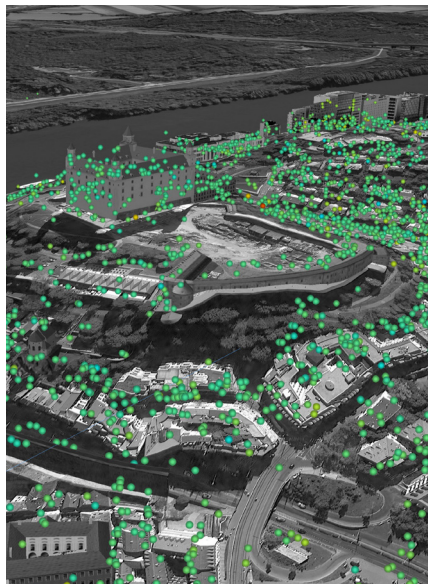
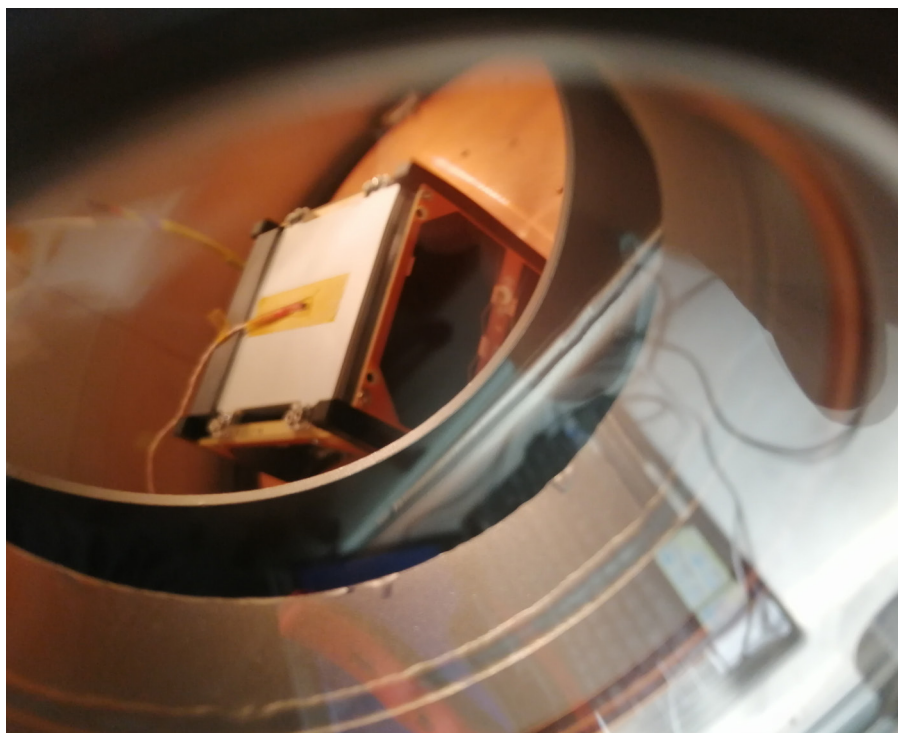


# Space Industry in **SLOVAKIA**



# Space Industry in Slovakia

The purpose of this publication is to present Slovakia's dynamically expanding segment of Space Industry in Slovakia. Herein introduced facts & figures serve to demonstrate sector strengths and to illustrate why Slovakia is the ideal location for doing business in this industry.

