



COPERNICUS
SCIENCE CENTRE



Annual Report 2017

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In November 2017, I had the extraordinary opportunity to look upon our planet from several different perspectives: standing alongside, under, and above our blue globe. Through the clouds I could easily make out the outlines of the continents and the vast swaths of ocean. More importantly, I could feast my eyes on the beauty of the planet, with all its delicateness laid bare to see.

This great blue globe was Geo-Cosmos, a symbolic exhibit in Miraikan, the National Museum of Emerging Science and Innovation in Tokyo, where the Science Centre World Summit took place. While observing Geo-Cosmos, animated by a projection of atmospheric phenomena, I thought about how little effort we put into sustaining life on our planet, separated from icy space by just a thin little layer of atmosphere. This magnificent exhibit dovetailed nicely with the main theme of the Summit: *Connecting the World for a Sustainable Future*. At the meeting, science-center representatives pondered the social role that their institutions have to play in the rapidly changing world.

The first science centres were set up back in the 1960s. They are institutions thoroughly permeated by the spirit of rationality, built upon the experimental nature of science, constituting the basic tool for studying nature and studying mankind as part of nature. The huge success enjoyed by science centres, measured in terms of popularity and great public trust, necessarily raises the question of what responsibility these institutions have for changing attitudes with respect to negative phenomena. Phenomena that have their genesis in the unwise, if not to say senseless, management of the Earth's modest resources and in the disturbing turn away from rationality in shaping societal relations.

It is a sad paradox of history that in a world that owes its prosperity to science, we are increasingly turning against science. That in an epoch when the triumph of reason has brought us longer human lifespans and unprecedented advances of civilization, irrationality is nevertheless on the rise, together with the attendant distrust, anxiety, and hostility. That western and eastern societies are increasingly plagued by the pathologies of populism, growing polarization and tribalization. That our democracies are disturbingly reminiscent of the dark political series "House of Cards", in which values and concern for the common good are supplanted by cynical and ruthless scheming.

Do science centres have a role to play here? Can science be perceived as a remedy for these disturbing phenomena? The crisis we are observing deals a blow precisely to those values that science centres and museums treat as the very foundation of their activity. As Sheila Jasanoff, Harvard Professor of Science and Technology Studies, aptly notes: "The very virtues that make democracy work are also those that make science work: a commitment to reason and transparency, an openness to critical scrutiny, a skepticism toward claims that too neatly support reigning values, a willingness to listen to countervailing opinions, a readiness to admit uncertainty and ignorance, and a respect for evidence gathered according to the sanctioned best practices of the moment".¹

The Tokyo Protocol, adopted during the Science Centre World Summit, which I had the pleasure of helping to draft, includes the following: "We endeavour to accept the responsibility to serve as catalysts for better understanding and coordinated actions within communities throughout the world by stimulating tolerance and critical thinking, distinguishing fact from belief, reinforcing the imperative for evidence-based decision-making, and inspiring a new generation to view the Sustainable Development Goals as foundations on which to grow a better world".²

The Copernicus Science Centre strives hard to keep this duty firmly in mind while engaging in our various forms of activity. I would like to invite you to participate in our programmes and to support what we do.



Robert Firmhofer
Executive Director of the
Copernicus Science Centre

¹ http://seedmagazine.com/content/article/the_essential_parallel_between_science_and_democracy/

² http://www.kopernik.org.pl/fileadmin/user_upload/O_CENTRUM/Protokol_z_Tokio.pdf



The aim of the Copernicus Science Centre is to build scientific and social capital and bring about a shift in the culture of learning, by engaging society, in particular our visitors, in a range of activities and by carrying out R&D work in this field.

WE WELCOME A MILLION GUESTS EVERY YEAR, AND WE GUARANTEE AN AMAZING EXPERIENCE TO ALL OF THEM.

WE SUPPORT THE ART OF LEARNER-FOCUSED EDUCATION.

WE ENCOURAGE PARTICIPATION IN CULTURE SHAPED BY SCIENCE.

Our visitors

We are proud to say that the Copernicus Science Centre is as popular as ever. During our seventh year, we welcomed our seven-millionth visitor! We remain Europe's second most frequently visited science centre – this is no accident, but the result of the hard work we have put in over many years.

In 2017, we continued our agenda to continually improve what we offer. In order to enhance the quality of experience for our visitors, we sought advice from interior designers and architects, did our own research, and took into account the everyday experiences reported by our explainers so as to **reorganise the entire entrance to the main Copernicus building**. We installed new doors, and rebuilt the hall and the cloakrooms to improve functionality for our growing numbers of visitors.

We modernised the entrance gates and changed the terms and conditions for entry to exhibitions. **We introduced electronic tickets** featuring QR codes and **introduced online ticket sales**. Tickets purchased online are delivered by email, so visitors can print them at home or simply scan the QR code on their smartphone to gain entry. All this has helped us **reduce waiting times**, which had been reported by visitors as an inconvenience.

We have also been modernising our **planetarium**, where we also reorganised the entrance. We have **upgraded our projectors** and installed state-of-the-art equipment to provide the finest quality screenings (more on p. 22).

We are also changing our exhibitions (more on p. 12). We have said goodbye to the temporary exhibition **Sail or Sink** and replaced it with **Air: It's Not Just Nothing**. Towards the end of the year, we started introducing changes to the permanent exhibitions **Humans and the Environment** and **Light Zone**. We are modifying familiar exhibits to present them in new, improved formats and contexts. We are also creating brand new exhibits, designed and built from scratch at the Copernicus Science Centre.

We are attracting new guests, and previous visitors keep coming back time and again. Why is that? Copernicus is designed with the public in mind, and providing our visitors with the highest quality experiences is one of our strategic goals. Our guests leave armed with fresh knowledge and inspiration for making new discoveries.

We conduct our own research while making improvements to our programme: **in 2015, Copernicus was granted the status of an R&D institute**, and we use scientific methods to scrutinize how our visitors actually experience what we offer (more on p. 30). Being in daily contact with thousands of visitors, we are discovering mechanisms of learning and studying cognitive processes in children and adults. We analyse the ways in which they interact with displays, use exhibits and participate in workshops.

We are constantly monitoring the levels of satisfaction of visitors to the Copernicus Science Centre and the Heavens of Copernicus Planetarium, and we use questionnaires to determine in which areas or services require particular attention. Such research provides us with extensive knowledge about our visitors, which helps us improve our communications programmes and other marketing activities.

We know that Copernicus is an important point on Warsaw's tourist map. A large proportion of visitors to the capital view us as a must-see attraction (more on p. 11). And we want our guests to come back, if they have the chance – each return visit will be different, since we are constantly evolving! For more frequent visitors, we have created the **Copernicus Club** loyalty programme offering unlimited access to the Centre and to special events, such as pre-premiere visits to new exhibitions, events at Laboratories and workshops. As at 19 December 2017, the Club had issued **1081 membership cards** with 1042 active members.

We encourage guests to come visit us at the Centre, but we also take our exhibitions out on tour around the country. By expanding our **EducoBus** project, implemented jointly with the Ministry of Science and Higher Education, our mobile exhibitions travel to all corners Poland. We are currently preparing the launch of a mobile planetarium project called **PlanetoBus** (more on p. 20).



Our seven-millionth visitor crossed the threshold of the Copernicus Science Centre at 12.17 pm on 27 July 2017. This auspicious combination of sevens proved to be lucky for Dominika Siawrys from Kraków, who received a Copernicus Club membership card and a special prize funded by our strategic partner Samsung Polska: the latest Galaxy S8 smartphone, Gear VR headset and a Gear 360 camera.

1,110,980

people visited our venue

805,119

attended exhibitions at the Copernicus Science Centre

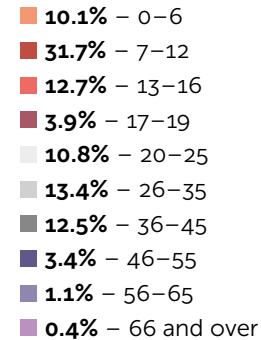
227,339

visited the Heavens of Copernicus planetarium

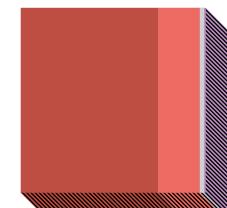
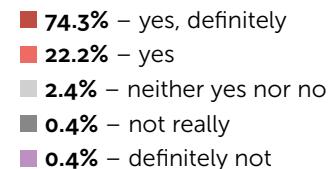
Visitor statistics

Copernicus Science Centre

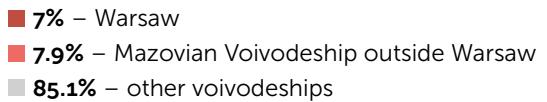
Visitors by age



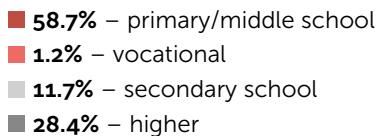
Are you generally pleased with your visit to the Copernicus Science Centre?



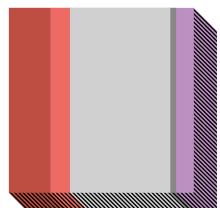
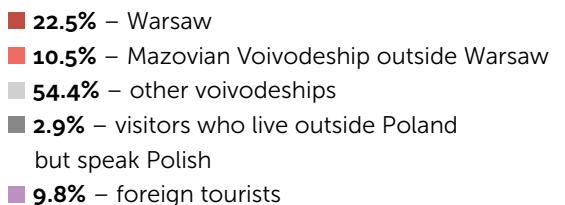
Visitors by region (school trips)



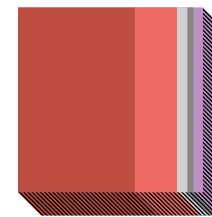
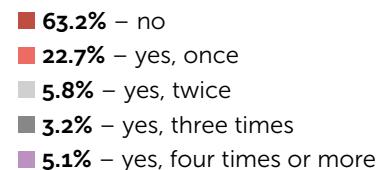
Education level



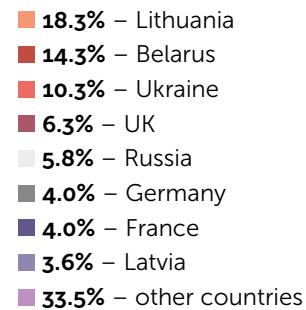
Visitors by region (individual guests)



Have you been to the Copernicus Science Centre before?



Where foreign visitors come from

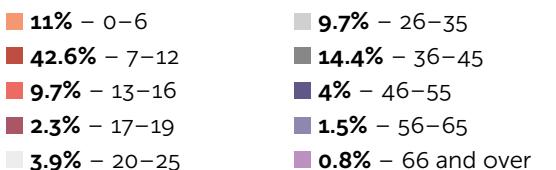


How much time did you spend at Copernicus? (hours)

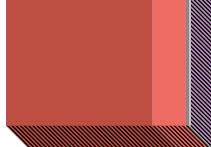
Average: 3.1 hours

Heavens of Copernicus Planetarium

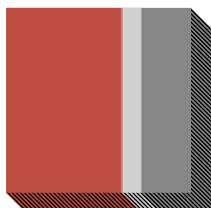
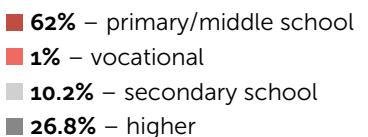
Visitors by age



Are you generally pleased with your visit to the planetarium?



