

## SPACE TECHNOLOGY PARK

## RESEARCH, DEVELOPMENT, AND INNOVATION

Limited Liability Company in Zielona Góra – Nowy Kisielin, Poland

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Rzeczpospolita



Unia Europejska Europejski Fundusz



The STP - R&D&I Team with the Polish astronaut Dr. Sławosz Uznański

The Space Technology Park – Research, Development, and Innovation (STP - R&D&I) is a limited liability company established and operated by the regional government of the Lubusz Voivodeship since August 2023. The company took over the facility's operation and the Space Technology Park project on January 25, 2024. It collaborates with the University of Zielona Góra, the Space Research Center of the Polish Academy of Sciences (CBK PAN), and over 100 companies, institutions, local governments, and NGOs.

We are increasing the level of innovation in the Lubusz Voivodeship by developing high-tech activities, including space technologies, and coordinating an innovation policy based on values such as honesty, integrity, respect, and responsibility. Our goal is to integrate **business** and **science** with advanced technologies to create **a research and development centre** and a hub for **numerous companies** in the modern technology sector. We aim to become **a global player** while maintaining **a Lubusz identity**.

## VISION

**STP - R&D&I** will become a driving force for modernizing society and the economy, a catalyst for innovative resources, creating demand for innovations from companies and research and development centres, and developing new study programs, workforce training, and intellectual property protection frameworks and procedures. It will also serve as a promoter of knowledge about innovation and the effects of innovative activities and as a coordinator of the innovation system.

## **QUALITY POLICY**

#### We commit to:

- Continuous improvement of the innovation centre, competencies, and the quality of services provided;
- Development of high-tech activities, including space technologies;
- Protecting the interests of our clients and adhering to best practices;
- Shaping a positive image of the Space Technology Park R&D&I;
- Ongoing development of innovation policies both domestically and internationally;
- Systematically implementing actions appropriate to the identified potential benefits and risks.



Prof. Marek Banaszkiewicz, D.Sc. President of the Board STP - R&D&I

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Our Park is a unique project on a national scale in Poland, setting ambitious goals such as building a satellite, developing space technologies, and fostering collaboration between scientists and entrepreneurs. We aim to become a leading research centre that brings together organizations involved in space and the satellite industry while supporting young scientists in advancing their research. We are building relationships with scientific and industrial centres worldwide, facilitating knowledge exchange and the realization of joint research projects.



Dr. Jerzy Tutaj

Vice President of the Board STP - R&D&I

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We have completed **the first year** of operations at the Space Technology Park – Research, Development, and Innovation. It was a period of challenges, dominated by the technical aspects of taking over the **newly constructed building** and launching the laboratories. Equally important during this time was **the development of our team** and **the creation of an ecosystem**. Human capital is just as vital as tools and technical equipment. **Our team** is the greatest asset of the Park.



#### Marcin Jabłoński

Marshal of the Lubusz Voivodeship

The Space Technology Park is а dynamically developing place full of energy and innovative ideas. It is the first and only Park of its kind in Poland, which is an advantage we intend to fully leverage. At STP - R&D&I, the future is being shaped, and our goal is to assist those who have ideas and are seeking new economic opportunities. The Park was established to support small and medium-sized enterprises and innovators by providing them with the infrastructure and equipment necessary to develop their projects.



#### Dr. Sławosz Uznański

Polish Project Astronaut of the European Space Agency

The Space Technology Park is a place where **space and the future of science begin**. Laboratories, such as the materials science lab, enable testing materials for durability and oxidation, which is **crucial** for **space technologies** and other fields. Access to these advanced tools is **precious**. Additionally, **information** and **imaging** technologies allow for the testing of solutions from **concept to implementation**, supporting institutes in conducting research.

# O RESEARCH LA CORALORIES

The advanced laboratories at STP - R&D&I, equipped with modern equipment, enable research across a wide range of **high technologies**, including **space technologies**, allowing for the execution of diverse projects **in one location**.

**The largest cleanroom facility** available on the market offers significant workspace and ideal conditions for groundbreaking scientific discoveries.

#### Laboratory of Robotic Systems and Artificial Intelligence



The laboratory is dedicated to researching and implementing control systems for satellite and planetary robots. Testing satellite manipulators requires creating an environment that simulates zero gravity. A water-filled pool, where buoyancy compensates for gravity, is a zero-gravity simulation environment. MATLAB software provides access to artificial intelligence algorithms and integration with commonly available Python programs.

