that idea before. It is an idea to solve a problem, e.g., inventing a toothbrush to make it easier to clean your teeth.*

*Innovation: an idea for how to improve something that already exists, e.g., the car was invented, and then faster, better, and safer cars were created – that is an innovation. It is applying your new idea in practice so that it helps many people.*

*Example: When someone invented the telephone, they created something that did not exist before. When later someone introduced an innovation by creating a smartphone – improving the telephone by adding new features and capabilities – that was an innovation.*

The teacher leads a short class discussion about what innovations are and why they are needed.

### 2. Presentation (approx. 10 min)

The teacher presents students with photos of Polish innovations **(Appendix no. 1)**. Students, based on the name and illustration, guess what the shown innovations are about.





**INPOST PARCEL LOCKER** – convenient and contactless package pickup. Parcel lockers are special cabinets with many doors. Each compartment can hold a package waiting for its owner. Parcel lockers operate 7 days a week, 24 hours a day. The creator is Rafał Brzoska, founder of InPost. Parcel lockers were created in Poland, making them a Polish invention.

**BIONIC PANCREAS** – a fully functional, 3D-printed bionic organ. The pancreas is an organ in our body that helps digest food and control blood sugar levels. Sometimes the pancreas stops working properly (for example, in people with diabetes), and then help is needed. The bionic pancreas is a special device “printed” from living cells using a special 3D printer.

**MARS ROVER KALMAN** – a special robot vehicle built by students of the

#### SUMMARY PHASE

Time 5 min

The teacher gathers the students in one place, and the class completes a quiz together (**Appendix no. 3**) based on the information they have learned.

The teacher asks willing students to share their observations about Polish innovations. Which innovation seems the most interesting to them, which one would they like to learn more about, and which one would be useful to them in their daily lives?

### Proposed adjustments

#### Barriers and Possible Difficulties

#### Lesson objectives (brief version for the teacher)

- Building a sense of pride in Polish achievements.
- Understanding the difference between an invention and an innovation.
- Developing cooperation and creativity.
- Practicing conversation skills and expressing opinions.

## **Introductory phase – conversation about pride**

### **Adjustments:**

- Younger or shy students: option to speak in pairs instead of publicly.
- Children with language difficulties: use sentence frames (“I am proud because...”) or pointing to pictures/emotions.
- Overactive students: a short discussion while standing in a circle.

## **Introducing concepts – invention and innovation**

### **Guidelines:**

- Use very simple, child-friendly examples (toys, a bike, a backpack).
- Write content on the board using icons plus one word (“NEW”, “IMPROVED”).
- Encourage students to give examples instead of delivering a lecture.

## **Presentation of innovations**

### **Adjustments:**

- Read descriptions in short sections and ask questions along the way (“How could this be useful in our school?”).
- Students with concentration difficulties:
  - option to hold a note with the effect (“This would help me with...”),
  - pointing to pictures instead of speaking.
- Gifted students: additional questions such as “How could this solution be improved?”

## **Station-based work**

### **Organization:**

- Groups of 3–4 students, roles: reader, writer, timekeeper, presenter.

### **Adjustments:**

- Younger students: instructions read aloud by the teacher.
- Students with special educational needs: simplified worksheets (less text, more pictures).

## **Summary and quiz**

### **Adjustments:**

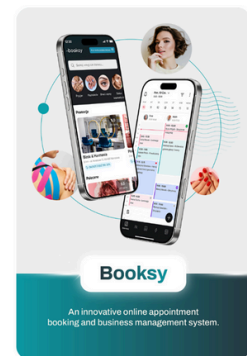
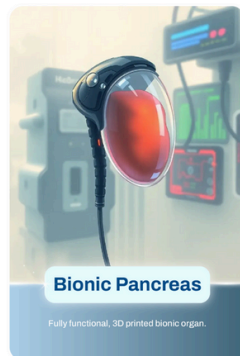
- Quiz in the form of raising green/red cards or using gestures (thumbs up 👍 / thumbs down 👎), choral responses.
- Shy students: option to answer as a group.

## **Final reflection**

### **Guidelines:**

- Sentence starter: "The innovation I liked the most was..., because..."
- Non-speaking students: draw the chosen innovation instead of giving a verbal response.

## Appendix no. 1 – Cards of polish innovations



## Appendix no. 2 – educational stations

# INPOST PARCEL LOCKER

## Convenient and contactless parcel collection

InPost is a company that helps people send and receive parcels. You've probably seen a Paczkomat® – those are parcel lockers located near shops, schools, and homes. You can drop off or pick up a parcel there – quickly, easily, and at any time of day!