Education level of planetarium visitors:



Exhibitions

In our ongoing search for inspiration, for new exhibits and for entire exhibitions, we travel the world to examine and test out ideas from science centres in other countries. Then, our heads filled with fresh ideas, we return to restructure the Centre, modernise our permanent galleries and launch new temporary exhibitions. We also design, build and improve our own original exhibits and present them to the public as part of a rigorous testing programme.

In 2017 we focused on the second stage of improving our permanent exhibitions, launched back in 2016. We are restructuring our entire first floor, and changing exhibits forming the **Humans and the Environment** and **Light Zone** sections, both of which have open to the public since the Centre's inauguration. We are constantly improving the functionality of our exhibits and the consistency of displays at our Workshops. Reaching for the experiences and conclusions of our work on modernising the **New On the Move** exhibition, we are making clarity of message our priority. We aim to provide our visitors with tools to enable them to make sense of even the most complex phenomena. And it's no easy task, considering the wide range of needs, interests and abilities of our myriad visitors.

Following the changes we are currently implementing, **Humans and the Environment** and **Light Zone** will no longer function as separate galleries. Instead, they will be divided into **thematic zones** featuring exhibits introducing humankind's adaptation to life on Earth, including anatomy, physiology and the resulting abilities and limitations faced by humans. We humans use our senses and skills to perceive, interpret and describe the world around us – and so it is we humans who are the central subject of the new exhibition space.

We are modernising 42 exhibits, and a further eight require extensive renovation. We are aiming to have a total of 39 new exhibits **designed and made in-house by the Copernicus team**. They will be further complemented by exhibits acquired from outside the Centre. The exhibition includes familiar items presented in fresh formats and contexts, and brand new research stations built at our own **Workshops**. We are introducing brand new exhibits illustrating biological processes

taking place in nature. For the first time, visitors will be able to observe living organisms to see how they interact with their environments and how these interactions affect them. They will also discover the nature of light and learn about the phenomena behind moving and colour images.

The eastern side of the renovated zone will be divided by an **exhibition pavilion**. The design of the pavilion is based on the format and constructions used in the **New On the Move** gallery.

We are also providing additional relaxation zones to make sure our guests enjoy our exhibitions in comfort. We are planning to open a new café including a zone for visitors bringing in their own snacks, coinciding with the launch of the modernised exhibitions. The official opening is planned for spring 2018.



New temporary exhibition

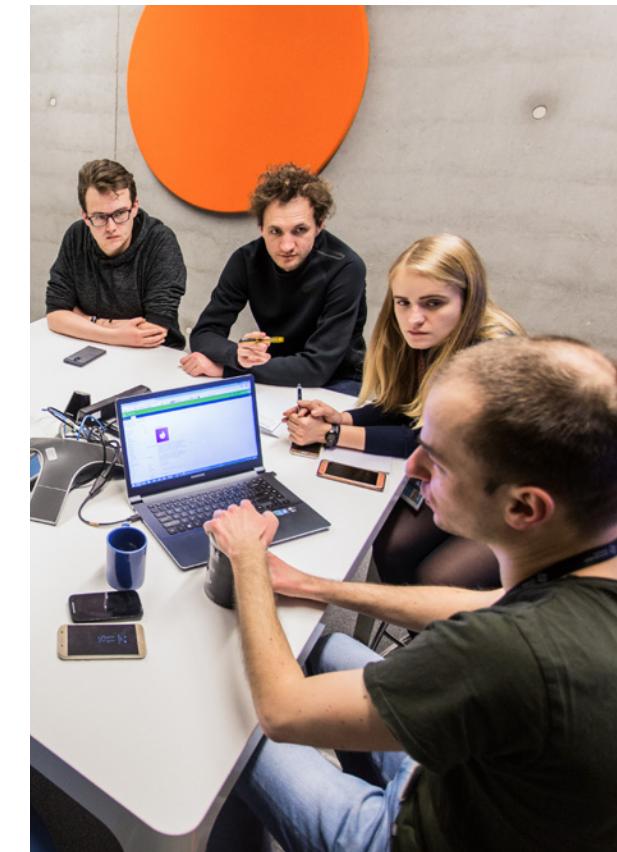
In December, we closed the temporary exhibition **Sail or Sink**, replacing it with the new exhibition **Air: It's Not Just Nothing** launched on 15 December 2017. Here, while conducting experiments on 45 interactive exhibits, visitors study air – the invisible mixture of gases which makes life on Earth possible.

Many of these unique exhibits were designed and made at the **Phaeno** science centre (Wolfsburg, Germany) and at **Technorama** (Winterthur, Switzerland). We have also included a few exhibits from our own workshops. Many of the experiments focus on everyday phenomena, while others are intended to surprise even those visitors who have an extensive background in physics.

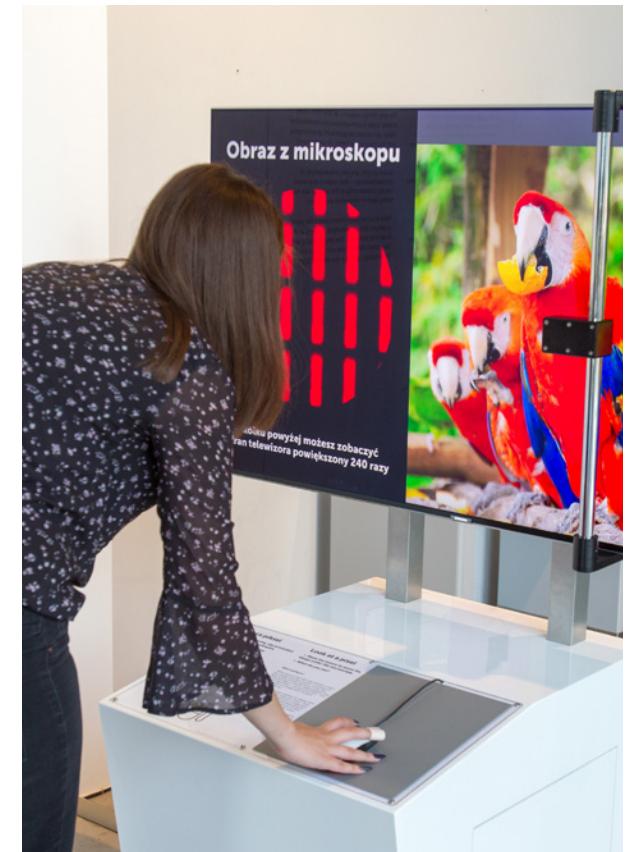
Most require the users to perform a predetermined sequence of actions, but in those instances where visitors are given a choice of what to do, they always manage to surprise us! The designers of three exhibits presented their impressions of air in a particularly creative way.



Air Fountain, forming a part of the exhibition **Air: It's Not Just Nothing**. An art installation designed by Daniel Wurtzel, prepared by the **Technorama** science centre and acquired by Copernicus in 2017. At the end of the temporary exhibition, the Fountain will remain at Copernicus as a permanent exhibit.



We have spent the last year developing concepts for a new exhibition which will replace **Re:Generation**. The new display will focus on the future, challenges faced by humankind and dilemmas resulting from the rapid technological progress.



The **Samsung Dot's It** exhibition has been open throughout 2017. The exhibition explains the science behind quantum dots and shows how the technology is used in industry. The exhibition concept and the exhibits were designed by the Copernicus team in collaboration with our strategic partner Samsung Polska.

Exhibition activities

Copernicus on Wheels

Explainers from **Copernicus on Wheels** can always be found where they are most needed. Whether it is deep inside the galleries, out in front of the building, or wandering through the queue – our team gets everywhere! The **Copernicus on Wheels** station is devised for visitors to conduct quick experiments to help them pass the time while they wait and to inspire them to conduct experiments in other zones of the Copernicus Science Centre. The mobile lab features experiments related to the temporary exhibitions, so the current set deals with the properties of air.

Demonstration Group

In 2017, our group's demonstrations mainly concerned balance, light and hydrostatic pressure. Every day (apart from Sundays), visitors could take part in four demonstrations, each for up to 50 participants. Lasting around 15 minutes, each mini-spectacle is based on original scripts written by our explainers and with the participants playing an active part.

High Voltage Theatre

This is a very special place at the Copernicus Science Centre. The soft lighting provides the perfect atmosphere for the electrifying plasma displays and experiments using a Van de Graaff generator. The Theatre also hosts spectacular shows and displays during which participants discover the secrets of electricity and learn about acclaimed scientists.

In 2017, we presented two shows: **Electrons in Action** featuring spectacular electrical discharges, and **Duel of the Masters** introducing Thomas Edison and Nikola Tesla and the scientific rivalry between them. Last year we also prepared **Storm Tamers** revealing the secrets of spectacular atmospheric phenomena and **Music Currents** about the sounds generated by electricity.

Thinkatorium

The lab benches of the **Thinkatorium** are laden with everyday objects such as straws, paper, paperclips, marbles and rubber bands, provided for the guests to test their skills at engineering, science and logic. They have no instructions, time limits or assessments – anyone can release their inner inventor!

The **Thinkatorium** was visited by 11 school groups from the Mazovian Voivodeship as part of the **Schools Closer to Science** project (more on p. 26). To coincide with St. Nicholas' day, we prepared three brand new kits as part of the temporary air-themed exhibition (**Zipliner**, **Hovercraft** and **Glider**) and conducted a mini-workshop on **Making Paper Planes**. The Thinkatorium also hosted workshops celebrating the anniversary of the Copernicus Club.

Mini-workshops

Mini-workshops are 20-minute presentations held throughout the Copernicus exhibition space. Our explainers help participants conduct experiments from among a choice of 20 different options – from starting fires using flint, building stethoscopes to observing traces left by alpha particles in a cloud chamber.

In 2017, we added a new workshop on **Knots**, linked to the exhibition **Sail or Sink**. Participants learned many ways of tying ropes on cleats and bollards, discovered how tying shoelaces is related to topology, and which knots mathematicians describe as trivial.



For seniors and teens, for kids and adults

Family Workshops

Family Workshops are weekend events for kids aged between five and eight. Joined by their parents and carers, they take on roles of engineers and inventors to conduct experiments and search for answers to difficult questions. The atmosphere of fun and collaboration is perfect for encouraging curiosity and bringing joy in working and experimenting together. After each workshop, participants were given educational materials with further information on subjects they tackled and featuring information on how to conduct more experiments at home.

Subjects change every two months. In 2017, we held 205 Family Workshops on subjects including **Why do volcanos erupt?**, **Where does electricity come from?**, **Why do ships float?** and **Why does chopping onions make us cry?** We welcomed a total of 4913 participants (2306 children and 2607 carers). Four of the workshops were held as part of our partnership with **Polkomtel**, the operator of the PLUS cellular phone network (our Supporting Partner) with a total of 102 participants.