**Supervisors:** Dr. Marek Węgrzyn, CBK PAN; Piotr Mielnik, Marcin Boski, Hertz System

#### Cleanroom for the Assembly, Integration, and Testing of Satellite Systems and Subsystems



The laboratory includes ISO 7 class cleanrooms equipped with testing devices: a shaker, a vacuum-thermal chamber, and an EMC chamber. The laboratory also houses instruments for GNSS testing and electronic device electromagnetic emissions (EM) testing.

**Supervisors:** PhD candidate Damian Nagajek, CBK PAN; Piotr Mielnik, Marcin Boski, Artur Tomczyk, Hertz System



#### Laboratory of Materials Engineering and Strength Testing

The laboratory is equipped with a comprehensive set of devices for material testing at the macro scale (hydraulic press, impact hammer), meso scale (acoustic camera, salt chamber), and microscale (tomograph and scanning electron microscope).

**Supervisors:** Dr. Eng. Paweł Jurczak, Dr. Eng. Agnieszka Kaczmarek-Pawelska, Dr. habil. Eng. Sławomir Klos, Dr. Eng. Agnieszka Mackiewicz, Dr. Eng. Mariusz Michalski, Dr. Eng. Paweł Schlafka, University of Zielona Góra

#### Laboratory of Satellite Electronics and FPGA Systems

The laboratory is equipped with high-quality electronic equipment. It enables engineers to work on designing, integrating, commissioning, and testing advanced electronic circuits. The laboratory has tools for programming, testing, simulating, and verifying FPGA arrays from various manufacturers.

Supervisors: Dr. Marek Węgrzyn, CBK PAN; Artur Tomczyk, Hertz System

#### Laboratory of Cryptography and Cyber Threat Mitigation

The laboratory specializes in the application of data encryption and access verification technologies for protection against cyber threats. It also utilizes advanced directional CPRA antennas that secure against electromagnetic interference, ensuring the integrity of transmitted data.

Supervisors: Prof. Marek Banaszkiewicz, Ph.D., D.Sc., STP - R&D&I; Piotr Mielnik, Marcin Boski, Hertz System

#### **Laboratory of Space Medicine**

The laboratory focuses on studying the psychophysical and psychological effects of long-term isolation. It has instruments to measure vital functions, brain waves, body temperature, and human cognitive functions.

Supervisor: Dr. habil. Agnieszka Ziółkowska, University of Zielona Góra

#### Center for Satellite Data Processing and Interpretation and Civil Satellite Navigation Systems

The centre is equipped with hardware (a powerful server and five workstations) and software that enables the full processing of satellite, aerial, and drone images, LiDAR observations, and the extraction of desired geospatial information from the processed images.

Supervisors: Prof. Marek Banaszkiewicz, Ph.D., D.Sc., STP - R&D&I

#### Infrastructure Management and Laboratory Support Department

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Leszek Urban Department Director I.urban@ptklubuskie.com

#### Edward Jankowski Facility Engineer biuro@ptklubuskie.com











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#### **Development Projects Department**

The department is responsible for initiating, supporting, and implementing projects to obtain financial support from the European Union's regional, national, and international programs. It establishes cooperation with key partners within the country, coordinates participation in international projects of the European Space Agency, and supports young scientists and entrepreneurs in developing innovative business ideas, including through access to specialized research infrastructure and mentoring. This department contributes to the **development** of knowledge, technology, and the promotion of innovation both within and beyond the region and also provides financial support to companies in the Lubusz Voivodeship.

The centre **supports** local institutions and organizations in the **Lubusz region**. Its **primary goal** is to **deliver knowledge** and support in **process management**, quality management, marketing, and digitization. The centre **promotes the activities of municipalities and NGOs**, increasing their visibility and supporting integration with the local community and entrepreneurs. Additionally, it focuses on **creating an effective system** for obtaining external **funding**.

#### Justyna Kmietowicz

Department Director

j.kmietowicz@ptklubuskie.com

#### **Consulting Services**

We support startups and young companies, helping them develop their business, secure funding, and build a network of contacts.

Our team of **experts** provides companies with **technological**, **legal**, **and financial consulting**.

