



Annual Report

2023

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Operating Highlights in 2023

BELOW IS A SUMMARY OF THE GeoZS
2023 ANNUAL REPORT BROKEN DOWN
BY OUR CAPITAL TYPES.

Summary of the GeoZS 2023

 Social capital	 Intellectual capital	 Human capital	 Production capital	 Natural capital	 Financial capital
*ARIS research programmes: 4	Patents: 1	Total employees: 124	Investments in research and laboratory equipment: 407,711 EUR	The results of managing natural capital are primarily expressed in the outcomes of scientific research and commercial projects, which include measures for sustainable groundwater management, the promotion of geothermal energy usage, the sustainable management of mineral resources, and networking efforts for fostering a circular economy. No monitoring of natural capital within our operations occurred in 2023.	Revenue: 7,384,005 EUR
 ARIS infrastructure programme: 1	 Internal innovations: 4	 Researchers: 58			 Expenditure: 7,311,495 EUR
 ARIS research projects: 16	 Internally developed online data platforms: 5	 Young researchers: 9			 Net profit: 72,510 EUR (before corporate income tax)
 Internally supported research projects: 6	 Citations: 8332 (Number of citations according to SICRIS records as of 12 February 2024)	 Researchers involved in the teaching process: 8			
 International projects Horizon 2020 and Horizon Europe: 9	 Total number of scientific performance points 1,776.27 (for researchers employed according to SICRIS records as of 12 February 2024)				
 European structural and investment funds: 4	 Publications: 11				
 All international projects: 23 (27 in 2022)					
 Commercial projects: 94					
					
 Public service and other nationally funded projects: 25 (24 in 2022)					
					
<div><div>*The Slovenian Research and Innovation Agency (ARIS)</div><div> Greater than in 2022</div><div> Less than in 2022</div><div> The same as in 2022</div></div>					