Straight from the Sky – lectures at the planetarium

Straight from the Sky is a cycle of multimedia presentations at the planetarium featuring discussions with experts. Our guests talked about the latest achievements in science and cosmology. **Prof. Grzegorz Pietrzyński** talked about measuring distances in the Universe, **Prof. Paweł Rudawy** described the activity of our Sun and cosmic weather, and Marta Melania Tuszczecka, a space engineering specialist at SatRevolution S.A., gave a lecture on plans to build the first private and commercial satellite to be constructed in Poland (called *Światowid*). **Prof. Krzysztof Goździewski** explained the stability of our Solar System and other planetary systems (drawing the highest attendance!), **Dr. Christopher Kyba** discussed light pollution and ways of protecting dark skies, and **Prof. Tomasz Sulej** took the audience 230 million years back in time to the days of the largest

ever flying reptile *Ozimek volans*. In 2017, we held eight meetings as part of the **Straight from the Sky** cycle with a total of 654 participants.

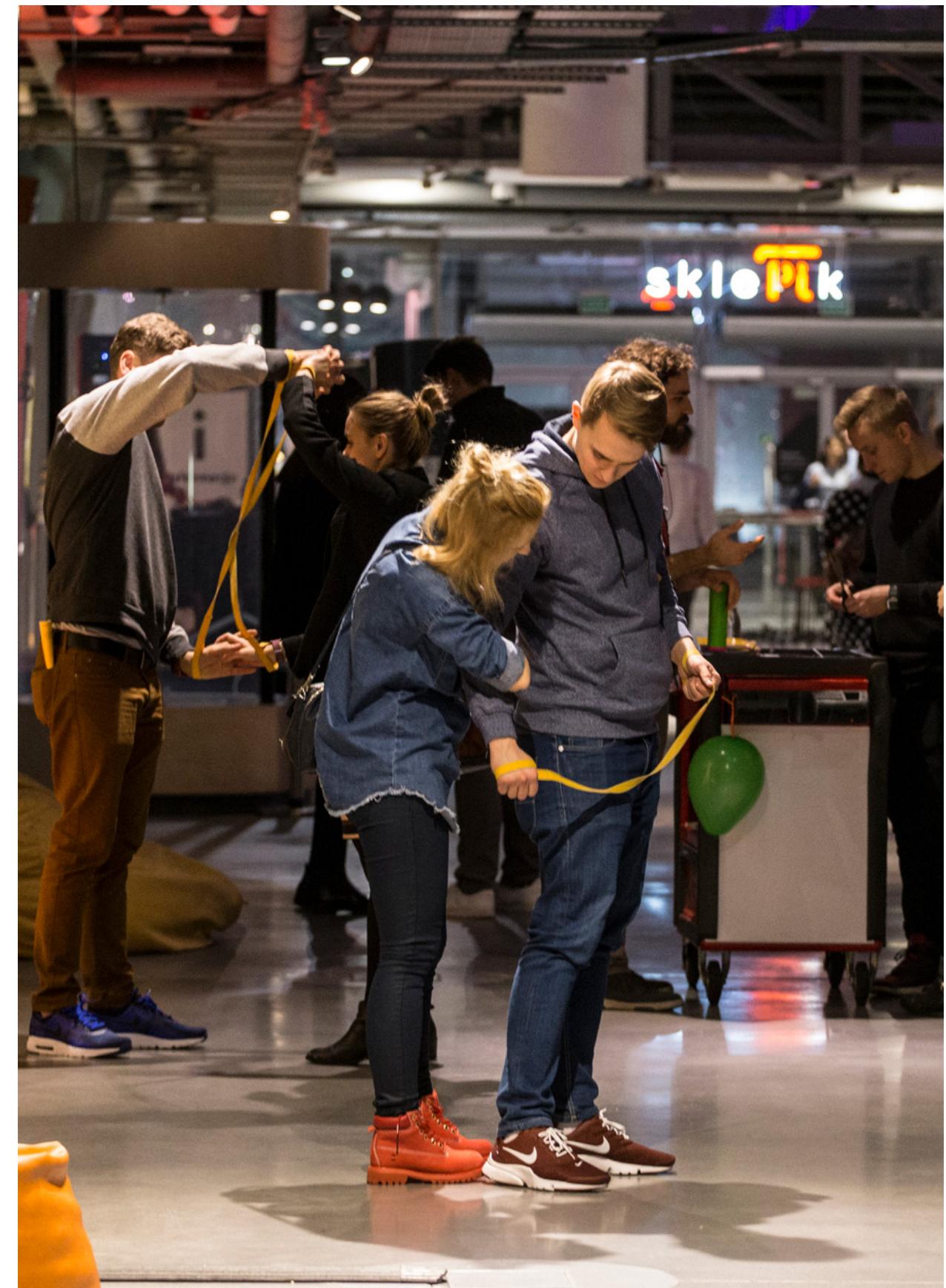
Music at the planetarium

The atmosphere in the planetarium lends itself perfectly for hosting concerts. **Heavens of Copernicus** features music from jazz to classical, as well as hosting events for kids. In 2017, we **welcomed 62 artists**. We held 41 events as part of the **Concerts under the Stars** cycle, three New Year's Eve concerts, three Valentine's day concerts, eight concerts as part of the **Jazz orbits** cycle, three **Cosmic Live Electronic** events and 12 children's concerts. The events brought in a total of 7956 listeners, selling out 81.3% of all available tickets.

"After Hours" evenings for adults

Once a month, Copernicus opens its doors after its usual closing time. There are no kids or school trips, but there is craft beer! The **After Hours** events are open to adults only. In 2017, we were visited by 7754 guests, which means that 88.11% of all available tickets were sold. Visitors had a chance to explore the permanent and temporary exhibitions, Laboratories and the planetarium. We also hosted workshops and film screenings.

A regular fixture of the evenings is meetings with scientists and experts. We hosted **Prof. Magdalena Fikus** from the Polish Academy of Sciences and the Copernicus Programme Board, **Sebastian Cichocki**, curator of the Museum of Contemporary Art in Warsaw (celebrating the opening of the museum next to Copernicus), **Katarzyna Szymielewicz**, president of the Panoptikon Foundation, **Dr. Andrzej Dragan**, physicist from the University of Warsaw, **Prof. Jadwiga Giebułtowicz**, biologist from Oregon State University (following the announcement of the Nobel Prize for medicine for insights into internal biological clocks of living organisms), and **Prof. Andrzej Trautman** and **Prof. Marek Demiański** from the Institute of Theoretical Physics of the University of Warsaw (following the announcement of the Nobel Prize for physics for the detection of gravitational waves, with one of the laureates, **Prof. Kip Thorne**, sending a speech recorded especially for Copernicus).



EducoBus

This is a programme financed by the Ministry of Science and Higher Education. We take our mobile exhibitions on specially designed EducoBuses to almost all corners of Poland. We carry experiments, but most of all we spread the idea of **learning through experimentation**. The aim of the project is to bolster the scientific capital of students and teachers in small towns and villages, to bring local communities together with academic circles and to promote active and engaging teaching and learning.

We use our roving exhibitions to stir curiosity in children, develop the **Young Explorers' Club** network and build communities of Copernicus representatives among local educational circles. We want each visit from the **EducoBus** to leave an indelible mark of **popularising research-based methods in teaching**.

The programme allows us to reach places from which it's difficult to access Copernicus. In 2017, the **EducoBus visited 54 schools**, with the mobile exhibitions being experienced by **39,938 visitors**. We have two EducoBuses, one carrying the **Experiment Yourself!** exhibition and the other with **Captivated Mind**. The interactive exhibits were open and accessible at each site for six hours per day. Each exhibition can welcome between 60 and 70 visitors per hour. Each guest is given a **Young Scientist's Handbook**, featuring descriptions of the experiments on display at the EducoBus.

We also hosted **two-day long workshops** for teachers in Warsaw on organising educational events. Under the watchful eye of our coaches, the participants learned about planning events and drawing in the engagement of local communities. During the last quarter, **15 schools** were visited by a team of education experts from the Copernicus Science Centre who hosted pedagogical workshops **Exhibits and Experiments** for local teachers, introducing them to the research methods and its applications in everyday teaching. The workshops were attended by **270 teachers**.

We **expanded the EducoBus programme** in 2017 and we will continue to do so in the coming year. In September we purchased a second vehicle to replace a worn out, temporary bus. The current fleet comprises two vehicles blazoned with the project logo. In 2018, it will be expanded to include a **PlanetoBus**, carrying a mobile planetarium. An inflatable dome five metres in diameter, capable of hosting screenings for up to 40 people, plus auxiliary equipment and software were purchased using **funds from the Polish Ministry of Science**.



Experiment Yourself!

Participants in the Experiment Yourself! exhibition can expand their existing understanding of science while having fun, whatever their age. There's something for kids, young people and adults.

Each station features a short explanation of processes being described, and our explainers are on hand to provide additional information. The experiments elucidate physical, biological and mathematical phenomena. The exhibits are designed to stir the imaginations of their users and encourage their scientific interest in everyday life.



Captivated Mind

The exhibition sets traps for our minds and allows us to catch them out playing clever tricks on us. Experimenting with our own minds takes us by surprise, as well as being entertaining and making us want more. Is the world around us really as we perceive it to be? What happens when our senses present us with conflicting information? How do our brains interpret these signals?

The exhibition comprises 20 interactive exhibits allowing users to test their memories, reflexes, perception and agility. It highlights selected aspects of cognitive processes and reveals the workings of the senses and the brain.

Improving the Planetarium

The **We Are Improving** restructuring and modernisation programme also embraces the Heavens of Copernicus planetarium. We modernised the entrance to the planetarium by moving the ticket desks to create more space; the ticket desks themselves, made of a white, state-of-the-art material, have been given a new shape. The redesigned zone is now more spacious and comfortable, with better signage.

The most important change was made to the projection hall. In April, we installed six powerful, brand new projectors. The images are known in the industry as 8K, featuring two-and-a-half more pixels than our previous equipment and 16 times more than HD televisions! We are the only planetarium in Poland able to boast of an **8K resolution in 3D**.

The Sony **VPL-GTZ280 SXRD laser projectors** are the state-of-the-art in the projection industry. They are feature exceptional contrast, giving the projected images excellent brightness and sharpness. The latest equipment operates as part of a hybrid system, in conjunction with the latest star projector Megastar.

In 2017, we launched a Russian-language version of the planetarium's website. The site is intuitive and user-friendly, featuring a redirection to online ticket sales.

Premieres of 2017:

Films: **Hello, Earth**

This the second film to be made at the Production Studio of the Heavens of Copernicus planetarium and produced at the Copernicus Science Centre. In 2017, the film won numerous prizes (more on p. 42).

Seasonal demonstrations, held live before film screenings: **First Contact, Mission: Saturn, Astronavigators**

Music show **Chaos and Harmony**

Demonstrations held during **After Hours** sessions (more on p. 20).