**TOTAL AREA** 49,035 km<sup>2</sup>

**POPULATION** 5.4 million

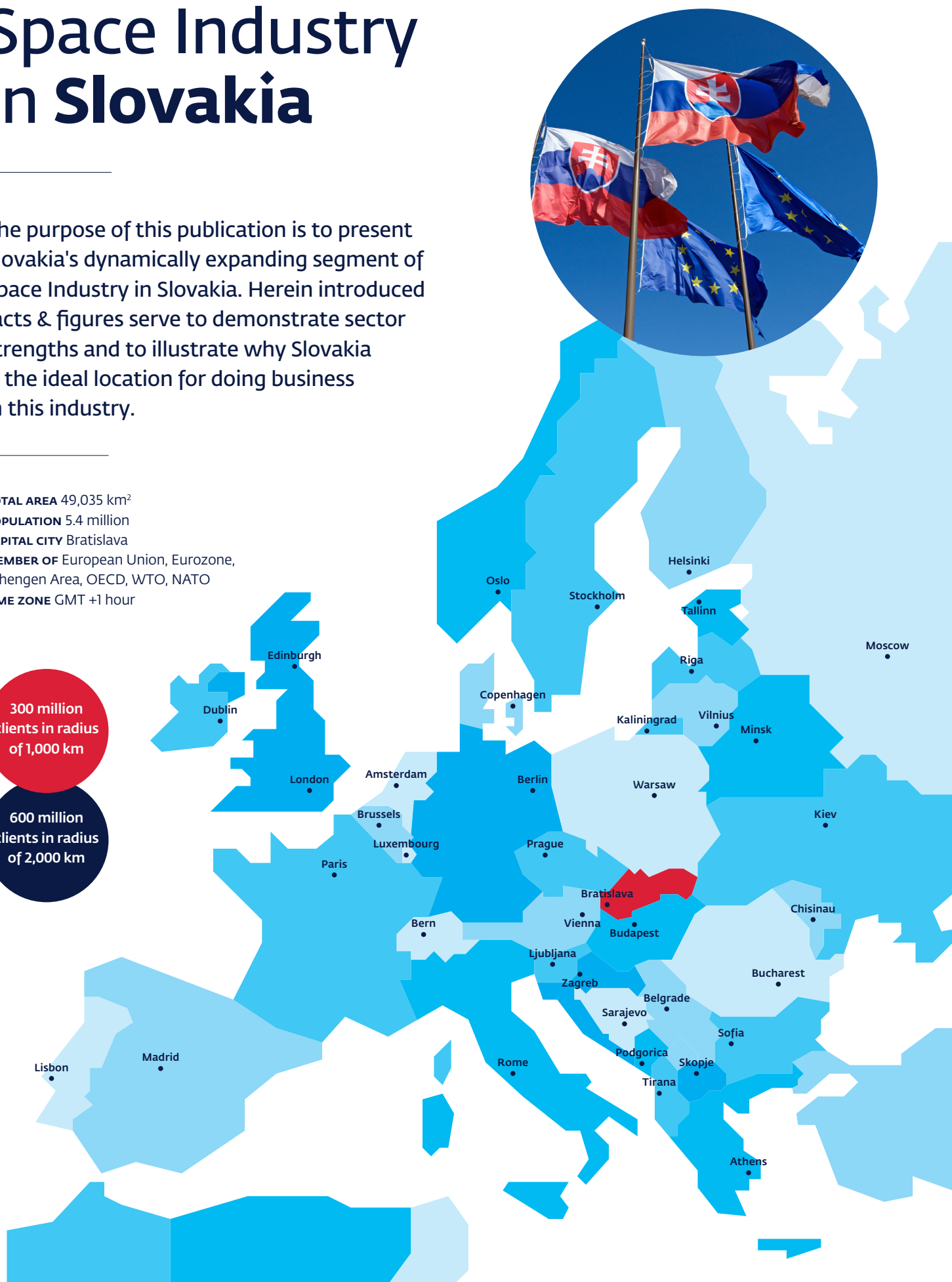
**CAPITAL CITY** Bratislava

**MEMBER OF** European Union, Eurozone, Schengen Area, OECD, WTO, NATO

**TIME ZONE** GMT +1 hour

300 million  
clients in radius  
of 1,000 km

600 million  
clients in radius  
of 2,000 km

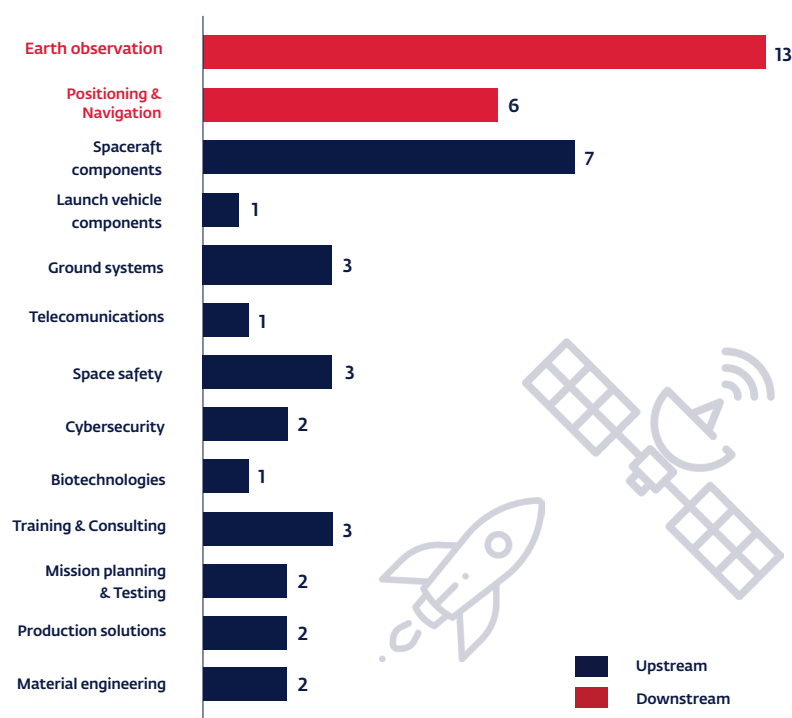


# Slovak Space Companies in Figures

Slovakia has more than 45 companies actively involved in the space sector. Although more than half of them are focused on the upstream segment, the majority of the space-related revenue is concentrated in software applications using Earth observation or positioning data.

On top of that, there are dozens of other companies with a strong potential of entering space - working in relevant sectors such as electronics, high precision machinery, industry 4.0 and ICT. Several of them already have initial experience with space projects.

## Number of Companies Directly Involved in Space Sector



## 500 +

PEOPLE EMPLOYED BY COMPANIES DIRECTLY INVOLVED IN THE SPACE SECTOR

## € 108 mil +

REVENUE GENERATED BY COMPANIES DIRECTLY INVOLVED IN THE SPACE SECTOR



## SLOVAKIA – READY FOR YOUR LANDING

- 1 Strategic location within Europe with great export potential
- 2 Solid base of relevant key sectors
- 3 Strong R&D institutional and university network
- 4 High value-added growth rates in manufacturing within OECD
- 5 Stable and safe business environment
- 6 Skills availability, high productivity & cost-efficiency
- 7 Competitive public incentives for innovative & tech projects
- 8 Strong international ties
- 9 ICT powerhouse with well-developed infrastructure & fast-growing space apps segment
- 10 Developed & steadily growing infrastructure network

SARIO calculation compiled from data of 30 companies involved in the space sector (one company involved both in upstream and downstream). Source: Finstat, the latest data available for 2019



# Introduction

## From Historical Experience to Current Development

- **Slovakia's active involvement in space engineering and astronautics began as early as 1970s, when the first space hardware development took place and the first Czechoslovak cosmonaut Vladimir Remek flew to space. Its crewed spaceflight record continued with Slovak citizen Ivan Bella, who spent seven days onboard the Mir space station in 1999.**

**Slovak researchers have been participating in a variety of space missions and projects, such as professional technical participation led by Dr. Ján Baláž in the historically first comet landing - Rosetta Mission in 2014, or analogue space missions of Dr. Michaela Musilová at the HI-SEAS analog research station in the USA.**

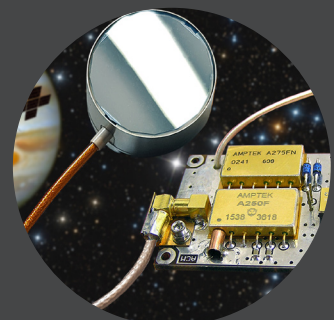
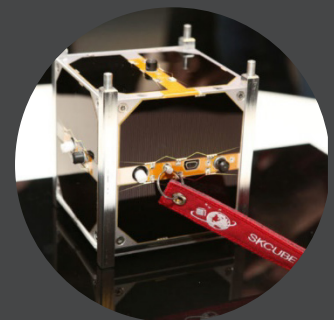
The Ministry of Education, Science, Research and Sport of the Slovak Republic (MESRS SR) is responsible for governmental coordination of space activities in Slovakia, space policy, budget, as well as cooperation with the European Space Agency (ESA).

**In 2015** | The Commission for Space Activities in the Slovak Republic was established as an advisory body of the minister to efficiently coordinate activities of the relevant ministries, as well as academia and business.

