



ALMAZINTECH

CONSULTATION AND ENGINEERING



Main activities



ALMAZINTECH was founded in May 2002

Main activities

1. Geological, technological and technical audit, comprehensive assessment and consulting of exploration and mining companies in Russia and abroad.
2. Design and operator support geological exploration and operating mining enterprises.

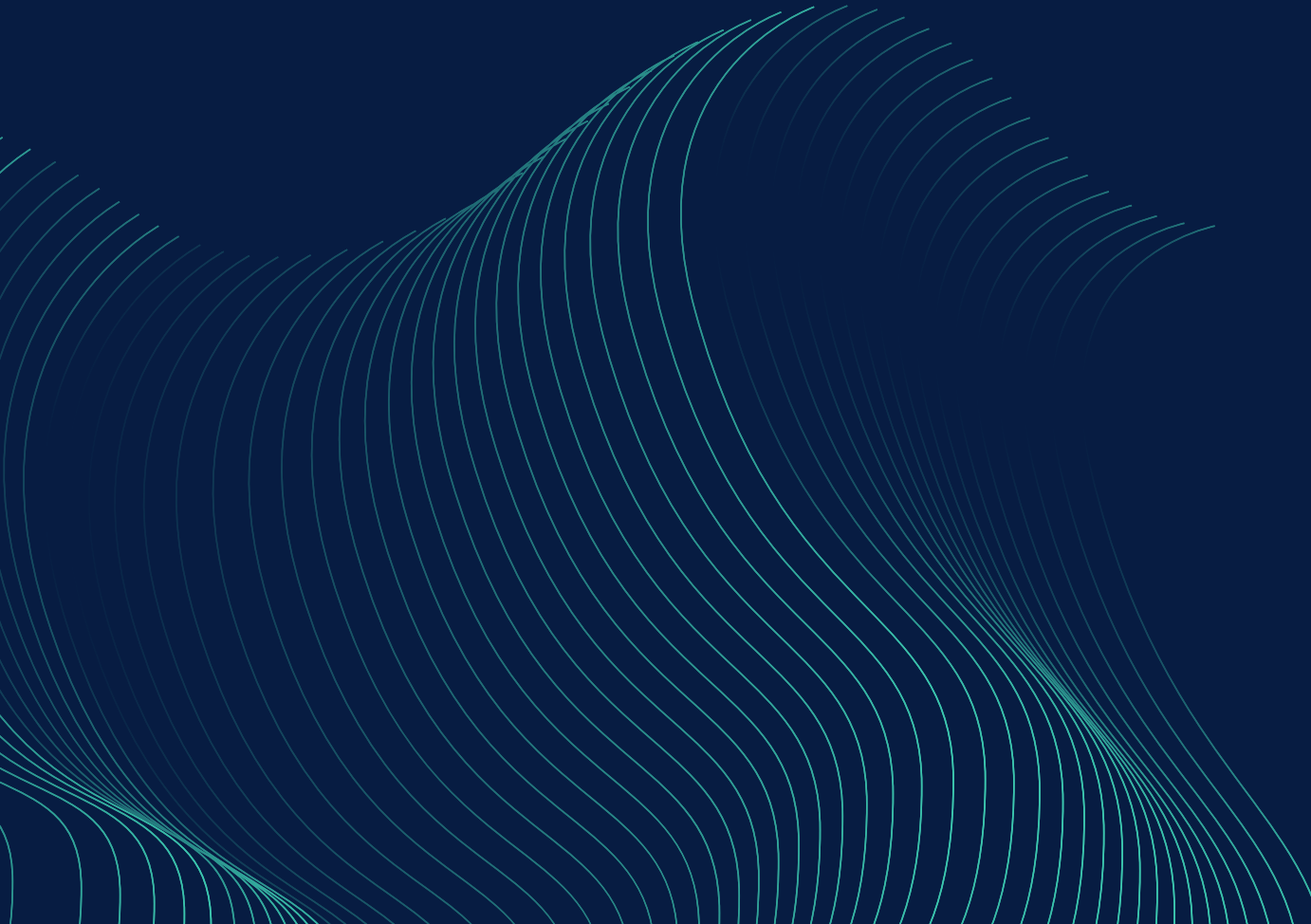
3. Attracting investments in mining projects.
4. Research and development work on mining and extractive technologies (innovative technologies)

ALMAZINTECH

CONSULTATION AND ENGINEERING

The company was founded by individuals who previously worked at ALROSA at the level of chief specialists and deputy general directors in the areas of mining, geology and enrichment.