"Looking Up" astronomical observations

Partial eclipse of the Moon

On 7 August, the Moon rose in full phase, but partially eclipsed by Earth's shadow. The lower part of its face was darker than usual.

Although **eclipses of the Moon** are rarer than those of the Sun, they are far easier to observe. And we were lucky! Our guests were able to admire the phenomenon from the park next to the Copernicus Science Centre. They had a chance to watch the Silver Orb through telescopes while astronomers from the Heavens of Copernicus planetarium talked about what else could be seen in the night sky, including the planets Jupiter and Saturn and the passing International Space Station.

Shooting Stars Night 2017

On the night of 12 and 13 August, two things are certain: Earth tears through a cloud of tiny particles of matter left behind by the Swift-Tuttle comet, and the Copernicus Science Centre hosts observations of the **Perseid showers**, popularly known as shooting stars. In 2017, the event was attended by 1500 guests. The city roadway authority dimmed nearby bridges, the nearby Kahla Square and the glazed exits from the Wisłostrada tunnel, and our neighbours from across the river – the PGE National Stadium – also joined in



to help make the city sky darker. For the first time, the headquarters of **innogy Polska** and our new neighbour, the **Museum of Contemporary Art**, also joined in by turning off their lights.

Exhibition "A Separate Reality" by Alex Andreev

A Separate Reality is an extensive exhibition previously shown at the 8th Russian Film Festival "Sputnik over Poland". The planetarium screened the latest version of the project, enhanced by digital technology.

Alex Andreev is a contemporary Russian artist mainly working with digital technologies, resident in Saint Petersburg. His images are inspired by borderline states: between truth and fiction, the present day and futuristic visions, real and virtual reality. The mobile app developed especially for the exhibition set the images in motion and drew the audience into an imaginary world.

Laboratories

The Laboratories are, first and foremost, all about learning through experimentation. Our workshops aim to further develop subjects addressed by temporary exhibitions. In 2017, as part of the exhibition **Sail or Sink** we hosted **Water Anomalies** at the Physics Lab, **A Race Against Thirst** at the Biology Lab, **Trailing Pirates** at the Robotics Workshop and **Mineral with the Formula H₂O** at the Chemistry Lab. Additionally, we were joined by **Intel** to prepare workshops as part of the **Make Tomorrow Poland** project.

Participants came up with their own experiments and took part in existing, running projects. When we devise workshop scenarios, we aim to present the topics in interesting, engaging ways. We set up science problems as fun, elaborate stories. The results of our efforts have been used during classes held at the Laboratories, at the Science Picnic, during After Hours sessions, at the Cognitive Adventures conference, Tesla Days, Summer at the Discovery Park, the Show and Tell conference, the Przemiany Festival, Museum Night and the Schools Closer to Science project.

As well as our activities at Copernicus, the Laboratories have participated in events such as the National Biology Night (Faculty of Biology of the University of Warsaw), Robotics Night (Industrial Research Institute for Automation and Measurements), Mobile Robot Tournament Robomaticon (Warsaw University of Technology) and Sector 3.0 Conference.

We are also expanding the Laboratories as part of the **We Are Improving** programme. In 2017, we launched the **Factory** as a continuation of the **FabLearn** project launched the previous year. The idea behind FabLearn is rooted in the belief that children learn better when they are able to experiment, construct and build things themselves (as part of a team) using the latest technologies. Working on these principles, we conducted a **series of mobile workshops** and launched the construction of a **mobile makerspace** as part of the **Dream Designers** project. Towards the end of the year, we introduced modifications to the Robotics Workshop and increased the number of experiment stations from 12 to 16. In 2017, we also found new sponsors for our Laboratories. The **Factory** and the **Robotics Workshop** are currently operating under the patronage of **Raytheon**, while the **Biology Laboratory** is sponsored by **Roche**.



Chemistry Laboratory:

3 new lesson plans
3946 students
5890 individual visitors

Biology Laboratory:

3 new lesson plans
3784 students
5079 individual visitors

Physics Laboratory:

3 new lesson plans
3695 students
5628 individual visitors

Robotics Workshop:

3 new lesson plans
1956 students
4364 individual visitors

Educational events

Educational role of our exhibitions

During the regular **Teachers' Afternoons with Copernicus**, we showed teachers how to make the most of their visits to the Copernicus Science Centre with their students. Participants discussed events for school groups and the current exhibitions and events at Copernicus, explored our spaces, and conducted experiments within the exhibition space and at the **Thinkatorium**. In 2017, we hosted six meetings with a total of 50 participants.

Workshops preparing for visiting Copernicus

In 2017, we launched the temporary exhibition **Sail or Sink**. Before the opening, we invited teachers to come familiarise themselves with the exhibition prior to their visit with their students. We hosted special interdisciplinary workshops focusing on teaching through experimentation and looked for links between the issues presented in the exhibition and the core curriculum at different stages of education. Participants exchanged ideas on how to organise lessons in the exhibition space and how to make the most of the educational potential of events accompanying the exhibition. The workshop programme included designing and performing experiments illustrating natural phenomena occurring in oceans, preparing classes which could be held in the exhibition spaces and discussion. In 2017, we held four workshops with a total of 49 participants.

Events prepared with external partners

Between 31 March and 2 April 2017, our Conference Centre hosted the latest **Young Researchers Festival "DISCOVERY"**, bringing together different groups fostering young people's interest in learning and their engagement with science: scientists, students, teachers and parents. The Festival is co-organised by the **Polish Children's Fund** and the **PAS National Centre for Nuclear Research**. We also invited 20 of the most active leaders of **Young Explorers' Clubs** who conduct research projects with their students.

During the finals of the **Physical Paths** competition and the **EUCYS Contest For Young Scientists**, students engage in discussion with scientists, talk about their science projects and presentations, and present the results of their research to the public. Many of the projects constitute real science on a truly professional level, even though most of the participants are yet to sit their final high school exams. The events are held under the **honorary patronage of the Minister of Science and Higher Education**.

In June 2017, we hosted the seventh **Summer Seminar of Wars and Sawa**, co-organised with the **Warsaw Centre for Socio-Educational Innovation and Training**. This year's theme fitted into the nationwide celebrations of the "Year of the Vistula River". During workshops, teachers learned about the history of the Warsaw section of the river, its impact on the city's development over the centuries, and its biological, physical and chemical properties. Attendees heard lectures by special guests Dr. Marek Ostrowski from the Faculty of Biology at the University of Warsaw and Ryszard Pepłoński, director of the Warsaw Municipal Water and Sewerage Company. The meeting was attended by **over 80 teachers from Warsaw**.

For the fifth year running, we were joined by the **innogy Foundation in Poland** (formerly the RWE Foundation in Poland) for the educational project on obtaining and using energy. The tailored **innogy Powerbox** educational kits are one of the flagship projects of our vision of teaching through experimentation. They contain worksheets and accessories allowing students to conduct experiments as part of the core curriculum. The materials in each kit, such as miniature solar or wind power stations and energy meters, can be used to create new experiments or adapt existing ones for different stages of physics, geography, natural sciences, maths and technology education. This year's workshops were attended by **109 teachers**. Their schools were supplied with **over 180 full innogy Powerbox** kits to be used during lessons featuring elements of the research method.

Show and Tell Conference

The **Show and Tell Conference** is the culmination of the work we do at our **Education Workshop** throughout the rest of the year. We host teachers, educators, scientists, promoters of culture and representatives of the media and local and central authorities, including the Ministry of National Education and the Warsaw Office of Education, for discussions on educational practice, its philosophical foundations and the latest trends and the future of teaching.

In 2017, we deliberated the role of networks in education and the role of education in networks. We invited the Canadian scholar of education **Stephen Downes**, one of the founders of the **connectivism** movement. The time and attention we devoted to this concept represents the latest step towards implementing our programme goal of helping to bring the latest trends and philosophies into the Polish education system. Robert Firmhofer, Executive Director of the Copernicus Science Centre, noted in his opening address that "as well as an ongoing discussion on the structure of the school system, we also need to debate how to teach". The discussion needs to be based on serious philosophical reflection drawing upon the latest scientific discoveries in cognitive sciences, neurosciences, machine learning and so on.

The lectures formed just a part of the activities included in **Show and Tell**, with the practical aspects of networks in education shown through the **Café of Ideas** and **Networking Sessions**. The Café of Ideas allowed us to amass a huge amount of data which we processed to create an educational map centred around the Show and Tell Conference and the Copernicus Science Centre. The Networking Session focused on our guests – 12 organisations bringing together educators at all levels, from international networks of institutions under the **European Space Agency (ESA)** umbrella to grassroots initiatives for teachers.

The conference featured a **Seminar** during which practitioners and theoreticians of education met, exchanged experiences and discussed the role of networks in education and education in networks. We also hosted workshops based on the concept of concurrent design used by ESA engineers to devise complex space missions.

The event culminated with a presentation delivered by **Prof. Bohdan Cywiński** – acclaimed lecturer, historian, philosopher and a leading opposition activist back in Poland's communist era. He compared the visions of the future of education created by Western thinkers with the realities of his and his family's life and the school experiences of three generations of Poles.

The conference is summarised in a publication introducing the concept of connectivism to Polish readers and presenting several related articles. We hope that this publication – available from the Copernicus website – will pave the way for a lively debate on the value of this innovative educational concept.

Bringing schools closer to science

Schools Closer to Science is a Copernicus project financed by EU funds and implemented in partnership with regional authorities in the Mazovian Voivodeship, carried out between the dates of 1 Sept 2017 to 31 Aug 2019. It encompasses almost **2000 students** and **teachers from 38 schools**, and is the largest such venture in the region. The aim of the project is to strengthen ties between education and science and to create conditions for teaching using elements of the research method in schools covered by the project to help teachers improve their skills and provide equipment for school laboratories.

The project envisages a **two-year cycle of meetings and workshops** designed by experts from the Copernicus Science Centre, concerning various aspects of applying the research method to teaching. In 2017, we held three cycles of workshops for teachers discussing using exhibits, the role of science and the research method in teaching and creating engaging lesson plans.

We also host events for students to help them develop their skills in maths, natural sciences and computer sciences, as well as honing creativity and teamwork. They take part in **special workshops** hosted at the Laboratories and the Thinkatorium. **In 2017, under the Schools Closer to Science programme, the Copernicus Science Centre was visited by students from 11 schools.** They go on to use their newly developed skills during school lessons and at additional classes such as field and research trips and computer science classes. Events will culminate with **special educational and research projects** developed and implemented with teachers and scientists.

We aim to supply schools participating in the project with equipment for conducting experiments. Last year we delivered **WATER educational kits** (each school received ten kits) and Micro:bit **microprocessors for learning programming** (50 kits per school), both developed at Copernicus. In 2018, schools will receive specialist equipment adapted to meet their individual requirements.

Throughout the project, **participants contribute to consultations** in methodology, organisation and specialist subjects. Each group of around 16 individuals has a designated leader – one of Copernicus Science Centre's coaches. They are also supported by specialists in methodology and pedagogy.