We also offer training and postgraduate programs.

Offer for Local Governments: development of growth strategies; collaboration in EU projects; consuldevelopment tina on the of entrepreneurship at the municipal, county, and regional levels; we support the creation of technology clusters that facilitate collaboration between businesses, scientific institutions, and local governments.

**Offer for NGOs:** collaboration in the **implementation** of **social projects**; consulting on **fundraising**; we offer non-governmental organizations the opportunity to use our **offices** and **conference rooms**.



Prof. Katarzyna Cheba, Ph.D., D.Sc. Innovation Centre for Local Centre Director k.cheba@ptklubuskie.com Governments and NGOs



#### **Intellectual Property Protection Centre**



#### Dr. Eng. Zbigniew Skowroński

IP Specialist, QMS Representative

z.skowronski@ptklubuskie.com owi@ptklubuskie.com

We offer **support** in **obtaining protection** for inventions, utility models, trademarks, industrial designs, geographical indications, and semiconductor topographies.

We will develop a company's intellectual property protection strategy and conduct **audits** of information protection status.

We organize **workshops and lectures** on intellectual property protection.

#### **Training services**

Our training offer covers a wide range of topics, including:

- Internal communication
- Competency management
- Time management
- The manager as a team leader team building and management
- Effective motivation
- Coping with time pressure and stress in the organization
- The manager as a coach coaching is an effective method to support employees' professional development
- Creativity and innovation training

The centre provides support for SMEs in the form of intellectual property vouchers, with the primary goal and idea being to support the **commercialization** of projects requiring patent protection and efficiency of comimprove the to mercializing inventions developed in the Lubusz Voivodeship. The centre aims to deepen relationships with the scientific and research community and to enable direct access to know-how, patents, industrial designs, and inventions. The mission of the Intellectual Property Protection Center is to assist inventors, visionaries, and innovative companies in obtaining patents, commercializing the results of their work, and securing protective rights.

**Specialized training:** We offer drone piloting courses dedicated to employees of various services, combining theory with practical skills in operating drones for specialized applications.

**Individual training:** We provide individual piloting courses at various levels of advancement, tailored to the personal needs of users, covering both the theory and practice of drone operation.

Each training concludes with the issuance of a relevant **certificate**.

drony@ptklubuskie.com

**Drone Centre** 



## OUR PROJECTS

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#### **Development of Space Technology Park**

The project involves the next phase of developing the Space Technology Park (STP) activities to establish a leading industrial and research centre for space and satellite engineering and innovative industry in the Lubusz Voivodeship. The project includes the enhancement of modern laboratory infrastructure, commercialization of research, and incubation of innovative SMEs. This project's implementation is strategically crucial for the region's socio-economic development. It has been identified in the Lubusz Voivodeship Development Strategy: Strategic Goal 1. Intelligent, Green Regional Economy.

#### Lubusz Innovative Start-up System

The project's main goal is to incubate innovative start-up companies through a comprehensive support program aimed at transforming business ideas into products, adapting them to market conditions according to an established methodology, and developing profitable business models that enable market entry. The target group comprises companies that align with one of the region's intelligent specializations: RIS Green Economy, RIS Innovative Industry, or RIS Health and Quality of Life.

#### Intellectual Property Protection Centre (Phase I)

The project aims to create comprehensive support for SMEs in intellectual property through vouchers for financing activities in this field and to enable entrepreneurs direct access to patent information and know-how. The mission of the Intellectual Property Protection Center is to assist inventors and companies in the process of obtaining patents and other exclusive rights for various industrial property items (e.g., inventions, trademarks, utility models, industrial designs) and to provide support in building intellectual property management strategies within companies.

#### Φ-Lab - Bridging the digital and real worlds

 $\Phi$ -Labs is a new initiative by the European Space Agency to establish a network of centres across Europe (one in each interested country). The goal of  $\Phi$ -Labs is to drive innovation and implement a "one-stop-shop" approach by collaborating with national space centers, industry, intermediary entities such as ESA BIC, technology brokers, accelerators, and private investors, including venture capital organizations.

#### **Innovation Vouchers for SMEs**

Innovation Vouchers for SMEs is an initiative to finance R&D and consulting services developed by research and scientific institutions, technology parks, and innovation centres.