The staff of the Company includes specialists with rich work experience at large mining enterprises that mine gold and diamonds in the Far North of Russia and African countries.



Projects

The Company's specialists were direct executors of a number of major mining projects.

- Exploration and protection of reserves at the State Reserves Committee for diamond deposits of the Nyurbinskaya and Botuobinskaya pipes;
- Organization and construction of OJSC ALROSA-Nyurba (annual sales of products about USD 600 million);



Concentrating plant
ALROSA-Nyurba

- Construction of GDO "Katoka" (Angola): the main staff of the "Pioneer Group", which from the first step carried out the implementation of this project, today works in LLC "Almazintekh - consultations and engineering" (annual sales of products are about USD 700 million);



Concentrating plant
GRO "Katoka"

Projects

The Company's specialists were direct executors of a number of major mining projects.

- The development of the Mir quarry was carried out under a patent for the invention of one of the current founders of Almazintekh Consulting and Engineering LLC



Open pit Mir

- Design and construction of an enterprise at the M. V. Lomonosov diamond deposit in the Arkhangelsk region Annual sales of products USD 100 million



Open pit Arkhangelskaya

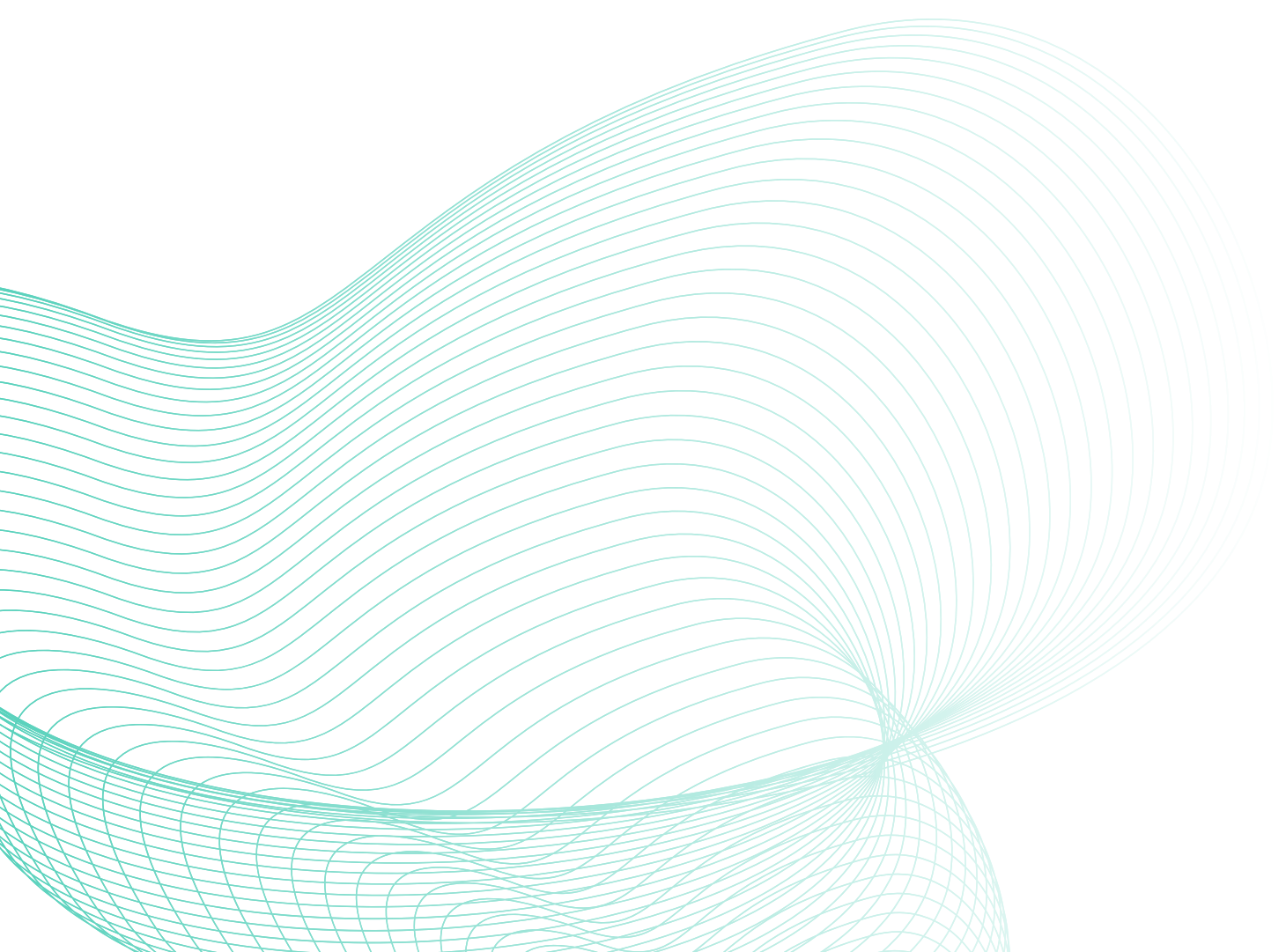
Projects

The Company's specialists were direct executors of a number of major mining projects.

- Search, exploration and exploitation of a placer gold deposit in Vietnam. Exploration of a bedrock gold deposit (Namibia).

- Exploration and mining of alluvial diamonds (Namibia).

- Estimation of industrial extraction of tantalum-lithium ores (Zimbabwe).

- Development of technology for flotation enrichment of lithium-containing ores (Mongolia).
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Projects

The Company's specialists were direct executors of a number of major mining projects.

- Design and architectural supervision of the Kyzyl Tashtygsky Mining and Processing Plant (Republic of Tyva).



Kyzyl Tashtygsky Mining and Processing Plant

- Design of the enrichment plant for Vysochaishy Mining and Processing Plant (Bodaibo District).