Project partners

- Copernicus Science Centre
- Capital city of Warsaw
- Grodzisk Mazowiecki commune
- City of Otwock
- City of Żyrardów
- City of Kobylka
- Lesznowola commune
- Stare Babice commune



The Schools Closer to Science project brings together seven communes of the Warsaw region to create optimal conditions for teaching based on the experimental method by improving the skills and competences of teachers in using experiments in lessons, equipping schools with educational kits and tools for teaching natural sciences, and developing students' skills in natural sciences by conducting educational and research projects.

**Szkoła
bliżej
nauki**

EU
Mazowieckie
Copernicus Science Centre
Ministry of Science and Higher Education
Ministry of National Education
Ministry of Regional Development
Ministry of Environment
Ministry of Health
Ministry of Sport and Tourism
Ministry of Culture and National Heritage
Ministry of Agriculture and Rural Development
Ministry of Family, Labour and Social Policy
Ministry of National Defense
Ministry of Internal Affairs and Security
Ministry of Justice
Ministry of National Education
Ministry of Science and Higher Education
Ministry of Regional Development
Ministry of Environment
Ministry of Health
Ministry of Sport and Tourism
Ministry of Culture and National Heritage
Ministry of Agriculture and Rural Development
Ministry of Family, Labour and Social Policy
Ministry of National Defense
Ministry of Internal Affairs and Security
Ministry of Justice

**Szkoła
bliżej
nauki**

The project is co-financed by the European Social Fund, under Priority Axis 10 Education for Regional Development, Measure 10.1 general and preschool education, Submeasure 10.1.2 general education within ITI (Integrated Territorial Investments), of the Regional Operational Programme of the Mazovian Voivodeship for the years 2014–2020.

The overall value of the Project is **4,999,821.65 PLN**.

Co-financing, which constitutes **94.67%** of the value of the project, comes to **4,733,416.65 PLN**, including the following:

- European Social Fund **3,999,857.32 PLN**,
- Specific-purpose subsidy from the Polish state budget **733,559.33 PLN**.

Young Explorers' Club

The mission of the **Young Explorers' Club** programme is to help its members develop their skills by encouraging them to get personally involved in science and research. We operate in schools and educational and cultural institutions **across Poland and abroad**.

The YEC community includes children, young adults and club leaders, as well as strategic, regional and expert partners. Thanks to the support from the Copernicus Science Centre and our partners, as well as funds from the Polish-American Freedom Foundation and Boeing, in 2017 we organised many activities supporting club leaders in meeting their goals.

YEC at Copernicus

2017 was the second year of the YEC development programme based on identifying and engaging the most active club leaders. We held three **two-day-long workshops** coaching club leaders and initiating research programmes including club members. During the first **YEC at the Centre** meeting, participants were trained on using the research method in their work with students and attended the exhibition of works by winners of the **EUCYS** and **Physical Paths** competitions. The second meeting was held jointly with Intel as part of the **Intel Young Makers** project. Participants learned how to use the modular **BeCreo** kits – tools teaching the basics of programming and mechatronics. Each participant received five kits to use at their clubs. The third meeting was combined with the EducoBus project (more on p. 18). The workshops focused on organising educational events in local communities.

Competitions

Each year we host **two competitions** as part of the YEC programme, one for club members and one for leaders. The winning project in the competition for best plan for experiments on the subject of "Earth" was presented during the 21st Science Picnic of Polish Radio and the Copernicus Science Centre. The authors of the most interesting research projects in the **YEC Researchers** competition received grants for coordinating and disseminating their projects at other clubs.

6th YEC FORUM

Club leaders and members are actively involved in local communities by organising science picnics, science nights and other events popularising science. They were addressed by **Adam Bodnar**, Poland's civil rights ombudsman, during the opening of this year's Forum. The opening lecture was delivered by **Aleksander Pawlicki** – teacher, coach and trainer at the Trampolina Group. His talk focused on the mechanisms of learning involving building new skills on existing knowledge. He also talked about the importance of helping students unlearn wrong beliefs. If this is ignored, there is a real danger that even as they complete their education many students won't be fully convinced that the Earth is round. A large body of research indicates that this happens rather frequently. The following day featured a lecture by **Dr. Piotr Sułkowski** about the initiative **Ask a Physicist** – a website run by researchers from the Institute of Physics at the University of Warsaw.

Forum participants could choose two out of nine workshops and one of seven seminars. There was also a session on best practice, nighttime tours of the Copernicus Science Centre (including activities at the High Voltage Theatre and Laboratories) and social events. Throughout the event participants could talk to expert partners (**Children's University** and the **Polish Children's Fund**) as well as regional and strategic partners (**Polish-American Freedom Foundation**).

Dream Designers

The **Dream Designers** programme, held jointly with Boeing since 2016, supports the development of science, technology, engineering and mathematics (STEM) subjects. Last year, we provided **over a hundred Young Explorers' Clubs with educational kits on aviation**. The kits reveal the secrets of the construction of propellers, the physics behind parachute jumps and the properties of air, all introduced through experiments.

We held **workshops** in four regions in Poland helping teachers learn engineering skills. They were awarded **mini-grants with a total value of 40,000 złotys**. As a result, YEC members and leaders created incredible projects such as building hovercraft, designing smart parachutes and organising a two-day-long science festival.

YEC Partners

In 2017, we developed a collaboration model adapted to the growing number of partners and the expanding range of activities we are involved in. As a result, we are initiating the foundation of new clubs and ensuring the continuing high quality of existing ones.

We are currently working with the following organisations:

Expert partners:

- Polish-American Freedom Foundation (strategic partner)
- Boeing (STEM project partner)
- Polish Children's Foundation
- Children's University Foundation

Regional partners:

- ExploRes Association, Rzeszów
- Youth Astronomical Observatory, Niepołomice
- Teacher Training Centre, Olsztyn
- Łódź Children's University at the Łódź University of Technology
- Vocational High School, Chełm
- Technical and Vocational School Complex and Centre for Continuing Education, Leszno
- Young Explorers' Academy, Wrocław University of Technology
- Teacher Training Centre, Piła
- University of Białystok



The YEC movement in Poland and the world

The Young Explorers' Club programme has been growing to impressive size. As of 2017 there were **729 clubs registered in Poland**, with about 150 new ones arising each year (there were 565 clubs in 2016, and 417 back in 2015).

In **Georgia**, where our partners in the programme are **Ilia State University** and the **Adjara Education Fund**, there are now already **93 clubs** in existence. Plans for the coming year call for the continued expansion of the YEC movement in that country.

The Copernicus Science Centre also supports the Young Explorers' Clubs that have arisen in **Lithuania**, **Belarus** and **Ukraine**.

The success of the YEC programme is additionally confirmed by the fact that clubs are being set up independently of the Copernicus Science Centre initiative. This has happened in places including **Belgium** (Brussels) and **Switzerland** (Zurich), where clubs were set up by Polish emigres.

European Science Education Resource Office (ESERO) – Poland

The Copernicus Science Centre is the Polish coordinator of ESERO, the educational arm of the European Space Agency (ESA). The programme supports the teaching of STEM subjects by presenting them in the context of space research. The project aims to inspire young people to choose careers in engineering and technology. ESERO has formed a significant element of the Copernicus Science Centre's educational activities since its foundation. Programme activities include workshops for teachers, plans for lessons focusing on space, international competitions and meetings with scientists.

Space at schools

Once again we invited educators to our conference **Space at Schools**, this time featuring a lecture by **Dr. Jerzy Nawrocki** from the Polish Academy of Sciences about the nuances of how to make precise measurements of the fourth dimension. There was also a choice of four workshops on building planets, the greenhouse effect, atmospheric aerosols and events preparing participants for the **Astro Pi** competition. We also tested new workshops forming a part of the **Look! There's Earth** exhibition at Copernicus, asking participants for their feedback and comments on the latest format. During the presentation session, teachers talked about their experiences and achievements in space education.

Workshops

In 2017, we hosted several workshops for educators. Their activities form the foundation of the success of the ESERO programme. Topics included studies of the soil, workshops using rockets built from paper and launchers made from hydraulic pipes and classes on programming microcontrollers, advanced team management (based on planning space missions), observations of radioactivity and analysis of star brightness (in order to search for exoplanets).

In November, we launched the scheme for lending **ESA Spacecraft Materials Kit**. The materials were designed by experts from the European Space Agency. Together with the Regional Science and Technology Centre in Podzamcze, we hosted workshops introducing the kits and their technical scope to the teachers. Before each new competition, we hold workshops for team leaders to provide them with the necessary tools for their role as mentors.

Meetings

ESERO's activities are centred around the exchange of ideas between coordinators from different ESA member states. We invited **Alana Bartolini** from **ESA Education** to the **Przemiany Festival** (more on p. 34) to talk about the day-to-day operations of the European Space Agency and her role in coordinating projects on the International Space Station. We also asked the panellists – winners of the **CANSAT competitions**, two instalments of the **Remote Mars Yard** competition and members of the team awarded third place at the **University Rover Challenge** – to talk about their inspirations and challenges.

In May, the fascinating perspectives of space exploration in the coming years were presented at Copernicus by **Tony Castilleja** – engineer at Boeing working on the **Space Launch System** which aims to take humans to Mars. We have also launched a partnership with teachers active in space education and with winners of the CANSAT 2017 competition, making them **ESERO Space Ambassadors**. Their task is working with educational circles to share their experiences, innovative methods and ways of inspiring young people.



Competitions

Numerous ESERO competitions were held in 2017. Entrants to the **CANSAT** competition built minisatellites – fully functional research tools fitting in a simple drink's can. **Ten teams** tested their satellites during the finals: they were launched to the altitude of two kilometres where they underwent tests under conditions similar to those of real missions in the near-Earth orbit. The winning team from Toruń represented Poland during the European stage of the competition, reaching third place. We launched the latest instalment of the competition in September, and we have already received **42 entries from across Poland!** The Polish part of the competition is supported by Boeing.

In March, we launched the third **Remote Mars Yard** competition. Twenty-five teams of students planned missions for a Mars rover loaned by **ABM Space**. The aim of the competition was to deal with complications which could arise during a real mission to a different planet and to gather as much valuable scientific data as possible.

The **Astro Pi** competition is an opportunity to reach for the stars – literally! Participants compiled code for a **Raspberry Pi** microcomputer – identical to one on the International Space Station – to conduct research or to show particular creativity. The Europe-wide event is not all about winning – all teams which qualify for the competition get to send their code to the ISS.

Copernican Revolution Lab

Research at Copernicus

In 2015, Copernicus gained the status of a research unit in its own right (in addition to being a cultural institution). This means that sociologists, psychologists and anthropologists from our Research Department take advantage of day-to-day contact with thousands of visitors to our exhibitions and participants in our educational projects analyse what experiences people actually take home with them from the exhibitions, how they actually interact with the exhibits, whether they participate in workshop classes, etc – in short, we study the processes of learning.

