ROSATOM

2021 PERFORMANCE

OF THE MINING DIVISION

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STATEMENT FROM THE HEAD OF THE DIVISION

GRI 102-14

Vladimir Verkhovtsev
General Director of JSC Atomredmetzoloto
Head of the Mining Division

Dear colleagues and partners,

This report presents the performance results of the Mining Division for the past year. Amid the COVID-19 pandemic, JSC Atomredmetzoloto, uranium mining and service enterprises did not suspend operations for a single day, fully achieving production targets for uranium mining, development of new businesses and external revenue for 2021.

The achieved results are attributable to the efforts of all personnel of the Division and demonstrate high competencies, the highest responsibility and excellent quality of work. All employees of the Division's enterprises and members of their families strictly observed the sanitary and epidemiological requirements, and the provisions of the relevant ROSATOM orders. This is what made it possible to preserve the life and health of employees and the population in the regions of operation.

In the reporting year, the Mining Division continued to develop our uranium deposits to ensure stable supply for the nuclear industry. Khiagda JSC started the development of the Kolichkanskoye uranium deposit in the Republic of Buryatia, and Dalur JSC started work at the Dobrovolnoye deposit in the Kurgan region. Mine No. 8 operated by PJSC PIMCU reached the milestone of one million cubic metres of rock mass. The enterprise continued the construction on its site of facilities for Mine No. 6, which is instrumental for the future of uranium mining in Krasnokamensk. In the reporting year, it completed the infrastructure programme and launched the construction of pithead facilities.

In 2021, the Division achieved impressive results in developing new businesses. One of the key areas is mining and processing of rare and rare earth metals. JSC Atomredmetzoloto was the first company in Russia to start the production of scandium as a by-product at Dalur JSC in the Kurgan region and has since annually increased production volumes. In the Tomsk region, we financed the completion of the construction of the Tugansk Ore Mining and Processing Enterprise for the processing of ilmenite-zircon ore sands and became one of its shareholders.

As part of the gold mining business development, in the reporting year, the Division started pilot gold mining operations at the Severnoye deposit, and the first batch of gold in the form of doré bars was produced.

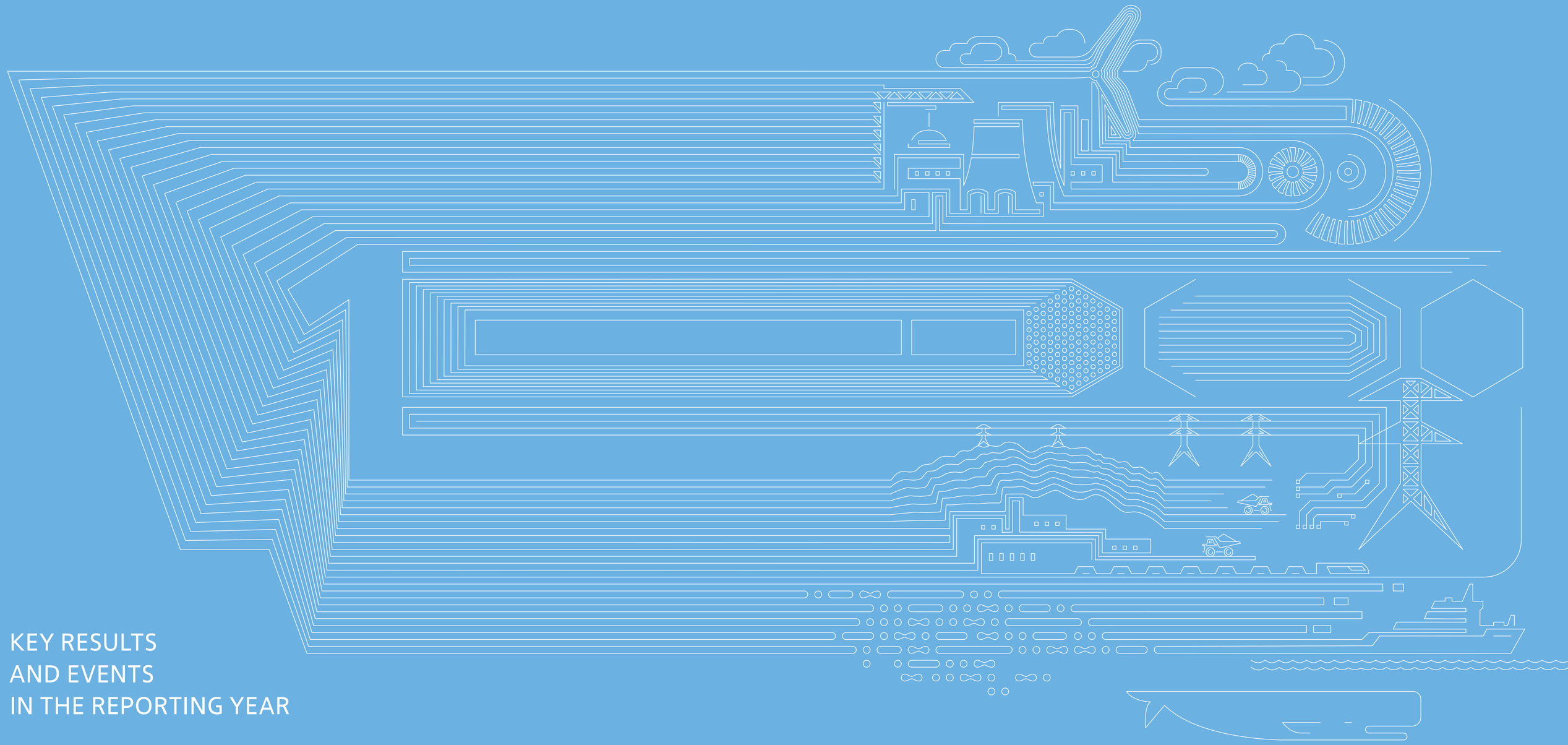
Stable production of sized coal at PJSC PIMCU enabled the enterprise to increase coal sales to new consumers both in Russia and abroad.

Today we understand that the future belongs to new 'green' energy sources. A number of projects are being implemented in this area, from the production of load-haul-dump machines powered by lithium-ion batteries to the development of a lithium project in Russia aimed at producing lithium carbonate to meet the needs of planned energy storage enterprises. In 2021, the project to develop a lithium deposit in Russia was approved by ROSATOM. It is currently at a feasibility study stage. The Kolmozerskoye deposit in the Murmansk region has been identified as a priority site for the implementation of the project.

The Mining Division pays significant attention to social investment. Its enterprises positively impact the social and economic development of the regions of operation by developing the mineral resource base, expanding production capacities, commissioning new production facilities. We are constantly improving the quality of life of people in these regions through tax payments and additional funds provided under charity programmes, especially in Krasnokamensk, where the country's largest uranium mining enterprise, PJSC PIMCU, is located. In particular, over the past five years, a 100-kilometer asphalt road from Zabaikalsk to Krasnokamensk has been built, linking the town with the Chita-Manchuria federal highway. Regular flights to Chita have been established; a residential building for PJSC PIMCU's and public sector employees, as a well as a park with a fountain have been built. A new sports and health complex in the town is under construction. The presence of PJSC PIMCU helped create the Krasnokamensk advanced special economic zone to attract investors and stimulate the establishment of new enterprises, for example, a hydrometallurgical plant for the processing of ores from the Tomtorskoye deposit, etc.

2022 is an anniversary year for us as the Mining Division celebrates the 15th year since its foundation. In addition, in 2021, the oldest design institute of the Russian nuclear industry, VNIPIPT JSC, celebrated its anniversary. Over the past 70 years, the institute's specialists have designed 60 enterprises, including 12 large industrial complexes. These include not only nuclear industry enterprises, but also the world's largest gold ore mining and processing plants and hydrometallurgical plants. In 2021, scientists from VNIPIPT JSC, together with colleagues from KazHydroMed LLP of the Republic of Kazakhstan, developed and patented a new method for extracting non-ferrous, rare and precious metals, which could be potentially applied at our new enterprises.

The achievement of ambitious targets would not have been possible without a team of highly qualified employees of the Mining Division. We are proud of our experienced, ambitious and responsible specialists, who help ensure the future development and success of our company.



KEY RESULTS AND EVENTS IN THE REPORTING YEAR

KEY RESULTS

GRI 102-7
GRI 401-1
GRI 203-1

Indicator	2019	2020	2021
Uranium production, tonnes	2,911	2,846	2,635
Uranium mineral resource base (Russian assets), '000 tonnes	512.7	509.4	506.4
ROSATOM rank among major uranium mining companies in terms of production volume	II	II	II
ROSATOM global rank among major uranium mining companies in terms of mineral resource base volume[1]	II	II	II
Average headcount, persons	7,166	7,246	7,325
Employee turnover, %	20.1	17.4	26.9
Revenue, RUB billion	18.8	20.4	23.2
Investment volume (financing from all sources including VAT), RUB billion	6.4	7.8	9.7
Taxes, RUB billion	6.2	7.6	8.0
Lost Time Injury Frequency Rate (LTIFR)	0.22	0	0.22

[1] Including Uranium One.

KEY EVENTS IN THE REPORTING YEAR

January	Dalur JSC put into operation mobile sorption units to increase scandium production;
	VNIPIPT JSC carried out engineering surveys at the site of PJSC Severalmaz.
February	RUSBURMASH JSC performed hydrogeological studies at the sulphide copper-nickel ore deposits of JSC Kola Mining and Metallurgical Company.
	Khiagda JSC organized a pilot production of LED lamps.
March	First Ore Mining Company JSC launched a new mining and quarrying computer design laboratory at the Northern (Arctic) Federal University.
	VNIPIPT JSC completed the technical design for the development of the Tsentralnoye chromium ore deposit.
April	The 4th professional skills competition of the Mining Division, ARMZskills 2021, was held in the Kurgan Region on the basis of Dalur JSC.
	VNIPIPT JSC, the industry leader in the design of mineral raw materials production facilities, celebrated its 70th anniversary.
May	The Smart Hard Hats positioning system project implemented by JSC Atomredmetzoloto and PJSC Rostelecom was awarded the 1st place in the competition of efficient digital projects for mining enterprises, Mining Industry 4.0.
	For the first time in the history of the ROSATOM's Person of the Year industry-wide recognition programme, employees of the Division won 12 prizes in special and corporate-wide nominations.
June	Dalur JSC celebrated its 20th anniversary.
	According to the results of the Division's 8th annual grant competition, 39 socially oriented projects in Krasnokamensk were awarded with financial support.
July	ARMZ Mining Machinery, LLC and RENERA LLC (ROSATOM's industry integrator in the field of energy storage systems) signed a contract for the development and supply of lithium-ion batteries for ARGO load-haul-dump machines.
August	RUSBURMASH JSC completed a feasibility study of exploration conditions with an estimate of the reserves of pyrite-polymetallic ores of the Dzhusinsky deposit.
	VNIPIPT JSC developed a programme for the further development of the Shakh-Tau limestone deposit in the Republic of Bashkortostan.
September	Dalur JSC started 'digital' mining of uranium at the Khokhlovskoye deposit in the Shumikhinsky district of the Kurgan region.
	Specialists of VNIPIPT JSC, together with colleagues from the Republic of Kazakhstan, developed and patented a new method for extracting non-ferrous, rare and precious metals.
October	The underground Mine No. 8 of PJSC PIMCU reached the milestone of one million cubic metres of rock mass.
November	Dalur JSC began construction work at the Dobrovolnoye deposit in the Kurgan region.
	Khiagda JSC started developing the Kolichkanskoye uranium deposit in the Bauntovsky Evenk district of Buryatia.
December	ARMZ Mining Machinery, LLC exported the first Russian-assembled ARGO LHD machine.
	United Uranium Enterprises, LLC became a shareholder of SC Tugansk Ore Mining and Processing Enterprise Ilmenite.

KEY OPERATING RESULTS

In 2021, JSC Atomredmetzoloto fully achieved its uranium production targets. Total uranium production at the Mining Division enterprises amounted to 2,635 tonnes, which is 7% lower than in 2020. The decrease in uranium production volumes was mainly caused by a high degree of reserves depletion at the operating mines of PJSC PIMCU.

PJSC PIMCU

- The milestone of one million cubic metres of rock mass was reached at the underground Mine No. 8.
- The fleet of battery-powered load-haul-dump (LHD) machines was increased to 15 units;
- The pit-head frame was installed at 19-EDS shaft of Mine No. 6;
- The mine water treatment complex at Mine No. 6 reached its design capacity during testing;
- A perpetual license for the production of medical oxygen was obtained.

Khiagda JSC

- The company entered the top three ROSATOM enterprises according to the results of the *Environmentally Exemplary Organization of the Nuclear Industry* competition;
- Resolutions were obtained from the Government of the Russian Federation rezoning the land for the Kolichkanskoye and Dybrynskoye deposits from forestry fund to industrial use;
- The Kh1 ore body was put into operation at the Khiagdinskoye deposit;
- The design documentation and engineering survey results successfully passed state expert appraisal, and the construction of facilities at the Kolichkanskoye deposit began.

Dalur JSC

- ‘Digital’ mining of uranium started at the Khokhlovskoye deposit;
- Geological exploration was completed at the Dobrovolnoye deposit;
- The construction of a processing facility using building information modelling (BIM) technology was launched at a pilot production site of the Dobrovolnoye deposit;
- Mobile sorption units were put into operation to increase scandium production.

RUSBURMASH JSC

- The drilling plan was performed in full;
- The second field season of engineering and geological surveys was carried out in Chukotka.

VNIPIPT JSC

- GOST R standard *Uranium Mining Facilities by In-situ and Heap Leaching Methods. Norms of Technological Design* was developed and approved.

PLANS FOR 2022

PJSC PIMCU

- Start developing the Yuzhny site at the Yubileynoye deposit of Mine No. 8;
- Start the 3rd stage of reconstruction of the Srednee tailing dump;
- Complete the construction of the uranium heap leaching site and conduct pilot works;
- Start the construction of the hoist building of 19-EDS shaft of Mine No. 6.

Khiagda JSC

- Start the development of the Dybrynskoye deposit;
- Rezone the land for the Vershinnoye deposit from forestry fund to industrial use.

Dalur JSC

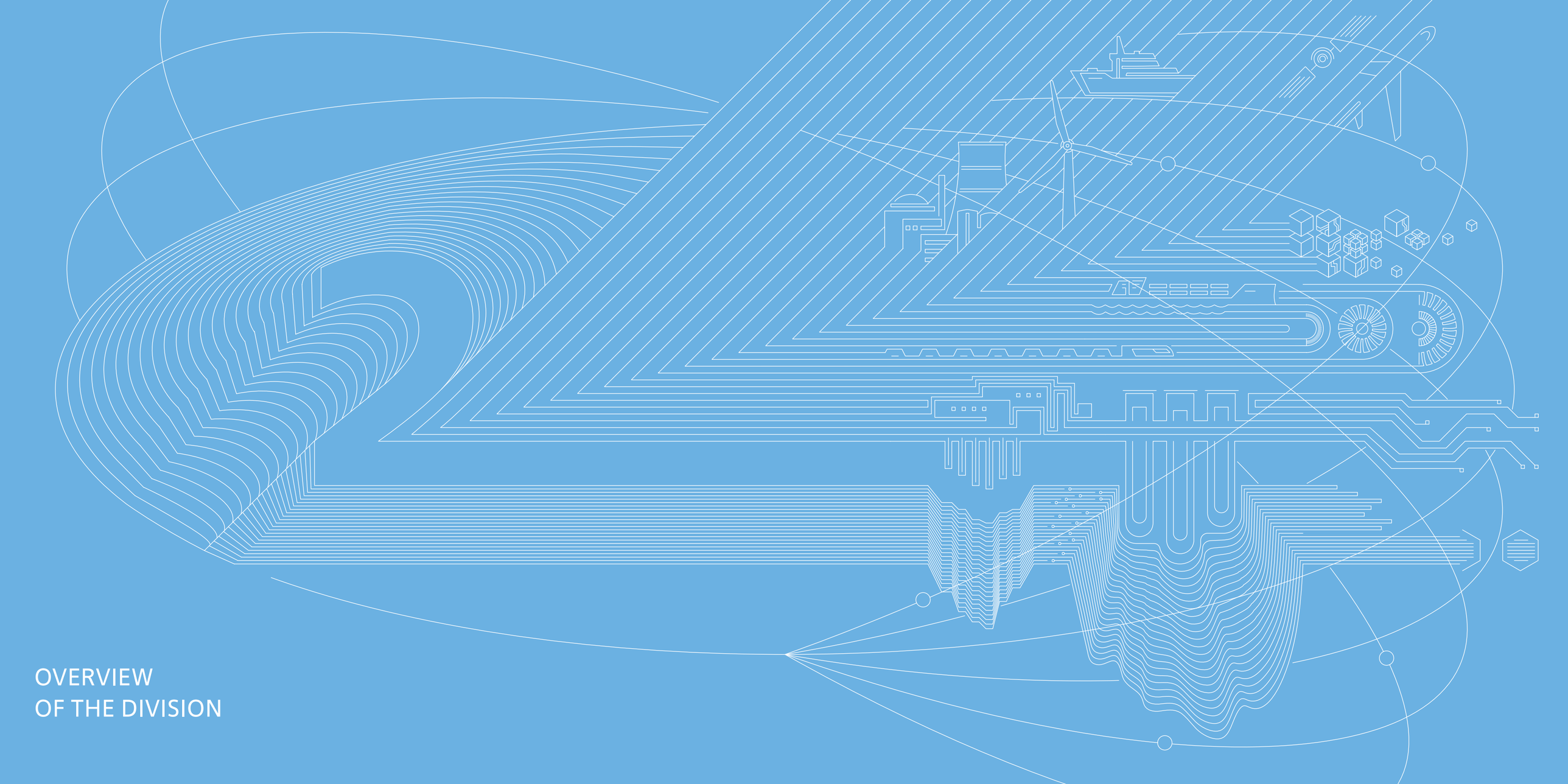
- Complete the construction of pilot site facilities at the Dobrovolnoye deposit.

RUSBURMASH JSC

- Expand opportunities in the field of new drilling services in the external market.

VNIPIPT JSC

- Complete design works within the time frames set by the customers.



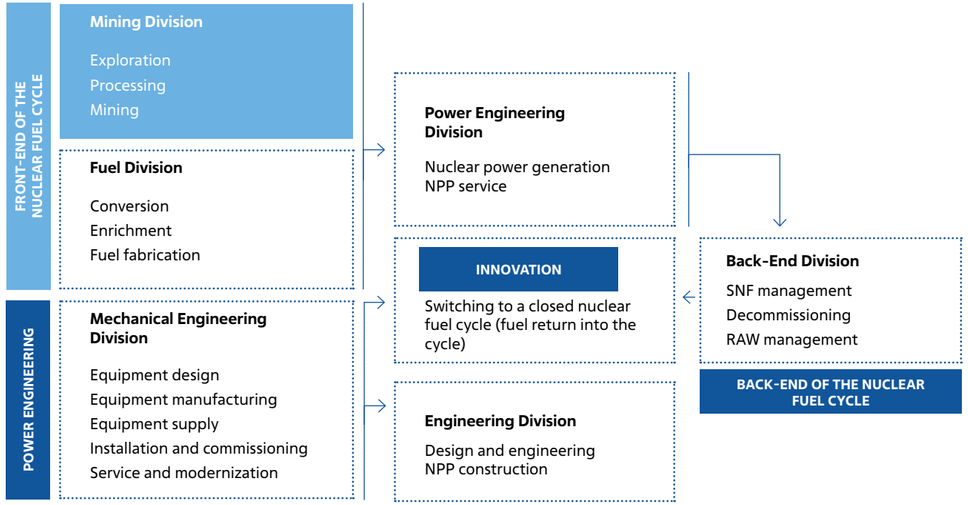
OVERVIEW OF THE DIVISION

GRI 102-1
GRI 102-5

The Mining Division of ROSATOM (hereinafter referred to as the Division; its holding company is JSC Atomredmetzoloto) is one of the largest uranium producers in the world.

GRI 102-4
GRI 102-6

The Division manages Russian uranium mining assets in the Zabaikalsky Territory (PJSC PIMCU), the Republic of Buryatia (Khiagda JSC) and Kurgan Region (Dalur JSC).



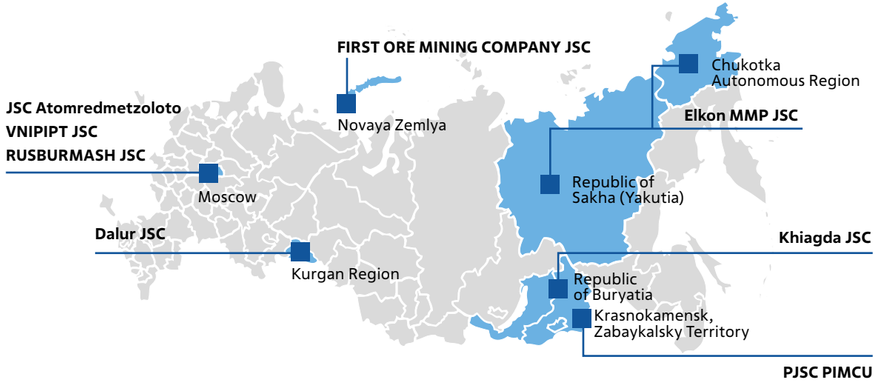
JSC ATOMREDMETZOLOTO IN ROSATOM'S STRUCTURE

GRI 102-9
GRI 102-2

In addition to uranium mining, the Division is actively developing non-uranium businesses, including scandium mining as a by-product (Dalur JSC), brown coal mining (PJSC PIMCU), the design of an integrated production facility at the Pavlovskoye lead and zinc deposit, gold mining projects (Elkon MMP JSC), etc.

The Division has unique uranium mining capabilities; its enterprises perform a full range of operations, from geological exploration, design and pilot operation to the decommissioning of production facilities and land rehabilitation.