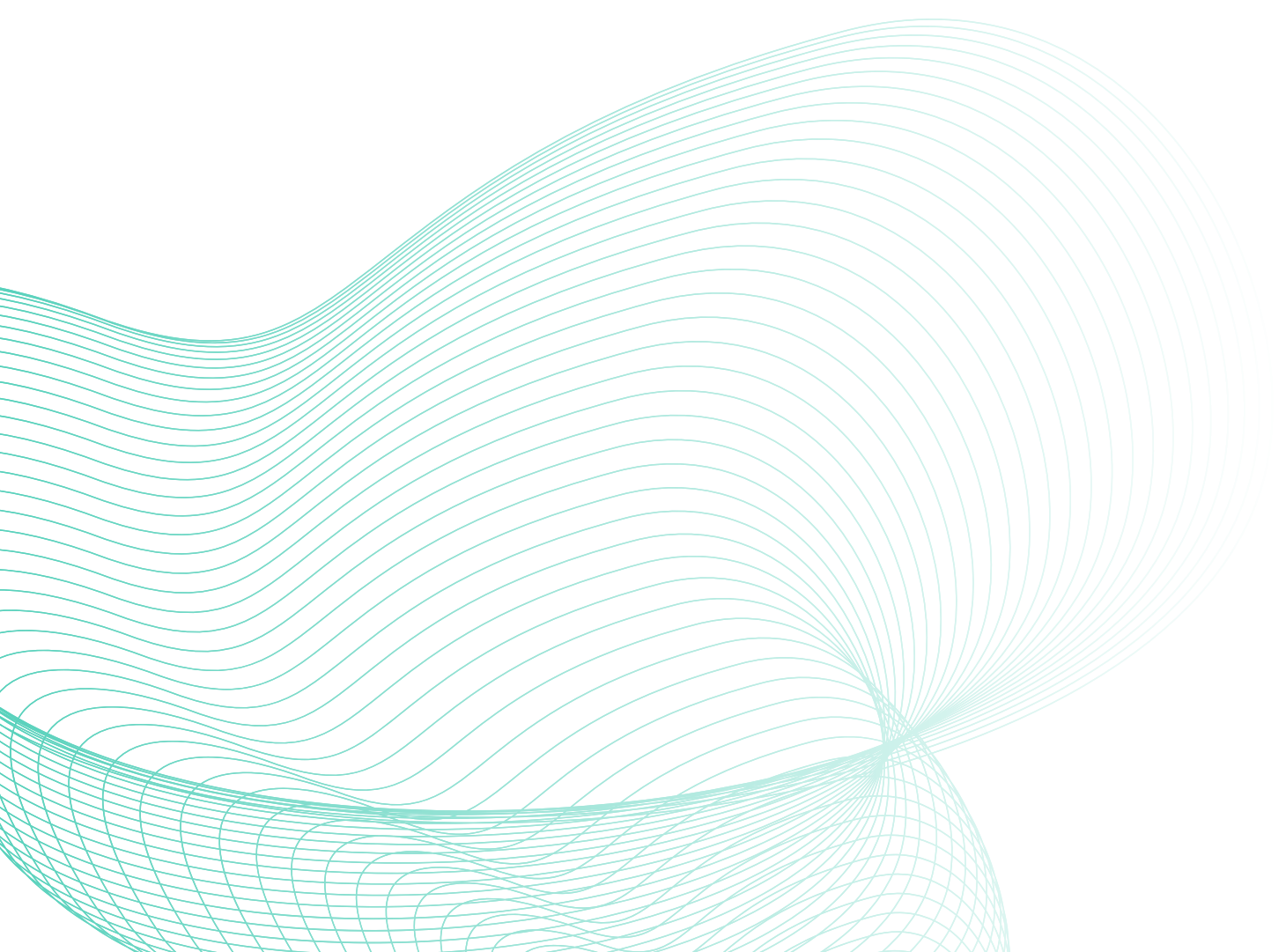
Vysochaishy Mining and Processing Plant

Projects

The Company's specialists were direct executors of a number of major mining projects.

- Ozerny Mining and Processing Plant Development of a project for the construction of an enterprise at a polymetallic deposit (Republic of Buryatia).

- Construction and operation of the Kustovoy Mining and Processing Plant at the Vasilyevskoye, Gerfed Nikolaevskoye, Ilyinskoye CJSC Vasilevsky mine (Krasnoyarsk Territory).

- Construction and operation of enterprises at the gold deposits Ammetistovoe and Asachinskoe (Kamchatka).
- 

Works on heap leaching technology

- Development of material preparation technology prior to heap leaching in order to increase gold recovery (Auliye deposit).



Heap Leaching

- Development of technology for additional extraction of gold from heap leaching dumps (Mezek deposit, Kogadyr deposit).

- The introduction of a new waterproofing material that excludes leakage with a probability close to 100% (Polus Aldan).