**In 2019** | MESRS SR in cooperation with other relevant stakeholders released a Conceptual framework of Space Activities in Slovakia that will serve as a basis for the future Slovak space strategy. In the same year, Slovak Investment and Trade Development Agency (SARIO) started its activities aimed at space sector development and international cooperation support initiating the current dynamic growth of the Slovak space sector and preparing it for the Associate membership in ESA.

**In 2021** | Space Policy Department – Space Office was established at MESRS SR on 1st January 2021. Based on an agreement with MESRS SR, the Space Industry Department was created at SARIO. Today, these two departments form the Slovak Space Office.

**In 2022** | Slovakia's Associate membership in ESA came into effect on 13 October, opening a new chapter of the country's European space cooperation.



# International Cooperation

Reliable Partner in European  
& Global Structures



## EUROPEAN SPACE AGENCY |

After signing the Cooperation Agreement in 2010 and the European Cooperating State Agreement in 2015, Slovakia joined the Plan for European Cooperating States (PECS) of the European Space Agency (ESA). Since then, ESA launched 7 PECS calls in Slovakia. On 13th October 2022, Slovakia became an associated member of ESA, opening new opportunities for cooperation between Slovak companies and R&D institutions and their European partners.



## EUROPEAN UNION |

As a member state of the European Union, Slovakia is actively involved in all key components of the EU Space Programme including Galileo, EGNOS, Copernicus, or GovaSatcom. Slovak companies and R&D institutions are taking part in Horizon Europe and European Union Agency for the Space Programme projects and activities.

## Other International Involvement



United Nations - COPUOS



International Astronautical  
Federation



EXPO  
2020  
DUBAI  
UAE

SPACE WAS ONE OF THE MAIN  
THEMES OF THE SLOVAK PAVILION  
AT THE EXPO IN DUBAI



EUMETSAT



EUTELSAT IGO

SME4SPACE

SME4SPACE



International  
Telecommunication Union



Committee on Space  
Research



European Centre  
for Space Law



EURISY



Space Climate  
Observatory

# Slovak Space Success Stories

## COMPANIES - UPSTREAM



### CTRL

R&D and manufacturing of electromechanical components in accordance with ECSS, FAA, EASA, DO-254 standards. The company is active in sophisticated fields of cybernetics, artificial intelligence, robotics, measurement and control. With 5 projects it is the most successful Slovak company in ESA PECS calls.



## SPACEMANIC

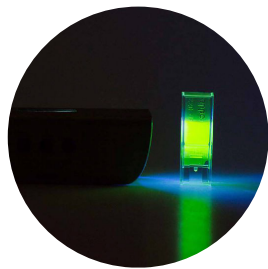
### SPACEMANIC

Small satellite mission integrator focused on delivering end-to-end solutions - design, subsystem manufacturing and testing, spacecraft integration and testing, launch and deployment and on-orbit operations (operating several Ground Stations in Central Europe). Spacemanic's engineers were involved in the project of the first Slovak satellite skCUBE which was fully developed in house. Now the company is working on next space missions for private customers.



### MYSPECTRAL

Development of custom spectrometers, field spectrophotometers and spectrometric cameras for use in various industries, including food industry, optical metrology systems or space and stratospheric missions. The spectrometers have been successfully used in research missions in Antarctica, Americas, Australia, Asia and Europe, as well as in the ArduSat microsattellites launched at the end of 2013 and in early 2014.



### NEEDRONIX

Development of smart sun sensors, as well as telemetry, tracking and command systems and ground segments. Needronix participated in skCube project of Slovak Organisation for Space Activities developing and launching the first Slovak cubesat in 2017. The company was involved in manufacturing of the satellite as well as its ground station. The company also has contracted multiple ESA projects.



### BOROSPACE

Development of suborbital rocket Ardea with hybrid propulsion, working on sustainable hybrid wax fuel, and a mobile rocket motor test bed/rocket launcher. Successful ESA PECS project - Wax Fuel Embedded Structure (WAFER) for Hybrid Rocket Motor.

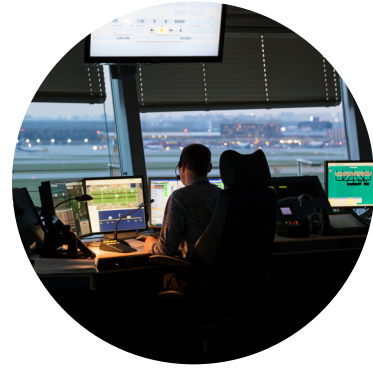


### MASAM

Manufacturer of metallic component production for global aviation and space companies, creating a connection between private manufacturing sector with academic sector.

# Slovak Space Success Stories

## COMPANIES - UPSTREAM



### 3IPK

#### 3IPK

Software as a Service blockchain solutions for digital management of aerospace processes, products and supply chain. Its blockchain-based system for spacecraft components quality inspection reduces process costs and provides transparent information for all supply chain stakeholders. The company also has contracted multiple ESA projects.



#### ASTROS SOLUTIONS

Provision of expertise in Space Situation Awareness segment, ground-based data acquisition and validation for space debris and near-earth asteroids, and development of new technologies, methods and products related to Space Safety and its Long-Term Sustainability. The company also has contracted multiple ESA projects.



#### GROUNDCOM

Ground-satellite communication provider developing and operating a worldwide network of ground stations providing connectivity for satellites. Research & Development - participation on projects in radio-frequency and satellite communication fields.

### touch4IT

#### TOUCH 4 IT

Software development & design company building innovative solutions by transforming technical knowledge to their digital products in sports, finance, retail, but also space sector. Successful ESA PECS project - SBAS Geometry Analysis Tool.



#### SPINEA

Developer of high-precision reduction gears, actuators and positioners for robotics. The company's products are used in automation and industrial robotics, in the field of machine tools manufacturing, in navigation and camera equipment, medical systems and many other fields. The company has been involved in multiple ESA projects.



#### M2M SOLUTIONS

Innovative technology company dedicated to developing supply chain management solutions using Industry 4.0 standards, developing smart solutions that cover the entire supply chain management. The company has contracted multiple ESA projects and a successful international Horizon Europe project focused on drone navigation in space.



#### BIOX Technologies

Experimental design and science support company specializing in biotechnology, process automation and environmental technology. Life support systems in the aerospace industry is one of their main R&D programmes. The company also has contracted multiple ESA projects.