JSC Atomredmetzoloto assets map



URANIUM MARKET OVERVIEW AND OUTLOOK

GRI 102-15

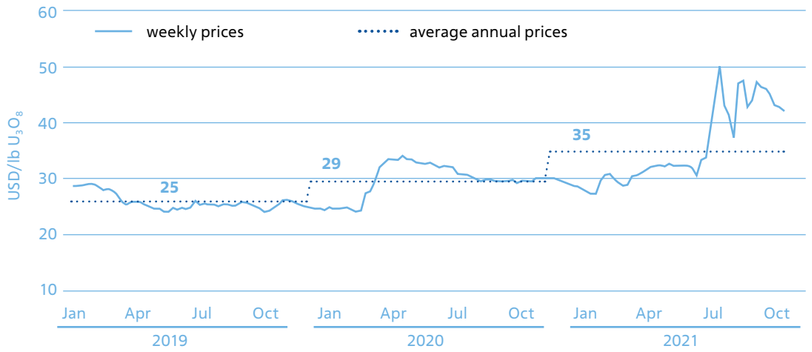
2021 saw a significant increase in volatility on the uranium market. At the beginning of the year, spot prices declined amid a lack of stable demand, but starting from the end of the first quarter of 2021, prices resumed growth amid buying interest in uranium from financial investors and producers. In the second half of the year, spot prices soared, driven by aggressive uranium buying by the Sprott Physical Uranium Trust (SPUT).

Global uranium market

Global uranium demand (including inventory build-up), '000 tonnes	81.8
Global uranium supply, '000 tonnes[2]	81.5
Global uranium production, '000 tonnes	47.4
Average spot prices, USD/lb of U3O8	34.9

In the reporting year, uranium spot prices averaged USD 34.9/lb of U_3O_8 (according to UxC[3]), up by 18% year on year.

Uranium spot prices 2019-2021, USD/lb U_3O_8



Sources: UxC; average prices have been calculated by JSC Atomredmetzoloto.

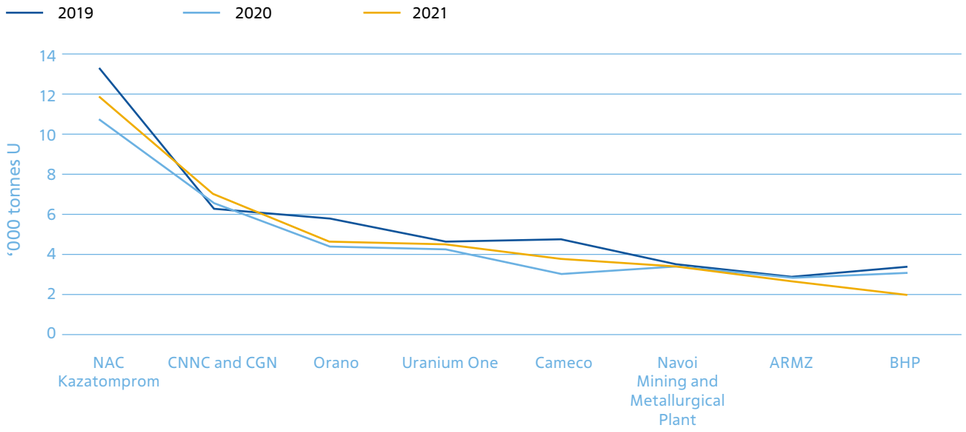
[2] Including 34.1 thousand tonnes ensured by uranium supplies from secondary sources.

[3] UxC, LLC is an independent international company specialising in market analysis, research and forecasting covering the entire nuclear fuel cycle. It was founded in 1994. Website: https://www.uxc.com/.

Global uranium production in 2021

In 2021, global uranium production remained virtually unchanged from 2020 and amounted to 47,400 thousand tonnes. NAC Kazatomprom has been the largest uranium mining company globally since 2010 (25% of global production in 2021). ROSATOM, including JSC Atomredmetzoloto and Uranium One (shown separately), produced 7,100 tonnes of uranium in 2021, which makes up about 15% of the global production. In 2021, ROSATOM was the world's second largest uranium producer.

Uranium production by major uranium mining companies in 2019-2021, '000 tonnes



Sources: company reports and press releases, UxC, JSC Atomredmetzoloto assessment. Production volume is taken into account proportionately to ownership interests.

Membership in organisations, external charters, principles and other initiatives

GRI 102-12
GRI 102-13

JSC Atomredmetzoloto is a member of:

- the World Nuclear Association;
- the Rare and Rare Earth Metals Producers and Consumers Association;
- the Association of Corporate Lawyers, Non-Profit Partnership;
- the Miners of Russia, Non-Profit Partnership.

Uranium resource base development

As of December 31, 2021, the uranium resources (mineral resource base, or MRB) of JSC Atomredmetzoloto totalled 506,400 tonnes.

Reserves and resources of the Russian enterprises of the Division (as of January 1, 2022), '000 tonnes

Enterprise	Reserves	P1 resources	Total MRB
PJSC PIMCU	95.4	–	95.4
Dalur JSC	12.0	8.1	20.1
Khiagda JSC	32.4	1.4	33.8
Elkon MMP JSC	357.1	–	357.1
Total	**497.9**	**9.4**	**506.4**

The MRB decreased by 3,000 tonnes due to the annual depletion of economic reserves during uranium mining.

Exploration works

In 2021, exploration works (EW) were carried out at the Dobrovolnoye deposit (Dalur JSC, Kurgan Region), at the Severnoye gold and uranium deposit (Elkon MMP JSC, Sakha Republic (Yakutia) and at the Sovinoye gold deposit (Elkon MMP JSC, Chukotka Autonomous Region).

The total investments in exploration works amounted to RUB 427.4 million.

Exploration drilling and financing in 2021

Deposit	Enterprise	Meterage drilled, '000 linear metres	Amount of financing, RUB million
Dobrovolnoye	Dalur JSC	–	9.5
Severnoye	Elkon MMP JSC	2.9	154.5
Sovinoye	Elkon MMP JSC	1.2	263.4
Total		**4.1**	**427.4**

In 2021, a feasibility study of operating conditions was approved for the development of the following molybdenum-uranium ore deposits of the Streltsovskoye ore field in the Zabaikalsky Territory in 2022-2026: Streltsovskoye (Tsentralny, Vostochny, and Glubinny sites), Malo-Tulukuevskoye, Yubileynoye and Antey.

Plans for 2022

- Continue exploration works at the Dobrovolnoye deposit (in-office and laboratory work, analytical studies).
- Continue exploration works at the Severnoye deposit.
- Continue prospecting and evaluation works at the Sovinoye deposit.

QUALITY MANAGEMENT SYSTEMS COMPLIANCE AND IMPLEMENTATION

The Mining Division pays close attention to customer satisfaction by analysing incoming complaints and conducting surveys and questionnaires.

GRI 102-9
GRI 102-10

Key objectives of marketing and sales policy include:

- Reliably meeting the needs of customers (TVEL JSC, JSC TENEX) in natural uranium;
- Ensuring an effective sales organization and sales infrastructure development;
- Arranging long-term contracts for supply of manufactured products to ensure the development and diversification of the uranium mining enterprises' business.

Reliable and uninterrupted supply of uranium products to Russian customers is ensured by JSC Atomredmetzoloto through long-term contracts made with uranium producers, alignment of the purchase and sale schedules, as well as the availability of carry-over uranium residues at the consignee's (Siberian Chemical Plant JSC) warehouse.

Customer Satisfaction Assessment

One of the priority tasks of JSC Atomredmetzoloto management is to ensure the satisfaction of customers (TVEL JSC, JSC TENEX), to which uranium raw materials are supplied both under long-term and one-time contracts.

For this purpose, the Division constantly monitors the fulfilment of agreements with customers, and promptly responds to their requests and expectations.

In 2021, JSC Atomredmetzoloto performed all its contractual obligations for the supply of products to JTVEL JSC and JSC TENEX timely and in full.

Customer relations

The Division's main customers are ROSATOM enterprises. Both long-term and short-term contractual relations are maintained with them, based on the principles of mutually beneficial and effective cooperation.

The quality and timeliness of uranium products sales to customers is ensured by monitoring the compliance of such products with technical specifications (TS), adherence by the Holding's production enterprises to raw materials shipment schedules, as well as by optimizing storage and transportation systems for finished products.

In this regard, in 2021, JSC Atomredmetzoloto continued to ensure the supply of improved quality uranium products to Russian customers.

In addition, it regularly works with the consignee (Siberian Chemical Plant JSC) and freight forwarding companies to optimize the packing and transportation of finished products, as well as to ensure timely provision of empty returnable packaging to uranium producers.

In order to ensure the export of Russian uranium products by JSC TENEX, in 2021 JSC Atomredmetzoloto supplied uranium oxide concentrate produced by PJSC PIMCU for subsequent delivery to the Peoples Republic of China.

Quality control

One of the key priorities of the Division is to ensure quality of its products.

In 2021, JSC Atomredmetzoloto reached the planned level of output of improved quality uranium raw materials by making a decision to process at PJSC PIMCU the entire volume of ammonium polyuranate produced by Khiagda JSC to high-quality uranium oxide concentrate, which is in demand both in the domestic and global markets and is compliant in quality both with technical specifications (TS) and the ASTM International specification.

New businesses

In 2021, JSC Atomredmetzoloto actively built up contractual relations for the sale of a new product – scandium oxide produced by Dalur JSC – to potential customers.

Plans for 2022

- Coordinate the structure of and schedules for the supply of materials with suppliers (PJSC PIMCU, Dalur JSC, Khiagda JSC);
- Coordinate the structure of and schedules for the supply of materials with customers (TVEL JSC and JSC TENEX);
- Supply materials to JSC TENEX to ensure the fulfilment of export obligations;
- Start the output of products at PJSC PIMCU and Dalur JSC in accordance with the updated technical specifications (TS);
- Continue work to identify, and make agreements with potential customers in order to ensure the sale of all scandium oxide produced by Dalur JSC.

Analysis of consumer complaints and requests

The Division's specialists regularly analyse consumer feedback based on the following data:

- consumer complaints (number of claims, reclamations);
- results of surveys and correspondence with consumers;
- results of analysis of the performance under the uranium supply contracts.

During 2021, all products that arrived at the warehouse of Siberian Chemical Plant JSC from the Mining Division were first pass yield. No complaints, claims or reclamations regarding the quality of supplied products were received from consumers in 2021.

Consumer survey results

As a result of the survey on satisfaction with the quality of interaction, the highest scores were obtained for all parameters.

Division's supplier satisfaction analysis

Criteria for assessing satisfaction with the quality of interaction	Score by criterion*		
	PJSC PIMCU	Khiagda JSC	Dalur JSC
Response time	110	110	110
Coordination during the request on any issue	110	110	110
Personal courtesy and professionalism of employees	110	110	110
Timely and complete information on supplies	110	110	110
Timely payment for supplied products	110	110	110

**The score is given in the range from 0 to 110 points for each criterion, where: 101 to 110 points means above expectations for this criterion; 100 points means compliance with expectations for this criterion; 90 to 99 points means below expectations for this criterion; below 90 points means failure to meet expectations for this criterion.*

Product conformity

Compliance of JSC Atomredmetzoloto products (services) is confirmed by certificates of conformity for each batch of uranium. The products of the Mining Division enterprises are consumed by ROSATOM Fuel Division (TVEL JSC).

In 2021, no claims were received from consumers in respect of the finished products of JSC Atomredmetzoloto, all batches of manufactured products met the technical specifications.

In order to improve the quality of its products, in 2021, JSC Atomredmetzoloto increased the share of processing of ammonium polyuranate produced by Khiagda JSC into uranium oxide concentrate using the production facilities of PJSC PIMCU by 15%, from 742 to U (2020) to 857 t U (2021).

CORPORATE GOVERNANCE

GRI 102-1
GRI 401-1

Maintaining a high standard of corporate governance and business transparency is one of the key focus areas of JSC Atomredmetzoloto strategy, whose overall goal is to maximize the value of the mining business for shareholders.

The priority tasks in this area are to:

- Ensure compliance with international and Russian corporate governance standards;
- Protect shareholder rights and interests;
- Improve the performance of governing bodies;
- Improve transparency for investment and industry communities, business partners, employees and other stakeholders.

In the course of its operations, JSC Atomredmetzoloto complies with Russian legislation. Measures to improve the corporate governance system are aligned with the best Russian and international practices.

The corporate website of JSC Atomredmetzoloto (http://www.armz.ru) contains its Articles of Association and internal documents regulating the activities of its governing bodies, as well as regular disclosures of material information and news of events in the Division.

JSC Atomredmetzoloto applies in practice certain provisions of the Corporate Governance Code recommended by Letter of the Bank of Russia No. 06-52/2463 dated April 10, 2014, taking into account the specifics of ROSATOM's legal status established by regulatory legal acts of the Russian Federation, which provide for single management of nuclear industry entities. These provisions are reflected in a number of local regulations of JSC Atomredmetzoloto.

The corporate governance system, being a cornerstone on which JSC Atomredmetzoloto activities are based, is formed on several levels.

The governing bodies of the Division include:

1. General Meeting of Shareholders;
2. Board of Directors;
3. General Director (sole executive body).

The General Meeting of Shareholders is the supreme governing body of JSC Atomredmetzoloto. The competence and the procedure for convening and holding the General Meeting of Shareholders are determined by the provisions of the Company's Articles of Association, as well as regulatory acts of the Russian Federation.

JSC Atomredmetzoloto informs its shareholders in a timely manner of both the General Meeting of Shareholders date and the voting results at the meetings. Relevant messages are posted on JSC Atomredmetzoloto official website www.armz.ru.

Shareholders of JSC Atomredmetzoloto as at December 31, 2021

Shareholders	Number of shares	Interest in the share capital, %
JSC Atomenergoprom	23,910,627,871	84.5189
TVEL JSC	4,055,695,153	14.336
ROSATOM	323,954,167	1.1451
Total	**28,290,277,191**	**100**

The Board of Directors carries out general management of JSC Atomredmetzoloto activities and plays a key role in strategic management. In accordance with the Articles of Association, the quantitative composition of the Board of Directors is determined by the General Meeting of Shareholders, but the number of Directors shall be no less than five.

The functions of Chairman of the Board of Directors and the General Director of JSC Atomredmetzoloto are separated.

The competence of the Board of Directors is determined by the provisions of the Company's Articles of Association, as well as regulatory acts of the Russian Federation.

Members of the Board of Directors do not own shares of JSC Atomredmetzoloto. In the reporting period, no transactions on the acquisition or alienation of JSC Atomredmetzoloto shares by members of the Board of Directors or the General Director were made.

The candidates to the Board of Directors are nominated in accordance with the requirements of Art. 53 of the Federal Law on Joint-Stock Companies.

The Board of Directors of JSC Atomredmetzoloto is convened as necessary by the Chairman of the Board of Directors on his own initiative, at the request of a member of the Board of Directors, the General Director, or an auditor.

Composition of the Board of Directors of JSC Atomredmetzoloto as of December 31, 2021:

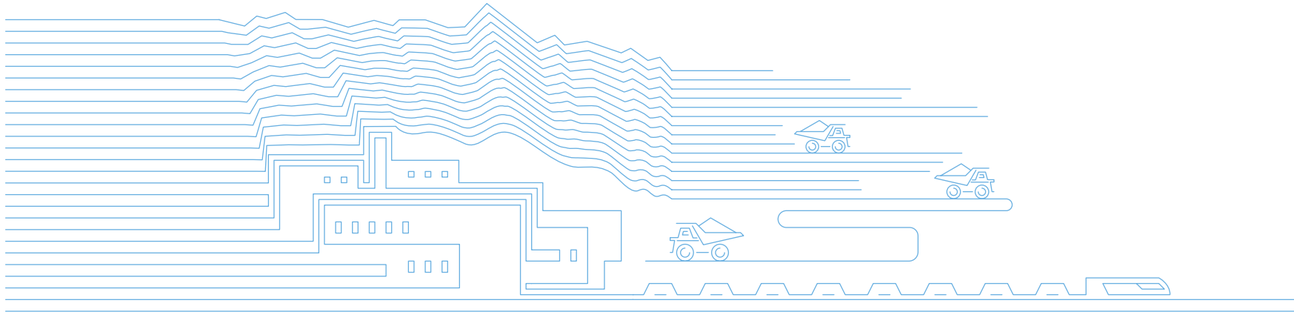
1. Alexander Lokshin – Chairman of the Board of Directors;
2. Vladimir Verkhovtsev;
3. Vladislav Korogodin;
4. Ilya Korolev;
5. Alexey Shemetov.

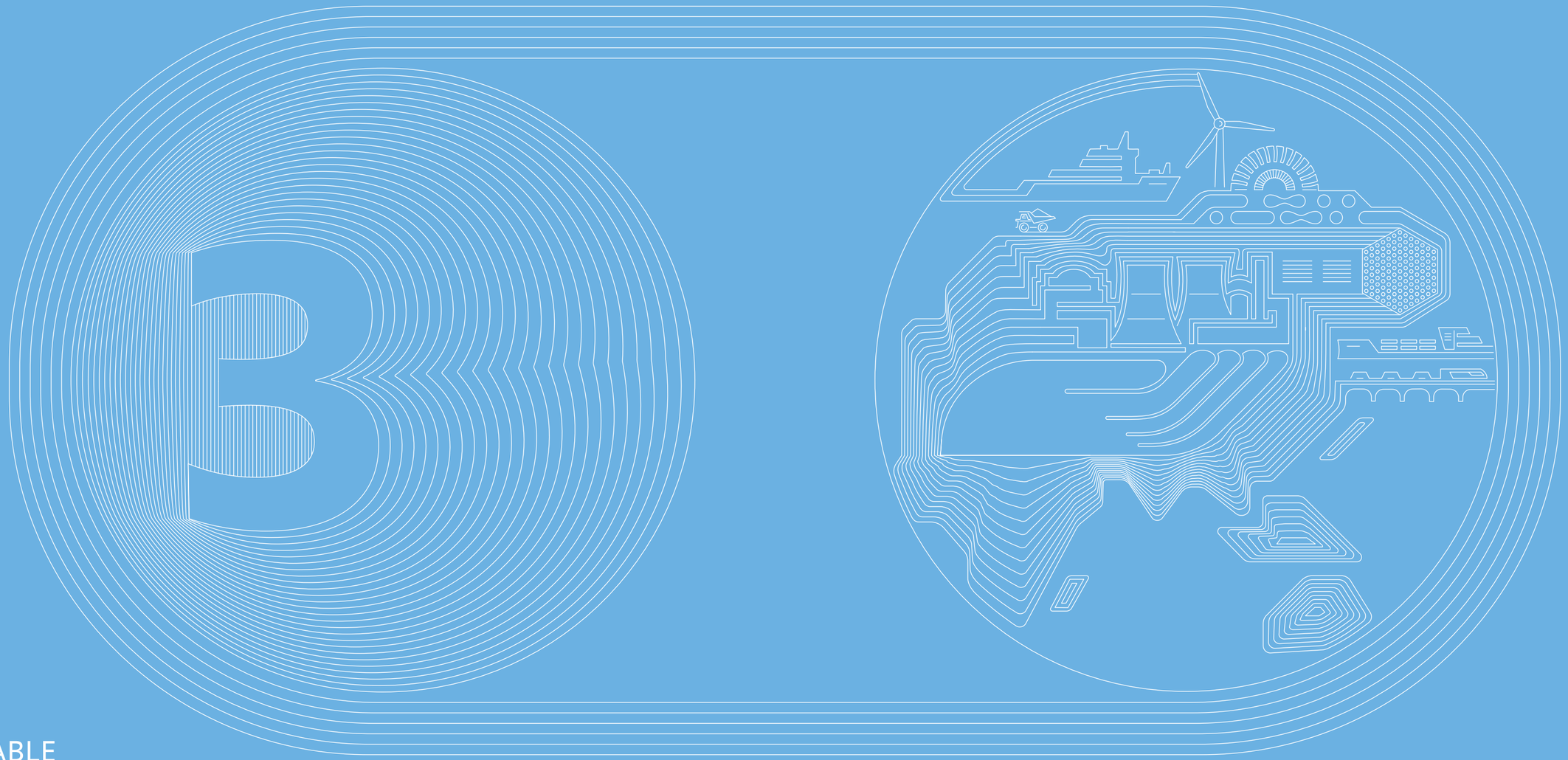
The General Director is the sole executive body of JSC Atomredmetzoloto managing its day-to-day business.

In accordance with the requirements of Art. 69 of the Federal Law On Joint Stock Companies and Art. 15 of JSC Atomredmetzoloto Articles of Association, the General Director organises the implementation of decisions of the General Meeting of Shareholders and the Board of Directors.

General Director of JSC Atomredmetzoloto Vladimir Verkhovtsev was first elected to the position by the decision of the extraordinary General Meeting of Shareholders (Minutes No. 15 dated May 27, 2013). He was re-elected as General Director for a period of three years by the decision of the extraordinary General Meeting of Shareholders of JSC Atomredmetzoloto (Minutes No. 38 dated May 27, 2021).

Vladimir Verkhovtsev does not own shares of JSC Atomredmetzoloto.





SUSTAINABLE
DEVELOPMENT

Commitment to the principles of sustainable development underpins the operations of the Mining Division. Consistent integration of these principles into key decision-making processes enables the Company to improve the safety of its operations and enhance its environmental stewardship, corporate social responsibility and stakeholder engagement practices; it also provides a basis for sustainable business development and drives social and economic development the regions of operation.

For details, see ROSATOM's Sustainability Report for 2021.

The Mining Division supports all the Sustainable Development Goals (SDGs) adopted by the UN General Assembly in 2015. Given the nature of JSC Atomredmetzoloto operations, the Company contributes most significantly to the achievement of the following goals:

- No. 8 (Decent Work and Economic Growth),
- No. 9 (Industry, Innovation and Infrastructure),
- No. 12 (Responsible Consumption and Production),
- No. 13 (Climate Action), and
- No. 17 (Partnership for Sustainable Development).