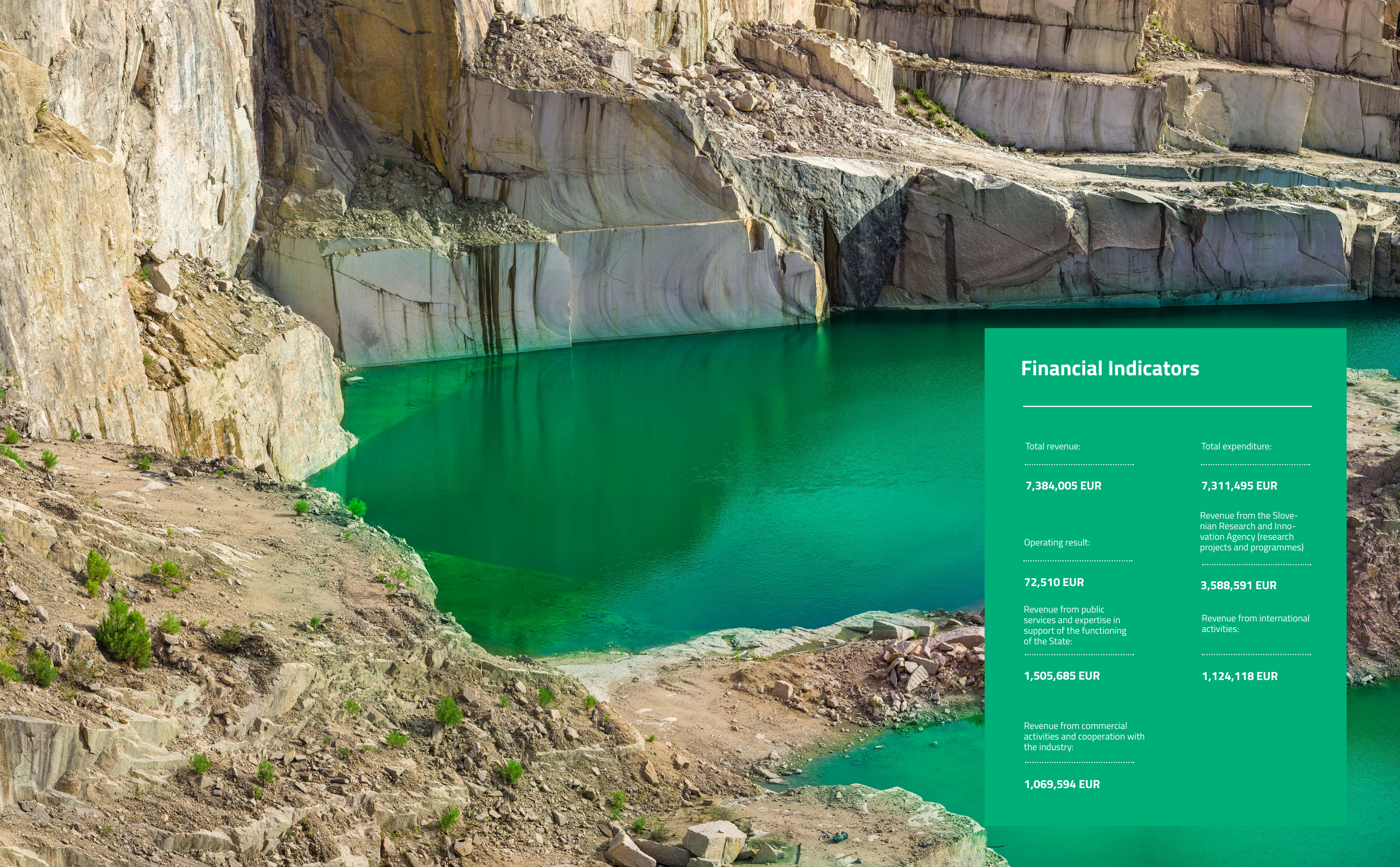


An increase in scientific performance has been achieved, as evidenced by a rise of at least 14% in citation counts.

In 2023, the total number of research projects increased from 13 to 16, indicating a 23% growth.

All the tasks outlined as part of our public service provision were successfully executed.

The financial performance targets for our public service were successfully achieved, reflecting the efficient management of public resources relative to the scope of work completed.



Financial Indicators

Total revenue:

7,384,005 EUR

Total expenditure:

7,311,495 EUR

Operating result:

72,510 EUR

Revenue from the Slovenian Research and Innovation Agency (research projects and programmes)

3,588,591 EUR

Revenue from public services and expertise in support of the functioning of the State:

1,505,685 EUR

Revenue from international activities:

1,124,118 EUR

Revenue from commercial activities and cooperation with the industry:

1,069,594 EUR



Non-Financial Indicators

Number of Research Projects

In 2023, GeoZS conducted 16 research projects under the Slovenian Research and Innovation Agency (ARIS). This included eight basic projects, with GeoZS serving as the lead partner for five, one applied project in which

GeoZS participated as a member, three targeted research programme projects (CRP), of which GeoZS was the lead in two, and three postdoctoral research projects.

Research Programmes

In 2023, research activities were conducted under four ARIS research programmes:

- P1 – 0011 – Regional Geology,
- P1 – 0020 – Groundwaters and Geochemistry,
- P1 – 0025 – Mineral Resources, and
- P1 – 0419 – Dynamic Earth

alongside the infrastructure programme IO – 0007 – Geological Information Centre, which was implemented as well.

International Activities

GeoZS actively operates internationally, fulfilling its mission as a member of EuroGeoSurveys (EGS). Through this role, it provides European institutions with expert, impartial and well-balanced insights to support problem-solving, policy design, regulation and programme formulation pertaining to geosciences. In 2023, GeoZS implemented and contributed to 26 international projects, including nine under the Horizon 2020 and Horizon Europe frameworks, and six funded by

the EIT RawMaterials programme. Four development and research projects were carried out with funding from European Structural and Investment Funds. Two of these projects were co-financed through the transnational INTERREG programme—one under the INTERREG Central Europe 2021–2027 framework and the other under the cross-border INTERREG Slovenia-Italy 2021–2027 programme. Additionally, two projects received co-financing from EEA and Norway Grants, while the remaining three international projects received backing from other centralised programmes.

Among the international projects undertaken in 2023, notable highlights include the INFO–GEOTHERMAL project, funded by the EEA and Norway Grants, which focuses on enhancing Slovenia's capacity to manage geothermal energy. This project includes providing training for professionals from national bodies, research organisations and project developers, alongside mapping deep geothermal potential. Another key project is the EO4MASRISK, financed by the European Space Agency (ESA), which aims to develop an online service for identifying areas prone to landslides and assessing potential damage using satellite data. The LIFE IP RESTART project, funded by LIFE 2020, supports recycling and the circular economy in alignment with European directives. Meanwhile, under the KRAS-CARSO II project, funded under the Interreg Italy-Slovenia programme, GeoZS integrates the geological and cultural heritage of the Classical Karst with digital platforms and educational content. Finally, the MAURI-CE project, funded under the Interreg Central Europe programme, is dedicated to implementing innovative solutions for managing urban water resources, enhancing adaptation and resilience to climate change. Our involvement in the GeoERA programme in recent years has laid a solid foundation for a joint European geological service whose mission is to provide a comprehensive and coordinated response at the EU level



to future challenges related to geological topics (minerals, groundwater, geological structures, etc.). The concept of a joint European geological service is a work in progress that is being actively developed within the project GSEU– Geological Service for Europe. GeoZS stands out as one of the most active partners in the project. Our activities span the width of the project's thematic areas, from geothermal energy to groundwater, information management to mineral resources. Most notably, we have played a prominent role in the establishment of the European International Centre of Excellence for Sustainable Resource Management (EU ICE SRM) in setting up the information and technology framework of the future European Geological Data Infrastructure (EGDI), and in implementing the communication and dissemination activities of the project.