# Slovak Space Success Stories

## COMPANIES - DOWNSTREAM



kajoservices.com

### KAJO SERVICES

Consultancy company offering a broad range of geo-services, geo-spatial information data stores primarily, for disaster risk reduction and management. The company also specializes in crowdsourcing and citizen science to collect observations about extreme weather events. Successful EU Horizon 2020 project.



**PHOTOMAP**

### PHOTOMAP

Operating in remote sensing, aerial photography, laser scanning, photogrammetry, land surveying and geodetic engineering by using cutting-edge technologies. Providing services to customers operating in defence, forest management, agriculture, mining, energy, and construction industries.

**MicroStep - MIS**

### MICROSTEP-MIS

Development and manufacturing of customized monitoring and information systems, processing of acquired data, research and numerical modeling for airports, meteorological and seismological institutes, environmental authorities, industry, and municipalities. The company also has contracted an ESA project improving thunderstorm nowcasting using AI.



**NG AVIATION**

### NG AVIATION

Specialized in the Digital Transition of the Civil & Military Aviation Industry, offering services and solutions that provide digital solutions, transforming the industry's information management and data exchange while fulfilling international regulatory compliance.



### GEODETICCA VISION

Technology company in the field of geodesy and cartography with professional capabilities and experience in consulting, information technologies and geodata. The company also has contracted multiple ESA projects.

**ABmerit**  
NUCLEAR SCIENCE AND SOFTWARE

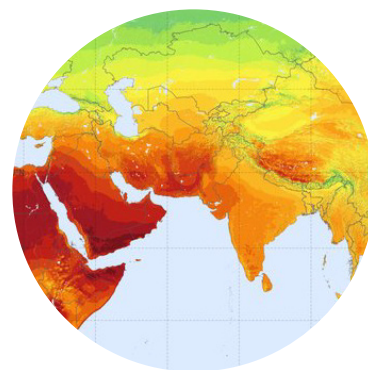
### AB MERIT

R&D in the field of natural and technical sciences, interdisciplinary research: mathematical modelling, radiation, protection physics, industrial accident modelling. The company also has contracted multiple ESA projects.



# Slovak Space Success Stories

## COMPANIES - DOWNSTREAM



### SOLARGIS

#### SOLARGIS

Company developing and operating data products and apps for a wide range of energy assessment needs from pre-feasibility to day-ahead solar power forecasting, enabling fast access to historical, recent, and forecast data for almost any location on the Earth.



#### SYGIC

Developer of GPS navigation software used by 200 million people including more than 1 million professional drivers. Top #2 app in the navigation category worldwide. Pioneer in hybrid navigation for smart devices such as Google Glass and Apple Watch.



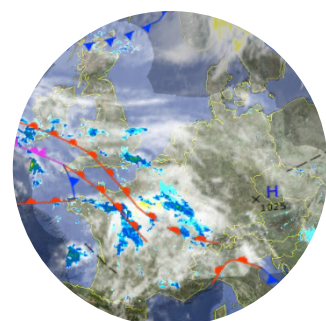
#### YMS

Development of technical and geospatial information systems as well as strategic decision-making analytics for industry and public services administering complex gas, water, forest and veterinary information systems, supplies intelligent technical, geographic and localisation systems. The company also has contracted multiple ESA projects.

## insar.sk

#### INSAR.SK

Monitoring of infrastructure stability and advanced situation awareness during evolving and complex deformation processes. The company is the Copernicus Masters Airbus & Sobloo Multi-Data Challenge 2019 Winner and has 2 successful ESA PECS projects.



#### IBL SOFTWARE ENGINEERING

A company with already more than 40 years of experience in the field of meteorological information. It provides comprehensive and automated weather software solutions for meteorological services, aviation sector and other customers.

# Successful ESA Projects by Companies

## BUSINESS-LED PROPOSALS SUCCESSFUL IN PECS CALLS 1-7, RPA 1, AND OPTIONAL PROGRAMS

	PROJECT NAME	COMPANY
PECS1	Development and preparation of a novel capacitive multiturn absolute rotary encoder for space applications (CAPMARE)	CTRL, s.r.o.
	Software tools for monitoring NATURA 2000 habitats by satellite images (NATURAsat)	Algoritmy:SK s.r.o.
PECS2	Stratospheric Autonomous Landing System Application (SALSA)	GOSPACE, s.r.o.
	Retrieval of Motions and Potential Deformation Threats using Sentinel-1 (remotIO)	Insar.sk, s.r.o.
	Distributed European Network of Ground Stations (DENGs)	Orbisys, s.r.o.
PECS3	Sentinel 2 based support of forest disturbance mapping and monitoring (Sen2ForMaM)	YMS, a.s.
	Sun sensor feasibility study – recap	NEEDRONIX, s.r.o.
PECS4	ESA-Sen2Agri connection with ESTE	ABmerit s.r.o.
	Arthrospira: Biomass Recovery	Biox Technologies, s.r.o.
	Wax Fuel Embedded Structure (WAFER) for Hybrid Rocket Motor	BOROSPACE, s.r.o.
	Adjustment of a Novel Capacitive Multiturn Absolute Rotary Encoder for Space Application – Beam Pointing System (CAPMARE2)	CTRL, s.r.o.
	SBAS Geometry Analysis Tool	Touch4IT, s.r.o.
PECS5	Blockchain Software Tool for Spacecraft Components Incoming and Outgoing Inspection	3IPK, a.s.
	NaturaSat - software for exploring Natura 2000 habitats by satellite data	Algoritmy:SK s.r.o.
	Slovak Automated Space Surveillance and Tracking Optical System	Astros Solutions s. r. o.
	Capacitive Absolute Sensor for Space Applications - CAPSE	CTRL, s.r.o.
	Ground Station Scheduling Broker	M2M Solutions, s.r.o.
PECS6	Sky Simulator for Fine Guidance Sensors	Trifid Automation, s.r.o.
	Design and qualification of a Capacitive Absolute sensor – EQM (CAPSE2)	CTRL, s.r.o.
	Blockchain-augmented configuration management for spacecraft engineering	3IPK, a.s.
	Preparatory activity for an ASIC development applicable for space sensors (CAPASIC)	CTRL, s.r.o.