Since 2020, JSC Atomredmetzoloto has been implementing the Unified Industry Policy on Sustainable Development of ROSATOM and its organizations, which defines the goals, objectives and key principles of their activities in the sphere of health, safety and environment, in the social sphere and in the sphere of corporate governance. In order to systematise sustainability efforts, in 2020 the Company put into effect the Uniform Industry-Wide Methodological Guidelines on the Management of Sustainability Initiatives of ROSATOM and its organizations. Coordination of sustainability activities in the Division is carried out as part of the strategic planning function.

Since 2017, JSC Atomredmetzoloto has been implementing the Quality and Environment Policy, annually setting quality and environmental targets. The Division has introduced an integrated management system in accordance with the requirements of ISO 9001:2015 and ISO 14001:2015.

Adherence to the principles of business ethics, which are the basis of the corporate culture, is reflected in the Code of Ethics and Conduct of JSC Atomredmetzoloto approved in 2016.

SOCIAL AND ENVIRONMENTAL SUSTAINABILITY PROJECTS

Programme to provide support (grants) through a contest of social and charity initiatives in the town of Krasnokamensk (ZabaikalskyTerritory)

One of the projects aimed at improving the quality of life of people is a programme to provide support (in the form of grants) through a contest of social and charity initiatives in the town of Krasnokamensk (Zabaikalsky Territory).

The aim and objectives of the programme is to promote social support and social security for local residents, create social partnership and provide opportunities for sustainable development of the regions of operation, and to foster self-employment.

- In 2021, the Division held the 8th Contest of Charity and Social Projects. Financial support totalling RUB 3.75 million was provided for 36 important social projects out of 50 submitted for the contest in following categories:
  - *Krasnokamensk: a healthy city;*
  - *Krasnokamensk: a tourist city;*
  - *Krasnokamensk: a city of patriots;*
  - *Krasnokamensk: a city of emotional comfort;*
  - *Krasnokamensk: a city of professionals;*
  - *Krasnokamensk: a clean city.*
- A range of training and development events titled '*Project Workshop: From Problems to Solutions*' was arranged for social entrepreneurs, including:
  - team building training;
  - project idea generation;
  - team building;
  - project communication;
  - drawing up a project passport and a budget estimate specifying the cost of work, and the determination of direct project costs;
  - effective presentation and defense of a project.
- A travel grant programme titled '*Krasnokamensk: a Zero Waste Lifestyle*' was launched for the first time to sponsor a delegation of volunteers from Krasnokamensk attending the *We Are Together* International Forum of Civic Engagement held in Moscow in December 2021. As part of the nomination, the participants presented videos reflecting environmental problems of the city of Krasnokamensk. PJSC PIMCU arranged voting for the videos on its page in social networks.

Importance of the project implementation:

- Further formation of a favourable environment for the development of social business in Krasnokamensk;
- Growing prestige of social entrepreneurs thanks to the information campaign carried out in the media;
- Strengthening of the corporate culture through the involvement of personnel in the implementation of socially significant projects;
- Volunteering development among employees.

Local production of self-propelled mining equipment

The aim of the project is to set up and develop production of mining equipment at the repair and mechanical plant (RMP) of PJSC PIMCU to replace imports.

Results in 2021:

- The first load-haul-dump machine was shipped to a foreign customer. This marked a new stage in the company's development: expansion into the international mining equipment market.
- The share of environmentally friendly battery-powered machinery reached 25% of the underground equipment fleet at PJSC PIMCU.

As a result of the project implementation, reduced noise and air pollution levels in mine workings helped to improve working conditions and reduce the negative impact on employees' health. In addition, zero carbon dioxide emissions reduce the environmental footprint of both the production cycle and logistics operations.

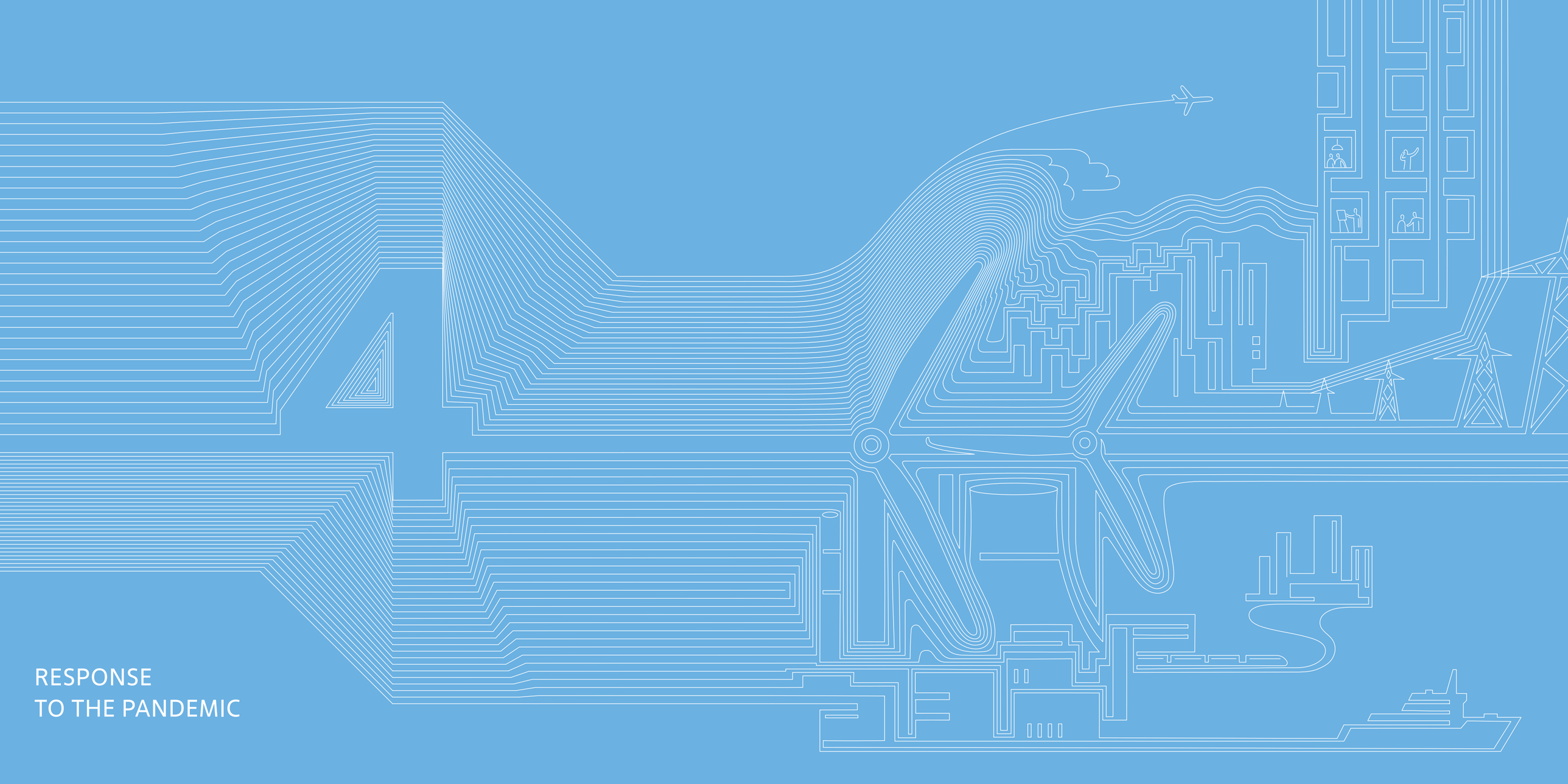
Reforestation project in the Kurgan Region

In 2021, Dalur JSC carried out a reforestation project in the Kataysky and Shatrovsky Districts of the Kurgan Region and in the vicinity of the Stary Prosvet village near Kurgan. Two-year-old pine seedlings were planted. The Company allocated RUB 5.605 million for the planting of forest trees. Environmental benefits include the conservation of plant and animal biodiversity (the restoration of 59.3 hectares of forest and forestry plantations).

Anti-corruption

The Mining Division follows the unified industry-wide anti-corruption policy of ROSATOM and adheres to the principle of zero tolerance for corruption in all forms and manifestations. In order to improve the anti-corruption system, the Company has formed an internal control system, performs due diligence of counterparties, and conducts preventive anti-corruption work among employees. Procurement activities of JSC Atomredmetzoloto and the Division's enterprises are carried out in strict compliance with the unified industry procurement standard of ROSATOM.

The Division operates a channel of ROSATOM anti-corruption hotline. 18 inquiries were received in the reporting year.

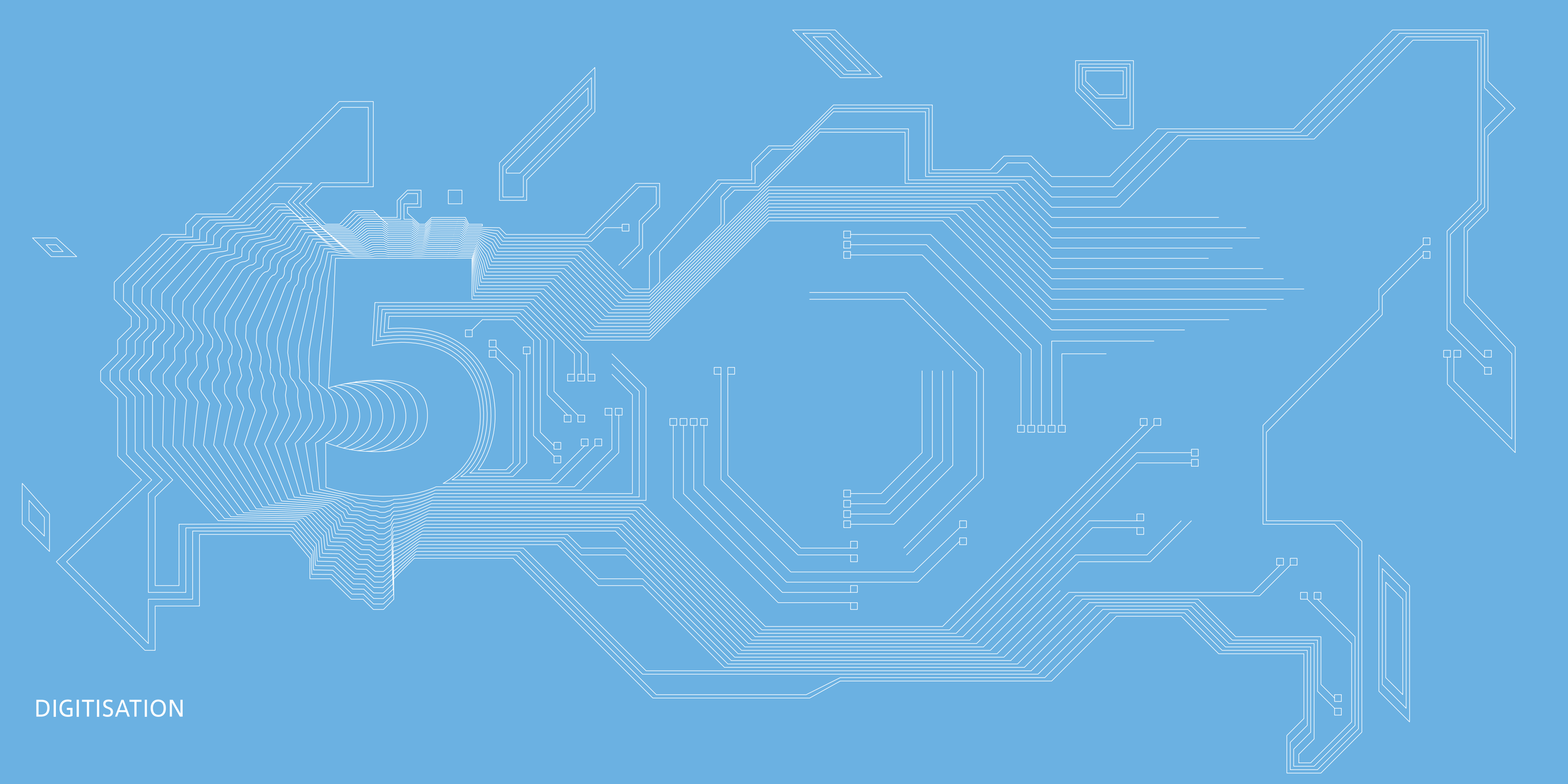


RESPONSE TO THE PANDEMIC

In order to support employees of the Division's organizations during the pandemic, the following measures were taken:

- transfer to remote work of the maximum possible number of employees (including employees over the age of 65, pregnant women, employees with many children, employees with low immune function, as well as employees with diseases and conditions requiring self-isolation);
- provision of protective equipment;
- limiting the business trips of employees outside and within the territory of the Russian Federation;
- constantly informing employees about the current situation with the spread of COVID-19, about the need to comply with protective measures, rules of conduct in case of illness of an employee or his / her family members;
- mandatory testing of employees who have returned from personal and business trips outside a constituent entity of Russia before going to work. Admission of employees to in-person work only after receiving a negative test result.

Due to the difficult epidemiological situation and in order to monitor the emotional state of employees, in June and October 2021, employee pulse surveys were conducted to understand the effectiveness of the measures taken and develop new tools to support employees in the pandemic. Throughout the period, over 1,200 people shared their views on how to improve work during the COVID-19 pandemic. After each survey, the enterprises of the Division developed, approved and implemented action plans.


DIGITISATION

The reporting year became the starting point for the work of the new Digitalisation Directorate of JSC Atomredmetzoloto, which became a separate unit. The Directorate is responsible for updating and implementing the Digitalisation Programme of the Mining Division, as well as for searching and developing new digital solutions and supporting their implementation with necessary resources in accordance with ROSATOM's Uniform Digital Strategy.

In 2021, Khiagda JSC retained a leading position in the implementation of digital solutions in the Division. In particular, in 2021, a new version of the Smart ISL Mine system was put into commercial operation at one of the mined areas of the mining site, which made it possible to implement not only remote control of the mining complex equipment, but also full autonomy of the unit in the process of maintaining the optimal mining mode. According to the forecast, the use of the new version of the Smart ISL Mine system is expected to reduce mining time by about 30% and, accordingly, result in significant savings on consumables for and maintenance of the mining complex. In 2021, a new room for mine site operations control was set up at Khiagda JSC, equipped with screens for collective use (video wall) and the necessary personnel to ensure continuous monitoring of the operation of the equipment. In 2021, a Private LTE secure broadband communication system was successfully implemented at the production site of Khiagda JSC in a pilot mode, and is expected to be fully implemented in 2022.

The digital tasks of Dalur JSC in 2021 were revised by the management and a new vision of their implementation was adopted. In particular, the Smart Hard Hats safety monitoring system successfully operated at Khiagda JSC was approved for implementation at Dalur JSC, and the Smart ISL Mine system was successfully adapted for use at the operational block of the Khokhlovskoye deposit.

Key digital projects implemented at Dalur JSC in 2021:

- A System for Visualization and Analysis of Enterprise's Production Indicators was developed and put into trial operation;
- The Smart Hard Hats system was successfully tested at the pilot site (Shumikha, Kurgan region);
- A technical solution was developed and put into trial operation for the joint operation of the mining complex information system and several modules of the Smart ISL Mine system.

In 2021, PJSC PIMCU took part in the implementation of digital projects aimed at improving production technologies. In particular, the functionality of the following systems was significantly expanded:

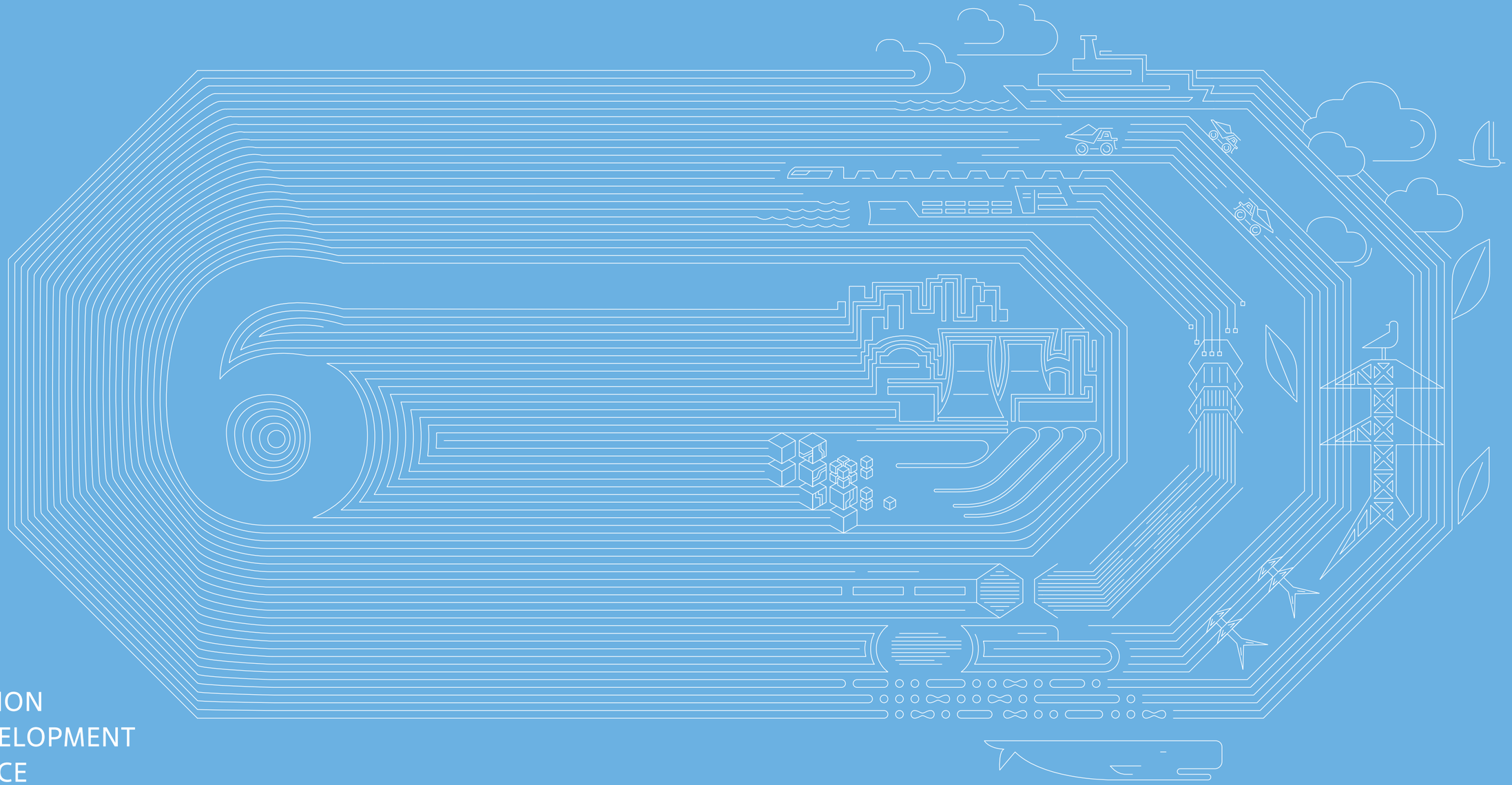
- the system for geotechnological monitoring of rock pressure in the mine;
- the system for monitoring changes in the quarry sides and the dispatch control system for the mining and transport complex of the Urtuysky coal mine.

A new unmanned aerial vehicle has been introduced to support mine surveying tasks.

In 2021, VNIPIPT JSC traditionally focused mainly on the implementation of projects to develop BIM models of mining facilities:

- BIM model of the facilities of the pithead buildings at Mine No. 6 of PJSC PIMCU;
- BIM model of surface facilities at the Dybrynskoye and Dobrovolnoye deposits of Khiagda JSC.

In addition to the development of BIM models, 4D technology was implemented, which provides linkage at the software level between the three-dimensional model of the facility and its construction schedule, which ultimately makes it possible to reduce construction time and costs.



INNOVATION AND DEVELOPMENT OF SCIENCE

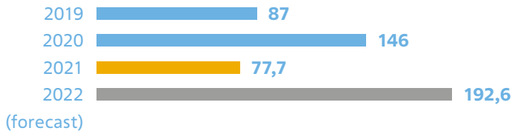
INNOVATION AND SCIENCE MANAGEMENT APPROACHES AND PRINCIPLES

The Division's science and technology programme is an integral part of ROSATOM's Innovative Development and Technological Modernisation Programme until 2030 (in the civilian sector). The key objectives of JSC Atomredmetzoloto's scientific and technical activities include:

- Increasing the efficiency of uranium production at existing uranium mining enterprises;
- Increasing the share of uranium production by in-situ leaching, an environmentally friendly and safe technology;
- Maintaining a breakeven performance of existing uranium mining enterprises;
- Development and implementation of new efficient environmentally friendly technologies for the production of uranium, rare and rare-earth metals;
- Business diversification.

In 2021, the Division spent a total of RUB 77.7 million on innovation.

Division's expenditure on innovation and R&D in 2019–2021 and 2022 financing forecast, RUB million



Revenue from income-generating contracts (VNIPIPT JSC) for research and development in 2021 amounted to RUB 115.9 million.

The Division forecasts a significant increase in R&D and innovation costs in 2022.

RESULTS OF THE INNOVATIVE PROJECTS IMPLEMENTATION

The ARMZ Innovative Development Programme consists of two key projects:

- Project No. 1: R&D support of underground uranium mining (UUM);
- Project No. 2: R&D support of uranium mining using the in-situ leaching (ISL) method.