Carrying Out Public Services and Expertise Projects for the Republic of Slovenia

For the Mining Sector of the Ministry of Natural Resources and Spatial Planning, technical and development tasks were carried out, including the production, collection, evaluation and dissemination of geological and other data and documentation, as well as the preparation of expert groundwork in geology and mining. GeoZS closely monitored the development of the objectives, guidelines and conditions of the National Mining Strategy for the coordinated exploration and exploitation of mineral resources, and actively participated in shaping the legal framework, providing expert opinions and granting approvals within the mining sector. Moreover, we were tasked with the development and maintenance of the IT-based Mining Database and Mining Registry Book.

On behalf of the Slovenian Water Agency (DRSV), operating under the Ministry of Natural Resources

and Spatial Planning of the Republic of Slovenia, we have mostly been implementing projects in the field of water resource management, the sustainable use of groundwater and geological hazards management. The Ministry of Natural Resources and Spatial Planning also tasked us with compiling expert groundwork and providing specialised support for regulations related to water protection areas and groundwater concessions. For the Ministry of Agriculture, Forestry and Food of the Republic of Slovenia (MKPG), we authored contributions regarding geothermal energy as part of the 2022 Climate Report on the State of Agriculture. Research of active faults continued for the Ministry of Environment, Climate and Energy (MOPE) and the Slovenian Environment Agency (ARSO), focusing on collecting data to develop Slovenia's next-generation earthquake hazard map. Field and laboratory work was conducted as part of the ongoing monitoring of closed mining waste disposal sites and to prepare expert documentation for planning the remediation of four mining waste sites in the Upper Meža Valley. Regular inspections of operational groundwater monitoring programmes at these disposal sites were conducted, accompanied by assessments of potential soil and groundwater contamination. This process included preparing preliminary and baseline reports for sites requiring environmental permits, in accordance with the Regulation establishing types of activities and facilities that may cause large-scale pollution. Furthermore, an upgrade of the hydrogeological mathematical model of heat transfer in a deep geothermal groundwater body of north-eastern Slovenia was developed for ARSO.



Commercial Activities

Throughout 2023, GeoZS continued to be a key partner in the most demanding infrastructure projects of national importance, such as geological studies for assessing earthquake hazards in the area designated for the potential construction of the NEK 2 nuclear power plant, with a focus on the parameterisation of seismic sources. GeoZS also undertook structural monitoring and excavation supervision for the second tube of the Karavanke Tunnel, providing ongoing geological interpretations and short-term forecasts of conditions impacting construction.

As part of the project involving the second Divača-Koper railway track, geological oversight was conducted at the construction sites of all eight tunnels and associated earthworks. GeoZS played a key role in interpreting the geological conditions along the entire route, a critical factor for the seamless execution of the project. Hydrogeological water permeability tests were also performed, yielding essential data for planning subsequent construction phases.

Technical inspections were carried out on covered road galleries along the Slovenian motorway cross and expressway network, as well as on embankments in the Cinkarna Celje area.

Private clients, companies and municipalities commissioned us to perform engineering-geological assessments of landslide and rock fall zones. The mineral reserves and resources were classified and categorised in multiple reports, complemented by research aimed at evaluating and expanding the resource base in specific mineral extraction areas.

GeoZS conducted georadar surveys to locate and outline underground caverns, such as karst caves, along the routes of infrastructure projects.

Several of our last year's projects focused on the sustainable use and management of geothermal waters, including involvement in the construction of a deep geothermal reinjection well. Additionally, the hydrogeological studies we conducted identified potential new drinking water sources and provided critical research to support water permits for existing sources.

GeoZS also assisted in formulating pollution mitigation measures for diesel spills in Rače and heating oil spills in Izola. Monitoring nitrate leaching from agricultural land continued at seven sites across Slovenia. Finally, several borehole video inspections and logging measurements were performed to evaluate well conditions and identify groundwater inflows.

Most Prominent Scientific Achievements

The highlight reel of our scientific achievements showcases the research contributions of our colleagues that have earned both international and national recognition.