	PROJECT NAME	COMPANY
PECS6	Ultra-high temperature thin coatings for aerospace industry	STATON, s.r.o.
	Enhanced solar radiation nowcasting based on geostationary satellite data (NOWCASTSAT)	Solargis, s.r.o.
	Retrieval of Motions and Potential Deformation Threats using InSAR Geodesy (remotIO)	Insar.sk, s.r.o.
	Satellite-based delineation of yield productivity zones for Slovak crop fields (SatZones)	YMS, a.s.
	Validation of reentry models by using real optical measurements obtained by AMOS global network (AMOS-Reentry)	Astros Solutions, a.s.
	Space CARTOGRAPHER	GEODETICCA VISION, s.r.o.
	Formulation and Assessment of Multi-agent Active Debris Removal Application	Space scAvengers s.r.o.
	MELISSA Feeder	BioX Technologies, s.r.o.
	Limnospira – Lipidom and Pathways	BioX Technologies, s.r.o.
PECS7	dCorePQfabric	DECENT Group, a.s.
	Roadmap for EuroQCI optical ground station deployment in Slovakia – Study	Astros Solutions, a.s.
RPA1	AI4THOR – AI for Improved ThunderstormNowcasting from MSG and MTG	MicroStep, spol. s.r.o.
	Supply chain management for CPPAs & SpaceSystem Integrators	M2M Solutions, s.r.o.
	Illegal buildings detector	GEODETICCA VISION, s.r.o.
	ESTE4Space	ABmerit s.r.o.
GSTP	Design and Qualification of a CAPacitive INcremental sensor (CAIN) for SADMXEO	CTRL, s.r.o.
EO	Earth Observation Data Traceability Solution	3IPK, a.s.

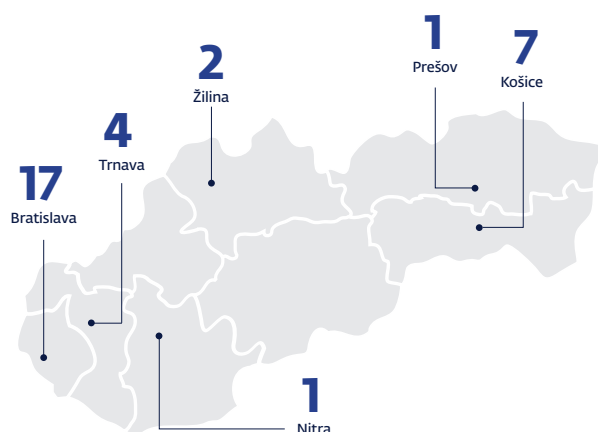
## Company-led PECS projects by regions

**180 %**

PERCENT INCREASE IN THE  
COMPANY-LED PROJECTS IN  
1-2ND AND 6-7TH PECS CALL

**65 %**

COMPANY-LED PECS PROJECTS IN  
UPSTREAM VS. 35% IN DOWNSTREAM



# R&D Success Stories

## PUBLIC RESEARCH INSTITUTIONS & UNIVERSITIES



### **SLOVAK ACADEMY OF SCIENCES**

#### **Institute of Experimental Physics**

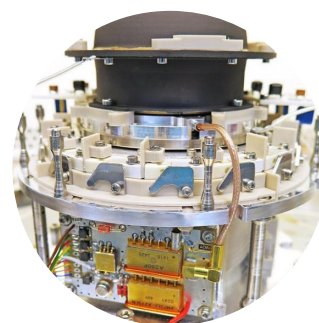
Direct participation in international space missions including Rosetta, BepiColombo, JUICE, and JEM-EUSO. Main focus on cosmic rays and space weather science. The institute has contracted multiple ESA projects.

#### **Institute of Materials and Machine Mechanics**

Development of materials for space use, participation in ESA GRADECET project. The institute has contracted multiple ESA projects.

#### **Astronomical Institute**

Representing Slovakia in two large European projects focused on the research of our Sun: the European Solar Telescope (EST) and the Solar Activity Monitor Network (SAMNet).



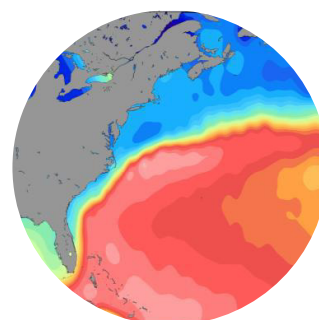
### **SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA**

#### **Faculty of Electrical Engineering and Information Technology**

Participation in several international projects including manned Mars mission simulation. Currently launching National Center for Space Engineering and a Space Engineering study programme. The faculty has contracted multiple ESA projects.

#### **Advanced Technologies Research Institute**

Author of 1 successful ESA PECS project.



### **TECHNICAL UNIVERSITY OF KOŠICE**

#### **Faculty of Aeronautics**

Participation in several local and international projects including cubesats skCUBE and GRBAIfa. The first Slovak university to include a full space engineering programme into its curriculum. The first Slovak member of International Astronautical Federation and a university of four astronauts. The faculty has contracted multiple ESA projects.



### **COMENIUS UNIVERSITY IN BRATISLAVA**

#### **Faculty of Mathematics, Physics and Informatics**

Space debris research and development of space surveillance and tracking technologies. Dynamical and chemical analysis of asteroids, meteoroids and meteorites. Study of the interaction of cosmic rays with material objects. The faculty has contracted multiple ESA projects.

### **UNIVERSITY OF ŽILINA**

#### **Faculty of Electrical Engineering and Information Technology**

The university is a leading technological institution in the northern central Slovakia recently taking its first steps in the space sector including active participation in the Spaceport\_SK incubation programme. One successful ESA PECS project focused on space hardware development involving local and foreign industry.