As part of the project No. 1, R&D support of underground uranium mining (UUM), the following works were performed in 2021:

- Pilot work was carried out on autoclave leaching of uranium ores of the Argunskoye deposit to develop operating procedures for the processing of uranium ores from Mine No. 6;
- Operating procedures were developed for the processing of carbonate ores from Mine No. 6;
- An investment feasibility study of the leach plant for processing carbonate ores of the Argunskoye and Zherlovoye deposits of Mine No. 6 was prepared;
- A representative technological sample of ore was prepared and process development work has been started for percolation leaching of uranium with granulates of small classes of ore material obtained using sulphate-resistant portland cements and other binders;
- Measures were developed to optimise the heap leaching (HL) processes to ensure the efficiency of uranium extraction during the transition of technology from hydrometallurgical processing to the processing of currently mined ores by the HL method;
- Research work was carried out to assess the possibility of using thickened paste-like tailings of the hydrometallurgical process (carbonate ores of Mine No. 6) for the reclamation of the depleted Krasny Kamen and Tulukui mines and backfilling of mine workings;
- A feasibility study of the technology for bacterial percolation leaching of uranium ores was developed based on the initial data obtained;
- Research work was carried out on the heap leaching of uranium from pelletised material of small classes from mineral separation of cut-off grade ores using PGTWE[4] and applying various materials and chemical additives as a binder for granulation;
- Technology development continued for conditioning vanadium pentoxide concentrate, obtained from spent catalysts of sulphuric acid production, in order to produce commercial products with high added value with V_2O_5 content of at least 97%, corresponding to TU 48-4-429-82;

[4] Pilot geotechnological workshop equipment.

- Licence was obtained for the handling of toxic waste for the processing of spent vanadium catalysts of sulphuric acid production;
- Temporary Operating Procedures for Mine Waters Purification at Mine No. 6 of PJSC PIMCU (MWTF-1500) were prepared.

As part of the project No. 2, R&D support of uranium mining using the in-situ leaching (ISL) method, the following works were performed in 2021:

Dalur JSC

- The company continued to use and improve innovative IT solutions for mining and geological exploration provided by the software and information suite of Dalur JSC, which makes it possible to improve the accuracy of reserve calculation, the quality of mining site design and mining efficiency at the Dalmatovskoye and Khokhlovskoye uranium deposits;
- Research and pilot work on the extraction of scandium as a by-product from mother liquor produced in the course of uranium production was continued; modes of operation and process parameters for scandium extraction were optimised; the production of high-purity (99.9%) scandium oxide was launched;
- Work continues on the extraction of sulphuric acid from petrochemical industry waste, which will significantly reduce the expenses on the main leaching agent in the process of uranium ISL;
- Geoecological studies were carried out at the Dobrovolnoye uranium deposit, which confirmed the environmental safety of the development of this deposit using the ISL method;
- Research was performed on the restoration of the sorption properties of solid extragents;
- The company produced and sold innovative products in the amount of RUB 2,283.118 million (excluding VAT).

Khiagda JSC

- The company completed works on the project for the Development of technology for mining low-watered areas of ore bodies of the Khiagdinskoye deposit in the upper reaches of paleovalleys based on a hydrodynamic model. A geofiltration model of the Khiagdinskoye deposit was developed. The company assessed the economic and practical value of the results obtained and began the implementation of the results of the work into production.
- The Smart Mine project was replicated at the next technological block, which made it possible to:
  - reduce the block mining time by 30% compared to the prospective time;
  - reduce the specific consumption of acid;
  - reduce personnel working hours during the block operation by 60%;
  - implement the functionality for automatic maintenance of the optimal operation mode of the block;
  - implement the functionality for control of repairs and maintenance timeliness.
- A feasibility study was prepared for the sequential extraction of rare-earth metals from the mother liquors of Khiagda JSC using a mobile unit.
- The development of remaining uranium reserves continued at the Kh6 ore body.
- The technology of using irregular schemes for ore body uncovering was further developed at the Khiagdinskoye, Istochnoye and Kolichkanskoye deposits.
- An information system was developed for plan-fact analysis and deviation management of the main production.
- A feasibility study was prepared for the transition of Khiagda JSC to a strong basic gel anion exchange resin with a total exchange capacity of at least 75 kg/m^3.
- The company continued to use and improve innovative IT solutions for mining and geological exploration provided by the software and information suite of Khiagda JSC, which makes it possible to improve the accuracy of reserve calculation, the quality of mining site design and mining efficiency at the uranium deposits.

Plans for 2022

For project No. 1:

PJSC PIMCU

- Develop a feasibility study on the effectiveness of using samples of ion-exchange resins in the pulp technology of the PJSC PIMCU's leach plant, adopt enterprise standards for laboratory testing of ion-exchange resins for PJSC PIMCU's operations;
- Continue research on the processing of spent vanadium catalysts to obtain finished products of stable quality. Develop technical specifications and safety data sheets for finished products. Organize a system for laboratory and operational control of working conditions with the measurement of vanadium compounds in the air of the working area, atmospheric air, and emissions;
- Conduct research to study the possibility of obtaining various commercial products in the form of ferroalloys from the waste products of sulfuric acid production (pyrite cinders); the project is aimed at reducing the negative impact on the environment in the region of operation and the elimination of man-made waste storages (cinder storages);
- Carry out process development work for percolation leaching of uranium with granulates of small classes of ore material obtained using sulphate-resistant portland cements and other binders.

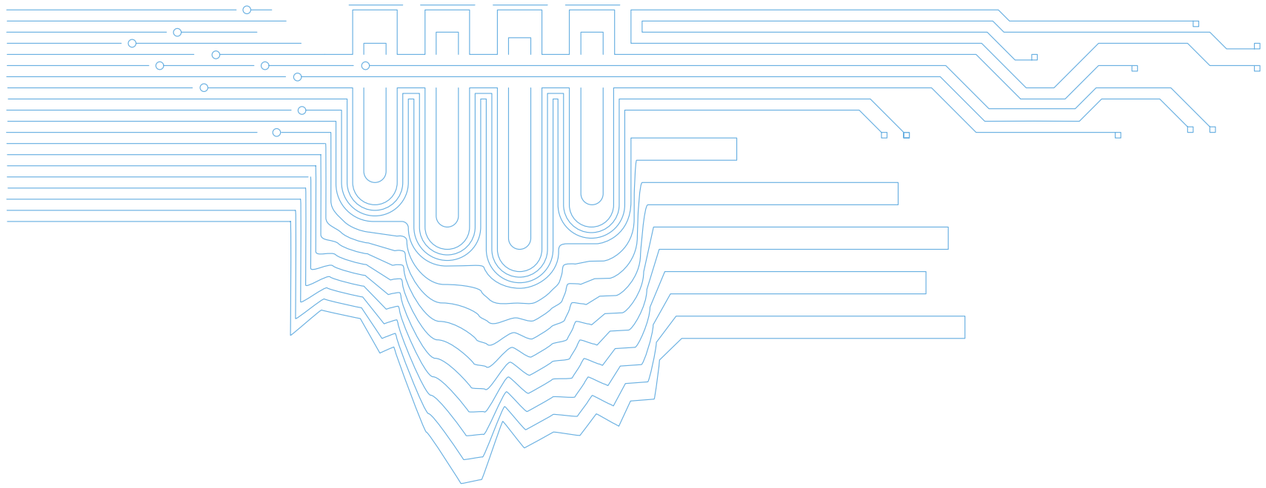
For project No. 2:

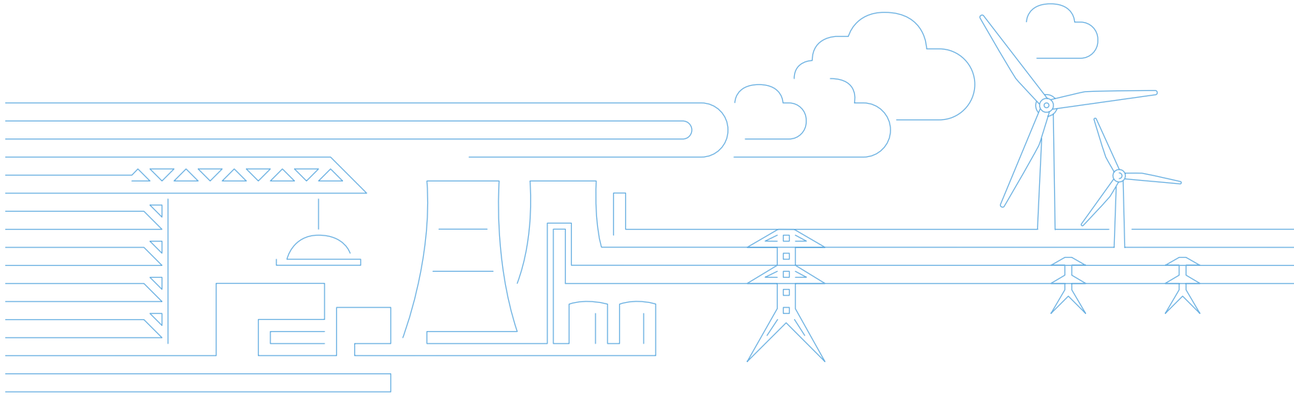
Dalur JSC

- Provide scientific, technical and methodological support of the developed computer programmes for optimisation and management of the in-situ leaching process;
- Perform scientific and methodological work on the topic: Geological and geotechnological modelling of ore bodies and blocks of deposits mined by in-situ leaching at Dalur JSC;
- Provide scientific, methodological and analytical support of the processes for extraction of scandium as a by-product from the mother liquors of the main production and produce high purity (99.9%) scandium oxide;
- Provide technological support during the operation of the pilot site of the Dobrovolnoye deposit, continue geoecological studies at the deposit;
- Provide scientific and technical support for optimisation of the ISL mining sites and improve process well drilling and construction methods based on the results of geophysical surveys of the existing process wells at the deposits of Dalur JSC carried out using the prompt fission neutron (PFN) method.

Khiagda JSC

- Develop a groundwater resource management technology in order to involve dry and low-watered ore bodies in the Vitim uranium ore region (Zabaikalsky Territory) into mining by the ISL method;
- Develop a technology for the production of REM-actinium concentrate from uranium ISL productive solutions;
- Determine quantitative characteristics of the gas phase in the process wells of the mining blocks of the deposits;
- Conduct pilot hydrogeological studies at the Dybrynskoye deposit;
- Study the composition of mechanical and chemical suspensions from the process wells of the mining blocks of the deposits;
- Analyse hydrogeological monitoring data during waterflooding of the Kh4 ore body and update its hydrodynamic model. The technology will ensure the recycling of acid and oxidizer, as well as reducing the cost of recultivating the aquifer of the depleted sections of the deposit;
- Prepare geotechnological calculations for mining the blocks of the Khiagda ore field.





NEW PRODUCTS AND BUSINESSES

NEW PRODUCTS AND BUSINESSES

The Mining Division is a centre of responsibility tasked with supplying ROSATOM and the Russian Federation with uranium and other strategic metals which are used in cutting-edge areas of modern economic development, such as additive manufacturing, robotics, energy storage systems, high-temperature and renewable energy, etc.

Accordingly, the development of projects in mining and related industries with a focus on the production of strategic metals is one of the priorities of the Division's strategy and includes the following businesses:

- Provision of services: geological exploration and drilling, engineering services and design, construction of engineering structures and communications;
- Gold mining;
- Mining and processing of non-uranium ores and other minerals;
- Mining and processing of rare and rare earth metals.

As part of these businesses, the Division implements several projects in various regions of Russia.

Map of the new business projects

In its traditional regions of operation (the Zabaikalsky Territory and the Kurgan Region), the Division is implementing projects to improve the processing of raw materials produced by it. Dalur JSC (Kurgan Region) continues to produce scandium oxide and aluminium-scandium alloy as by-products of uranium mining using the in-situ leaching method. PJSC PIMCU (Zabaikalsky Territory) mines brown coal, generates heat and electricity and produces mining equipment.

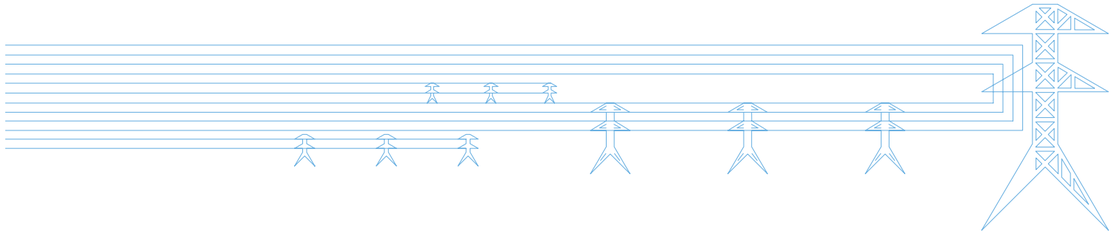
Elkon MMP JSC implements a gold and silver mining project at the Severnoye deposit and a gold mining project at the Sovinoye deposit. The Division continues work on a number of large-scale mining projects, including projects in the Novaya Zemlya Archipelago (the Pavlovskoye lead and zinc mining project), in the Tomsk Region (titanium-zirconium sands), etc.

Service companies specialising in drilling, geological exploration (RUSBURMASH JSC), engineering and design (VNIPIPT JSC) also contribute to the growth of the Division's business.

As part of implementation of ROSATOM's programme for the development of alternative energy sources and the construction of a pool of wind power plants (WPP) in the territory of the Russian Federation, the Division implements projects in the field of extraction and processing of rare and rare earth metals used as the main components in the manufacturing of permanent magnets for WPPs.

The development of the lithium project in the Russian Federation will make a significant contribution to the set-up of domestic manufacturers of lithium-ion batteries in Russia and the growth in the production of electric vehicles, which will reduce the carbon footprint in road transport.

All new business development projects are aimed at developing the infrastructure of the regions, creating new jobs and improving the welfare of citizens. Technical solutions used in the creation of new production facilities undergo state expert appraisal, confirming their energy efficiency and environmental stewardship.



PROVIDING RAW MATERIALS FOR STRATEGIC INITIATIVES (RARE AND RARE-EARTH METALS PRODUCT AREA)

The aim of the project is to meet the demand of the Russian industry for rare (RM) and rare-earth (REM) metals using the existing and newly created infrastructure, available human resources and technological capabilities.

Results in 2021

- The President of the Russian Federation approved a law allowing to place radioactive waste generated from activities not related to the use of nuclear energy at existing radioactive waste disposal sites (Federal Law No. 421-FZ dated December 21, 2021 on Amendments to Article 28 of the Federal Law on the Management of Radioactive Waste and on Amendments to Certain Legislative Acts of the Russian Federation);
- The first phase of construction of Tugansk Ore Mining and Processing Enterprise in the Tomsk Region was completed. The plant will process ilmenite-zircon sands. These works were performed as part of implementation of the Road Map for the development of the Technology for New Materials and Substances high-technology area, as approved by the Government of the Russian Federation, including the rare and rare-earth metals business area. JSC Atomredmetzoloto, through its subsidiary United Uranium Enterprises, LLC, became a shareholder of this plant in 2021;
- Mobile sorption columns were commissioned to increase the output of high-quality scandium products: the Division produced more than 390 kg of scandium oxide equivalent and sold 565 kg of high-purity scandium oxide and 238 kg of aluminium-scandium alloy.

As a result of the launch of the new production facility in Tugansk Ore Mining and Processing Enterprise, 200 new jobs were created in the Tomsk Region and more than 100 jobs in its supplier and contractor companies.

In 2021, the Division took the first step towards resuming the production of rare metals in Russia by building Russia's first titanium production plant.

Further steps to develop the mining and processing of rare earth metals and the expansion of the rare metals production will provide the high-tech industries of the Russian Federation with domestic products, which will make a significant contribution to the strategic task of import substitution. Rare metal concentrates will be supplied to Russian industrial enterprises to produce titanium dioxide, ferroalloys, welding electrodes, refractory materials, zirconium metal and ceramics.

A new project being implemented in Voskresensk (Moscow Region) will involve processing man-made phosphogypsum waste and extract individual rare earth compounds. The recycling of phosphogypsum will provide new sources of rare earth metals and will help to address a number of environmental problems related to environmental contamination with harmful pollutants, such as fluorine, phosphorus, strontium, heavy metals, etc. In the future, the project could be scaled up to process phosphogypsum waste accumulated in other Russian regions.

The development of projects to produce rare metals and rare earth elements will boost ROSATOM's revenue, as well as tax revenues to the regional and federal budgets. In addition, at the next processing stages, rare earth metals will be used in the production of permanent magnets for the wind power industry.

Pavlovskoye project

The aim of the project is to build a cost-effective integrated production facility comprising a mine and a processing plant at the Pavlovskoye lead and zinc deposit.

As part of the project optimisation in 2021, a Pre-Feasibility Study (PFS) for an updated project concept has been developed; additional engineering studies have been completed on Novaya Zemlya, and mineral resources and ore reserves estimates have been prepared in accordance with the JORC Code.

The project will contribute to social and economic development in the Arkhangelsk Region by creating infrastructure facilities and will become an important milestone in the development of the Novaya Zemlya Archipelago and the Northern Sea Route. It will also significantly expand the resource base in the Arctic Zone and help to meet the needs of the Russian Federation. The implementation of the project will enable ROSATOM to diversify its business and increase its share in international markets.

Development of gold and silver mining at the Severnoye deposit

The aim of the project is to build an ore mining and processing complex and produce bars of gold and silver alloy, which are a highly liquid product.

In 2021, pilot production was launched, and the first batch of gold in the form of doré bars was produced (more than 12 kg).

During the reporting period, 100 new jobs were created in the enterprise and more than 150 jobs in supplier and contractor companies involved in the project.

The project will enable the Division to start preparations for the future comprehensive development of the Elkon uranium mining district in the Sakha Republic (Yakutia) and improve the social situation in the region.

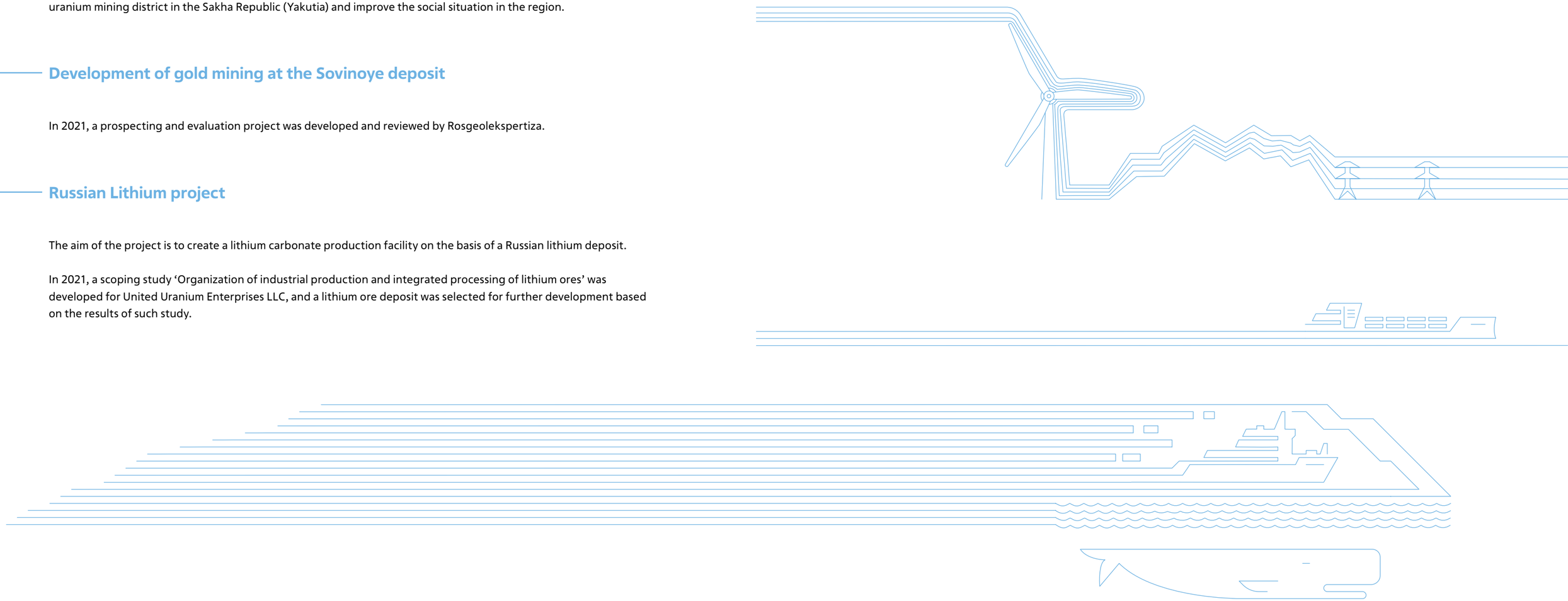
Development of gold mining at the Sovinoye deposit

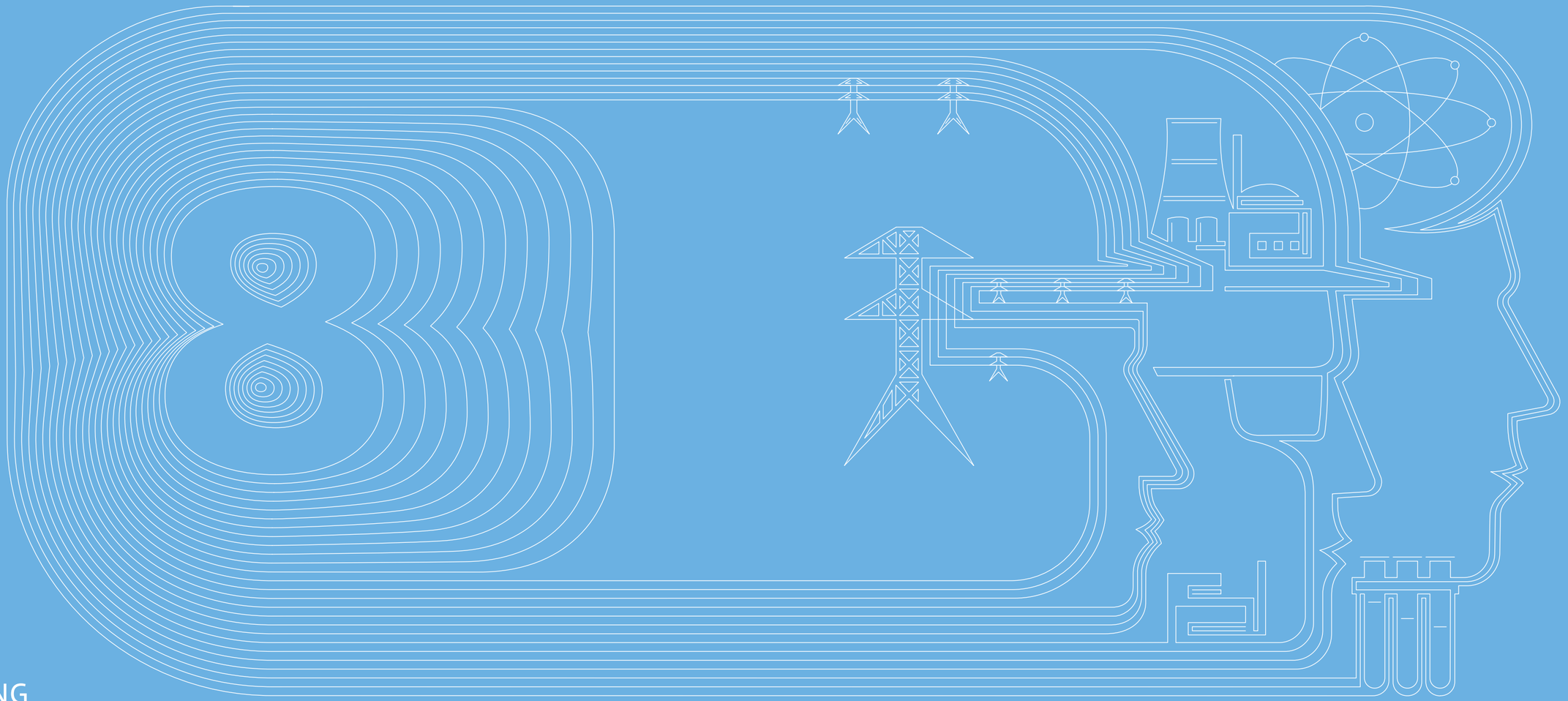
In 2021, a prospecting and evaluation project was developed and reviewed by Rosgeolekspertiza.