A standout achievement recognised under the ARIS Excellence in Science project is the original research article entitled Deciphering the deformation mechanism in Quaternary deposits along the Idrija Fault in the formerly glaciated Soča Valley, southeast European Alps. Published in 2022 in Engineering Geology, the premier journal in the field, the article was authored by Petra Jamšek Rupnik, Manja Žebre, Jernej Jež, Marjana Zajc, Frank Preusser and Giovanni Monegato. The article integrates several Earth science disciplines and was developed through collaboration between experts from the Geological Survey of Slovenia and esteemed international researchers as part of the research conducted under the programmes Dynamic Earth and Regional Geology, as well as the research project Past Climate Change and Glaciation at the Alps-Dinarides Junction, led by Dr. Manja Žebre.

A compelling contribution to fundamental geology is a palaeontological study exploring conodontology and Neogene tectonics within the collision zone of the European Plate and the Adriatic Microplate. In the identification and characterisation of active geological structures, including the quantification of their activity, the first archaeoseismological evidence of an earthquake during the Roman period in the Celje area was published. Post-earthquake geomorphological, geophysical and palaeoseismological studies of the Petrinja Fault in Croatia also continued. Our seismic source database has been integrated into the European Fault-Source Model 2020 for calculating the

seismic hazard across Europe. In 2023, an original research article was published in the Nature Scientific Reports addressing the impact of seasonal precipitation changes on landslides in Slovenia through the end of the 21st century, using the MASPREM and mGrova models. Based on a monitoring system established for tracking the formation of rockfalls, we kept up with the sensitivity analyses of crack formation to geological and meteorological factors. This topic and approach represent a novel contribution to rockfall research and garnered significant interest within the broader scientific community during the 6th World Landslide Forum.

In 2023, GeoZS continued its long-standing focus on studying both geogenic and anthropogenic factors that influence the chemical and mineral composition of various environmental media, as well as legacy pollution from past industrial activities. Our research focused on the concentrations of heavy minerals and rare earth elements (REE) in soils and mosses, as the key differentiator between geogenic and anthropogenic sources of these substances, and an indicator of the geological substratum of agricultural areas. A notable highlight was our study on the chemical composition of honey, which revealed traces of geological origins. A continuing hot-button topic for GeoZS is the growing issue of contaminants of emerging concern in groundwater. In addition to investigating this pressing issue, our research continues to explore the effects of various pollution sources—both point and diffuse—on groundwater quality, with a particular focus on protecting ecosystems reliant on groundwater resources.

In addition to pollution research, our hydrogeological studies have focused on both shallow and deep geothermal energy applications. A key aspect of the sustainable and efficient use of shallow geothermal resources is understanding heat transfer in the subsurface of planned geothermal systems. To address this, we have developed a transient groundwater flow and heat transfer model to assess the impact of open-loop systems on the subsurface and surrounding environments.

Finally, we draw attention to two emerging fields at GeoZS that are expected to gain prominence in the coming years: marine geology and geological research in archaeology.





Research Projects in 2023

Type of project	Lead partner, coordinator	Participant, partner	Total
Research activity in 2023 (stable financing)			
Infrastructure pillar - ISF			
Infrastructure programme ARIS	1	0	1
Programme pillar - PSF			
Research programmes ARIS	4	0	4
Young researchers ARIS	9	0	9
Research activity in 2023 (other financing)			
Basic research projects	5	3	8
Applied research projects	0	1	1
Postdoctoral research projects	3	0	3
Targeted research programmes (ARIS-MKGP; ARIS-MOPE; ARIS-MORS)	2	2	4
European Structural and Investment Funds research projects (European Regional Development Fund (ERDF), European Agricultural Fund for Rural Development (EAFRD) and the Recovery and Resilience Plan (RRP))	1	3	4
Internally supported projects (development pillar)	6	0	6
Public and professional service			
Mining Public Service (MzIP)	1	0	1
Public service (ARSO, DRSV, MOPE, MKGP)	24	0	24
Commercial projects			
Domestic market – public sector clients	5	1	6
Domestic market – industry	16	69	85
Foreign market	0	3	3
International projects			
Framework programme (Horizon 2020, Horizon Europe, MSCA, and COST)	0	9	9
Other centralised projects (DG INTPA, LIFE, EIT RawMaterials, EASME)	1	8	9
Decentralised projects (European Territorial Cooperation Interreg)	0	2	2
Other international projects (EEA and Norway Grants, ESA)	2	1	3
TOTAL	79	102	181

About GeoZS

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AT THE CENTRE OF OUR ACTIVITIES LIES A COMMITMENT TO CORE VALUES SUCH AS INTELLECTUAL FREEDOM, UNWAVERING RESEARCH INTEGRITY AND THE CULTIVATION OF AN INCLUSIVE ENVIRONMENT THAT ACTIVELY ENGAGES WITH THE NEEDS OF SOCIETY AND OUR BUSINESS PARTNERS, FOSTERING COLLABORATION AND INNOVATION.