ŽILINSKÁ UNIVERZITA  
V ŽILINE



# Successful ESA Projects by R&D Institutions

## RESEARCH-LED PROPOSALS SUCCESSFUL IN PECS CALLS 1-7, RPA 1, AND OPTIONAL PROGRAMS

	PROJECT NAME	ORGANIZATION
PECS1	Development of a Supporting Optical Sensor for High-Area-toMass-Ration Objects Cataloguing and Research (HamrOptSen)	Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics
	Simulating the cooling effect of urban greenery based on solar radiation modelling and a new generation of ESA sensors (SURGE)	Pavol Jozef Šafárik University in Košice
	Novel magnesium composite for ultralight structural components (MagUltra)	Slovak Academy of Sciences in Bratislava, Institute of Materials and Machine Mechanics
	Feasibility study to observe ionospheric disturbances by one pixel UV detector	Slovak Academy of Sciences in Košice, Institute of Experimental Physics
	Radiation induced terahertz wave and power generation in magnetic microwires (RIT)	Slovak University of Technology in Bratislava, Faculty of Electrical Engineering and IT
	Space for Education, Education for Space (SEES)	Slovak University of Technology in Bratislava, Faculty of Electrical Engineering and IT
PECS2	ATBIOMAP	National Forest Centre
	Follow-up of feasibility study to observe ionospheric disturbances by airglow monitoring network (AMON-net)	Slovak Academy of Sciences in Košice, Institute of Experimental Physics
	GOCE-based high-resolution gravity field modelling in a space domain (GOCE-numerics)	Slovak University of Technology in Bratislava
	Additive manufacturing of Ceramic Components by FDM Technology (AM-FDC)	Slovak University of Technology in Bratislava
PECS3	Improvement of European capabilities for LEO objects tracking with optical passive sensors	Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics
	Laser Post-ionization Mass Spectrometer Platform for High Performance Meteorite Analysis – LaPoMzet	International Laser Center
	Slovak contribution to ESA- JUICE mission: Development of Anti-Coincidence Module ACM for Particle Environment Package PEP	Slovak Academy of Sciences in Košice, Institute of Experimental Physics
	SPACE::LAB – place to attract, educate and involve young generation in space science and engineering	Slovak Academy of Sciences in Košice, Institute of Experimental Physics
	Preparation for ATHENA Mission by establishing Slovak research team oriented to existing X-ray Missions and AGN Study	Slovak University of Technology in Bratislava, Advanced Technologies Research Institute
PECS4	Study of meteoroid composition by meteor spectroscopy and simulated ablation of meteorites	Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics
	TUKE Space Forum	Technical University of Košice, Faculty of Electrical Engineering and Informatics
PECS5	Potential solid lubricant for extreme temperatures based on vanadium boride	Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics
	SIREN Space Ionizing Radiation Experts Nursery	Slovak Academy of Sciences in Košice, Institute of Experimental Physics
	Space Engineering Through (True) Training (SETTT)	Slovak University of Technology in Bratislava, Faculty of Electrical Engineering and IT
	University course Earth Observation with ESA missions	Technical University of Košice, Faculty Of Mining, Ecology, Process Control And Geotechnologies

# Successful ESA Projects by R&D Institutions

## RESEARCH-LED PROPOSALS SUCCESSFUL IN PECS CALLS 1-7, RPA 1, AND OPTIONAL PROGRAMS

	PROJECT NAME	ORGANIZATION
PECS6	Towards quantification of non-photosynthetic vegetation from Copernicus Hyperspectral Imaging Mission for the Environment (Acronym: CHIME_NPV)	Institute of Landscape Ecology, Slovak Academy of Sciences
	Feasibility study of data-driven Autonomous Service for Prediction of Ionospheric Scintillations (ASPIs)	Institute of Experimental Physics, Slovak Academy of Sciences
PECS7	Advanced electronics with supercaps	University of Žilina, Faculty of Electrical Engineering
	Ha and CN emissions as tracers of H <sub>2</sub> O molecules and organic compounds in meteoroids: a feasibility study and instrument design	Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics
	Modelling the night sky brightness produced by space objects	Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics
	Proposal for Slovak universities curriculum adaptation toward S2P market (SK-S2P-Edu)	Technical University of Košice
	ENEUM: Enhancing Earth Observation Curriculum with a Focus on ESA Sensors	Pavol Jozef Šafárik University in Košice
	Feasibility Study of Contact Capacitor Discharge Welding Gear for Space Debris Capture	Slovak Academy of Sciences in Bratislava, Polymery Institute
RPA1	Small NEO characterization through Spectroscopy (SNEOS)	Comenius University, Faculty of Mathematics, Physics and Informatics, Department of Astronomy and Astrophysics
	Academia & Industry Synergy for Slovakia Space Aspirations (AISSSA)	Slovak University of Technology in Bratislava, Faculty of Electrical Engineering and Informatics, Department of Nuclear and Physical Engineering
	Introduction to Space Engineering – EDUSTU	Slovak University of Technology in Bratislava, Faculty of Mechanical Engineering
	Study toward enhancing reliability and timeliness of Vigil mission predictions through Machine Learning	Slovak Academy of Sciences in Košice, Institute of Experimental Physics
	Development of SCSS-Net: Solar Corona Structures Segmentation algorithm by deep neural networks	Technical University of Košice, Faculty of Electrical Engineering and Informatics

# Community Initiatives

INDUSTRY, EDUCATION, OUTREACH



## SLOVAK ORGANISATION FOR SPACE ACTIVITIES

Outreach activities and promotion of the space sector, participation in several international and local projects. The organisation has developed and launched the first Slovak satellite skCube and now is involved in a small suborbital rocket development project as well as new cubesat and stratospheric balloon projects.



## SLOVAK AEROSPACE CLUSTER

The first and only Slovak business and R&D association focused on space sector, currently launching its activities aimed at helping Slovak space industry to gain more international visibility and new partnership opportunities.



## SPACE::LAB

A hub for researchers, engineers and space enthusiasts located in Košice regularly organising various expert lectures and talks as well as competitions for students. It was created by one of the successful ESA PECS projects of the Institute of Experimental Physics (Slovak Academy of Sciences).



## SLOVAK SPACE POLICY ASSOCIATION

A think-tank focused on analysing policy, governance, law and European space integration. The main role of SSPA is to increase the quality and expertise of information and boost public discussion about issues concerning the use of outer space and its impact on society and businesses.



## MISIA MARS

The "Mission Mars" is an educational competition for high school students organized by Slovenské elektrárne. Teacher-assisted teams of students create a science and technology project for astronauts at their simulated Martian missions.



## VÝTAHCONF.

A community-led Space industry conference in Bratislava for scientists, engineers and entrepreneurs that brings international speakers and companies together to push the boundaries of the space industry.

# Space Governance in Slovakia

The Slovak Space Office is a joint project of The Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Investment and Trade Development Agency.