The first Paczkomaty appeared in Poland in 2009. Now there are a lot of them – almost 47,000! They can be found not only in Poland but also in countries like France, Italy, Spain, and the United Kingdom.



**EKOzwrot is a way to help our planet. Instead of throwing away things that are still in good condition, you can give them to other people – for free!**

How to do it?

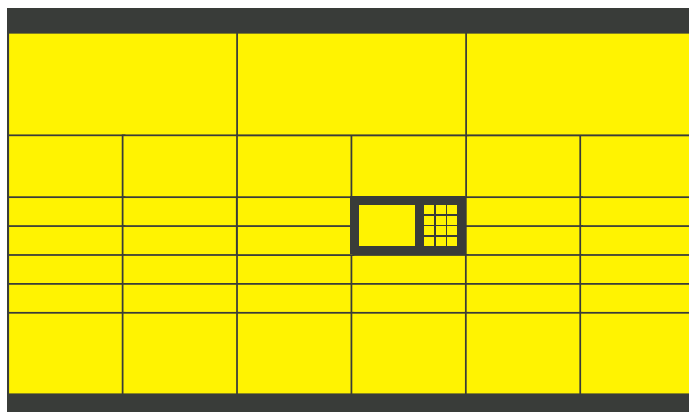
1. Pack clothes, books, toys, or other things you no longer need.
2. In the InPost app, select the "Donate to Foundation" button.
3. Put the parcel into a Paczkomat® and send it – you don't pay anything!

Why is it worth giving away things we no longer use?

- ✓ We help other people and animals.
- ✓ We protect the environment – nothing goes to waste.
- ✓ Shipping is free!
- ✓ InPost Parcel Locker are nearby – you can get there in just a few minutes.

## EXERCISE

# INPOST PARCEL LOCKER



In which locker will you place the items below? Write the letters in the correct locker.

A. 3 books



B. Backpack



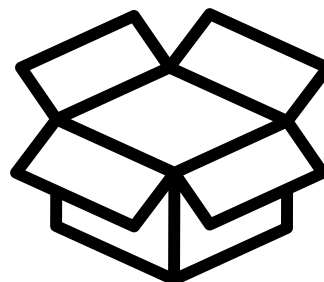
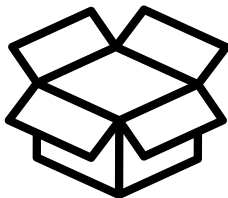
C. Tablet



D. Basket ball



Write or draw which of your things that you no longer use you could send via a Paczkomat as part of the EKOzwrot program in the boxes below.



# BIONIC\* PANCREAS

## A fully functional 3D-printed organ

There is a small organ in our body called the pancreas. It helps with digestion and makes sure there's the right amount of sugar in the blood. However, sometimes the pancreas stops working properly – that's when a person gets diabetes.

Scientists in Poland have found an extraordinary solution! They created a bionic pancreas – a living pancreas printed with a special 3D printer. It's made of living cells and can produce insulin, a substance that helps keep blood sugar levels normal.

It's the first invention of its kind in the world! Thanks to the bionic pancreas, people with diabetes will be able to live healthier lives in the future – without insulin injections.



## How is a bionic pancreas made?

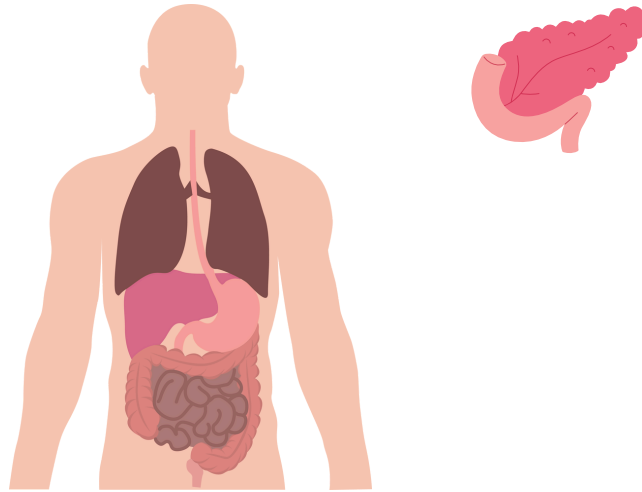




## EXERCISE

# BIONIC\* PANCREAS

In the illustration below, you can see the pancreas. Look at the internal organs of the human body. Find the pancreas in the human body and mark it.