Mission and Vision

Mission

The cornerstone of GeoZS is fundamental and applied research in the field of geosciences with the aim of gaining a precise understanding of the geosphere: its origin and history, physical and chemical structure, dynamics and interactions with the hydrosphere, biosphere, cryosphere, atmosphere and, increasingly, the anthroposphere. At GeoZS, we collect and interpret data, presenting it through published research findings, including fundamental and thematic geological maps and models, as well as expert reports and studies. Our information is to be shared with the industry sector, policy-makers and the public. As a research organisation, GeoZS provides its expertise and technical advice to support sustainable land use, responsible natural resource management, and ensuring a healthy and safe living environment on Earth. A comprehensive understanding of the Earth in its broadest sense is essential for the well-being and prosperity of humanity.

Vision

Geological research, along with the data it yields and its interpretation, is fundamental to shaping the future development of human society in harmony with the Earth's capacities and its finite natural resources.

Through its fundamental and applied research and expertise, GeoZS supports national and European decision-makers in all activities related to sustainable and responsible land use planning, both on and beneath the Earth's surface. This includes managing natural resources, conducting risk and vulnerability assessments, and ensuring a healthy and safe living environment. GeoZS is committed to continually maintaining the critical mass of knowledge, research capabilities, data and equipment necessary to fulfil this role.

Geological research, along with the data it yields and its interpretation, is fundamental to shaping the future development of human society in harmony with the Earth's capacities and its finite natural resources.



Creating a Value Chain

As a research organisation, GeoZS provides its expertise and technical advice to support sustainable land use, responsible natural resource management and ensuring a healthy and safe living environment on Earth.

Input	Activities	Output	Outcome
GeoZS capitals for realising activities	Activity examples	Output examples	Outcome examples
Social capital	Carrying out scientific research projects, public and professional service and commercial projects	181 projects completed (79 as lead partner and 102 as a partner)	Positive effects for the sustainable management of natural resources Stakeholder/client satisfaction 4.7 (out of 5)
Intellectual capital	In-house knowledge development	Patents and internal innovations, data platforms, citations, ISO 9001:2015	Publicly accessible geological data collected
Human capital	Human resources management	124 employees	Employee satisfaction 3.9 (out of 5)
Natural capital	Performing activities	Completed projects	Reduction of environmental impacts in accordance with the implemented projects
Production capital	Investment expenditures	Research and laboratory equipment purchases	State-of-the-art infrastructure for streamlined project implementation
Financial capital	Financial resource management	Surplus of income over expenses generated	Development of activities, mission-oriented pursuits

Strategic Orientations and Objectives in 2023

THE KEY PERFORMANCE INDICATORS CLEARLY SHOW THAT WE MET BOTH THE FINANCIAL AND NON-FINANCIAL TARGETS FOR 2023.



Objectives Set, Actions Identified to Achieve Them, and the Measurement and Evaluation of Achievements in 2023

Objectives	Activities performed	Measuring method	Assessment
Securing funding vital for stability and growth	The performance of tasks on time and to standard, increased activity in securing assignments on domestic and foreign markets, and streamlining costs	The financial outcome in both the public service sector and the market; ensuring liquidity and solvency	The financial performance of GeoZS was positive, having generated 97.3% of the planned revenues and 101.0% of the planned expenses, with a surplus of income over expenses amounting to €72,510 before corporate income tax; €53,665 from commercial activities and €18,845 from public service activities.
Cultivating cutting-edge science by increasing publications and citations	Nurturing a stimulating and supportive environment for research and ensuring enough time to produce scientific articles	Publications and citations	The number of research projects increased from 13 to 16 in 2023, representing a 23% growth. The number of citations increased by 14%. Overall scientific performance points decreased compared to 2022*, with no significant change in the number of scientific articles.
Growing a top-tier team	Nurturing a stimulating and supportive environment for research alongside exemplary collaboration with a higher education institution	The number of successful PhD defences and the number of young researchers	Staff cultivation has progressed as expected. Two young researchers have successfully completed their PhD studies. The deadline for a further two young researchers to complete their doctoral studies was extended to 2024. There have been eight promotions to higher academic ranks, with three employees receiving research titles for the first time.
Maintaining and expanding our international and national profile – involvement in new projects increased by more than 50% through newly acquired projects based on applications and proposals submitted during the calendar year	Networking with potential partners, keeping abreast of calls for proposals and submitting quality applications to international calls.	The number of newly acquired projects	In 2023, 25 project applications were submitted to international programmes. A total of 12 international projects were secured in 2023, including 2 from Horizon Europe, 2 funded by EIT RawMaterials, 3 from the transnational Interreg Danube programme, 2 from the transnational Alpine Space, 1 from the IPA ADRION programme, and 1 each from the cross-border Interreg Slovenia-Austria and Slovenia-Italy programmes. Meanwhile, 13 project applications were rejected.