Works on heap leaching technology

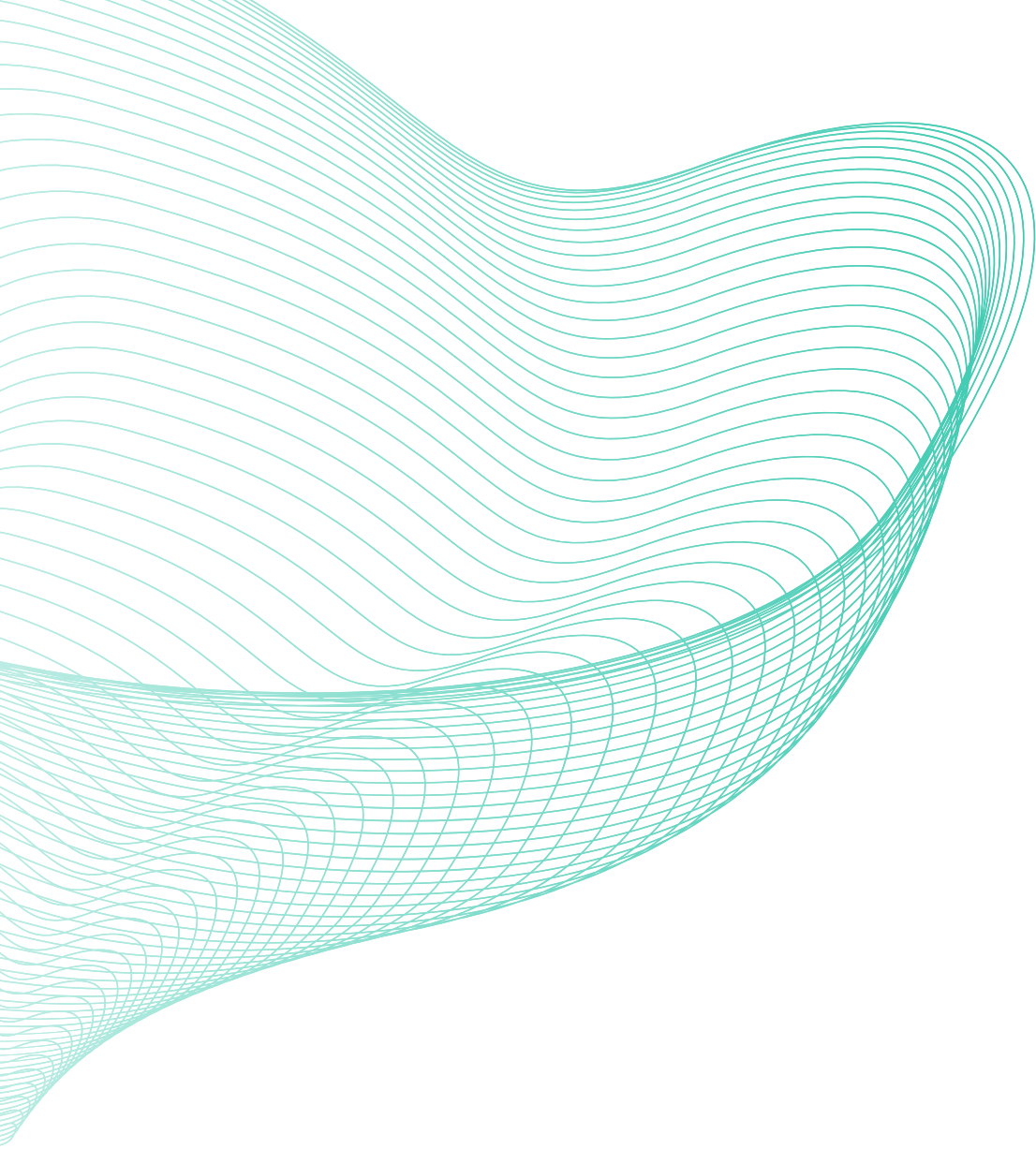


- Development of new equipment for the preparation of copper ore before stacking (Ai-Karaul deposit).

- Project "Processing of oxidized gold-bearing ores of the Sharyk deposit by heap leaching".

- Project "Mining and hydrometallurgical complex for the processing of gold-bearing oxidized ores of the Raigorod ore field using heap leaching technology".

- Development of technological regulations for the design of a plant for heap leaching of gold from oxidized ores of the Espe deposit.



Customers of the services of the company "ALMAZINTEKH"

AK ALROSA
OJSC ALROSA Nyurba
OJSC Severalmaz
OAO Ural Almaz (Leviev group)
OJSC "Arkhangelskgeoldobycha"
JSC Almazy Anabara

AP "Kakuala"
GRO "KATOKA"
CROCUS GROUP
"RUSSIAN PLATINA"
Central Asia Gold AB
OJSC Polyus Gold
Petropavlovsk Company (Peter Hambro Mining)

IG "Russian Funds"
UFG
Highland Gold Mining Limited
RENOVA company
"Alpha" groups
ESN group

The geography of the company "ALMAZINTEKH"

In Russia:

The Republic of Sakha (Yakutia)
Chukotka Autonomous Okrug
Republic of Karelia
Komi Republic
Altai region
Orenburg region
Primorsky Krai
The Republic of Buryatia
Krasnoyarsk region
and etc.

Abroad:

Republic of Kyrgyzstan
Republic of Namibia
Republic of South Africa (South Africa)
Republic of Chile