Russian Lithium project

The aim of the project is to create a lithium carbonate production facility on the basis of a Russian lithium deposit.

In 2021, a scoping study ‘Organization of industrial production and integrated processing of lithium ores’ was developed for United Uranium Enterprises LLC, and a lithium ore deposit was selected for further development based on the results of such study.





DEVELOPING THE HUMAN CAPITAL

GRI 103

The development of a personnel management system is aimed at solving strategic tasks, identifying new opportunities and improving the Division's performance, given that the Division's employees are its key asset. Its long-term competitiveness is determined by the involvement of employees in the implementation of the corporate strategy, their professionalism and responsible attitude.

KEY PERSONNEL CHARACTERISTICS

GRI 405-1
GRI 102-7
GRI 102-8
GRI 404-1

Average headcount in the regions of operation, people

Regions of operation	2019	2020	2021
Moscow	569	646	697
Kurgan Region	642	689	692
Irkutsk Region	1	9	9
Zabaikalsky Territory	5,481	5,377	5,296
Republic of Buryatia	469	497	508
Volgograd Region	0	18	17
Sakha Republic	4	8	37
Primorsky Territory	0	2	3
Chukotka Autonomous Region	0	0	59
Orenburg Region	0	0	4
Republic of Kazakhstan	0	0	2
Total	**7,166**	**7,246**	**7,325**

The growth in the headcount was caused by the development of Elkon MMP JSC and an increased in the volume of drilling operations and the number of employees in RUSBURMASH JSC in all regions of operation, except for the Zabaikalsky Territory.

Average headcount by employee category, %, people

Employee category	2019		2020		2021	
	%	people	%	people	%	people
Executives	14.08	1,009.0	14.09	1,020.7	13.83	1,013.1
Specialists	18.79	1,346.3	19.56	1,417.2	19.79	1,449.9
White-collar workers	0.59	42.3	0.65	47.2	0.65	47.4
Blue-collar workers	66.54	4,768.0	65.70	4,760.6	65.73	4,815.0
Total	**100**	**7,166**	**100**	**7,246**	**100**	**7,325**

In the distribution of personnel by categories, the share of executives decreased by 0.3% due to the implementation of measures aimed at increasing the span of management.

Number of employees by employment type, people.

Personnel distribution by employment contract and employment type	2019	2020	2021
Headcount at the end of the reporting period	7,335	7,490	7,439
Working under an employment contract signed for an indefinite period	6,961	7,037	6,895
Part-time employees	76	43	71
Fixed-term employees	374	453	544

In the distribution of personnel by employment type, the share of fixed-term employees increased, most of whom (75%) are employed by RUSBURMASH JSC.

Number of employees by age, people, %

Personnel distribution by age	2019	2020	2021
Under 35, people	2,138	2,070	1,943
% of the total headcount	**29.1**	**27.6**	**26.1**
36 to 50 years old, people	3,323	3,547	3,501
% of the total headcount	**45.3**	**47.4**	**47.1**
Over 50, people	1,874	1,873	1,995
% of the total headcount	**25.5**	**25.0**	**26.8**

In 2021, the decline in the share of young employees, characteristic of advanced economies, continued.

Number of employees by gender, people, %

Personnel distribution by gender	2019	2020	2021
Number of men, people	5,457	5,509	5,470
% of men of the total headcount	74.4	73.6	73.5
Number of women, people	1,878	1,981	1,969
% of women of the total headcount	25.6	26.4	26.5

Number of dismissed employees by region of operation, people

Regions of operation	2019	2020	2021
Moscow	118	108	228
Kurgan Region	310	178	267
Irkutsk Region	1	4	9
Zabaikalsky Territory	765	730	1,121
Republic of Buryatia	242	201	234
Volgograd Region	0	18	17
Sakha Republic	2	17	13
Primorsky Territory	0	5	5
Chukotka Autonomous Region	0	0	71
Orenburg Region	0	0	4
Republic of Kazakhstan	0	0	2
Total:	**1,438**	**1,261**	**1,971**

There was a significant growth in the number of dismissed employees in the Zabaikalsky Territory due to the outflow of personnel from PJSC PIMCU.

The remuneration of employees is based on the Integrated Standardised Remuneration System of ROSATOM (ISRS), which provides the basis for a single approach to the establishment of wages and salaries in the Division and provides employees with a stable income regardless of their gender, ethnicity, religion, age or minority status.

Labour costs and insurance premiums, RUB million

GRI 201-1
GRI 405-2

Indicator	2019	2020	2021
Payroll, total	5,736.813	6,158.143	6,653.970
Payroll tax (insurance premiums)	1,767.832	1,896.630	2,039.432

The amount of the average monthly salary in the Division at large continues to increase, without outpacing the growth rates of labour productivity.

Average monthly salary in the Division, RUB

Indicator	2019	2020	2021	2021 / 2020, %
Salary	65,909	70,147	74,925	106.8

The minimum basic wage (the amount of the salary established for an employee, the integrated incentive and the monthly indexing payment, adjusted for the regional coefficient and a prorated increase in salary) in all enterprises of the Division exceeded the minimum living wage for the working-age population in the Division's regions of operation.

GRI 102-7
GRI 202-2

Personnel training and development

GRI 404-1
GRI 401-2
GRI 404-3

6,247 (83.98%) of employees across the Division underwent training in 2021.

The number of training hours per employee averaged 31.73 hours.

Social policy

GRI 102-16

Social support is provided to employees and their families, as well as to retirees in accordance with the Uniform Industry-Wide Social Policy of ROSATOM and its organisations through the implementation of corporate social programmes, as well as other commitments stipulated by collective agreements and local regulations in the Division's organisations.

The main priorities of the Division's social policy in 2021 included:

- Ensuring the monitoring of employees and their families' health;
- Creating comfortable conditions for employees' distance (remote) work;
- Ensuring social protection of employees and retirees in the epidemiological situation.

Social expenses in 2019-2021, RUB million, %

Indicator	2019	2020	2021	
	RUB million	RUB million	RUB million	%
Healthcare programmes	49.784	50.084	57.636	24.4
Health resort treatment and wellness	10.149	5.746	9.535	4.0
Support for retirees	17.500	15.258	15.391	6.5
Providing better living conditions for employees	15.311	17.673	13.927	5.9
Private pension plans	50.908	34.331	25.370	10.7
Expenditure on sporting and cultural events	22.580	17.133	25.810	10.9
Catering	25.532	33.821	32.818	13.9
Financial assistance to employees	11.260	10.994	15.871	6.7
Other social expenses	35.942	25.703	39.816	16.9
Total:	**238.966**	**210.743**	**236.174**	**100**

GRI 201-3

RUB 0.24 billion was spent on social initiatives and commitments in 2021.

In the structure of social expenses (SOCEX), there was an increase in the share of expenses on catering for shift personnel (+3.2%), implementation of healthcare programmes (+3.6%) and provision of financial assistance to employees (+2.0%).

At the same time, the share of expenditure on private pension plans continued to decrease from 21.3% (2019) to 10.7% (2021), due to a decrease in the number of participants of the private pension plan corporate social programme of PJSC PIMCU.

Relations with higher educational institutions and young people

GRI 404-2

The Division's HR policy gives priority to recruiting, supporting and retaining young talents, enabling young people to actively participate in innovation, developing and improving a system for social and psychological adaptation of young employees.

In order to provide the enterprises of the Division with key specialists in the main and new areas of its business, interaction was carried out with the following higher educational institutions: National Research Moscow State University of Civil Engineering, National Research Tomsk Polytechnic University, Transbaikal State University, Irkutsk National Research Technical University, Pacific National University, Siberian State University of Geosystems and Technologies, Novosibirsk State University of Architecture and Civil Engineering, Irkutsk State Transport University, Ural Federal University, - and with secondary educational institutions.

There are 1,943 young employees in the Division under the age of 35 inclusive.

The youth work programme includes the following areas:

- Participation of young employees in the projects of the Change Support Teams;
- Professional skill competitions for young employees;
- Participation in industry-wide seminars, conventions;
- Participation in sports competitions and cultural events.

As part of career guidance work, in June 2021, on the basis of the Sputnik children's health camp, an engineering and technical session '#PROnas' was held for high school students in Krasnokamensk who won the PROnas project competition. The session programme included the following modules: Mining, Robotics, Chemistry, Management skills, Lean production, Environment. More than 20 of the most active students of grades 8 and 10 of Krasnokamensk schools took part in the event. During the session, the students completed the tasks given by expert mentors from PJSC PIMCU, participated in recreational activities and deliberated on cases in their areas.

Support for veterans

GRI 201-3
GRI 102-41

The Division spent RUB 15.4 million on support for retirees, including RUB 11.8 million on regular pension supplements and RUB 3.6 million on financial assistance and partial reimbursement for the cost of health resort treatment.

The share of expenditure on support for retirees in the total SOCEX decreased from 7.3% (2019) to 6.5% (2021) due to a decrease in the number of retirees registered in the Division's organisations.

Number of retirees registered in the HR departments, councils of veterans, and trade unions, people

Category	2019	2020	2021
Total, including:	**2,036**	**1,637**	**1,379**
Honoured retirees in the nuclear industry	1,069	920	888
Distinguished retirees in the nuclear industry	506	470	501
Not classified as honoured/distinguished retirees	461	247	157

The decline in the number of retirees was caused mainly by the fact that some retirees in PJSC PIMCU were removed from the register due to their departure from Krasnokamensk to other regions of Russia.

Collective agreements and trade unions

GRI 102-41

Currently, the Division has three collective agreements (PJSC PIMCU, Dalur JSC and VNIPIPT JSC) and two trade unions (PJSC PIMCU, VNIPIPT JSC). In Dalur JSC, employees' interests are represented by the Works Council, which actively engages with the employer.

The share of trade union members in the total headcount of the Division as at December 31, 2021 totalled 40.7%.

Number of employees who are covered by collective agreements and are members of trade unions, people

Indicator	2019	2020	2021
Number of employees covered by collective agreements	5,642	5,947	5,755
Number of trade union members	2,852	2,902	2,982

Expenditure of the Division's organisations on the activities of trade unions (on salaries of full-time trade union officials, their bonuses and social benefits) increased from RUB 3.1 million (2019) to RUB 4.1 million (2021).

Employee engagement

In 2021, the Division's enterprises took part in the annual employee engagement survey Your Opinion Matters to ROSATOM. Based on the findings of the survey, the enterprises developed and implemented action plans to increase the employee engagement rate.

Employee engagement rate, %

Company	2019	2020	2021
JSC Atomredmetzoloto	88	90	–
PJSC PIMCU	70	72	72
Khiagda JSC	75	75	76
Dalur JSC	83	86	85
TOTAL across the Division	76	78	77

WorldSkills

In April, the Division organized and held the competition of professional skills, ARMZSkills 2021. Its winners became part of the combined team of the Mining Division and, in August 2021, took part in ROSATOM's 6th industry-wide professional skills competition, AtomSkills 2021.

Person of the Year industry-wide recognition programme

In May 2021, Sochi hosted the Annual Awards Ceremony for the finalists of the industry-wide recognition programme ROSATOM's Person of the Year 2019, as well as ROSATOM's Person of the Year 2020. 70 employees of the Mining Division became finalists (employees who took 1st, 2nd and 3rd places) in the divisional, corporate-wide and special categories nominated by the General Director of ROSATOM.

Occupational safety and health

In 2021, there were no accidents investigated in accordance with federal rules and regulations at the facilities of the companies managed by JSC Atomredmetzoloto. In the reporting year, three minor industrial accidents occurred in PJSC PIMCU.

Number of accidents in 2019-2021

Indicators of occupational injuries in the Division

Indicator	2019	2020	2021
LTIFR (target)	0.43	0.38	0.38
LTIFR (actual)	0.22	0	0.22
Fatal injury frequency rate (FIFR)[5]	0.075	0	0
Lost day rate (LDR)[6]	3.28	0.45	3.67
Occupational disease rate (ODR)[7]	0.16	0.13	0.06

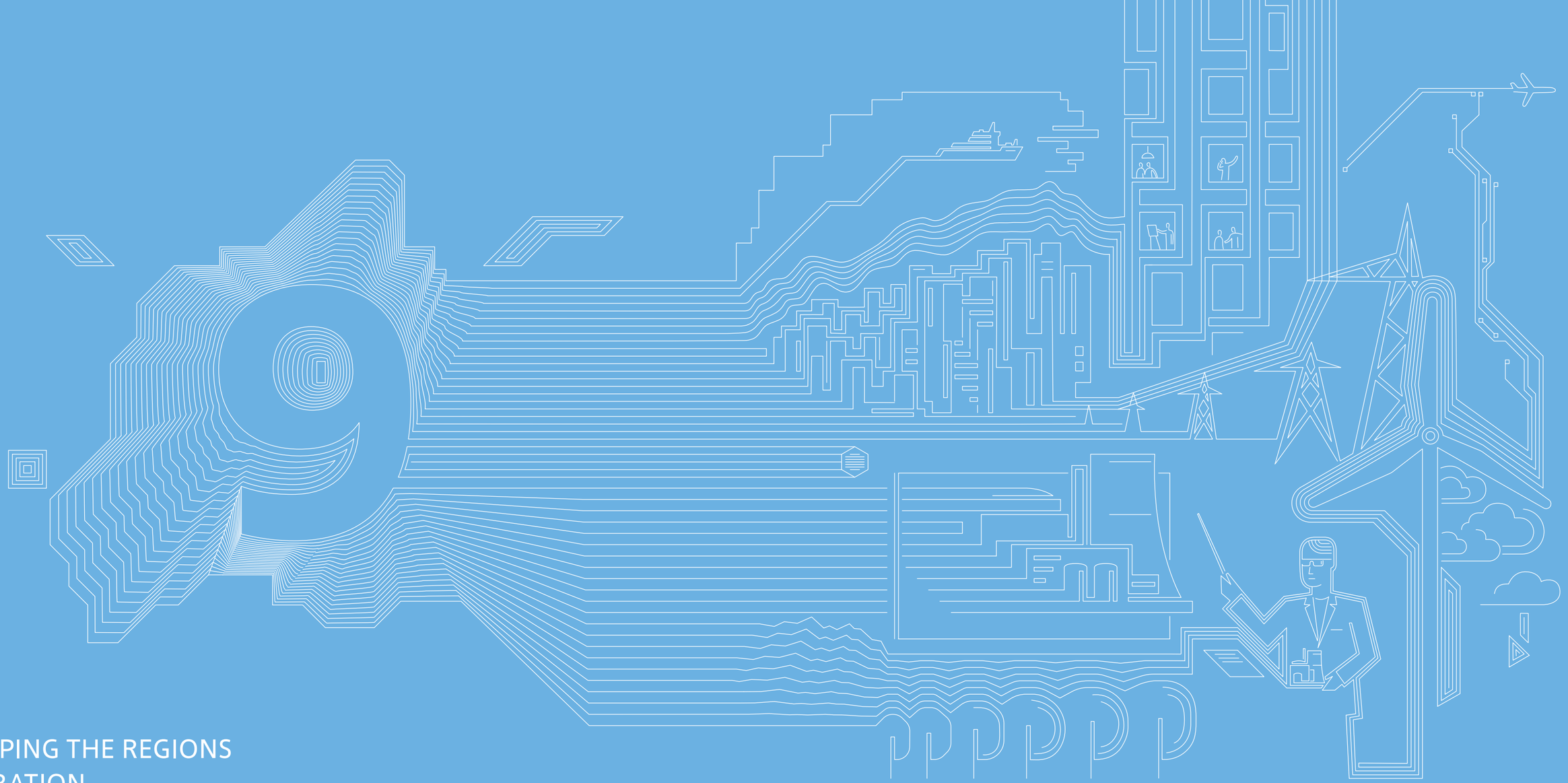
[5] FIFR was calculated using the following formula: Number of fatal injuries/Total number of man-hours worked x 1,000,000.
[6] LDR was calculated using the following formula: Number of days lost due to accidents and occupational diseases/Total number of man-hours worked x 200,000.
[7] ODR was calculated using the following formula: Total number of occupational diseases per year/Total number of man-hours worked x 200,000.

The following measures were taken in 2021 to ensure safe working conditions:

- The Uniform Industry-Wide Guidelines on Occupational Risk Management in ROSATOM's Organisations were put into effect;
- The Uniform Industry-Wide Safety Culture Policy of ROSATOM and its organizations was adopted;
- The industry-wide plan of urgent measures to ensure safety and reduce occupational injuries was implemented;
- The Uniform Industry-Wide Guidelines for the Organization of the Industrial Safety Management System in ROSATOM's Organizations were updated.

Plans for 2022 and beyond

- Assess the levels of professional risks and develop measures to reduce them in the organizations;
- Launch the safety culture development programme in the companies managed by JSC Atomredmetzoloto;
- Launch the programme for the transformation of labour protection based on the principles of injury prevention and a risk-oriented approach.

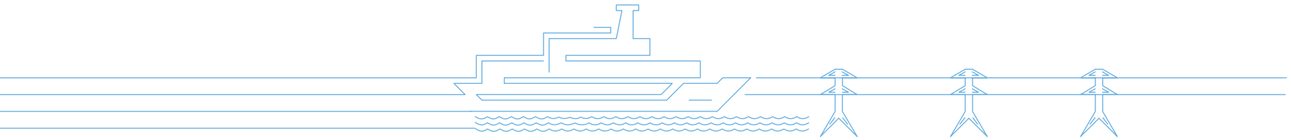


DEVELOPING THE REGIONS OF OPERATION

MAIN REGIONS OF OPERATION

GRI 103
GRI 201-1
GRI 102-42

Region	Area, '000 km²	Population, people	Minerals	industry
Zabaikalsky Territory	431.9	1,059,700	Copper, uranium, molybdenum titanium, gold, tungsten, iron, zinc, silver, lead, coal	Mining, production and distribution of electricity, gas and water, non-ferrous metallurgy, machinery and equipment production, food production
Kurgan Region	71.5	804,769	Peat, therapeutic mud, mineral groundwater, bentonite clay, building stones, sand, iron ores, titanium, zircon, uranium	Metallurgy, mechanical engineering, petrochemistry, food industry, radio electronics and measuring equipment
Republic of Buryatia	351.3	935,431	Gold, tungsten, uranium, polymetals, molybdenum, beryllium, tin, aluminium, fluorspar, borax and coal, asbestos, jade, apatite, phosphorite, graphite, zeolite	Mechanical engineering, metalworking, mining



IMPACT ON LOCAL COMMUNITIES IN THE REGIONS OF OPERATION

In addition to the timely payment of taxes, the Division makes a significant contribution to the social and economic development of the regions where it operates by implementing social programmes and projects that facilitate sustainable development. GRI 413-1

Tax payments of the Division's key enterprises to regional and local budgets in 2019–2021, RUB million GRI 201-1

Regional and local budgets	Enterprises of ARMZ Uranium Holding	2019		2020		2021	
		Division	CTG	Division	CTG	Division	CTG
Kurgan Region	**Total, including**	**135**	**106**	**170**	**200**	**166**	**150**
	Dalur JSC	121	82	150	158	146	111
	RUSBURMASH JSC	14	24	20	41	20	39
Republic of Buryatia	**Total, including**	**253**	**302**	**272**	**495**	**389**	**343**
	Khiagda JSC	245	287	260	466	378	316
	RUSBURMASH JSC	8	15	11	30	11	27
Zabaikalsky Territory	**Total, including**	**733**	**1,019**	**750**	**1,618**	**731**	**1,016**
	PJSC PIMCU	686	950	694	1,488	679	942
	RUSBURMASH JSC	16	26	19	47	19	28
	Khiagda JSC	27	37	32	71	28	42
	VNIPIPT JSC	4	6	5	12	5	4
Irkutsk Region	**Total, including**	**–**	**–**	**1**	**4**	**1**	**2**
	RUSBURMASH JSC	–	–	1	4	1	2
Volgograd Region	**Total, including**	**1**	**–**	**3**	**7**	**3**	**4**
	RUSBURMASH JSC	–	–	3	7	3	4
Sakha Republic (Yakutia)	**Total, including**	**9**	**–**	**10**	**–**	**44**	**–**
	EGMK-Project JSC	7	–	5	–	6	–
	Elkon MMP JSC	–	–	4	–	38	–
Chukotka Autonomous Region	**Total, including**	**–**	**–**	**4**	**–**	**16**	**–**
	Elkon MMP JSC	–	–	4	–	16	–
Primorsky Territory	**Total, including**	**–**	**–**	**–**	**–**	**–**	**3**
	RUSBURMASH JSC	–	–	–	–	–	3
Total		**1 122**	**1 427**	**1 196**	**2 324**	**1 350**	**1 518**

Investments in social infrastructure and charity

GRI 203-1
GRI 203-2

Besides paying taxes to regional budgets, ARMZ invests in local communities - in education, healthcare, culture and infrastructure.