In 2017 we continued our program of exploratory research. During the finale of the **CANSAT** competition, we studied and analysed the "success factors" that influenced how competition participants perceived their own success and sense of effectiveness. In the **Dream Designers** programme we studied the attitudes among the Young Explorers' Club leaders towards educational activities based on building things. We diagnosed the level of scientific capital and cognitive motivation in school students participating in the **EducoBus** program. We monitored the course and effectiveness of educational and didactic activities (including the **Show and Tell** conference, the **Interaction – Integration** conference, the **Young Explorers' Club Forum**, and the **Science Picnic**.)

We are continually re-evaluating the efforts that are being made under the **We Are Improving** agenda. This past year we evaluated the reception of a new show at the planetarium and the reorganization of the exhibition space, we studied visitors' expectations with respect to the newly redesigned exhibitions, and carried out an audit after ticket sales were shifted to an online system.

Every two years, at the international conference entitled **Cognitive Adventures**, we try to sum up what we know about the processes involved in learning, confronting the results of our analyses with world trends in research and R&D work. During the 2017

conference the topics discussed included the social and cultural factors underpinning the learning process, the role of educational tools, and key mechanisms in STEAM learning.

A new R&D centre

We want to broaden the scale of what we do and to put the scientific foundations we have created into much wider practical effect, by spreading newly-devised solutions and methods to the broader educational market. To set the stage for this, we are creating what is called the **Copernican Revolution Lab** – an R&D centre, one-of-a-kind in Poland, where researchers and experts will study learning and the acquisition of 21st-century competences in STEAM education (*Science, Technology, Engineering, Arts and Mathematics*) and study societal engagement in science. It will be a place for interdisciplinary exploration, at the confluence of research, development, and creativity, where efforts to advance our scientific understanding of learning will be combined with the first-hand practice of education also fostering entrepreneurship. R&D work done here will give rise to new educational products and services.

Investment Lab and BIM technology

In July 2017, we launched the **Investment Lab** whose objective is to implement the investment project of **constructing the building** for the Copernican Revolution Lab. We have analysed various construction projects carried out in Poland and abroad and have decided to equip the new team with the hardware and software necessary for them to work in the BIM (Building Information Modeling) technology, making it possible to model the building in 3D format. These tools let us continually keep a watchful eye over the progress in designing, constructing, and financing the investment project. This model provides real budgetary savings, stemming from ongoing budget inspection, close scheduling control, and the elimination of unnecessary costs.

Copernican Revolution Lab building

In 2017 we secured a land-use permit and prepared full documentation for the architectural competition, organized in conjunction with the Association of Polish Architects. A total of 10 architectural firms submitted proposals, we announced the results on

6 July, and on 25 August we signed a contract with the firm selected in the competition: **Heinle, Wischer und Partner Architekci Sp. z o.o.** from the city of Wrocław. The winning design proposes a simple and elegant building shape, which harks back to the design of the neighbouring Copernicus Science Centre building. The proposed functional-spatial plan ideally suits our needs. The interiors, designed to house offices, laboratories, workshops, meeting places and common spaces, were planned in modular form, making them easy to transform as needs change.

Funding for the initiative

We are seeking to secure the respective funding for the building's construction, at an **overall cost of more than 49,500,000 PLN**. In November we filed an application with the Mazowieckie Voivodeship EU Project Implementation Unit requesting **co-financing of 16,700,000 PLN** under a competition for the Regional Operational Programme – competition 1.1 – R&D activity by research institutions. **Support for the construction project has been offered by the Capital City of Warsaw**, providing a plot of land as the construction site as well as **co-financing for the whole initiative of nearly 15,400,000 PLN**. An additional **1,100,00 PLN in support** has been declared by consortium members (NetichTech i Moje Bambino) and the sponsor of the undertaking: **Samsung Electronics Polska**. We are also allocating funding from **our own commercial activity**, which we are estimating at around 16,300,000 PLN.

Consortium Members, Sponsors and partner institutions

We are building the Copernican Revolution Lab based on a **Consortium**, functioning within a broader environment of partner institutions.

The company **Moje Bambino Sp. z o.o. Sp. k.**, the largest provider of teaching supplies in the Polish educational market, is at the forefront of the sector on a European scale. The company has nearly 12,000 products on offer, and it also provides extensive specialist support for its clients – in conjunction with education specialists it organises workshops and conferences for teachers and educators.

NeticTech Cybernetic Technologies S.A., a Polish manufacturer of innovative tools for teaching programming, was set up with the objective of stimulating the development of innovative technological products through commercialization and technical support. NeticTech's products (such as ScottieGo – an innovative game teaching young children about programming) are in full compliance with both the world standards for research on methods of teaching using modern technologies and with the context of formal education. The solutions the company offers, tested at the **"School of the Future" Laboratory** (affiliated with the Poznań Supercomputer and Networking Centre), have been implemented in schools in Poland and abroad.

Samsung Electronics Polska, the longstanding **Strategic Partner of the Copernicus Science Centre**. Samsung is one of the world's leading technological companies, which maintains its second-largest R&D centre in the world (after Korea) in Poland. Our collaboration has given rise to new educational programmes, modernized exhibitions, and science-popularizing events. Samsung's responsibilities include providing the technological solutions required by the exhibitions and mini-workshops, such as tablets, monitors and televisions. The company initiates special events, such as the **Samsung Dot's It** exhibit about the technology that drives QLED television screens, and the monthly **After Hours** evenings for adults. As a sponsor of the **Copernican Revolution Lab**, Samsung will jointly implement projects related to technologies in education, business incubators, and the development of **Smart City** technology.

The partner institutions of the Consortium include:

- 9 research and academic institutions;
- 9 NGOs and governmental bodies;
- 17 companies and business-related institutions.

Science Picnic of Polish Radio and the Copernicus Science Centre

We dedicated the 21st Science Picnic to the Earth sciences. How much do we know about our planet – its surface and its interior? How do we use this knowledge? What are we doing to take care of our Earth, and how are we damaging it? What can we expect of it – good and bad? Visitors to this year's Picnic learned many new facts – and if humankind didn't understand these facts, we would simply be here on Earth as uninvited guests. But armed with this knowledge, we can feel like hosts of this little blue planet – this space ship carrying us on its endless journey through the dark, cold and dangerous Universe. We are learning how to take care of this ship and how best to use it in the coming hundreds of thousands of years, before the Sun destroys our solar system. When that time comes, we will have to know how to leave it behind and travel to distant planets. But we have much to learn before we can reach this stage and know how to choose a new Earth.

Prof. Łukasz Turski
Chairman of the Programme Board
of the Copernicus Science Centre
Founder of the Science Picnic

The Science Picnic of Polish Radio and the Copernicus Science Centre is Europe's largest outdoor event popularising science, and in 2017 it brought in around **50,000 visitors**. It's been held in Warsaw every year since 1997, with around **200 institutions from Poland and abroad** taking part in the Picnic every year. They represent the physical, natural and social sciences and the humanities. They use demonstrations and experiments to persuade attendees that science is truly fascinating. And they certainly succeed, since the Picnic attracts growing numbers of visitors.

The Science Picnic was held at the PGE National Stadium for the fifth time. The current venue is highly popular with exhibitors and attendees. In fact, 91% of visitors speak highly of it, with 81.2% praising the layout, 76.9% describing how easy it is to get around, and 74.4% praising the accessibility of toilets (no small feat, given the organizational scale of the event).

21st Science Picnic in numbers

Research conducted by the Centre for Public Opinion Research with a sample of 1007 visitors revealed the following:

- **48.3%** of participants were visiting the Picnic for the first time, while **15%** guests had attended at least four times before
- more women (**58.7%**) than men (**41.3%**) visited the Picnic
- visitors spent an average of three hours at the picnic (**42.9%**)
- last year saw the highest number ever (**22.7%**) of visitors spending over four hours at the Picnic

As ever, the Picnic brought together visitors of all ages: over a third (**35.8%**) were under 24 years old, and over a quarter (**25.7%**) brought children.

The event was dominated by Varsovians (people residing in Warsaw), with **44.6%** visiting from the Mazovian Voivodeship. But the Picnic is also visited by people from as far afield as the Western Pomeranian and Subcarpathian Voivodeships (**1.6%** each).

Over the years, the Science Picnic has established itself as a family event and a perfect opportunity to have fun and seek inspiration, but the majority of visitors (**74.3%**) state that their main reason for attending is their interest in science. Many visitors (**30.7%**) declare simply that they see the Picnic as an opportunity to get their kids interested in science.



Science Picnic in social media

The real strength of the Science Picnic is its participants. Some have been visiting for so many years they could be truthfully described as having grown up with the event. We strive to maintain their engagement through social media, so we work on improving our communication through these channels and encourage our exhibitors to do the same.

The Picnic's **Facebook** page has over **14,000 fans**. Last year we joined **Instagram**, where we have so far amassed close to **1000 followers**. Both channels are supported by our activities on **Twitter**, which means we can be wherever our audience happens to be.

The online activities of our exhibitors have helped us reach new groups of potential visitors, including science clubs, students and graduates. We have been able to describe individual attractions more precisely, which in turn helps us promote the Picnic to individuals and groups interested in specific fields. **#PiknikNaukowy** was in the top five trending Twitter hashtags in Poland for most of the day of the event, while photos from this year's Picnic were viewed over **14,000** times.

125,000 – organic reach of all posts

424,000 – Facebook hits

"Przemiany" Festival

We cannot predict the future, but we can shape it. Participants at the **Przemiany Festival** learned that we all have this power. This interdisciplinary festival, all about future transformations, brings together science, art, design and state-of-the-art technologies. The attendees come from all walks of life, and their projects are an expression of their passion and desire to change the world around them. How interesting and intriguing the future is can be seen from the number of guests: the 2017 "Przemiany" Festival was visited by 4,000 people.

The 2017 Festival attempted to answer the question **Who owns space?** We examined space exploration in the context of new economic and social models, learned about new technologies which are paving the way for projects such as the extraction of natural resources from asteroids or terraforming Mars, and asked who all this will benefit. Are planned space programmes going to lead to sustainable collaboration, or are they going to cause an unprecedented political and economic race? How will space innovations change our everyday lives here on Earth? How will ownership regulations apply in space? We posed the questions during the Festival to stir a debate on human presence beyond our cosy habitat.

The event opened with the phenomenal lecture **"Europeans: Perpetual Explorers"** delivered by **Mark McCaughrean** (Senior Science Advisor, ESA), positing that if the internet and mobile networks were to go down, our entire civilisation would unravel in minutes. Visitors also enjoyed lectures by the artist and scientist **Joe Davis** (MIT) and **Leopold Summerer** (Advanced Concept Team, ESA) and attended discussions with scientists, artists, designers and journalists. There were also closed workshops for experts and creative professionals and OpenLAB with a team of Mars rover engineers.

The two main elements of the **Przemiany Festival** were the exhibition **Returning to the Moon**, presenting research, technology, art, science, design and architecture projects relating to our satellite, and the **Mars Congress** – a public debate with an upside-down science café format, where we analysed

problems of human presence beyond Earth such as space flight technologies, human biochemistry under low gravity and social structures.