Republic of Angola
Liberia
Republic of Armenia
The Republic of Kazakhstan
Laos
Mongolia
Zimbabwe
Serbian Republic
Peru



"ALMAZINTEKH" in the field of audit of mining projects



- Geological examination of gold coal, polymetallic projects of OOO Nafta Metall (Russia).

- Comprehensive examination of gold ore objects ZAO Zolotaya Zvezda (Russia).

- Feasibility study of the efficiency of gold deposit development CJSC "Trevozhnoe Zarevo" Trans Siberian Gold Pls (Russia).

- Examination of the Luya diamond project and the Tetellu-Mavoi copper project (Angola).

"ALMAZINTEKH" in the field of audit of mining projects



- Comprehensive examination of the Kakuala diamond project (Angola).

- Examination of the Nalunak gold project (Greenland, Denmark).

- Feasibility study of the conditions of gold deposits "Taseevskoe" LLC "Rusdragmet" (Russia).

"ALMAZINTEKH" in the field of audit of mining projects



- Statement on the state balance sheet of the reserves of the gold ore deposit "Vasin" LLC "Orenburg Mining Company" (Russia).

- Geological study of the gold deposit of Lordjo (Liberia).

- Geological study of the gold deposit "Karalon" LLC "RudKaralon" (Russia).

- Gold mining at the Kumbel and Sarydzhel deposits (Kyrgyz Republic);
- Organization of exploration work at the Aprelskoye deposit (Kyrgyz Republic).