**Design a superhero who helps sick people.**

Next to your drawing, write:

- the hero's name and what their power is,
- one sentence about how they help.

# AGH KALMAN ROVER

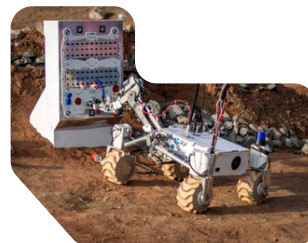
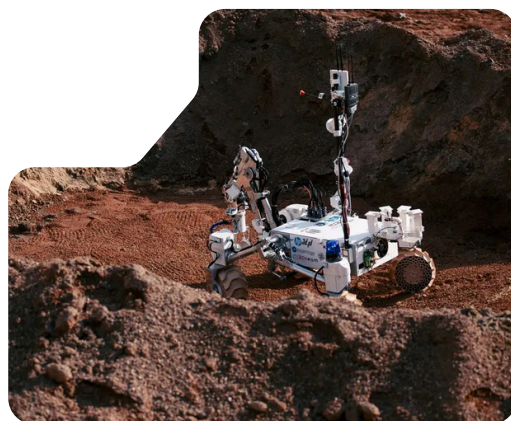
## Polish students have built an innovative planetary rover.

Kalman is a rover that can move on its own and helps people explore space. It was built by Polish students who wanted to create a machine for discovering new places – such as Mars and the Moon!

Kalman has:

- a lightweight “body,” which allows it to drive easily over rocks and sand,
- an arm with a gripper and a camera to pick up objects and examine them closely,
- interchangeable parts, so it can be repaired or upgraded when needed.

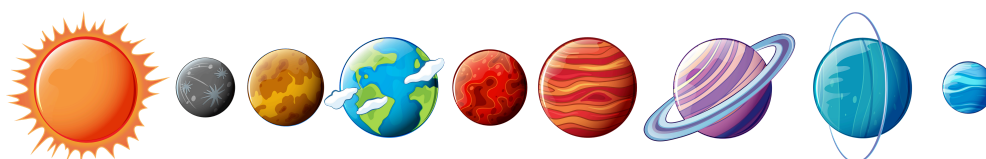
This robot studies soil, analyzes samples, looks for signs of life, and can assist astronauts in their work. Kalman is very smart – it has already won many robotics competitions! It’s a true Polish space hero! Maybe one day it will travel with astronauts to uncover the mysteries of the universe...



## EXERCISE

# AGHKALMAN ROVER

Mars is the fourth planet from the Sun – mark it on the picture. Which planet from the Sun is Earth? Draw the Moon orbiting around the Earth.



Design your own rover. Which planet do you want it to be sent to?



# PAYMENT WITH A GLANCE

## The first biometric payment based on the fusion of iris and facial recognition was made in Poland!

Imagine you're shopping and... you don't need to take out your wallet or phone! All you have to do is look into a camera, and the computer recognizes your face and eyes – and pays for you!

This is a new, very modern way to pay. It makes shopping faster, more convenient, and safer. You don't need to carry cash, a card, or a phone – everything happens in just a few seconds!

This solution was tested for the first time in Poland! And it turned out that most people who tried payment with a glance were very satisfied!

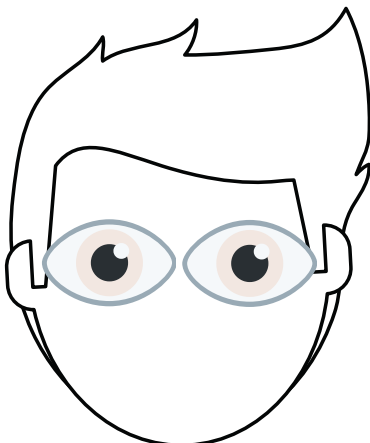
Who knows – maybe in a few years we'll all be paying with our eyes, and the checkout will recognize us with just one look!



## EXERCISE

# PAYMENT WITH A GLANCE

Point to the iris and the pupil.  
Color the iris.



Write what your eye color is.

.....

What do you think people will be able to  
pay with in the future?

.....

.....

.....

Mark whether the given sentence is TRUE (✓) or FALSE (✗).

You also need a special card for payment with a glance.

☐☐

The camera recognizes your face and eyes.

☐☐

Payment with a glance is a method of payment that  
was created in Poland.

☐☐

Payment with a glance takes longer than payment by card.