- **The Ministry of Education, Science, Research and Sport of the Slovak Republic**  
Is responsible for the overall coordination of space activities by inter-ministerial political coordination (at national and international levels), for space budget, and multilateral and bilateral intergovernmental cooperation.
- **Slovak Investment and Trade Development Agency**  
SARIO covers the implementation part of the agenda, especially developing the space ecosystem and helping new companies and startups participate in it, and supporting local and international partnership creation. The Industrial Branch of the Slovak Space Office is a contact point for international cooperation for the space agencies, offices, associations, businesses, and research entities. It aims to support Slovak entrepreneurs and researchers in integrating into European industrial structures and participating in international projects.

Space Policy  
Department



Policy  
Coordination



International  
Commitments  
(ESA, EU, UN)



Space  
Budget



## Slovak Space Office

Space Industry  
Department



Sector  
Development



International  
Cooperation  
agencies,  
industry,  
R&D



Outreach



## DIVISION OF RESPONSIBILITIES AMONG MINISTRIES

**MINISTRY OF EDUCATION, SCIENCE, RESEARCH AND SPORT**  
Slovak Space Office – Space Policy Department

**MINISTRY OF TRANSPORT AND CONSTRUCTION**  
Implementation of Galileo/EGNOS and Public Regulated Service (PRS)

**MINISTRY OF ENVIRONMENT**  
Copernicus Programme cooperation

**MINISTRY OF ECONOMY (INCL. SLOVAK INVESTMENT AND TRADE DEVELOPMENT AGENCY SARIO)**  
Slovak Space Office – Space Industry Department

**MINISTRY OF INTERIOR**  
GovSatCom Programme cooperation

**MINISTRY OF FOREIGN AND EUROPEAN AFFAIRS**  
International legal and security policy aspects of exploitation and use of outer space



# Slovak Space Office Industry Branch

Our objective is to actively develop international professional cooperation of Slovakia with relevant actors in the space industry field.



## OUR SERVICES FOR FOREIGN ENTITIES

### IDENTIFICATION OF PARTNERS

–  
Tailor-made search for potential cooperation partners among Slovak companies and researchers.

### SUPPORT WITH EXPANSION TO SLOVAKIA

–  
Assistance with establishing your local branch in Slovakia including product facility and R&D partnerships.

### EVENT PARTNERSHIP

–  
Cooperation on space industry events, provision of content, or identification of suitable speakers.

## OUR SERVICES FOR SLOVAK ENTITIES

### SUPPORTING ENTRY TO THE SECTOR

–  
Comprehensive tailor-made sector entry consultancy for companies and researchers interested in joining the sector.

### CONNECTING LOCAL ECOSYSTEM

–  
Creating cooperation opportunities in the sector through matchmaking events with potential partners and clients.

### DEVELOPING INTERNATIONAL PARTNERSHIPS

–  
Supporting internationalization of the Slovak space companies and research institutions.

## 4,5 YEARS OF SARIO IN SPACE



**18**

COMPANIES ALREADY DIVERSIFYING THEIR ACTIVITIES TOWARDS SPACE



**130+**

OPPORTUNITIES TO ESTABLISH LOCAL AND INTERNATIONAL COOPERATION FOR SLOVAK COMPANIES CREATED



**36**

ENGAGED TEAMS IN HACKATHONS AND TWO ROUNDS OF INCUBATOR



**41**

LOCAL AND INTERNATIONAL COLLABORATIONS IN SPACE SECTOR GENERATED



**300+**

FOREIGN COMPANIES, RESEARCH INSTITUTIONS AND OTHER ACTORS MAPPED IN THE PARTNER NETWORK



**100%**

INCREASE OF THE COMPANIES IN SPACE SECTOR

# Slovak Space Office Industry Branch

The Slovak Space Office is a joint project of The Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Investment and Trade Development Agency.



- **EMERGING SPACE** Emerging Space is the bi annual flagship event of SARIO focused on the current trends in the space sector with an emphasis on new countries, stakeholders, and domains involved.

Its main target is to help the emerging space ecosystems grow and be a valuable member of the global space community. It was first held in 2019 in Košice under its original name Slovak Space Tech Day. Its 3rd Edition held online in 2021 attracted more than 400 participants and a stellar speaker lineup including the ESA Director General Joseph Aschbacher, UNOOSA Director Simonetta Di Pippo, and other representatives from ESA, EUSPA, IAF, ESPI, EURISY, ASD-Eurospace, or SME4SPACE.

Over the past years, the international spin-offs and side events of Emerging Space were also an official part of many prestigious international platforms including UN COPUOS, International Astronautical Congress, or World EXPO in Dubai. At the same time, its local side-events are regularly held to help the Slovak space community to share experience and knowledge, or to inspire young generation of STEM and non-STEM experts to pursue space career.

## SPACEPORT\_SK

Supporting startup companies and young talents by providing offices, technical equipment, and expert mentoring.

The half-year programme offers premises and mentoring from host partners in 3 locations across Slovakia, support in fundraising and matchmaking with VC players, comprehensive mentoring from successful members of the Slovak space and startup ecosystem, as well as feedback on the project from renowned foreign experts.

The winner of the 1st batch was startup Space scAvengers working on an innovative way to remove the space debris from Earth's orbit. The winner of the 2nd batch was startup Straton that aims to create a fully automatic unmanned glider for recovering stratospheric sondes.



# Slovak Space Office Projects

## HACKATHONS

- **CASSINI HACKATHON 2021** In November 2021, Slovak Space Office - Industry Branch organized online the local round of an EU hackathon where 6 international teams worked on projects using EU space data to connect the Arctic and protect its wildlife. The winning team created a concept providing visibility to the available power in the sea to generate electricity.



## ACT IN SPACE HACKATHON 2022

In November 2022, 60 participants joined the local round of the ESA's and CNES's international space hackathon organized by Slovak Space Office - Industry Branch in Košice. The winning teams worked on spacecraft collision prevention, space debris mesh detection system and sustainable sea navigation.

## OUTREACH ACTIVITIES



Slovak Space Office - Industry Branch is regularly involved in outreach activities aimed at increasing knowledge about space technologies and their use, and attracting young generation to pursue space-related careers. These include local as well as international initiatives. Over the past years, SARIO supported popularisation activities through providing content for large-scale space exhibitions and conducted several informal discussions with students and children, for example discussion on "How to become an astronaut" at a major Cosmos Discovery space exposition in Bratislava.

## STAY IN TOUCH!



Subscribe to our [newsletter](#) for Slovak companies, R&D institutions and educators to stay updated on current space tenders, projects, events or job offers.