GRI 202-2

The Division believes that the effective management of social investments forms the basis of long-term sustainable development. When developing, monitoring and evaluating the effectiveness of social investment programmes in all regions of operation, ARMZ follows the best industry practices and standards.

In the reporting period, the Division did not make any impacts necessitating the relocation of local residents.

In 2021, Krasnokamensk for the first time hosted a grant competition for creative teams 'To the Top!'.

The subject matter of the competition was to select a creative team of the city of Krasnokamensk for participation in regional or federal festivals and competitions, as well as to select professional creative vocal, choreographic, theatre groups working outside Krasnokamensk for performances in the city of Krasnokamensk.

Two categories were established:

- '*Krasnokamensk invites*' (a grant of RUB 600,000 was received by the Moscow Operetta Theatre, which presented two performances: 'The Scarlet Flower' and the masterpiece operetta by the famous Imre Kalman 'Mister X');
- '*Krasnokamensk - a city of creative people*' (a grant of RUB 600,000 was received by the choreographic studios 'Plastilin' and 'Street style' of the Dauria Palace of Culture).

In 2021, the Division implemented at its expense the following projects in the regions of its operation:

- A programme was implemented to provide support through a contest (in the form of grants) to socially oriented small and medium-sized businesses, including the 8th Competition for Charitable and Social Projects of the urban settlement *Town of Krasnokamensk-2021*;
- 40 sets of educational books for visually impaired children from the *Illustrations Perception Atlas* series were published and distributed in specialized children's institutions in Krasnokamensk (Zabaikalsky Territory), Dalmatovo (Kurgan Region), and the Republic of Buryatia;
- Recirculation devices were purchased for disinfecting the premises of the cadet boarding school, and cadet classes were provided with food (compensation for part of the food) on the basis of the secondary school No. 1 in Krasnokamensk, Zabaikalsky Territory.

Patriotic projects

- A memorial monument was erected to commemorate the memorable date and historical event - the 80th anniversary of the Battle of Moscow - on the territory of the Federal State Budgetary Institution 27th Central Research Institute of the Ministry of Defense of the Russian Federation;
- Financial support was provided to the Solovetsky sea cadet school for the educational and patriotic work of veterans with youth;
- The construction of a monument to the sailors who died in the battle near Moscow in December 1941 was completed at the Naval site of the Victory Museum in Moscow (partial payment);
- Financial support was provided to veterans of the Regional Public Organization of Veterans of the Military Academy of the General Staff.

Corporate Volunteering Programme

The objectives of the Mining Division's corporate volunteering programme include:

- Fostering a culture of charity and volunteering in the cities of the Division's operation;
- Support for socially useful volunteer initiatives of employees aimed at social development of territories and improvement of the quality of people's life;
- Increasing the involvement of subsidiaries' employees in solving strategic tasks of the Division and engaging them in the operational and social life of the enterprises;
- Developing a sense of commitment to corporate values, initiative, communication skills, emotional competencies among employees and creating conditions for revealing the personal potential of each employee;
- Strengthening the efficiency of business processes through the development of horizontal links between employees and units of the Division;
- Introducing non-monetary motivation for employees who are actively involved in volunteer initiatives.

The main areas of employees' volunteer activities are volunteer initiatives in support of the elderly, participation in environmental events.

Employees have an opportunity to independently organize an event: to propose an interesting project idea, develop an action plan, form a budget, defend their project and receive funding from the Division for its implementation. For this purpose, grants are allocated to employees of the Division.

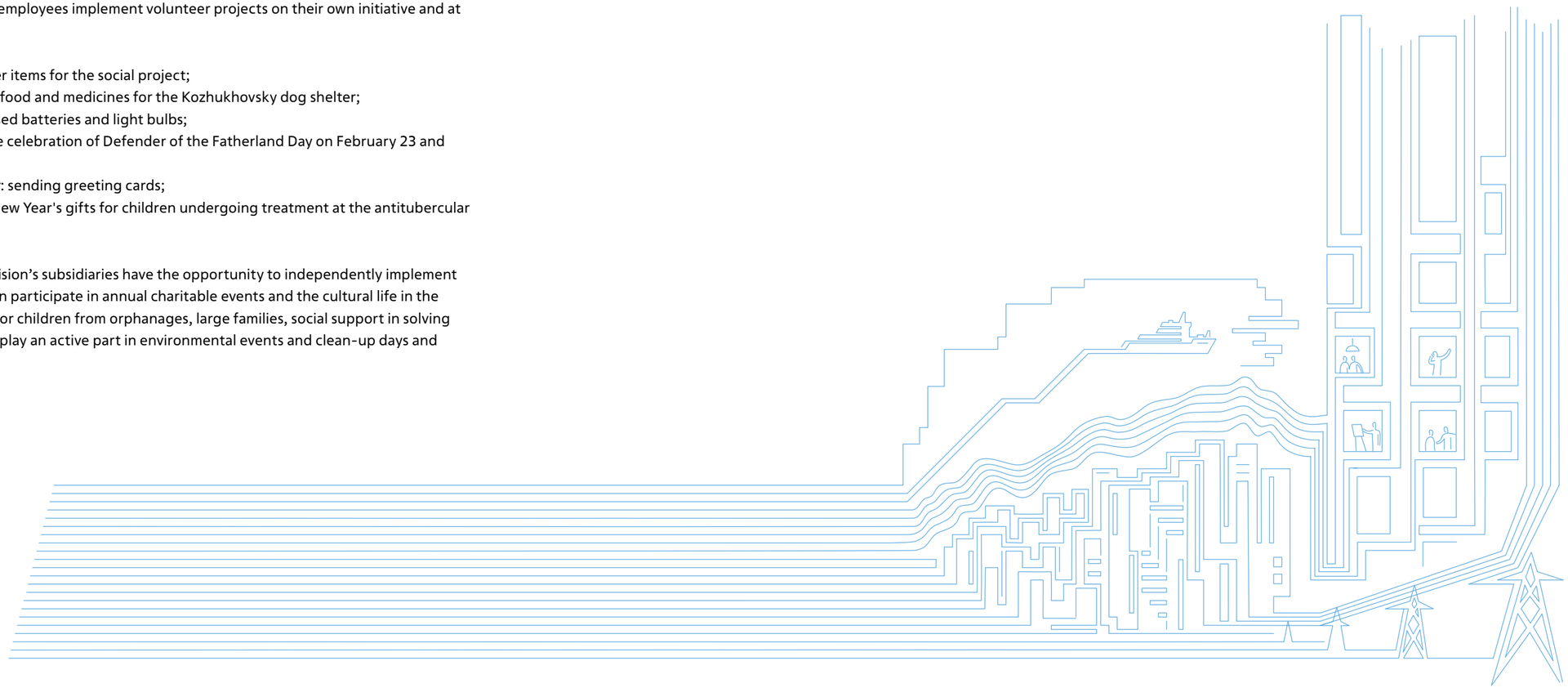
In 2021, two employees of JSC Atomredmetzoloto received grants:

- Anna Karacheva with the project '*Comfort and warmth - a joy for grandmother*';
- Anna Velikaya with the project '*Don't leave a friend in trouble*'.

In addition to corporate charity programmes, employees implement volunteer projects on their own initiative and at their own expense:

- *Good Things*: collecting clothes and other items for the social project;
- *Help for Homeless Animals*: collection of food and medicines for the Kozhukhovsky dog shelter;
- *Batteries and Light Bulbs*: recycling of used batteries and light bulbs;
- *Old Age in Joy*, timed to coincide with the celebration of Defender of the Fatherland Day on February 23 and International Women's Day on March 8;
- *Congratulate Grandma Happy New Year*: sending greeting cards;
- *Become a Santa Claus 2022*: collecting New Year's gifts for children undergoing treatment at the antitubercular sanatorium in Krasnokamensk.

In order to support local communities, the Division's subsidiaries have the opportunity to independently implement social initiatives. The enterprises of the Division participate in annual charitable events and the cultural life in the regions of their operation, including support for children from orphanages, large families, social support in solving issues of regional improvement, and they also play an active part in environmental events and clean-up days and organise public events and holidays.



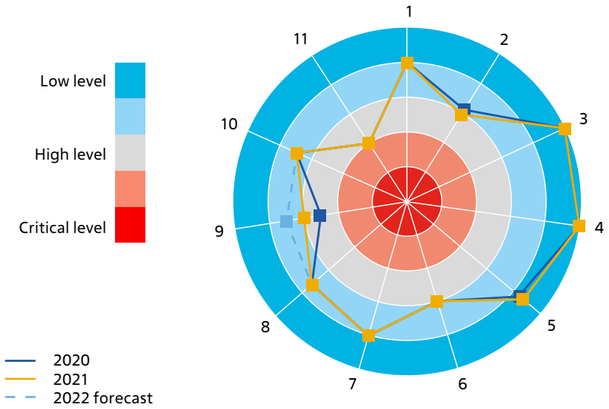
10

RISKS SPECIFIC TO THE DIVISION AND MANAGEMENT APPROACHES

RISK MANAGEMENT SYSTEM

GRI 102-15

In 2021, JSC Atomredmetzoloto successfully confirmed the compliance of its activities, including risk management, with the ISO 9001:2015 and ISO 14001:2015 international standards.



1. Currency risk
2. Credit risk
3. Liquidity risk
4. Commodity risk (uranium)
5. Health, safety and environmental (HSE) risk
6. Risk of loss of and damage to assets (corruption and other offences)
7. Reputational risk
8. Personnel risk
9. Social risks, including risk of deteriorating epidemiological situation
10. Investment projects risk (uranium)
11. New investment projects risk

Key risks and risk management procedures in 2021

Change in risk level:

↗ increase ↘ decrease ○ no significant changes

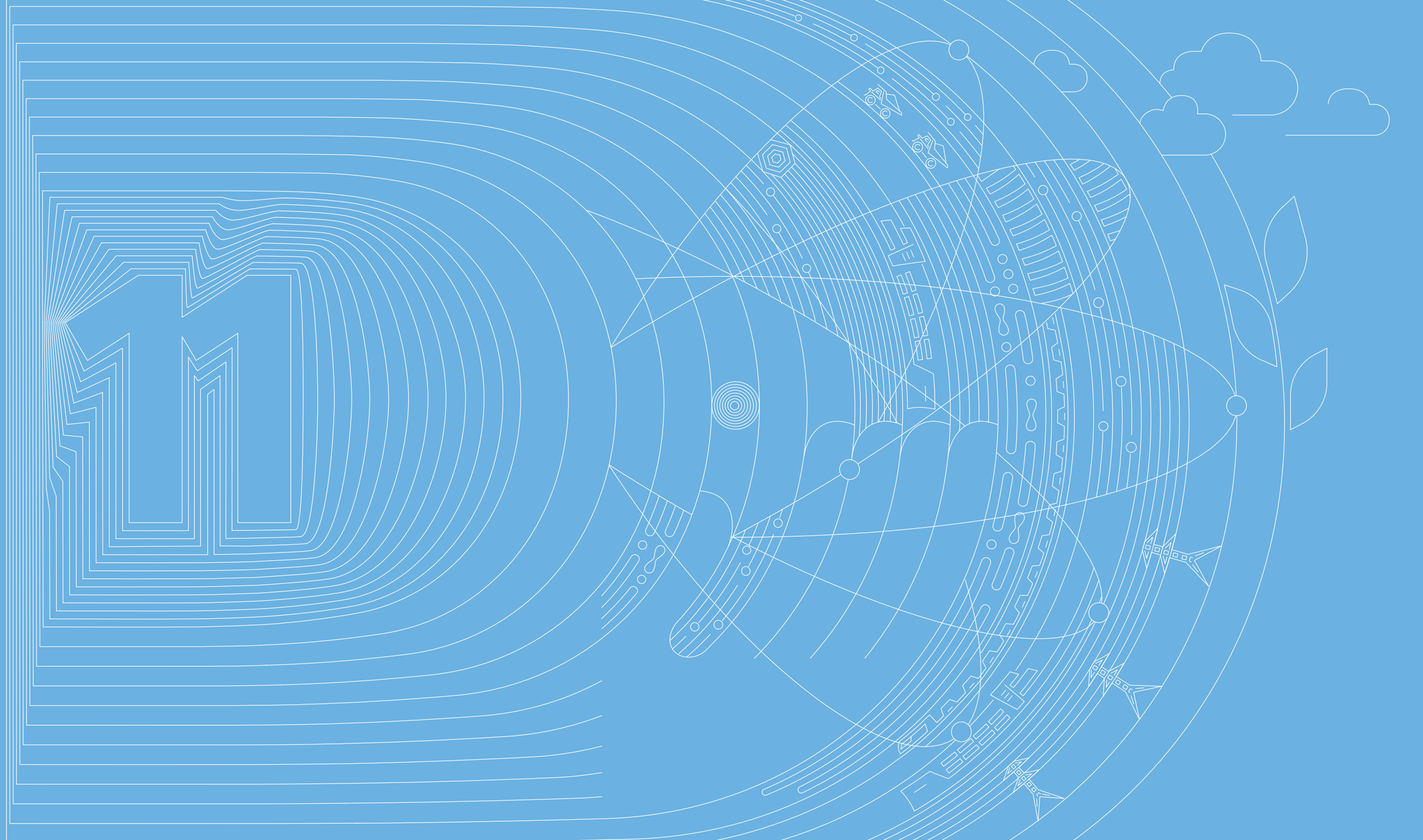
Risk, its number on the Radar and key risk factor	Risk management practices in 2021	Change in risk level
1. Currency risk (adverse change in exchange rates)	**Management approaches:** — Maintaining a balance of claims and liabilities denominated in foreign currencies (natural hedging); — Monitoring the terms of foreign currency payments under revenue contracts and expense contracts concluded as part of performance of revenue contracts; — Using currency clauses in contracts denominated in foreign currencies. **Results:** an optimal ratio of assets and liabilities denominated in the same currency was maintained, the impact of the risk on the Division's financial performance was minimised.	○
2. Credit risk (failure by counterparties to fulfil their obligations in full and on time)	**Management approaches:** — Payments for supplied products are made through anchor banks within the limits for counterparty banks established by ROSATOM; — Using payment methods and/or means of securing obligations that reduce the level of credit risk in agreements with external counterparties; — Monitoring the status of accounts receivable and the financial position of counterparties, that may lead to a change in the credit risk level gradation and / or the nature of measures to manage credit risk; — An internal counterparty solvency rating system; — Assessment by ARMZ Risk Committee of the impact of a potential default under external revenue and expense contracts on the key performance indicators of the Mining Division before making a decision to conduct a tender / make a binding contract. **Results:** Losses associated with the default of counterparties were minimised.	↗

Risk, its number on the Radar and key risk factor	Risk management practices in 2021	Change in risk level
3. Liquidity risk (lack of funds for the fulfilment of obligations by the Division)	**Management approaches:** Liquidity risks did not have any significant impact on the activities of JSC Atomredmetzoloto due to the implementation of mechanisms to manage this type of risk during the year, which included: — Receipt of funds and forms of state support in accordance with the scheduled funding limit, confirmed by budgetary obligations; — Obtaining financing from ROSATOM in the form of shareholder loans, absence of any dependence on an external credit source or repayment obligations; — Consistent cash flow management through the formation of monthly cash flow forecasts; flexible centralized consolidation and distribution of funds to support the operations of the Division's subsidiaries. **Results:** The Division maintained an optimal ratio of liquidity sufficient to repay liabilities on time, preventing losses and reputational risk.	↘
4. Commodity risk (decline in uranium prices)	**Management approaches:** The risk of changes in uranium prices is concentrated at ROSATOM's processing enterprises, while the exposure of the Mining Division's projects to this risk is hedged through the establishment by ROSATOM of a fixed uranium price on an annual basis as part of its budget process. **Result:** the impact of this risk on the Mining Division's financial performance was offset.	○
GRI 102-11 5. Health, safety and environmental (HSE) risk (major accidents/incidents at nuclear enterprises)	— **Management approaches:** — Implementation of measures to improve HSE performance in the enterprises, including measures to enhance occupational safety, reduce the impact of operations on the health of the local population and prevent irreversible changes in the natural environment in the territories of operation; — Implementation of the programme to upgrade process equipment at the Mining Division's enterprises; — Strict control of compliance with current standards in the production and technological process; — Monitoring of individual radiation risk exposure of employees and measures to reduce it; — Monitoring of the radiation and environmental situation in the regions of operation; — Training activities to improve the safety culture among personnel; — Arranging civil liability insurance against damage caused by the Division's enterprises to third parties. To maintain the balance of local ecosystems, all enterprises of the Mining Division involved in various stages of the production process strictly observe technological standards for natural uranium mining and processing. Active steps are being taken to reduce the relevant impacts and improve the environmental safety of the production cycle. **Results:** Safe operation of the enterprises and hazardous industrial facilities was ensured.	↘
6. Risk of loss and damage to assets (Corruption and other offenses leading to a damage to/loss of assets)	JSC Atomredmetzoloto maintains a system for the prevention of corruption and other offences, including preventive anti-corruption measures, ROSATOM hotline is in place, anti-corruption standards and appropriate restrictions have been introduced. Procurement activities of JSC Atomredmetzoloto and other enterprises of the Mining Division are carried out in strict compliance with the unified industry-wide procurement standard of ROSATOM.	○
7. Reputational risk (changes in stakeholder perception of the trustworthiness and appeal of the Division)	**Management approaches:** The Mining Division is constantly working to shape a positive public opinion on the development of nuclear technologies, including uranium mining, through improved information transparency and open stakeholder engagement, including wide coverage of the development plans and terms of the Mining Division's enterprises, performance results and environmental monitoring results in the media and on social media. **Result:** according to the Levada Centre survey, in 2021, 77.4% of the population (75.2% in 2020) supported the use of nuclear energy. Support for uranium projects by the state authorities continues both at the regional and federal levels.	○
8. Personnel risk (lack of personnel in the regions of operation, drop in qualifications)	In view of its operations in remote regions of the country, the risk of a lack of personnel is significant for the Division. **Management approaches:** — The Division implements a programme to engage employees with experience in the mining industry from other regions, a programme to engage highly qualified employees from related industries; — A progressive remuneration system (with indexation made), benefits and social guarantees for employees is used to attract/retain qualified personnel; — The Division implements a comprehensive programme to train personnel at all levels, including an executive succession pool programme; — The Mining Division's enterprises are actively involved in the development of infrastructure in the regions of operation; — Succession plans for key positions in the Division have been formed. **Result:** in 2021, the outflow of operational personnel in the regions increased significantly, the staff turnover rate ranged from 11% to 26%, however, thanks to the wages indexation, the outflow of personnel was stopped.	↗

Risk, its number on the Radar and key risk factor	Risk management practices in 2021	Change in risk level
9. Social and political risks in the regions of operation, including the risk of a deteriorating epidemiological situation	**Management approaches:** — The Division engages with regional and municipal governments on matters related to promoting regional development, increasing regional tax revenue and maintaining social and economic stability in the region; — In order to reduce social risks in its regions of operation, the Division implements a set of measures to inform the general public about the operations of its regional manufacturing enterprises, plans for their future development and their stability, and the fact that its operations do not pose any environmental risks. — To mitigate the consequences of work during the deteriorating epidemiological situation, all the incidence reducing requirements of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing (Rospotrebnadzor) associated with the spread of a new coronavirus infection (Covid-19) were strictly observed. By informing employees and organizing vaccinations at the enterprises, the Division managed to maintain a high level of vaccination of employees (85%) and ensure the uninterrupted operation of the enterprises. **Result:** The Division succeeded in maintaining a stable environment in its host towns and cities and ensuring operational continuity in its enterprises.	↘
10. Investment projects risk – uranium (risk of failure to achieve project goals)	**Management approaches:** — To ensure 100% fulfilment of its obligations to supply uranium products to ROSATOM organizations, the Mining Division is implementing an integrated approach to the development of its uranium deposits with the replacement of depleted/low-profitable ones with deposits with higher uranium recovery rates; — Quarterly monitoring of compliance with project implementation schedules, regular reporting, adjustment of target indicators (confirmed by technical consultants) are carried out in the course of interaction with the federal executive authorities of the Russian Federation (Ministry of Economic Development, the Far East Development Fund) under the existing investment agreements; — Due to the limited number of contractors in the regions of operation and a significant increase in prices, a set of measures is being taken to keep costs at the level of approved estimates, including control of costs in the procurement of materials, and use of raw materials supplied by the customer. **Result:** The efficiency of the uranium mining projects portfolio of the Mining Division, confirmed by ROSATOM, remains at a consistently positive level.	○
11. New investment projects and businesses risk (risk of failure to achieve project goals)	The implementation of new mining businesses is associated with capital intensity and a long investment phase (a phase with great uncertainty), and long payback periods for projects. When making a decision to enter a new business, JSC Atomredmetzoloto relies on the principles aimed at minimising the impact on ROSATOM's consolidated investment resource, with optimal risks inherent to the development of new markets and new types of products. **Management approaches:** — Improvement of project management procedures: development of a strategy for entering and exiting new businesses; elaboration of the possibility of entering the project with shareholder loan funds from the pool leader secured by external guarantees; — Elaboration of opportunities for attracting project financing with risks shared by the lender and the project owner; — Implementation of procedures stipulated by the unified industry-wide approach to project risk management; — Control of work schedules; — Controlling subcontractors' work and reducing their credit risk; — Using opportunities for redistribution of free credit resources between projects. **Result:** The management system for all stages of project management is being continuously improved.	○

In order to reduce operational and social risks, insurance is actively used. In particular, JSC Atomredmetzoloto and other organizations of the Mining Division arrange:

— Insurance of enterprises' property, cargo insurance during transportation;
— Civil liability insurance for the carriage of goods, capital construction activities, as well as compulsory types of civil liability insurance;
— Personal insurance in order to ensure social protection of the Division's employees: voluntary medical insurance, accident and health insurance.