"ALMAZINTECH" diamonds and gold R&D

2002

Implementation of research work
"Development of regulations for the final finishing of diamond concentrates and cleaning the surface of diamond ore from the Nyurbinskaya pipe

Customer: OJSC ALROSA
Nyurba"

2003

Development of a technical proposal for a plant for the purification of diamond-containing concentrates

Customer: OJSC ALROSA
Nyurba"

2004

Pre-design study of the 3rd stage of the radar station of the debugging department of the 1st stage of the GRO "KATOKA" factory.
Design study of an automated water treatment unit for the radar unit of the 1st stage of the GRO "KATOKA" factory

Customer: GRO "KATOKA"

2004

Study of the stability of diamonds in alkaline melts

Customer: OJSC ALROSA
Nyurba"

2004

Contract for studies of the X-ray luminescence characteristics of chlorides from diamondiferous ore in order to search for a separating feature that ensures an increase in the selectivity of the X-ray separation of rough diamonds containing chlorides (for example, the International pipe, Mirny, Yakutia). NPP Burevestnik JSC.

2006

Carrying out research and development work at EP No. 1 of the Lomonosovsky GOK of OJSC Severalmaz in order to optimize technological indicators and coordinate work to obtain initial data for the formation of a technical assignment and design of an enrichment plant with a capacity of 5.6 million tons and adjustment of its technological scheme.

Customer: OJSC Severalmaz

2006

Testing of a highly inductive roller separator of the SMVI type on samples of ore material of various granulometric and mineralogical compositions of a kimberlite tr. "Arkhangelsk".

2008

Study of the luminescent properties of the host rocks of the ore of the Lomonosovskoye deposit in order to clarify the separating feature

Customer: OJSC Severalmaz

"ALMAZINTECH" diamonds and gold R&D

2008

Industrial testing of a pilot plant for the final finishing of diamond-containing concentrates.

Customer: OJSC ALROSA Nyurba"

2008

On the basis of NPP Burevestnik OJSC, research work was carried out to study the X-ray luminescent properties of the minerals of the feedstock and tail products of the heavy-medium plant of factory No. 1 of the Lomonosovskoye deposit.

Customer: OJSC Severalmaz

2010

Development of identification methods for raw and processed diamond crystals.

Customer: St. Petersburg State Mining Institute named after G.V. Plekhanov (technical university)

2010

Organization of conservation of a pilot industrial sample of the "ROSHCHA" installation

Customer: OJSC ALROSA Nyurba"

2011

Research organization. Patenting of the separation method in the optical wavelength range. Approval in NSOMTI of the methodology for determining the optimal features of the separation of solid minerals in the optical wavelength range. Conducting research on the creation of equipment for determining the signs of separation of solid minerals in the optical wavelength range, creating a database.

2012

Implementation of scientific and technical research on the creation of equipment for determining the signs of separation of solid minerals in the optical wavelength range

Customer: OJSC Severalmaz

2014

Together with Irgiredmet OJSC, a comprehensive testing of the technological scheme and the X-ray luminescent separation unit of the factory was carried out and scientific and technical assistance was provided to improve quality indicators. The choice of optimal operating modes was made and technological maps for X-ray luminescent separators used at the factory were developed.

Customer: OJSC Severalmaz

2017

Assessment of the prospects for the development and application of technology for thermochemical processing of kimberlites from cores of small diameters in the conditions of the GRO "Katoka", as well as an assessment of the technogenic damage to diamond crystals and the technology of their chemical processing

Customer: GRO "Katoka", Republic of Angola

"ALMAZINTECH" consulting services

2003

Consultations and Examination of geological projects for the evaluation, prospecting and exploration for diamonds.

Customer: Edelweiss Mining Company LLC

2008

Search and supply of tracers of various sizes and densities that meet the requirements of the tender for testing heavy-medium separation at the processing plants of the Nyurba GOK of AK ALROSA

Customer: AK ALROSA Nyurbinsky GOK

2008

The study of the provided geological information on several projects for the prospecting, exploration and production of gold and diamonds in Guyana and the preparation of investment memorandums based on this information in order to find investors.

Private customer

2009

Participation in the exploration of the deposit of the diamond-bearing pipe im. Mushroom. Provision of expert services "Control of the cold start of the BATEMAN modular debugging unit in South Africa, including DebTech X-ray luminescent separators"

Customer: OAO Arkhangel'skgeoldobycha

2009

Advice on appraisal, prospecting and exploration for diamonds and drawing up an information memorandum to attract investment in the project.