Objectives	Activities performed	Measuring method	Assessment
Sharing knowledge with users – organising at least 3 workshops/ meetings for various audiences (scientific, professional and the general public), along with one visit by geology students to GeoZS	Organising workshops and meetings	Number of organisations and sessions conducted for consultations and workshops for users	We held more than 3 planned consultations and 2 major presentations for students.
Continuous organisational optimisation for improved flexibility and the streamlined flow of information	Continuous improvement of the interdepartmental information flow (for coordinated actions in terms of content) and adapting the organisation to the changing requirements of project implementation (to optimise the work process)	Successful completion of the audit in accordance with the ISO 9001:2015 certification.	We have successfully passed the quality management system audit in accordance with ISO 9001:2015. Through the ongoing optimisation of our internal organisation and the streamlined use of the project monitoring information system, we have significantly enhanced our project management processes.
Improving our equipment capabilities and expanding infrastructure – renewing as much of the depreciated field and office equipment as possible and acquiring additional premises at Dimičeva 14	Securing funding and implementing public procurement	Enhancing capabilities through new purchases, conducting additional investigations, and reducing dependence on external services	A total of €407,711 was allocated for the purchase of new office space at Dimičeva 14, equipment, vehicles and intangible assets, while €19,635 was designated for investment maintenance. This accounts for 88% of the planned investment expenditures. The lower volume of investments is partly due to difficulties in obtaining bids and the availability of certain equipment.
Bolstering market activity	Keeping staff in the know and encouraging the acquisition of commercial projects	Amount and scope of commercial assignments	The volume of funds raised from commercial projects is 19% lower than in 2022, while revenues from market activities exceeded the plans. The operations were in line with the dynamic needs of clients and the contractual obligations.

*The number of points in the annual report for 2022 is different. The reason for this difference lies in the changes to the JCR data that SICRIS uses to calculate the points, which are updated in the middle of the current year for the previous year, as well as the departure or retirement of researchers.



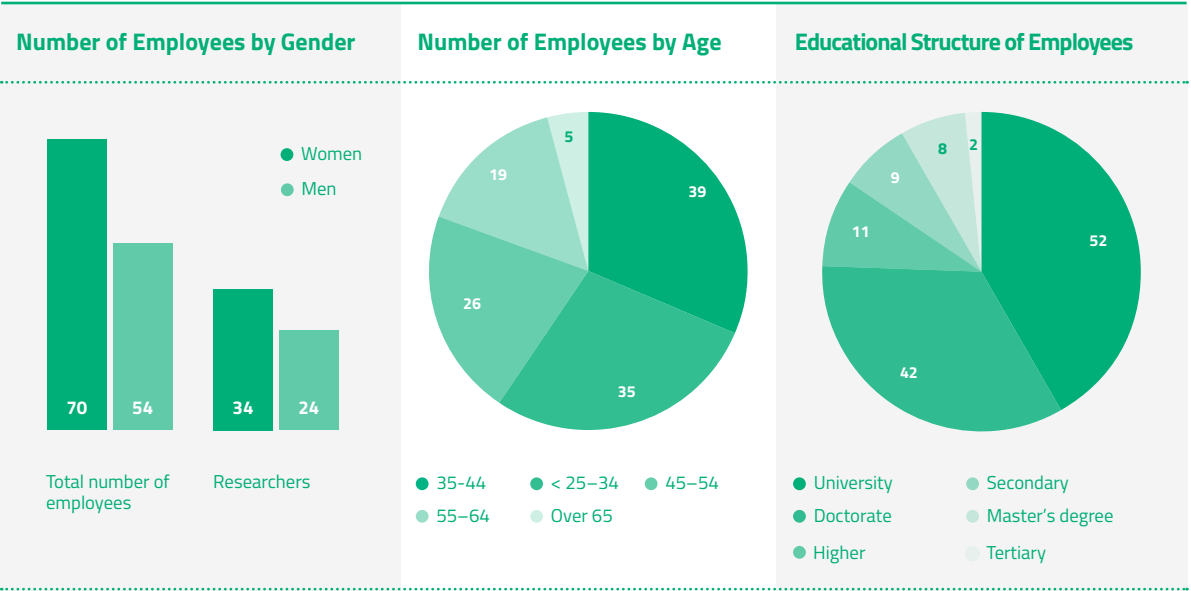
An Inclusive Environment for All Employees