The programme also featured screenings of films made by **Imagine Science Film** in New York, focusing on science, space technologies, biodiversity and space exploration. Together with **ESERO**, we prepared a package of events for teachers and middle school students focusing on professions of the future.

The festival also included **Przemiany Live!** – an outdoor concert of electronic music with performers including Andy Stott (UK), Demdike Stare (UK), HMOT (Russia), and Astma and FOQL from Poland. Participants in **Breakfast by the River**, combined with a family picnic and a health food fair, listened to a lecture on farming on Mars (**Dr. Wieger Wamelink**, exobiologist from Wageningen University) and meet analogue astronauts from the **LUNAR Expedition**. Finally, the planetarium hosted the concert **Martian Dust**, featuring Stefan Wesołowski's ensemble, VJ Bęza and visualisations projected onto the dome.



Summer in the Discovery Park

Every year, we spend the summer in the green space next to Copernicus enjoying workshops, film screenings, meetings and lectures in the open air. Activities of the **(Extra)terrestrial Mission** were co-organised with our partner the **Planete+** TV channel.

In 2017, the **Outdoor Weekend Workshops** featured discussions on Earth and space. In July, we converted the park around Copernicus into a research station. Visitors examined the air, soil, water and plants and learned about Earth and natural phenomena. They used the new information in August, when they worked as engineers to construct rockets and other space vehicles and prepare them for science missions to the Moon and Mars. **The Outdoor Weekend Workshops were attended by 4750 people.**

Events also included discussions for adults. While explainers kept kids busy experimenting and tinkering, their parents and carers relaxed on sun loungers and talked to scientists. These **Discussions under the Tree** are low-key meetings with young scientists from the **Science Spokespeople Association** and participants in the **FameLab** competition, who present fascinating and accessible talks about their latest research. Visitors could also borrow games, magazines, deck chairs and blankets, and sample delicious fruit, smoothies and pancakes.



The **Outdoor Summer Cinema** presented films introducing natural phenomena occurring on Earth and showing their analogues elsewhere in the Universe. Each screening was preceded by a discussion with experts. We talked about the early days of space exploration and the skills and traits required of astronauts and their teams, discussed the planning and purpose of space missions and research, and looked for secrets within our Solar System and the galaxy. When we came back down to Earth, we looked at how new knowledge originating from space exploration is used to solve problems such as natural disasters and fires, as well as its applications in regulating air and sea traffic and sustainable development. **Films shown at the Outdoor Summer Cinema were watched by 2120 people.**

Scientific and artistic events

Paths to Life

The cycle of popular science lectures on biology and medicine was curated by **Prof. Magdalena Fikus**. The event was a continuation of the 2015 cycle **Paths to Reality**. We presented the latest achievements in biotechnology and introduced topics from other fields of science and research. Each lecture was preceded by a presentation on the latest news in biology. The lecturers were delivered by eminent biomedical scientists including **Prof. Wiesław Jędzejczak**, **Prof. Leonora Bużańska**, **Prof. Janusz Siedlecki** and **Prof. Paweł Golik**. The presentations were recorded and uploaded to our YouTube channel. The cycle also includes the **Science Café** where attendees can talk to scientists and experts. **The five lectures were attended by around 1300 listeners**.

Tesla Day

10 July is a special day: it marks the birthday of the inventor, engineer and scientist Nikola Tesla. We celebrate the occasion every year at Copernicus with **Tesla Day**, organized together with **innogy Polska**, when in addition to our usual exhibitions we present a range of special attractions. Tickets to this year's event sold out long in advance.

Science Spokespeople

In January, we held the third instalment of this science communication programme. The cycle was initiated by Copernicus in 2015, and it is ran alongside the **Science Spokespeople Association**. The programme brings together science journalists and scientists to facilitate regular exchange of information, thoughts and inspirations. Over the last three years, the event was attended by around 30 scientists from universities all across Poland and around 20 leading Polish journalists. Participants in the last meeting prepared recommendations for people whose job it is to communicate brand new, untested ideas. The conclusions were published as a brochure.

FameLab

For the sixth time, we co-organised (alongside the **British Council**) Poland's instalment of **FameLab** – one of the leading competitions in science communication. Over the years, the competition has received close to **500 entrants**. Many FameLabbers have gone on to become acclaimed popularisers of science while remaining active in their research. FameLab is partnered with **Saint-Gobain Innovative Materials Polska** and **Adamed**.

Events we participated in:

SPiN Day as part of the International Science Centre and Museum Day

The national Society and Science Agreement (SPiN) was once again involved in the **International Science Centre and Museum Day** on 10 November. The SPiN campaign includes **26 institutions**. Workshops, lectures and demonstrations were held throughout Poland, this year focusing on air quality and the problem of smog. Copernicus hosted experts from the **Polish Smog Alert** and the **University of Warsaw**. Guests from the **Humanitarium** in Wrocław and members of five **Young Explorers' Clubs** in Warsaw also delivered presentations on air quality.

Interaction – Integration conference

After Gdynia, Toruń and Kraków, the **Interaction – Integration** conference returned to Warsaw in 2017. The event was attended by 273 people, with 11 companies taking part in the Business Bistro. For the first time, the programme included three parallel sessions. The conference was preceded by the **Planetary Hackaton**; the 15-minute demonstrations were presented to conference participants and distributed through an open licence. The conference also featured the annual meeting of the board of the SPiN association, voting on new members. Robert Firmhofer, Chief Executive Officer of the Copernicus Science Centre, decided to step down after two terms as SPiN's Secretary. **Monika Wiśniewska**, director of the Młyn Wiedzy Science Centre in Toruń, was **elected as SPiN's new Secretary**.



Museum Night

The Copernicus Science Centre once again opened its doors for **Museum Night**. The late-night participants experimented with hundreds of interactive exhibits, and we also prepared special surprises for the event. Together with our strategic partner **Samsung**, we opened a laboratory with smartphones serving as microscopes. The **High Voltage Theatre** presented electrifying spectacles; the planetarium hosted a virtual journey to the recently discovered planetary system TRAPPIST-1 and visitors were given the opportunity to try to communicate with potential extraterrestrial civilisations. **That night we were visited by a total of 6340 people (4533 at Copernicus and 1807 at the planetarium)**.

Local and international partners

The Copernicus Science Centre conducts R&D alongside scientists from Europe and the US. In 2017, we signed an agreement with the **NEMO Science Museum in Amsterdam**. One of the main aims of the collaboration is studying curiosity and learning mechanisms in children; the project is led by **Prof. Maartje Raijmakers**.

The conference **Cognitive Adventures**, held at Copernicus for the second time, marked the start of collaborative ties with the **Graduate School of Education at the University of California, Berkeley**. The plans made with **Prof. Dor Abrahamson** concern design-based research methods in the development of new teaching solutions, such as class formats, lesson plans and teaching aids.

Copernicus is a co-founder of the **SPiN** association, bringing together science centres and other institutions working in informal education in Poland. The association hosts **SPiN Day** as part of the International Science Centre and Museum Day. The annual nationwide conference is hosted by member institutions; **in 2017, the event was held at the Copernicus Science Centre**.

In late September, we signed an agreement with the **Beijing Association for Science and Technology** on strengthening ties and exchanging experiences between organisers of science festivals and institutions popularising science from all over the globe.

The robot **Photon**, built by students at the University of Technology in Białystok with funds from the **National Centre for Research and Development**, aims to help children learn the basics of programming, logical thinking and fast decision making. As a result of an **agreement between Copernicus and the National Centre for Research and Development**, Photon was placed in the Robotics Workshop in December 2017, where it will be used in research until June 2018.

Since 2017, we have participated in the **Science Saves Lives** project by Roche, under which four innovative drug-administration rooms in hospitals in Wrocław, Warsaw, Rzeszów and Szczecin. The **Science Saves Lives** project involves a unique educational program for children, meant to pique their interest in science with a particular focus on medical knowledge, ongoing efforts to create the first innovative drug-administration rooms in hospitals, and cooperation with the Copernicus Science Centre, which plays a consulting role.

Copernicus also participates in the **Wars and Sawa** programme, run by the **Warsaw Office of Education** since 2011, organising **Summer seminars** for teachers working with gifted students (more on p. 24). In late 2017, we also joined the latest instalment of the programme **Wars and Sawa closer to society, science and the arts**. The project continues in 2018. Another initiative, held on the voivodeship level, is the project **Schools Closer to Science**, including 38 schools from Warsaw and surrounding communes (more on p. 26).

Young Explorers' Clubs (YECs) are the result of our aim to encourage learning through research and experimentation. In 2017, the programme was joined by seven new regional partners (more on p. 28), which means YEC has representatives in nine of 16 voivodeships. Our partnership with the **Polish-German Youth Office** took us to the **Exchange Laboratory Conference 2017** in Berlin. We also implemented the **Intel Make Tomorrow** programme with our partner **Intel** and a range of governmental and non-governmental organisations.

International projects at the Copernicus Science Centre:

ESERO Poland is an education programme focusing on space exploration, conducted for the last three years by Copernicus and ESA (more on p. 28).

As part of the **World Biotech Tour** international project by the Association of Science-Technology Centres and Biogen, we held the Paths to life cycle of lectures, meetings at the science café and open workshops at the Biology Laboratory during the Science Festival and devised a biotech route through our exhibitions. We also recruited biotechnology ambassadors who delivered presentations on stem cells, GMOs and the CRISPR technology. Copernicus was one of 12 science centres and museums from all over the globe participating in the project.

SPARKS is a project led by **ECSITE** promoting and improving the understanding of responsible research and innovation (RRI) in Europe.

The brand new **BLOOM** initiative aims to promote the understanding and awareness of bioeconomy. Copernicus and the Agriculture University in Kraków are **one of five European hubs** bringing together individuals and institutions working in bioeconomy. We will host creative workshops and activities in science communication between 2017 and 2020.

The Copernicus Science Centre is a member of

ECSITE (European Network of Science Centres and Museums) in Brussels. Joanna Kalinowska, Director of Development at Copernicus, sits on the ECSITE Annual Programme Committee, Robert Firmhofer, Executive Director at Copernicus is a member of the ECSITE Management Board, and Wiktor Gajewski, Director of Scientific and Artistic Events at Copernicus, is a member of the editorial committee of ECSITE's science engagement magazine **Spokes**.

EUSEA (European Science Events Association)

ASTC (Association of Science-Technology Centers) in Washington D.C. Members of the ASTC include science centres and museums, planetariums, botanical gardens, oceanariums, natural history museums and other institutions which use innovative approaches to education to inspire people to discover the importance of science in everyday life. The ASTC has approx. 650 members from 50 countries. Robert Firmhofer, Executive Director at Copernicus, sits on the ASTC Board. In April, Copernicus was granted the prestigious status of a governing member.

International Programme Committee (IPC) of the Science Centre World Summit. Robert Firmhofer, Executive Director at Copernicus, is a member of the IPC as part of his work with ECSITE.

Together with the Lublin Conference Centre, the Kraków Festival Office and the European Solidarity Centre we have established a **partnership** with the objective of supporting each other's programme activity and exchanging experience in terms of **events organized by the conference centres** run by the partners.