Client: Darnley Bay Resources Limited

"ALMAZINTECH" expertise

2004

Expert assessment of reserves and resources, technological and technical condition of diamond projects in South Africa.

Client: Private investor

2005

Expert evaluation of geological and geophysical materials of licensed areas of OOO NPK Almazkomi

Customer: Investment Company A1 LLC

2005

Expert assessment of reserves and resources, technological and technical condition of a mining enterprise at the Letsenge deposit (Kingdom of Lesotho)

Client: Private investor

2007

Expert evaluation of the Primorsky diamond project (Khankaisko-Ariadne licensed area of Primorsky Krai).

Customer: CJSC East European Mining and Geological Company

2009

Expert opinion on the materials of examinations and an information memorandum of licensed areas for the search for diamonds of the company "Geologorazvedka" in the Irkutsk region.

Customer: Geologorazvedka Company

"ALMAZINTECH"

design and reconstruction of processing plants

2005

"Feasibility study of permanent exploration conditions for calculating the reserves of the Morgogor alluvial diamond deposit in the Anabarsky Ulus of the Republic of Sakha (Yakutia)"

Customer: OAO Almazny Anabara

2008

Development of technical solutions to improve the enrichment technology at the processing plant No. 1 of the Lomonosovsky GOK and working documentation.

Customer: OJSC Severalmaz

2015-2016

Development of technology for processing ore from the Jerooy deposit.

Development of technological regulations for processing ore at the ZIF GOK "Jerooy" with a capacity of 1 million tons (Kyrgyzstan)

Customer: LLC "Alliance Altyn"

"ALMAZINTECH" geology

2003

Carrying out reconnaissance studies in order to assess the prospects for investing in exploration and mining operations at the Kakolo and Shingufu concessions.

Private customer

2006

Rationale for the geological study of the diamond content of the Luya concession (Angola).

Customer: Rustec Company,
Board of Directors of the Luya
Concession

2007

Rationale for Geological Study of the Rubi River Concession, Democratic Republic of the Congo.

Customer: IG ALROSA

2007

Carrying out field reconnaissance work on the territory of the Mualengue concession (Angola) for the establishment of prospecting and appraisal work, drawing up a "Program for a phased geological study of the concession area for 2007, including the main provisions for a phased geological study of the concession area.

Customer: Russian Diamond Group
LTD

2008

Carrying out reconnaissance studies in order to assess the prospects for investing in exploration and production of the Luya concession.

Customer: "ESN group"

2008

Assessment of the degree of diamond content and prospects for investment in mining operations at the Dambaya concession, Republic of Guinea.

Customer: "ESN group"

2008

An information memorandum was completed based on the materials provided by the Customer.

Customer: Liberty Diamond Group
S.P.R.L.

2009

Compilation of a thematic review on the state and prospects for the development of the mineral resources of the Republic of Guinea.

Customer: "Russian-Guinean
Business Council"

"ALMAZINTECH" geology

2009

Compilation of a thematic review on the state and prospects for the development of the mineral resources of the Republic of Guinea.

Customer: "Russian-Guinean Business Council"

2010

Analysis and evaluation conducted by MSA Geoservices (PTY) Ltd. in 2008, geological studies at the Driekoppies concession (South Africa) based on the submitted materials. Assessment of economic feasibility and the possibility of further continuation of geological exploration and development of the project with the transition to the operational stage. Compilation of a report. Drawing up a presentation brochure.

Customer: Renova Management AG JSC (Switzerland)

2015

Engineering support for the Sakhalin mining project (hard coal deposit) at the stages of preparation of a geological exploration project, geological exploration, preparation of a deposit development project, including project approvals and deposit development.

Customer: Joint Stock Company "CROCUS INTERNATIONAL" "CROCUS INTERNATIONAL"

2016

Expert feasibility study of exploration and production works within the Muno-Olenek licensed area

Private customer

2017 - 2018

Implementation of the Addendum to the "Project for the geological study (prospecting and evaluation) of diamonds at the Muno-Oleneksky site (Muno-Olenek interfluve) in 2008-2012"

Private customer

2022

Implementation of the "Project for the geological study (prospecting and evaluation) of diamonds at the Vasilievsky site" (Smolensk region)

Private customer

"ALMAZINTECH" lithium

2015

Participation in the search for lithium deposits. (licensed areas "Zvornik-Kozluk" and "Trnova-Uglevik").

Customer: Private business (Republic of Serbia)

2017

Evaluation of industrial production and enrichment of tantalum and lithium ores.