☐☐

To pay with your eyes, you first need to remember a special  
password.

☐☐

# ELEVEN LABS

## **A global leader in the generative audio artificial intelligence sector that originates from Poland**

ElevenLabs is a Polish company that created smart technology capable of speaking with a voice that sounds just like a real human! That means the computer can read, speak, and even respond – just like we do!

Thanks to this technology, you can:

- record audiobooks read by an artificial narrator,
- make a game or cartoon character speak with a natural voice,
- help people who cannot speak – the computer can speak for them.

The ElevenLabs technology knows as many as 32 languages, so it can speak not only Polish but also English, Spanish, Japanese, and many other languages of the world!

It's a bit like the computer has gotten its very own voice!



**In the world of new technologies, a “unicorn” is a company that has achieved enormous success and is worth more than one billion dollars.**

**Such companies are rare  
-just like real unicorns.**

## EXERCISE

# ELEVEN LABS

Your best friend is a unicorn. What name would you give it?



.....

Finish the sentences about your friend - the unicorn.

My unicorn speaks ..... and .....

When it speaks, it sounds like .....

It helps people who .....

Create your own language.

Invent your own language – give it a name. Write 5 words in your new language and explain what they mean in English.

1.....

2.....

3.....

4.....

5.....

# VIDRE+™

## Innovative packaging for products that helps keep them fresh

Did you know that fruits and vegetables can “go bad” if they sit for too long?

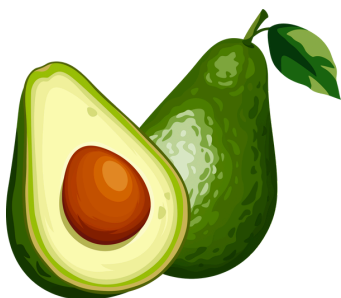
The company Vidre+™ came up with something that helps them stay fresh-looking and tasty for longer! It's a special sticker or packaging that keeps fruits, vegetables, flowers, and plants from wilting or spoiling too quickly. Thanks to this, we have less waste, and food doesn't get wasted.



Vidre+™ technology is like an invisible helper that takes care of our food and our planet. Thanks to it, apples stay crunchy, tomatoes juicy, and flowers beautiful for longer.

### Avocado

It's a great example of the Vidre+™ technology in action!



#### The result?

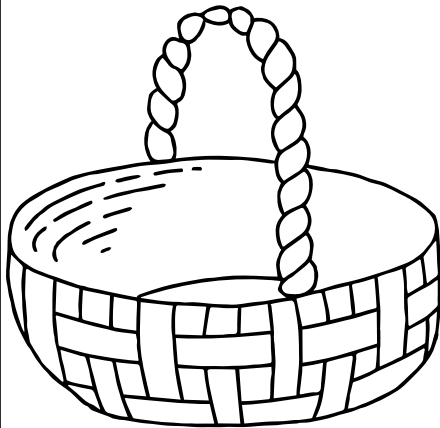
- 100% green fruit even after 46 days
- Extended shelf life
- Slower ripening
- Delayed softening
- Prevention of pulp damage



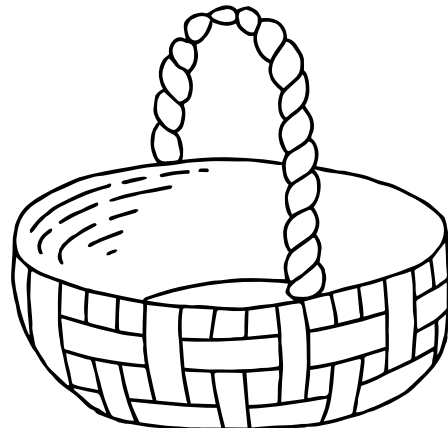
**EXERCISE**

**VIDRE+™**

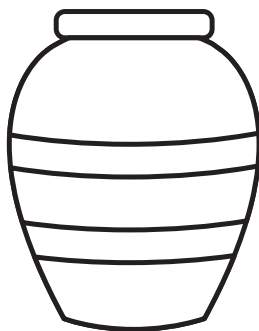
Draw your favorite products that Vidre+ will help stay fresh for longer:



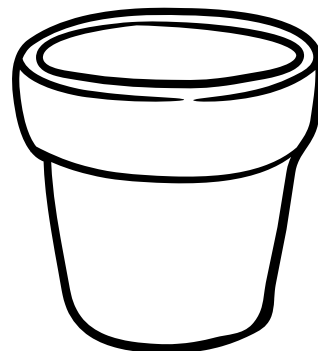
**FRUITS**



**VEGETABLES**



**FLOWERS**



**POTTED PLANTS**

## QUIZ

**YES  
OR  
NO?**

Can you send a live animal, such as a cat or a dog via a parcel locker?