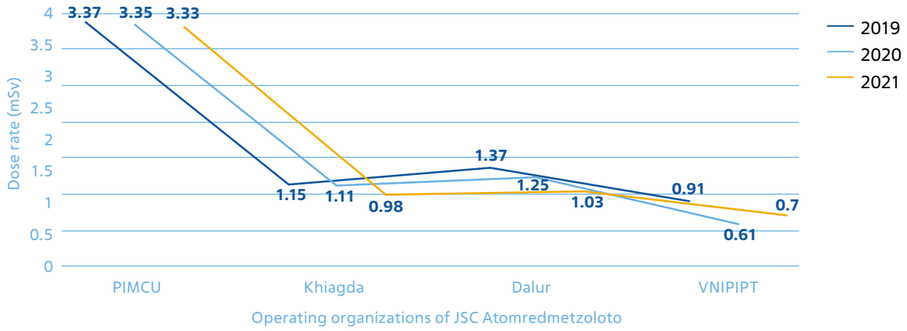
SAFE OPERATION

NUCLEAR AND RADIATION SAFETY

GRI 403-1
GRI 403-2
GRI 403-3
GRI 403-4
GRI 403-5
GRI 403-6
GRI 403-7
GRI 403-9

The average annual effective dose for personnel working at the sites of PJSC PIMCU posing radiation hazards (underground mines and the leach plant) was unchanged and remained at an acceptable level. There were no changes in the number of deviations rated at level 1, 0 or 'out of scale' on the INES scale.

Average effective dose in 2019-2021. mSv



Results in 2021

PJSC PIMCU worked consistently to improve radiation safety in mine workings:

- 28 concrete and wooden bulkheads were installed in underground mines No. 1 and No. 8;
- 11 ventilation and lock doors were restored and commissioned;
- Based on the findings of individual radiation exposure monitoring, employees were replaced in a timely manner when exposure reached the reference level of 16.0 mSv.

At the leach plant of PJSC PIMCU, a low level of volumetric activity in the air in workspaces was maintained by implementing technical measures to improve exhaust and supply ventilation: removing dust from air ducts (at least three times a year), replacing leaking air ducts; continuous irrigation of ore; stricter administrative measures, and the introduction of preventive measures.

The following measures were taken to improve radiation safety:

- Decontamination of equipment and surfaces in the furnace and packing rooms involving a process shutdown;
- Overhaul of the sorption tank and the leaching agitation tank.
- Furnace repairs (replacement of a retort, rollers, bearings, repairs to the bunker, lids, the drive and furnace power supply units);
- Dust and technological products removal and washing of intake and exhaust air ducts;
- Scheduled decontamination of equipment and surfaces in workrooms.

In 2021, no facilities posing nuclear and radiation hazards were decommissioned or liquidated in the operating organisations of the Division.

ENVIRONMENTAL SAFETY

Water use. Water withdrawal and discharge

GRI 303–1
GRI 303–2
GRI 303–3
GRI 303–4
GRI 303–5

Water withdrawal in the Division's enterprises in 2019-2021 by purpose, million m³

Enterprise	Water withdrawal for operational needs			Water withdrawal for drinking and sanitary purposes			Total water withdrawal			Groundwater			Exceeding the established limits		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
PJSC PIMCU	24.860	22.310	23.248	7.144	5.966	5.793	34.398	33.411	34.756	28.898	28.011	29.456	0	0	0
Dalur JSC	0.054	0.056	0.062	0.042	0.044	0.053	0.096	0.100	0.115	0.096	0.100	0.115	0	0	0
Khiagda JSC	0.195	0.207	0.212	0.046	0.031	0.039	0.247	0.244	0.25	0.242	0.239	0.25	0	0	0

At PJSC PIMCU, water supply to production facilities and to the population of Krasnokamensk, including for hot water supply, is carried out centrally, mainly using groundwater from the East Urulyungui basin. A slight increase in water consumption was associated with growing water consumption by commercial organizations in Krasnokamensk.

Additional sources of water supply for technical needs, including for ensuring the production cycle at LP and CHPP (maintaining the required water level in the reservoir) include:

- surface waters from the Argun River;
- drainage waters from the Urtuysky mine;
- mine waters of uranium mining production facilities.

PJSC PIMCU uses water in strict compliance with the current legislation. In particular, it regularly takes measures to reduce water consumption: by eliminating leaks in pipelines and using a water withdrawal metering system.

One of the main measures to control the quality of drinking water and increase the reliability of the water intake is the construction of a main water pipeline as part of the reconstruction of the water supply system, as well as the construction of a water treatment plant for groundwater from the East Urulyungui basin.

A complex of engineering surveys was completed, R&D was carried out to develop the technology of groundwater treatment, and an investment feasibility study was developed.

In order to increase the reliability of the water withdrawal, measures are being taken to reconstruct the water supply system. Upon commissioning of the new water wells, this will ensure the throughput of the required volumes of drinking water, and will make it possible to maintain the quality characteristics of drinking water during transportation.

The reconstruction of the Main Water Supply System of Krasnokamensk is planned to be financed using federal and regional budget funds.

The main indicator of water consumption savings is the full use of drainage waters of the Urtuysky mine and mine waters of the uranium mining production facilities for technical water supply. All mine waters of the uranium mining production are used for the technical water supply to the LP. Drainage water from the Urtuysky brown coal mine is used at the CHPP and other subdivisions of PJSC PIMCU. Efficient use of water resources at production facilities reduces the volume of water withdrawal from natural sources.

A slight increase in water consumption was associated with growing water consumption by commercial organizations in Krasnokamensk.

Water to Khiagda JSC is supplied from its own water intake at the Tetrakh groundwater deposit. Compared to 2020, the volume of water consumption increased due to the consumption of water for operational needs. The increase in water withdrawal for drinking and sanitary purposes was due to an increase in the number of working personnel.

At Dalur JSC, 8 water wells were operated in 2021 for operational and sanitary needs: 5 at the Dalmatovskoye deposit and 3 at the Khokhlovskoye deposit.

The year-on-year increase in water withdrawal was due to the consumption of water at the scandium mining site (resin washing at the scandium site using improved technology).

Wastewater discharge

PJSC PIMCU

GRI 306-1

The volume of water discharge in 2021 increased by 1.71% year on year.

Household wastewater from PJSC PIMCU and industrial enterprises of Krasnokamensk was discharged together with industrial effluents from the CHPP into the Umykeysky lake system.

Wastewater discharge at PJSC PIMCU in 2019–2021, million m³

Year/volume of water	2019	2020	2021
Wastewater discharge	10.145	10.318	10.418

To reduce the discharge of pollutants, PJSC PIMCU takes measures to improve the efficiency of its treatment facilities, carries out maintenance and overhaul of pumps, rakes and crushers, coarse sieves, aeration systems, weir sides and settling tanks of treatment facilities. Maintenance and overhaul of the drainage system equipment is carried out constantly according to the preventive maintenance schedule.

The Division continues active interaction with the regional authorities of the Zabaikalsky Territory to determine the source of funding for the construction of new treatment facilities in Krasnokamensk with a capacity of 40,000 m³ per day. The construction of such treatment facilities complex with a capacity of 40,000 m³ per day requires financing in the amount of RUB 2.8 billion at the current price level.

Khiagda JSC

Wastewater is not discharged into surface and underground water bodies, given that household wastewater enters the Bioresurs full-scale biological treatment plant, the enterprise's own treatment facilities, where it is cleaned and disinfected;

- Purified and disinfected wastewater is discharged into a storage tank for subsequent use in the technological process for the preparation of process (leaching) solutions;

— Process solutions circulate in a closed cycle according to the following scheme: underground horizon → shop for processing pregnant solutions → underground horizon → shop for processing pregnant solutions.

Dalur JSC

Due to the closed process cycle, no wastewater containing hazardous chemicals and radionuclides is discharged.

Domestic wastewater from the sewerage system is transported to wastewater treatment facilities of a specialised enterprise under a contract.

Air protection

GRI 305-7

Pollutant emissions into the atmosphere in 2019 - 2021, PJSC PIMCU, tonnes

Year/Pollutant name	2019	2020	2021
Carbon monoxide	333.798	321.477	277.048
Sulphur dioxide	5,125.116	5,924.726	5,603.21
Nitrogen oxides (in NO_2 equivalent)	1,673.346	1,657.578	1,685.29
Specific pollutants	7,543.806	9,308.079	9,187.19
Total	**14,708.81**	**17,211.86**	**16,761.7**

In 2021, there was a decrease in pollutant emissions by 2.6% year on year due to the technical re-equipment of ash collecting units. Pollutant emissions in 2021 were 31.8% below the permitted level.

Pollutant emissions into the atmosphere in 2019 - 2021, Khiagda JSC, tonnes

Year/Pollutant name	2019	2020	2021
Carbon monoxide	4.258	5.25	5.413
Sulphur dioxide	299.863	300.293	300.316
Nitrogen oxides (in NO_2 equivalent)	7.737	4.968	5.079
Specific pollutants	23.256	44.362	43.581
Other	19.091	–	–
Total	**354.205**	**354.873**	**354.389**

Actual emissions from sources of pollution did not exceed permitted limits.

Pollutant emissions into the atmosphere in 2019-2021 - 2021, Dalur JSC, tonnes

Year/Pollutant name	2019	2020	2021
Carbon monoxide	2.43	0.046	0.1483
Sulphur dioxide	0.005	0	0
Nitrogen oxides (in NO_2 equivalent)	0.49	0.205	0.623
Specific pollutants	1.612	0.58035	0.9613
Other			
Total	**4.537**	**0.866**	**1.732**

The increase in emissions in 2021 was due to the emissions from the boiler house of the central production site in connection with higher gas consumption caused by scheduled and unscheduled shutdowns of the cogeneration unit.

Greenhouse gas emissions in CO_2 equivalent in 2021, ‘000 tonnes

GRI 305-1

PJSC PIMCU	Khiagda JSC	Dalur JSC
2,122,026.602	856.00	520.00

At PJSC PIMCU, the actual volume of direct energy emissions of greenhouse gases amounted to 2,122,026.602 tonnes of CO_2-eq., generated as a result of fuel combustion at the CHPP that supplies energy to the public grid for the needs of electricity and heat supply in the region. The volume of greenhouse gas emissions is influenced by the thermophysical characteristics of the fuel used.

At Khiagda JSC and Dalur JSC, greenhouse gases are generated from mobile sources.

Waste management

GRI 306-2

Generation of waste of all hazard classes in 2019-2021, tonnes

Hazard class	Year	PJSC PIMCU	Dalur JSC	Khiagda JSC
Hazard class 1	2019	1.778	0.217	0.117
	2020	2.873	0.143	0.056
	2021	2.039	0.132	0.5
Hazard class 2	2019	1.195	0.97	2.178
	2020	8.383	1.368	1.929
	2021	10.514	1.641	1.194
Hazard class 3	2019	86.973	1.748	7.447
	2020	79.501	2.576	8.498
	2021	146.196	1.489	8.134
Hazard class 4	2019	861.5	68.824	220.434
	2020	569.719	106.84	190.3
	2021	469.695	125.344	199.165
Hazard class 5	2019	17,252,387.0	12.654	54.7
	2020	22,289,456.89	18.131	40.3
	2021	23,240,529.17	14.995	35.439
Total	**2019**	**17,253,338.45**	**84.413**	**284.876**
	2020	**22,290,117.36**	**129.058**	**241.083**
	2021	**23,241,157.62**	**143.601**	**243.982**

Waste management in 2021, tonnes

Enterprise	Year	PJSC PIMCU	Dalur JSC	Khiagda JSC
Waste used at own production facilities	2020	20,525,612.6	0	13.7
	2021	22,964,029.33	0	8.2
Waste transferred to other business entities	2020	337.853	81.839	139.677
	2021	1,450.598	80.463	92.942
Waste stored at the operated sites	2020	1,763,355.6	0	73.6
	2021	275,810.965	0	116.513

PJSC PIMCU

- An increase in generation of hazard class 3 waste by 66.694 tonnes was due to the replacement of used railway sleepers in connection with the ongoing repair of the railway track, as well as due to the operations of the structural subdivisions of the enterprise, including United Automobile Fleet, the Urtuyskoye automobile fleet, underground Mines No. 1 and 8, Operations Support Directorate: generation of engine, hydraulic, transmission oils, as well as oil, air, fuel filters;
- There was a reduction in generation of hazard class 4 waste by 100.0 tonnes due to a decrease in the total volume of solid municipal waste, waste from sand traps, tires and air filters;

The main type of waste of hazard class 5 waste was the overburden of the Urtuysky brown coal mine, which is placed in internal dumps for the technical stage of reclamation. 22,931,000 tonnes were generated in 2021, which accounts for 98% of the total volume of waste generated during the reporting period. There was an increase in overburden volumes by 881,600 tonnes year on year due to the fulfilment of the planned overburden excavation targets.

The ash and slag mixture generated at the CHPP from coal combustion (practically not dangerous) in the amount of 32,376.46 tonnes was used in mining during backfilling operations, which improves the quality of backfilling ensuring safe mining operations. This type of waste utilisation helps to reduce the storage of hazard class 5 waste at operated production facilities.

As demonstrated by the data presented above, PJSC PIMCU is actively engaged in waste recycling.

Dalur JSC

The increase in waste generation was associated with an increase in:

- Generation of hazard class 4 waste ‘Unsorted garbage from office and household premises of organizations’;
- Generation of hazard class 4 waste ‘Spent pneumatic automobile tires’.

Khiagda JSC

243,982 tonnes of waste were generated in 2021, which is 1.2% more than in the previous period due to the following reasons:

- A reduction in generation of hazard class 2 waste 'Undamaged spent lead batteries with electrolyte';
- An increase in generation of hazard class 4 waste due to an increased use of appropriate chemicals necessary for the manufacturing of finished products;
- A reduction in generation of hazard class 5 waste caused by lesser amount of coal used during the operation of the backup coal-fired boiler, and in generation of paper and cardboard waste from office activities and office work.

Protection of land and biodiversity

PJSC PIMCU

Total area of land disturbed at PJSC PIMCU in 2019–2021, ha

In 2021, the area of land disturbed at PJSC PIMCU totalled 29.909 ha, including:

- 14.94 ha disturbed during the mining of the coal deposit;
- 13.48 ha disturbed during the development of a sand-gravel deposit;
- 0.371 ha disturbed during the technical re-equipment of the heap leaching area of the LP;
- 0.8 ha disturbed for waste rock dump of 14-EDS shaft;
- 0.318 ha disturbed during construction work at Mine No. 6.

No land reclamation measures were implemented in 2021.

Khiagda JSC

Total area of land disturbed at Khiagda JSC in 2019–2021, ha

In the reporting year, the area of land disturbed at Khiagda JSC totalled 82.951 ha, including:

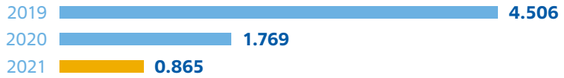
- 73.952 ha disturbed during the mining of mineral deposits of the Khiagda ore field;
- 3.27 ha disturbed during the construction works at the deposit (construction of a power transmission line and a technological pipeline along the ore body of the Istochnoye deposit) of the Khiagda ore field;
- 3.18 ha disturbed during the construction works (construction of a power transmission line and a road along the ore body of the Istochnoye deposit) at the Khiagda ore field;
- 2.549 ha disturbed during the construction works (construction of a technological pipeline and a haul road along the ore body of the Istochnoye deposit) at the Khiagda ore field.

Land reclamation is scheduled after completion of ore bodies and deposits development.

Dalur JSC

In 2021, the area of land disturbed at Dalur JSC totalled 0.865 ha. This was due to the construction of a pilot plant for uranium in-situ leaching at the Dobrovolnoye deposit. The topsoil removed at the sites will be used at the final stage of construction, during the improvement of the area surrounding the constructed facilities and during the rehabilitation of areas contaminated as a result of the work.

Total area of land disturbed at Dalur JSC in 2019–2021, ha



Environmental costs

GRI 304
GRI 103
GRI 304-1
GRI 304-2

Total expenses for measures implemented in the reporting year to protect the environment and reduce the negative environmental impact, using all sources of financing, including the federal budget, amounted to RUB 476.593 million.

Environmental costs in 2021, RUB '000

Measures	PJSC PIMCU	Dalur JSC	Khiagda JSC	Total
Current (operating) expenses	169,738.00	1,267.00	67,152.00	238,157.00
Payment for environmental services	10,106.00	4,465.00	4,336.00	18,907.00
Environmental costs associated with major repairs of fixed assets	202,207.00	–	–	202,207.00
Environmental investments in fixed assets	10,764.00	–	6,504.0	17,268.00
Charges for the negative impact on the environment	39,404.00	3.521	60.7	39,468.221

GRI 307-1

Charges for the negative impact on the environment amounted to RUB 39.407 million (2020: RUB 3.483 million). The increase in charges for the negative impact on the environment in 2021 was due to an increase in the generation of ash and slag mixture from coal combustion at the CHPP in connection with the deterioration of the physical and chemical properties of coal and the over-limit fee for the disposal of ash and slag waste.

In 2021, current environmental costs at Khiagda JSC included the following key costs:

- to conduct industrial environmental control;
- to maintain and operate the full-scale biological wastewater treatment facilities;
- to manage industrial and consumer waste (collection, transportation, transfer for use, utilization, placement to specialized third-party organizations);
- to control well construction quality by geophysical methods;
- to monitor the state of the environment during the development of deposits of the Khiagda ore field.

Investments in fixed assets in 2021 included investments in the protection and rational use of water resources in terms of the installation of a surface runoff storage pond.

The increase in environmental costs at Dalur JSC was associated with an increase in wages of ecologists. The decrease in payment for environmental services was due to a decreased number of environmental measures in investment activities.

Environmental programmes of the Division's enterprises

GRI 304-2

The Division attaches equal importance to environmental safety of its enterprises and improving the efficiency of uranium production.

The priority is to comply with legal requirements for environmental protection and protection of the population against radiation exposure.

To achieve this, the Division implements the following environmental measures on an annual basis:

- Developing and ensuring the stable functioning of an integrated management system compliant with the ISO 9001:2015 and ISO 14001:2015 standards;
- Continuously maintaining the required level of environmental education for environmental safety decision-makers;
- Radiation and environmental monitoring of industrial sites and buffer areas;
- Replacing mercury-containing light bulbs with LED light bulbs.

Measures taken by PJSC PIMCU in 2021 to reduce the negative impact included:

- Commissioning of a mine water treatment plant (Mine No. 6): complex tests of process equipment and process lines of the mine water treatment plant were carried out in the commissioning mode;
- Installation of Bird Gard Super Pro AMP bioacoustic devices for the protection of birds in the area of the tailings of the leach plant;
- Use of drainage waters from the Urtuysky open pit and mine waters of underground mines No. 1 and No. 8 as an additional source of technical water in the technology in order to reduce the withdrawal of natural water from the Argun River;
- Use of inorganic dust: 70-20% SiO_2 (waste from coal combustion) as a component of the backfill mixture for filling the spent mine workings in underground mines No. 1 and No. 8;
- Collection and storage of radioactive waste at RAW disposal sites;
- Timely repair and overhaul of equipment;
- Continued implementation of the spent vanadium catalysts processing technology: in 2021, samples of commercial grade vanadium pentoxide were produced, and a license was obtained to carry out this type of activity.