Beijing International Science Festival Roundtable Conference

The Heavens of Copernicus planetarium is a member of

IPS (International Planetarium Society)

ILDA (International Laser Display Association)

Our guests



On 6 July, the Copernicus Science Centre was visited by two First Ladies: Melania Trump, wife of the US President, and Agata Duda, wife of the President of Poland.

Both First Ladies were hugely impressed by Copernicus and the creativity and quality of our programmes, scale and success. At the end of her visit, Agata Duda thanked me for the exceptional visit, saying that since attending this kind of events is a part of her regular duties, she can state that our creativity and organisation are truly one of a kind.

Robert Firmhofer
Executive Director of the Copernicus Science Centre

Other guests visiting Copernicus in 2017 included:

Dr. Donald Ariel from the Israel Antiquities Authority and Barbara Lichocka from the Institute of Mediterranean Cultures at the Polish Academy of Sciences (27 February)

Ambassador of Romania Ovidiu Dranga with his adviser (5 May)

Ambassador of the UK Jonathan Knott with representatives of the diplomatic corps and the British Council (8 May)

Deputy Minister of Transport, Communications and Information Technologies in Azerbaijan Elmir Velizade and the Ambassador of Azerbaijan Hasan Hasanov (8 June)

Deputy Mayor of Tel Aviv Adaf Zamir (27 June)

A delegation of 20 chiefs of police of cities in Central Europe (23 November)

Ambassador of India Ajay Bisaria with his wife (9 November)

Sponsors

Strategic Partner

Since our opening, we have been supported by **Samsung Electronics Poland**. In 2017, Samsung joined us in hosting Discovery Day during which around 4500 people visited Copernicus free of charge and learned about unusual uses for domestic appliances. During Museum Night, Samsung prepared a special laboratory using smartphones as microscopes. Throughout the **seven years of partnership**, Samsung has supplied us with technological solutions for our exhibitions and workshops. The company also initiates special exhibitions and events such as the After Hours evenings for adults. Each millionth visitor to Copernicus is welcomed by Samsung and receives a special gift sponsored by the company. In 2017, the prize was the latest Galaxy S8 smartphone, Gear VR headset and a Gear 360 camera.

Supporting Partners

Together with **innogy Polska** (formerly RWE Polska), we continued the innogy Powerbox project. The tailored educational kits on generating and using energy have been distributed to 109 teachers at 83 schools across Poland (more about the RWE PowerBox on p. 24). innogy Polska is the **exclusive partner** of the High Voltage Theatre and Tesla Day (more on p. 36).

Polkomtel, **operator of the Plus** mobile network, has been our partner since 2010. Since 2014 it has also been the **patron** of our Family Workshops (more on p. 18). Since autumn 2017, Polkomtel has been supplying free WiFi in Copernicus buildings and in the Discovery Park.

Exclusive Laboratory Partners

Our exclusive partner **BASF** has once again made it possible to popularise science and learning among children at our Chemistry Laboratory.

Since 2017, our exclusive partner at the Robotics Workshop and Factory has been **Raytheon** – technology and innovation leader specialising in defence, national security and cybersecurity. On 7 November, the gala opening of the Factory (the educational

FabLab at the Copernicus Science Centre) was attended by Robert Firmhofer and Wes Kremer, Raytheon's **President for Integrated Defence Systems**.

Since October 2017, the Exclusive Partner of the Biology Laboratory has been **Roche Polska**, a leader in providing innovative health-care solutions. Roche is a world pioneer in pharmaceuticals and diagnostics, harnessing scientific advances to pursue its main objective: to improve people's lives. **Roche Polska** is also the patron of the Vitamin Workshop, in operation since December 2017.

Research Partner

The National Centre for Research and Development is one of the leading organisations supporting innovation in Poland. Together with the National Centre for Research and Development, we hold events at the Robotics Workshops; the group also financed the development of the educational robot Photon.

Special Event Partners

Summer in the City and the Summer Cinema programmes (more on p. 35) are partnered with the **Planete+** TV channel.

Samsung is also the patron of our temporary exhibitions.

Boeing finances the Dream Designers project (more on p. 22) and finals of the CANSAT 2017 competition.

BASF sponsored events held on St. Nicholas' Day, the project Painting with the Sun and celebrations of the 25th anniversary of BASF Poland.

Participants in this year's Science Picnic (more on p. 32) included **BioSolution**, **Toyota Motor Poland**, **Polish Security Printing Works** and **NeticTech**.

Copernicus Conference Centre

In 2017, the Copernicus Conference Centre hosted 90 commercial events and 59 programme events of the Copernicus Science Centre.

In May and November, we hosted the **European Virtual Reality Congress**. The event was attended by leading manufacturers of VR equipment and creators of innovative VR productions from Poland and abroad. They discussed the future of virtual and augmented reality in medicine, architecture and business.

The Dobra Sieć Foundation hosted the **Maths Picnic** including Poland's record for the longest expansion of the number pi (14 March). The event also featured presentations of outcomes of unusual innovative projects in maths education implemented by schools and organisations as part of the **3rd mPotęga Programme**. Participants also attended inspiring lectures on practical applications of mathematics.

On 30 and 31 May, the Conference Centre hosted the **Sector 3.0 Festival**. It is Poland's most important event on the applications of state-of-the-art technologies in the third sector. The conference brought together representatives of science, non-governmental organisations, business and administration. The regular event features workshops, lectures, demonstrations of state-of-the-art technologies and meetings with experts.

The organiser of the **Public Transport Congress**, held on 12 and 13 October, is TOR Consultants Group. It is a leading provider of consultancy and analysis in infrastructure, public and freight railways, urban transport and integrated public transport systems. The Congress focused on the current situation and the future of public transport in Poland.

The **Employment Congress** held on 6 and 7 November covered all aspects of managing personnel. It is one of the largest events of its kind in Poland. Participants attended presentations by specialists and examined case studies. Topics included the latest innovations in human resources management.

The leading theme of the **INNOVATIVE ECO-CITY International Conference** was sustainable urban development and ways of improving the quality of life of city dwellers without increasing pressures on the natural environment. The event, co-financed by the National Fund for Environmental Protection and Water Management, was held on 8 and 9 November. The organisers ECO-MIASTO, UNEP/GRID-Warsaw and the Warsaw City Office invited experts in sustainable development and innovative technologies, representatives of local authorities and commerce from Poland and abroad, non-governmental organisations, international groups and central administration and EU agencies.

Media

32,437 publications, including:

12,856 on Facebook

11,668 online

3046 on the radio

1366 in the press

1145 on Twitter

754 on TV

548 on online forums

271 in blogs

2,817,998 hits on the Copernicus Science Centre website

123,904 hits on the Heavens of Copernicus planetarium website

12,912 hits on the FameLab competition website

8003 hits on the "Przemiany" Festival website

136,061 Facebook fans of the Copernicus Science Centre

20,287 Facebook fans of the Heavens of Copernicus Planetarium

13,570 Facebook fans of the Science Picnic

9946 Facebook fans of the "Przemiany" Festival

3883 Facebook fans of the FameLab competition



Awards

Success of 2017 Prize from the *Osobliwości i Sukcesy* magazine for the Copernicus Science Centre.

Mazowsze Regional Tourist Organisation Prize.

Copernicus was in the top three most important tourist attractions in the region.

Copernicus was one of ten tourist attractions awarded the **Tourism Product Certificate** by the **Polish Tourist Organisation**.



The film **Hello, Earth** made at the Production Studio of the Heavens of Copernicus planetarium and produced at the Copernicus Science Centre, won several prizes in 2017. The trailer was awarded at the **FullDome Festival in Jena**, while the film itself was **ominated for best film of the year** and received the **JANUS**

Directors Award. At the Planetarium Film Festival in Brno, Hello, Earth won the **Best Movie prize**. We also returned from the Immersive Film Festival with **prizes for best film and best soundtrack**.

Our Team

The key to the success of the Copernicus Science Centre is our team. All achievements have been made possible through the incredible skills and engagement of our staff. And working with a team of people passionate about science and education is never boring. That's right – Copernicus is all about the people.

At the end of 2017, our staff consisted of slightly over 287 full-time positions. **30 people** left Copernicus in 2017, but we were joined by **49** new team members. We signed **250** contracts with explainers, including **201** who have worked with us before and **49** with brand new employees.

Management of the Copernicus Science Centre

Robert Firmhofer – Executive Director

Irena Cieślińska – Programme Director

Dr. Aleksandra Wójcik-Głodowska – Deputy Programme Director

Anna Dziama – Director of Education

Wiktor Gajewski – Director of Scientific and Artistic Events

Joanna Kalinowska – Development Director

Ewa Kloc – Administrative Director

Jolanta Brzywczycy – Deputy Director of Administration and Head Accountant

Dr. Przemysław Wielowiejski – Director of Investment

Programme Board of the Copernicus Science Centre

The Copernicus Programme Board, with the following set of members, came to the end of its appointed term on 1 August 2017:

Prof. Łukasz Turski – Chairman of the Board

Prof. Aleksander Bursche – Deputy Chairman of the Board

Prof. Magdalena Fikus

Irena Cieślińska

Maria Mach

Prof. Jerzy Axer

Prof. Tadeusz Skośkiewicz

Prof. Krzysztof Konarzewski

Hanna Wróblewska

Prof. Henryk Skarżyński

Prof. Dariusz Jemielniak

A new Programme Board was then appointed on 28 December 2017, with the following members:

Prof. Łukasz Turski – Chairman of the Board

Prof. Marek Abramowicz

Prof. Aleksander Bursche

Prof. Roman Cieślak

Prof. Magdalena Fikus

Catherine Franche

Maya Halevi

Prof. Dariusz Jemielniak

Maria Mach

Mirella Panek-Owsiańska

Prof. Tomasz Sowiński

Dr. Barbara Streicher

Prof. Jan Szmidt

Prof. Tomasz Szkudlarek

Rosalia Vargas

Hanna Wróblewska

The Copernicus Science Centre is a cultural institution.

Its organisers are the Capital City of Warsaw, the Minister of Science and Higher Education, and the Minister of National Education.

Legal Basis

Agreement from 1.06.2005 on creating a joint cultural institution named the Copernicus Science Centre, with annexes from 21.06.2006, 26.07.2010, 24.06.2014 and 3.11.2015.

Granted the status of a cultural institution named the Copernicus Science Centre on 1.06.2005, with amendments from 21.06.2006, 26.07.2010, 24.06.2014 and 3.11.2015.

Polish Parliamentary Act dated 25.10.1991 on organising and implementing cultural activities

Text:

Marcin Malesiński (CSC)

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Michał Romański (CSC)

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Krzysztof Skłodowski: p. 29

Agata Steifer (CSC): pp. 14, 15, 19, 25, 33, 46, 49, 50

Wojciech Surdziel: cover and p. 39

Organisers



Supporting Partners



Strategic Partner



Copernicus Science Centre
Wybrzeże Kościuszkowskie 20
00-390 Warsaw, Poland

www.kopernik.org.pl