Follow us on [LinkedIn](#) or [Instagram](#) to see what Slovak Space Office is currently working on.



Visit our website to read more about our projects: [www.spaceoffice.sk](http://www.spaceoffice.sk)

# Investment Incentives

The primary goal of the investment incentives is to motivate investors to place their new projects in regions with higher unemployment and to attract projects with higher added value.

## MAXIMUM REGIONAL INTENSITIES OF INVESTMENT INCENTIVES IN SLOVAKIA

- additional 10% for medium-sized enterprises
- additional 20% for small and micro-sized enterprises

### INDUSTRIAL PRODUCTION

Minimum conditions (investment amount, number of newly created jobs and share of new technology) are subject to the unemployment rate in the selected district and forms of aid required.

If applying for income tax relief, the following criteria have to be met in regards to particular districts category:

- 3 mil. EUR and 60% share of new technology
- 1.5 mil. EUR and 50% share of new technology
- 0.75 mil. EUR and 40% share of new technology
- 0.1 mil. EUR and 30% share of new technology
- Expansion includes a minimum increase in the production volume or turnover by at least 15%

Direct forms of aid are also available, different conditions apply.

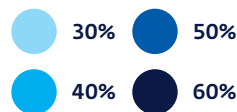
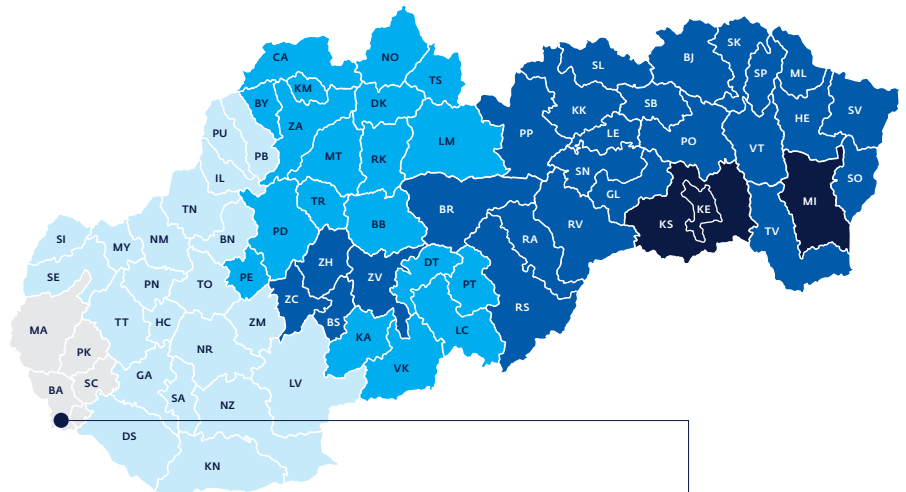
### TECHNOLOGY CENTRES

- Minimum investment of 50 ths. EUR on fixed assets in all regions
- Minimum of 5 newly created jobs
- Minimum 1.7 fold of average salary in the district paid to new employees

### SHARED SERVICES CENTRES

- Minimum of 10 newly created jobs
- Min 1.5 fold of average salary in the district paid to new employees

Minimum conditions for SMEs are in principle lowered by half. Please contact us at [invest@sario.sk](mailto:invest@sario.sk) for more information.



Districts in Bratislava region are excluded from the investment aid scheme

### ELIGIBLE PROJECTS

The Act on Investment Incentives divides the projects, which may be supported, into four categories:

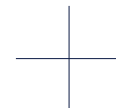
- Industrial production
- Technology Centers
- Combined Projects of Industrial Production and Technology Center
- Shared Services Centers

### ELIGIBLE COSTS

- Costs of land acquisition
- Costs of buildings acquisition & construction
- Costs of new technological equipment and machinery acquisition
- Intangible long-term assets — licences, patents, etc.
- Rent of new land/building
- or
- Total wage costs of all new employees calculated over a period of 2 years

### FORMS OF INVESTMENT INCENTIVES

- Corporate income tax relief
- Cash grant
- Contributions for the newly created jobs
- Rent/Sale of real estate for a discounted price



Positive regional contribution of a new investment projects shall be concluded based on these categories — investment location, number of jobs created, average gross monthly salary of new employees, expected added value and possible qualification of a project respecting definition of a priority area.







## AIM INVESTMENT AWARDS DUBAI 2022

CEE & TURKEY REGION  
Best Investment Promotion  
Agency in 2022



# SARIO Profile

Slovak Investment & Trade Development Agency (SARIO) is a governmental investment and trade promotion agency of the Slovak Republic. The agency was established in 2001 and it operates under the Slovak Ministry of Economy.

## 01 INVESTMENT SERVICES

### FOR POTENTIAL INVESTORS

- investment environment overview
- assistance with investment projects implementation
- starting a business consultancy
- sector and regional analyses
- investment incentives consultancy
- site location & suitable real estate consultancy

### FOR ESTABLISHED INVESTORS

- identification of local suppliers, service providers
- assistance with expansion preparation and execution
- assistance with Industry 4.0 solutions and R&D implementation

## 02 FOREIGN TRADE SERVICES

### IF YOU ARE LOOKING FOR

- Slovak supplier or sub-contractor
- information about Slovak export/trade environment
- sourcing opportunities
- forming a joint venture, production cooperation or other forms of partnership with a Slovak partner

### SERVICES FOR EXPORTERS

- information on foreign territories
- customized search for foreign partners
- on-line database of business opportunities
- export Training Centre
- subcontracting assistance

## 03 INNOVATION SOURCING

- matching local tech companies with the operations of large companies that plan to implement innovative solutions to streamline and optimize their processes
- focused mostly on Industry 4.0 solutions such as digitalization, intelligent automation, and robotics as well as advanced and complex IT solutions for various industries
- based on a database of more than 300 local tech companies which is constantly updated and expanded

## 04 SLOVAK SPACE OFFICE

### FOR SLOVAK ENTITIES

- tailor-made sector entry consultancy
- startup creation through hackathons and incubation programs
- cooperation opportunities through matchmaking events
- internationalization of the Slovak space companies and research institutions

### FOR FOREIGN ENTITIES

- customized search for local partners
- assistance with establishing branch in Slovakia
- cooperation on space industry events

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**SARIO IS YOUR ONE STOP SHOP FOR INVESTMENT & TRADE IN SLOVAKIA.  
TALK TO US TODAY!**

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