The Kalman Rover was created to work on which planet?

**MERCURY**

**MARS**

**JUPITER**



The iris is a part of the...

- A. Plant
- B. Hand
- C. Eye



Vidre+ helps extend the freshness of fruits, vegetables, flowers, and...

**POTTED PLANTS**

**GARDEN PLANTS**

**FIELD PLANTS**

## Bibliography

Bera, Aga. Jak spełniać marzenia? Wystarczy 5 kroków. Dostęp: 07.09.2025. <https://agabera.com/jak-spelniac-marzenia-wystarczy-5-krokow/>

Wikipedia. Axiom Mission 4. Dostęp: 07.09.2025. [https://en.wikipedia.org/wiki/Axiom\\_Mission\\_4](https://en.wikipedia.org/wiki/Axiom_Mission_4)

MedTech Polska. Dr Marta Klak i bioniczna trzustka: przyszłość diabetologii. Dostęp: 07.09.2025. <https://medtechpolska.pl/artykuly/marta-klak-bioniczna-trzustka>

ESA. Astronauta projektowy ESA Sławosz Uznański-Wiśniewski wraca z pierwszej polskiej misji na Międzynarodową Stację Kosmiczną. Dostęp: 07.09.2025. [https://www.esa.int/Newsroom/Press\\_Releases/Astronauta\\_projektowy\\_ESA\\_Slawosz\\_Uznanski-Wisniewski\\_wraca\\_z\\_pierwszej\\_polskiej\\_misji\\_na\\_Miedzynarodowa\\_Stacje\\_Kosmiczna](https://www.esa.int/Newsroom/Press_Releases/Astronauta_projektowy_ESA_Slawosz_Uznanski-Wisniewski_wraca_z_pierwszej_polskiej_misji_na_Miedzynarodowa_Stacje_Kosmiczna)

Euro Pop Contest. Laureaci Euro Pop Contest. Dostęp: 07.09.2025. <https://europopcontest.de/winners>

Kobieta.pl. Najmłodsza Polka na Dachy Świata. 19-letnia Zoja Skubis z Krakowa zdobyła Mount Everest. Dostęp: 07.09.2025. <https://kobieta.pl>

Narodowe Centrum Nauki. Badania w kosmosie z udziałem Polaka. Dostęp: 07.09.2025. <https://www.ncn.gov.pl/aktualnosci/2025-06-26-badania-w-kosmosie-z-udzialem-polaka>

PAP. Naukowcy tworzą bioniczną trzustkę – wywiad z dr Martą Klak. Dostęp: 07.09.2025. <https://pap.pl/naukowcy-bioniczna-trzustka-marta-klak>

Polska Akademia Nauk. Innowacje w medycynie: bioniczna trzustka. Dostęp: 07.09.2025. <https://pan.pl/innowacje-medycyna-bioniczna-trzustka>

Polskie Radio. Polish teen climber summits Mount Everest. Dostęp: 07.09.2025. <https://polskieradio.pl>

Uniwersytet Medyczny w Warszawie. Dr Marta Klak – badania nad bioniczną trzustką. Dostęp: 07.09.2025. <https://umed.waw.pl/marta-klak-badania-bioniczna-trzustka>

Wikipedia. Iga Świątek. Dostęp: 07.09.2025. [https://pl.wikipedia.org/wiki/Iga\\_%C5%9Cwi%C4%85tek](https://pl.wikipedia.org/wiki/Iga_%C5%9Cwi%C4%85tek)

Wikipedia. InPost. Dostęp: 07.09.2025. <https://pl.wikipedia.org/wiki/InPost>

Wikipedia. Rafał Brzoska. Dostęp: 07.09.2025. [https://pl.wikipedia.org/wiki/Rafa%C5%82\\_Brzoska](https://pl.wikipedia.org/wiki/Rafa%C5%82_Brzoska)

Wikipedia. Sławosz Uznański-Wiśniewski. Dostęp: 07.09.2025. [https://en.wikipedia.org/wiki/S%C5%82awosz\\_Uzna%C5%84ski-Wi%C5%9Bniewski](https://en.wikipedia.org/wiki/S%C5%82awosz_Uzna%C5%84ski-Wi%C5%9Bniewski)