TOP-LEVEL SCIENTIFIC RESEARCH IS
FOUNDED ON A TOP-LEVEL WORKFORCE
THAT CAN ONLY THRIVE IN AN INCLUSIVE
AND FRIENDLY WORK ENVIRONMENT.
ONGOING EDUCATION FOR OUR
EMPLOYEES NOT ONLY ENHANCES
OUR PROFESSIONAL SKILLS BUT ALSO
SUPPORTS PERSONAL GROWTH.



Employee Data

At the end of 2023, GeoZS employed a staff of 124, with a total of 120.8 FTE.
As of December 31, 2023, GeoZS employed 51 researchers comprising 30 female researchers and 21 male researchers occupying posts in group H01. Together with researchers in other post groups, 58 researchers (male and female) were employed.



Project Overview in 2023

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THROUGH OUR RESEARCH AND PROFESSIONAL ENDEAVOURS, WE PROVIDE SUPPORT FOR NATIONAL AND EUROPEAN STAKEHOLDERS IN ALL ACTIVITIES RELATED TO SUSTAINABLE AND ENVIRONMENTALLY FRIENDLY MANAGEMENT AND LAND USE ON AND BENEATH THE EARTH'S SURFACE.



Research Projects Funded by ARIS

GeoZS as the Lead Partner

Past climate change and glaciation at the Alps-Dinarides junction
led by Dr. Manja Žebre

ROCKSENSE – Deciphering the sensitivity of rock faces to climatic changes and freeze-thaw cycles in permafrost-free regions
led by Dr. Mateja Jemec Auflič

Karst3Dge – Uncovering Adria-Dinarides Cenozoic evolution and structural influence on groundwater through 3D geological modelling
led by Dr. Ana Novak

MURmap – Holistic geochemical tracking of inorganic pollutants in the Mur/ River Mura catchment
led by Dr. Gorazd Žibret

GeoCOOL FOOD – Cold food storage using shallow geothermal energy, financing from ARIS and Ministry of Agriculture, Forestry and Food of the Republic of Slovenia
led by Dr. Nina Rman

Use of the non-invasive GPR method and remote sensing for determining groundwater vulnerability due to anthropogenic impacts
led by Dr. Marjana Zajc

Development of an early warning system for detecting the impact of military activities on groundwater, financing from ARIS and the Ministry of Defence of the Republic of Slovenia
led by Dr. Anja Koroša

EvoQ the past – Evolution of the Pliocene-Quaternary landscape in the southeastern Alpine foreland (Slovenia): establishing allostratigraphy by employing geochronology, sedimentology, and geomorphology
led by Dr. Eva Mencin Gale

GWMicroPlast – Improved methods for determining transport processes of microplastics in groundwater
led by Dr. Nina Mali

RegTPV v Alpah – Dynamics of regional groundwater flow in alpine carbonate aquifers: mechanisms, boundary conditions and the impact of climate
led by Dr. Luka Serianz



Research Projects Funded by European Structural and Investment Funds

Ministry of Agriculture, Forestry and Food of the Republic of Slovenia (MKGP)

- EIP Water – Reducing the pressures from agriculture on surface water and groundwater, led by Dr. Janko Urbanc
- AT mobil – Setting up geo-referenced mobile sampling for soil analysis with the aim of optimising fertiliser use and reducing negative environmental impacts, led by Dr. Janko Urbanc

Ministry of Higher Education, Science and Innovation of the Republic of Slovenia (MVZI)

- SKUPP – Cooperation to strengthen the performance of project offices (Recovery and Resilience Plan), led by Brigita Žepič Praprotnik
- SPOZNAJ – Support for the Implementation of Open Science Principles in Slovenia (Recovery and Resilience Plan), led by Dr. Petra Gostinčar

Selected International Projects

INFO-GEOTHERMAL – Supporting the efficient cascade use of geothermal energy by making available official and public information, EEA and Norway Grants
led by Dr. Nina Rman, lead partner

EO4MASRISK – Ground Deformation and Risk Detection Information Service, European Space Agency – ESA
led by Dr. Mateja Jemec Auflič, lead partner

EIT RawMaterials RIS Hub Adria, EIT RawMaterials
led by Urša Šolc, lead partner

GSEU – Geological Service for Europe, Horizon Europe CSA
led by Jasna Šinigoj, project partner