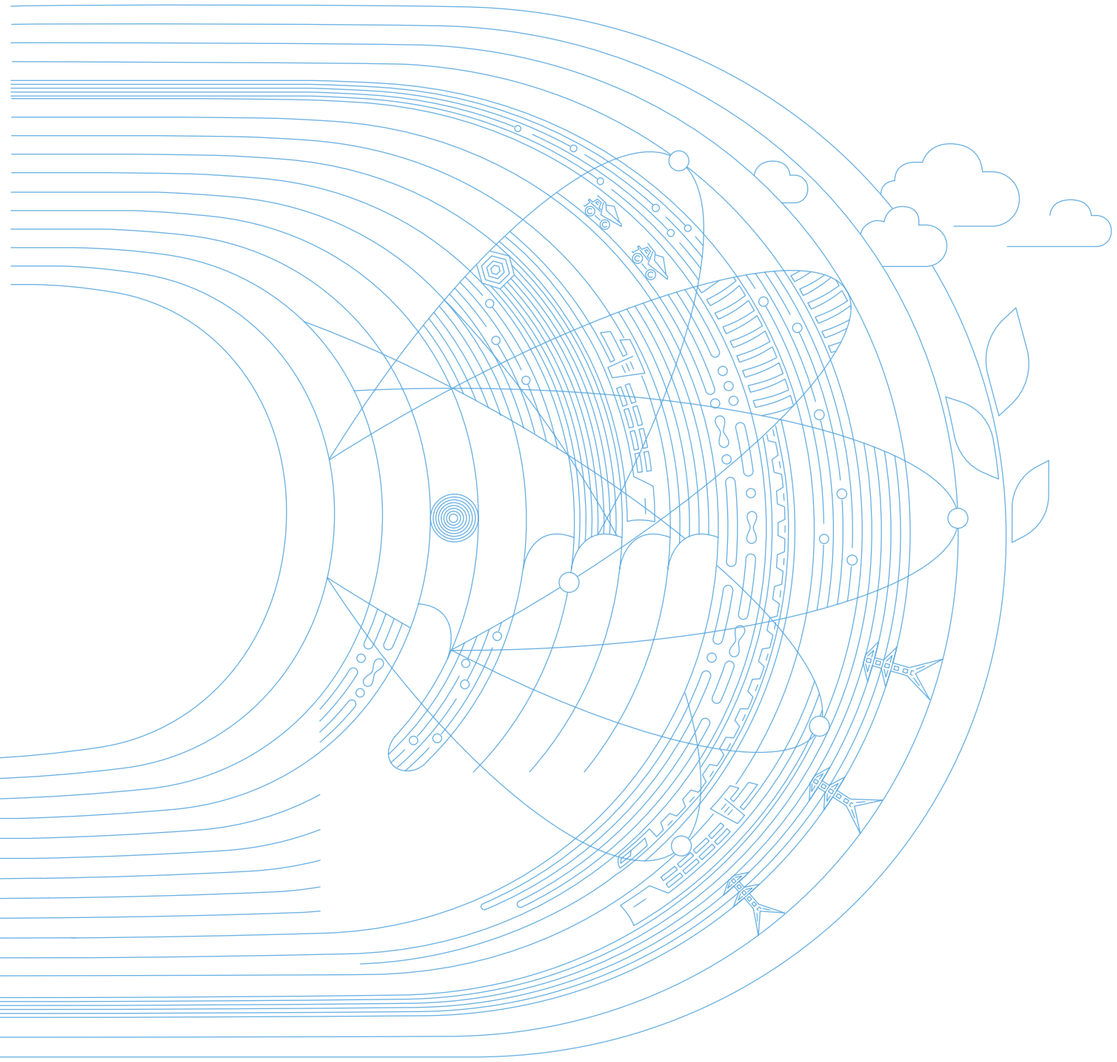
Measures taken by Khiagda JSC in 2021 to reduce the negative impact included:

- a maintenance and cleaning day ('subbotnik') was held at the railroad base industrial site;
- The process of separate collection of waste paper was organized at the office of the Department and at the industrial sites of the railroad base and the underground leaching shop with a more frequent delivery of accumulated waste paper to a third-party specialized company for further processing.

In the reporting year, Khiagda JSC took the third place in the annual competition *Environmentally Exemplary Organization of the Nuclear Industry.*

Measures taken by Dalur JSC in 2021 to reduce the negative impact included:

- Alleys of 20 ornamental shrubs were planted in the settlements at each deposit (Dalmatovskoye, Khokhlovskoye and Dobrovolnoye) in honor of the 20th anniversary of Dalur JSC;
- 59.7 ha were reforested in the Kataysky and Shatrovsky Districts of the Kurgan Region and in the vicinity of the Stary Prosvet village near Kurgan.



APPENDIX 1. GRI INDEX

GRI 102-55

Standard	Indicator	Section	Page of the report	Comments
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GRI 102: General Disclosures (2016)	**Organisational profile**			
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	102-2 Activities, brands, products, and services	Chapter 2. Overview of the Division	6	
	102-3 Location of headquarters	Contacts	67	
	102-4 Location of operations	Chapter 2. Overview of the Division	6	
	102-5 Ownership and legal form	Chapter 2. Overview of the Division	6	Form of ownership: ownership by state-owned corporations
	102-6 Markets served	Chapter 2. Overview of the Division	6	
	102-7 Scale of the organisation	Chapter 1. Key Results and Events in the Reporting Year Chapter 8. Developing the Human Capital	4 30	
	102-8 Information on employees and other workers	Chapter 8. Developing the Human Capital	30	
	102-9 Supply chain	Chapter 2. Overview of the Division	9	
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	102-14 Statement from senior decision-maker	Message from the Head of the Division		
	102-15 Key impacts, risks, and opportunities	Chapter 10. Risks Specific to the Division and Management Approaches	41	
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Standard	Indicator	Section	Page of the report	Comments
	Remuneration and incentives			
	102-35 Remuneration policies	2018 Annual Report, p. 37.		
	102-36 Process for determining remuneration	2018 Annual Report, p. 37.		
	Stakeholder engagement			
	102-40 List of stakeholder groups	2018 Annual Report, p. 97.		
	102-41 Collective bargaining agreements	Chapter 8. Developing the Human Capital	34–35	
	102-42 Identifying and selecting stakeholders	2018 Annual Report, p. 97		
	102-43 Approach to stakeholder engagement	2018 Annual Report, p. 97-98		
	102-44 Key topics and concerns raised	Appendix 2. Information on the Reporting Process(consolidation perimeter, data collection and verification mechanism) 2018 Annual Report, p. 98-99.	65	
	Report profile			
	102-45 Entities included in the consolidated financial statements	Appendix 2. Information on the Reporting Process	64	
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GRI 201: Economic Performance (2016)	*GRI 103: Management Approach (2016)*	Chapter 8. Developing the Human Capital	30	
	201-1 Direct economic value generated and distributed	Chapter 8. Developing the Human Capital	32	

Standard	Indicator	Section	Page of the report	Comments
	201-2 Financial implications and other risks and opportunities due to climate change			Information is not provided. The Division does not currently perform financial assessments of risks related to climate change
	201-3 Defined benefit plan obligations and other retirement plans	Chapter 8. Developing the Human Capital	33	
	201-4 Financial assistance received from government			The Division did not receive any significant government grants in the 12 months ending on December 31, 2021
GRI 202: Market Presence (2016)	*GRI 103: Management Approach (2016)*	Chapter 9. Developing the Regions of Operation	37	
	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Chapter 8. Developing the Human Capital	32	
	202-2 Proportion of senior management hired from the local community			
GRI 203: Indirect Economic Impacts (2016)	*GRI 103: Management Approach (2016)*	Chapter 9. Developing the Regions of Operation	37	
	203-1 Infrastructure investments and services supported	Chapter 1. Key Results and Events in the Reporting Year. Chapter 9. Developing the Regions of Operation.	4 38	The investment breakdown by years for each project over a three-year period is not disclosed in accordance with ROSATOM's letter No. 1-13/20159 dated April 20, 2019
	203-2 Significant indirect economic impacts	Chapter 9. Developing the Regions of Operation	38	
GRI 204: Procurement Practices (2016)	*GRI 103: Management Approach (2016)*	Chapter 9. Developing the Regions of Operation	37	
	204-1 Proportion of spending on local suppliers	Chapter 9. Developing the Regions of Operation		In accordance with ROSATOM procurement policy, the Division is not allowed to establish geographic preferences for suppliers. Local suppliers participate in competitive procedures on equal terms; no special approaches are applied to interaction with local suppliers. The Company does not maintain any special records of such suppliers' costs and has not allocated any procurement budget for local suppliers in significant regions of operation
GRI 205. Anti-Corruption	205-1 Operations assessed for risks related to corruption			The Division takes measures to assess and identify significant corruption-related risks, fully covering all subdivisions
	205-2 Communication and training about anti-corruption policies and procedures			The Division did not train members of the Board of Directors on anti-corruption practices in 2021

Standard	Indicator	Section	Page of the report	Comments
GRI 302: Energy (2016)	*GRI 103: Management Approach (2016)*	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	46	
	302-1 Energy consumption within the organization			Data on the volume of energy sold and total energy consumption are not disclosed due to the lack of a centralized accounting system
	302-2 Energy consumption outside the organization			Information is currently not provided due to the lack of a centralized accounting system. There is no system for recording information on energy consumption in the supply chain and consumption chain
	303-3 Energy intensity			Not determined since the total energy consumption is not calculated
	302-4 Reduction of energy consumption	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	56	
	302-5 Reductions in energy requirements of products and services			Not applicable to the products of the Division due to the fact that the main products of the Division are strategic raw materials, which do not consume energy themselves

Standard	Indicator	Section	Page of the report	Comments
GRI 303: Water and Effluents (2018)	*GRI 103: Management Approach (2016)*	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	48	
	303-1 A Interactions with water as a shared resource	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	48–50	
	303-2 Management of water discharge-related impacts	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	48–50	
	303-3 Water withdrawal	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	48–50	
	303-4 Water discharge	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	48–50	
	303-5 Water consumption	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	48–50	
GRI 304: Biodiversity (2016)	*GRI 103: Management Approach (2016)*	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	55	
	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	55–57	
	304-2 Significant impacts of activities, products, and services on biodiversity	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	55–57	

Standard	Indicator	Section	Page of the report	Comments
GRI 305: Emissions (2016)	*GRI 103: Management Approach (2016)*	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety		
	305-1 Direct (Scope 1) GHG emissions	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	51	
	305-2 Energy indirect (Scope 2) GHG emissions	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety		Not calculated, as there is no corresponding data accounting system
	305-3 Other indirect (Scope 3) GHG emissions			Not calculated, as there is no corresponding data accounting system
	305-4 GHG emissions intensity			Not calculated, as there is no corresponding data accounting system
	305-5 Reduction of GHG emissions			The amount of reduction of GHG emissions resulting from measures to reduce emissions is not calculated
	305-6 Emissions of ozone-depleting substances (ODS)			The company does not industrially use ozone depleting substances
	305-7 Nitrogen oxides (NO_x), sulphur oxides (SO_x), and other significant air emissions	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	50–51	There are no emissions of persistent organic pollutants (POPs). Information on emissions of hazardous air pollutants (HAPs) is not disclosed due to the absence of such a category of pollutants in Russian legislation
GRI 306: Effluents and Waste (2016)	*GRI 103: Management Approach (2016)*	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	49	
	306-1 Water discharge by quality and destination	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	49	
	306-2 Waste by type and disposal method	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	51–52	
	306-3 Significant spills			There were no significant (accidental) spills in the reporting period
	306-4 Transport of hazardous waste			The Company's enterprises are not involved in transboundary waste movement. The Holding's enterprises do not transport, process or transfer for recycling any waste deemed hazardous under the Basel Convention

Standard	Indicator	Section	Page of the report	Comments
	306-5 Water bodies affected by water discharges and/or runoff			Wastewater discharges do not have a significant impact on the biodiversity value of water bodies or related habitats. In the reporting period, the Company's operations had no significant impact on water bodies
GRI 307: Environmental Compliance (2016) (Environmental Control)	*GRI 103: Management Approach (2016)*	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	55	
	307-1 Non-compliance with environmental laws and regulations*	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	55	
GRI 401. Employment	401-1 New employee hires and employee turnover	Chapter 1. Key Results and Events in the Reporting Year Chapter 8. Developing the Human Capital	4 30	The indicator has been disclosed in part. Information on newly hired employees, as well as on turnover by gender and age, is not currently collected in the Division
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees			Part-time employees are provided with all benefits if the Division is their primary place of employment
	401-3 Parental leave			There is no centralized accounting system

Standard	Indicator	Section	Page of the report	Comments
GRI 402. Labour/ Management Relations.	402-1 Minimum notice periods regarding operational changes			The Division fully complies with the requirements of the law concerning the minimum notice periods regarding significant changes. The minimum notice periods regarding significant operational changes is determined in the collective agreements and the internal local documents of the Division
GRI 403: Occupational Health and Safety (2018)	*GRI 103: Management Approach (2016)*	Chapter 8. Developing the Human Capital . Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	33 55	
	403-1 Occupational health and safety management system	Chapter 8. Developing the Human Capital	33	
	403-2 Hazard identification, risk assessment, and incident investigation	Chapter 8. Developing the Human Capital	55	No breakdown by gender is provided. No information is provided on injury rates in contractor organisation, as there is no system for collecting and recording such data

Standard	Indicator	Section	Page of the report	Comments
	403-3 Occupational health services			The Division has a Safety Control Inspectorate headed by the Chief Safety Control Inspector. The Division implements comprehensive measures to prevent negative impact of professional activities on the health of employees, as well as occupational diseases and injuries of employees
	403-4 Worker participation, consultation, and communication on occupational health and safety	Chapter 8. Developing the Human Capital	33	
	403-5 Worker training on occupational health and safety	Chapter 8. Developing the Human Capital Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	46	
	403-6 Promotion of worker health	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	46	
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	46	
	403-9 Work-related injuries	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety	46	

Standard	Indicator	Section	Page of the report	Comments
GRI 404: Training and Education (2016)	*GRI 103: Management Approach (2016)*	Chapter 8. Developing the Human Capital		
	404-1 Average hours of training per year per employee	Chapter 8. Developing the Human Capital	32	The number of training hours by gender is not disclosed as the relevant information is not recorded
	404-2 Programmes for upgrading employee skills and transition assistance programmes	Chapter 8. Developing the Human Capital	32, 33	
	404-3 Percentage of employees receiving regular performance and career development reviews		32	No breakdown by gender is provided due to the lack of accounting system
GRI 405: Diversity and Equal Opportunity (2016)	405-1 Diversity of governance bodies and employees	Chapter 2. Overview of the Division Chapter 8. Developing the Human Capital	12 30	
GRI 406: Non-Discrimination (2016)	*GRI 103: Management Approach (2016)*	Chapter 8. Developing the Human Capital	32	
	406-1 Incidents of discrimination and corrective actions taken			There were no cases of discrimination

Standard	Indicator	Section	Page of the report	Comments
GRI 413: Local Communities (2016)	*GRI 103: Management Approach (2016)*	Chapter 9. Developing the Regions of Operation	37	
	413-1 Operations with local community engagement, impact assessments, and development programmes	Chapter 9. Developing the Regions of Operation	38	
	413-2 Operations with significant actual and potential negative impacts on local communities			There are no significant negative impacts
GRI 415: Publicity Policy	*GRI 103: Management Approach (2016)*			
	415-1 Political contributions			In 2021, JSC Atomredmetzoloto provided no support to commercial organisations, provided no financial support (made no donations) to political parties, and did not participate in the development or lobbying of public policies
GRI 416: Customer Health and Safety (2016)	*GRI 103: Management Approach (2016)*	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety		
	416-1 Assessment of the health and safety impacts of product and service categories	Chapter 11. Safe Operation. Nuclear and Radiation Safety. Environmental Safety.		JSC Atomredmetzoloto conducts an annual quality assessment of its products to identify opportunities for improvement
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services			None. In 2021, JSC Atomredmetzoloto and its subsidiaries recorded no incidents of non-compliance with regulations or voluntary codes concerning the health and safety impacts of products and services, by type of consequences
GRI 417: Marketing and Labeling	*GRI 103: Management Approach (2016)*			
	417-1 Requirements for product and service information and labeling			The Company's internal policies and procedures require product labelling indicating the sources of origin, composition, conditions of use and disposal
	417-2 Incidents of non-compliance concerning product and service information and labeling			In 2021, JSC Atomredmetzoloto and its subsidiaries recorded no incidents of non-compliance with regulations or voluntary codes concerning product and service information and labeling, by type of consequences

Standard	Indicator	Section	Page of the report	Comments
	417-3 Incidents of non-compliance concerning marketing communications			In 2021, JSC Atomredmetzoloto and its subsidiaries recorded no incidents of non-compliance with regulations or voluntary codes concerning marketing communications, including product advertising and promotion and sponsorship, by type of consequences
GRI 418: Customer Privacy	*GRI 103: Management Approach (2016)*			
	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data			In 2021, JSC Atomredmetzoloto and its subsidiaries received no substantiated complaints concerning breaches of customer privacy or losses of customer data
GRI 419: Socioeconomic Compliance	*GRI 103: Management Approach (2016)*			
	419-1 Non-compliance with laws and regulations in the social and economic area			In 2021, there were no significant violations of the law by JSC Atomredmetzoloto or its subsidiaries; no significant fines or sanctions were imposed on the Company

APPENDIX 2. INFORMATION ON THE REPORTING PROCESS

Content

GRI 103-1
GRI 102-46
GRI 102-50
GRI 102-51
GRI 102-52
GRI 102-45

This Appendix, Performance of the Mining Division in 2021 (hereinafter referred to as the Report), forms part of the 2021 public annual report of ROSATOM. Public reports are disclosed on an annual basis. Previous reports have been posted on the website https://www.report.rosatom.ru/armz.

Disclosure boundaries

The report describes the performance of JSC Atomredmetzoloto from January 1, 2021 to December 31, 2021. The report covers all major companies managed by the Division.

Standards and regulatory requirements used during the preparation of the Report Process for drafting the Report and determining its content

Preparation of the Report included an analysis of the Division's enterprises' operations in 2021.

GRI 103-1
GRI 103-2
GRI 103-3
GRI 102-46

The Report presents the performance of the Division in the economic, social and environmental contexts, discloses promising areas of development.

Information was collected for the Report using special technical inquiries in compliance with the GRI requirements, taking into account the findings of a materiality assessment. This Report has been prepared in accordance with the Core option of the GRI SRS (Sustainability Reporting Standards, Global Reporting Initiative).

GRI 102-54 The Report reflects the Company's impact on its stakeholders. The Report has been prepared in close cooperation with them.

On February 18, 2022, two dialogues were held to discuss the priority topic.

In May 2022, remote public consultations were held to discuss the draft Report.

Prioritised topic of the Report:

New businesses of the Mining Division

Process for determining the materiality of information

GRI 102-47
GRI 102-48
GRI 102-49

In 2021, the Mining Division mainly focused on the prospects for the development of new businesses, in addition to the impact of the COVID-19 pandemic.

When preparing the materials, the Division conducted a questionnaire survey among stakeholders in order to update the material topics to be disclosed in the Report. Stakeholders made no proposals for disclosure of additional topics.

Based on the results of the survey in February 2022, the material topics were refined. There are no significant changes in the scope or boundaries of material topics as compared to previous reports. The topic boundaries and the content of the Report have been determined taking into account the views of stakeholders and agreed by departments of JSC Atomredmetzoloto. The Report does not cover any topics that are not considered material.

List of material topics in 2021

GRI 102-44
GRI 102-47

Highest and high materiality topics	GRI indicators
ROSATOM topics	
Results of ROSATOM strategy implementation, the contribution of the results of the year to the implementation of strategic goals	GRI 103
Ensuring nuclear and radiation safety during operation of nuclear facilities (including international cooperation in this area)	GRI 103
Results in the field of ROSATOM's international business and international cooperation (including the development of relations with customers and partners, collecting feedback)	GRI 103
ROSATOM's presence in the nuclear technologies and services markets (markets for natural uranium, uranium conversion and enrichment, nuclear fuel, NPP construction, etc.) and markets for new non-nuclear businesses, as well as prospects for the development of these markets	GRI 103, 202
Financial and economic performance of ROSATOM	GRI 103, GRI 201
Development and implementation of technologies and practices to reduce environmental impact	GRI 103
Prospects for the development of the nuclear power industry in Russia and the world Forecast of the needs of the Russian and foreign energy systems	GRI 103
Radiation impact on the environment (including biodiversity)	GRI 103
Contribution to the economic development of the regions of operation (contribution to the generation and distribution of economic value in the territories of operation, contribution to the energy security of the regions of the Russian Federation, tax payments to the budgets of various levels, investments in infrastructure, creation of new jobs, etc.)	GRI 103, GRI 203, GRI 413
Provision of access to energy (projects to provide electricity in hard-to-reach regions, financial support for developing countries, work with consumers, joint projects with NGOs, the UN)	GRI 103
RAW and SNF management and addressing nuclear legacy issues	GRI 103
Results in the field of ROSATOM business diversification (wind generation, nuclear medicine, composite materials, irradiation centres, non-nuclear engineering; services for nuclear power plants, etc.)	GRI 103
Key business risks and opportunities	GRI 103
Environmental measures and expenditures and their effectiveness	GRI 103
Division specific topics	
Division development strategy	GRI 103, 201
New businesses	GRI 103
Global uranium markets	GRI 103
Resource base development	GRI 103
Performance management	GRI 103
Risk management	GRI 103
Environmental impact (waste, water, energy consumption, etc.)	GRI 103, GRI 302, GRI 303, GRI 304, GRI 305, GRI 306, GRI 307
Occupational safety and health	GRI 103, GRI 403, GRI 416
Other material topics	
Impact of the pandemic on the Division's operations	GRI 103

Data validation

GRI 102-56

The Appendix preparation was carried out and supervised by the Corporate Communication Department.

Disclaimer

The report contains forward-looking statements regarding operating, financial, economic and social indicators characterising the Division's future development. The materialisation of assumptions and plans is directly related to the political, economic, social and legal environment. As a result, the Division's actual performance may differ from the forward-looking statements.

Abbreviations and Definitions

GRI 202-2

GRI	Global Reporting Initiative - Sustainability Reporting Standards
LP	leach plant
MPP	mining and processing plant
EW	exploration work
ISRS	integrated standardised remuneration system
HL	heap leaching
CTG	consolidated taxpayer group
LDR	lost day rate
ODR	occupational disease rate
KPI	key performance indicator
CSR	corporate social responsibility
CSP	corporate social programme
LSU	local sorption unit
MRB	mineral resource base
CT	critical tasks
FEED	front-end engineering design
SS	substation
RPS	ROSATOM Production System
RAW	radioactive waste
R&M	repairs and maintenance
REM	rare-earth metals
IP	Intellectual property
EDS	exploration and development shaft
SOCEX	social expenses
ISL	in-situ leaching
PSEDA	priority social and economic development area
FS	feasibility study
CHPP	combined heat and power plant
CPS	central production site
CCD-SMD	Central Commission for the Development of Solid Mineral Deposits of the Federal Agency for Mineral Resources (Rosnedra)
SCMR, FSFI	State Commission on Mineral Reserves, Federal State-Funded Institution

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