#### Lubusz School of the Future

The project focuses on adapting infrastructure for practical vocational training that meets labour market needs. Considering regional conditions, demographic challen-ges, and educational trends and directions, the planned initiative includes actions to improve the low quality of the technical and didactic base of vocational education. The scope of the project consists of:

- Investments in infrastructure and equipping schools with laboratories for practical vocational training in areas such as biochemistry, robotics and automation, autonomous vehicle technology, telecommunications, Internet of Things, cloud solutions, and 3D printing;
- It is enhancing the prestige of vocational education and practical teaching methods.

#### **Satellite Construction**

The project involves the construction of a small satellite, co-financed by the European Space Agency. The satellite "Lubuszanka," weighing approximately 10 kg, will belong to the small satellite generation. Its primary mission will be Earth observation and photography with a resolution of 4–4.5 meters. The processed images and data will be helpful for local municipalities, among others. "Lubuszanka" will serve observational and informational functions. The project also aims to train specialists who will not only build the satellite but also participate in future large-scale serial production of satellites.

#### **Project MONICA**

This project uses satellite Earth observation data to analyze and assess the cultural and environmental values. The aim is to identify and document the impact of human activities on the landscape and to study how different cultural practices and traditions affect ecosystems. This information can be crucial for spatial planning, the protection of cultural and environmental heritage, as well as for environmental education and biodiversity conservation.

#### **Project Department Specialists**



#### Sonia Owczarek

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Ewa Budakowska

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## **Supervisory Board**



**Chairman:** Dr. Eng. Adam Okniński Director of the Space Technologies Center, Łukasiewicz Research Network – Institute of Aviation a.okninski@ptklubuskie.com



#### Vice Chairman: Bogusław Zaborowski

Starosta of the Międzyrzecz County

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#### Secretary: Dr. Zuzanna Kulińska-Kępa

Department of International Aviation and Space Law, Faculty of Law and Administration, University of Warsaw z.kulinska-kepa@ptklubuskie.com

## **Scientific Council**

- Chairman: Prof. Eng. Zbigniew Kłos Space Research Center of the Polish Academy of Sciences (CBK PAN)
- Vice Chairman: Prof. Stanisław Czaja Wroclaw University of Economics and Business
- Prof. Eng. Andrzej Pieczyński Vice-Rector of the University of Zielona Góra
- Prof. Piotr Kułyk Dean of the Faculty of Management, University of Zielona Góra
- Prof. Waldemar Sługocki Member of the Polish Parliament, Council of the Polish Space Agency
- Prof. Tadeusz Uhl AGH University of Science and Technology
- Dr. Jarosław Flakowski Deputy Mayor of Zielona Góra, University of Zielona Góra



Supervisory Board and Management Board of STP, December 13, 2023



#### Barbara Grzegorczyk

**Advisor to the Board** 

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Anna Pszonka Coordinator of the Supervisory Board, Shareholders' Meeting, and Scientific Council a.pszonka@ptklubuskie.com

## Lubusz Innovation Haven

This project aims to bring together three distinct areas:

- Presenting the current work of research teams from scientific and research institutions in Lubusz, Poland, and Europe;
- Showcasing organizations such as enterprises, NGOs, and public institutions that operate in specific fields and industries;
- Identifying various sources of funding for planned activities within the partnerships established.

# Architects of Innovation

This project aims to identify creators and innovators from companies, scientific institutions. NGOs. and public institutions, as well as the procedures, projects, and outcomes of these active representatives within individual organizations and partnerships in between them.

Additionally, it seeks to develop joint projects in collaboration with students and graduates from universities in the Lubusz region.





Coordinator: Prof. Katarzyna Cheba, Ph.D., D.Sc., k.cheba@ptklubuskie.com

### **Rental Services**

**Offices for Rent:** We offer over 40 modern offices of various sizes tailored to the needs of both small startups and large corporations. Each office is equipped with high-quality furniture, high-speed internet, and access to shared coworking spaces.

**Conference Rooms:** We have two fully equipped, state-of-the-art conference rooms that accommodate up to 100 and 600 people, respectively. The rooms are ideally suited for organizing training sessions, conferences, workshops, and other events.

Starting in November, we invite you to rent our virtual offices!

Sales Department: sprzedaz@ptklubuskie.com

## CONTACT INFORMATION



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#### Website

#### https://ptklubuskie.com/



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