FutuRaM – Future Availability of Secondary Raw Materials, Horizon Europe
led by Dr. Gorazd Žibret, project partner

ROBOMINERS – Resilient Bio-inspired Modular Robotic Miners, Horizon 2020
led by Dr. Gorazd Žibret, project partner

PARC – Partnership for the Assessment of Risks from Chemicals, Horizon Europe
led by Dr. Špela Bavec, project partner

SI-Geo-Electricity – Pilot geothermal power plant on the existing Pg-8 gas well, pilot project, EEA and Norway Grants
led by Dr. Nina Rman, project partner

PanAfGeo-2 – Support to Geological Sciences and Technology in Africa – EU Partnership, EU DG-INTPA
led by Špela Kumelj, project partner

LIFE IP RESTART – Boosting waste recycling into valuable products by setting the environment for a circular economy in Slovenia, Life 2020
led by Dr. Špela Bavec, project partner

GEORIS – Innovative technologies for waste processing in the ESEE region, EIT RawMaterials
led by Dr. Gorazd Žibret, project partner

RM@Schools-4: Raw Matters Ambassadors at Schools 4.0, EIT RawMaterials
led by Rok Brajkovič, project partner

RECO2MAG – Grain boundaries engineered Nd-Fe-B permanent magnets, EIT RawMaterials
led by Dr. Meta Dobnikar, project partner

KRAS-CARSO II – Joint management and sustainable development of the classical Karst area, Interreg Italy – Slovenia 2023–2025
led by Dr. Matevž Novak, project partner

MAURI-CE – Management of urban water resources in Central Europe facing climate change, Interreg Central Europe 2021–2027
led by Mag. Joerg Prestor, project partner

Sharing Knowledge with Society

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GeoZS SHARES ITS EXPERTISE WITH INDUSTRY REPRESENTATIVES, DECISION-MAKERS AND THE PUBLIC THROUGH A VARIOUS COMMUNICATION CHANNELS, BOTH DIRECTLY AND INDIRECTLY. THE RESULTS OF OUR WORK PROVIDE THE COMMUNITY WITH A SCIENTIFICALLY SOLID FOUNDATION FOR THE SUSTAINABLE USE OF LAND AND THE ECOLOGICAL MANAGEMENT OF OUR UNDERGROUND NATURAL RESOURCES.



Communication with Stakeholders

Key stakeholders	Communication areas and tools
Scientific research community	Direct forms of personal and written communication, participation in various professional events, the GeoZS annual report, the GeoZS website, participation in projects, social media
Business partners (commercial project clients and professional organisations)	Direct forms of oral and written communication (presentation of project results, consultations, presentations to local communities), the GeoZS website, GeoNovice, the GeoZS annual report, social media
Slovenian citizens	Outreach through national, regional and local printed and electronic media (including articles and interviews), organising educational events for both young people and adults, developing learning tools, participating in formal educational processes, presenting to local community representatives, hosting GeoZS open days, social media
Political and decision-making public	Direct forms of personal and written communication (presentations, meetings and the preparation of expert opinions), GeoZS website, GeoNovice, GeoZS annual report
European Union	Participation in international associations and communities, collaboration in international projects
Media	Writing expert articles, actively promoting geoscience content, holding interviews, engaging in both formal and informal meetings with journalists, and maintaining an active presence on social media

Publications in English

Geologija. Ljubljana: Geološki zavod Slovenije, 1953-. ISSN 0016-7789. <https://www.geologija-revija.si/index.php/geologija/issue/archive>, Vol. 66, no. 1, 2, 2022.

Mineral resources in Slovenia 2023. Ljubljana: Geološki zavod Slovenije, 2008-. ISSN 1855-4725. https://www.geo-zs.si/PDF/PeriodicnePublikacije/bilten_ms_eng/Bilten_2023.pdf

Annual report 2022. Ljubljana: Geološki zavod Slovenije, 2005-. ISSN 1854-3995. https://www.geo-zs.si/PDF/Porocila/Porocila_EN/Porocilo_EN_2022.pdf.

RMAN, Nina (urednik), ADRINEK, Simona (urednik). **Advances in developing geothermal resources for heating, cooling and electricity production: the International Summer School in Thermogeology:** 3rd to 8th July 2023, Ljubljana, Slovenia: book of abstracts of the student conference on 3rd July 2023. Ljubljana: Geological Survey of Slovenia, 2023. 40 str. ISBN 978-961-6498-76-0. https://www.geo-zs.si/PDF/Projekti/INFO-GEOTHERMAL/DT_4_1_1%20Geothermal%20summer%20school_abstract%20book.pdf

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