Client: Private business (Zimbabwe)

2017

Development of a promising project for lithium (ZAO Renova)

Client: Democratic Republic of the Congo

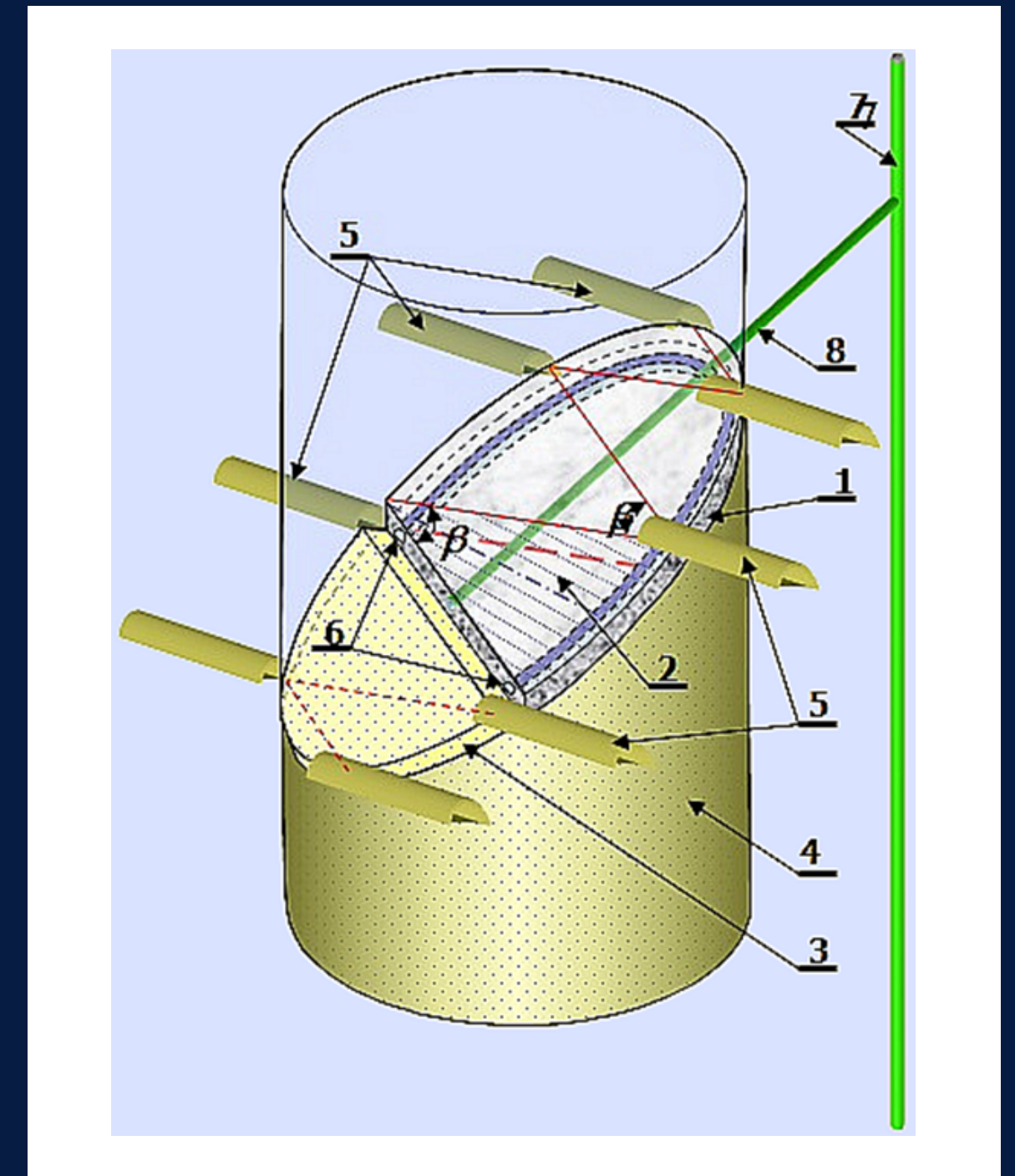
2020

Development of technology for flotation enrichment of rare-metal lithium-containing ores of the Mungutiin Tsagaan Durvulzhin deposit.

Customer: Private business (Mongolia)

PATENTED UNDERGROUND DRILLING SYSTEM WITH LOOSE STACKING FOR KIMBERLITE PIPE MINING CONDITIONS (INTELLECTUAL PROPERTY OF ALMAZINTEKH LLC)

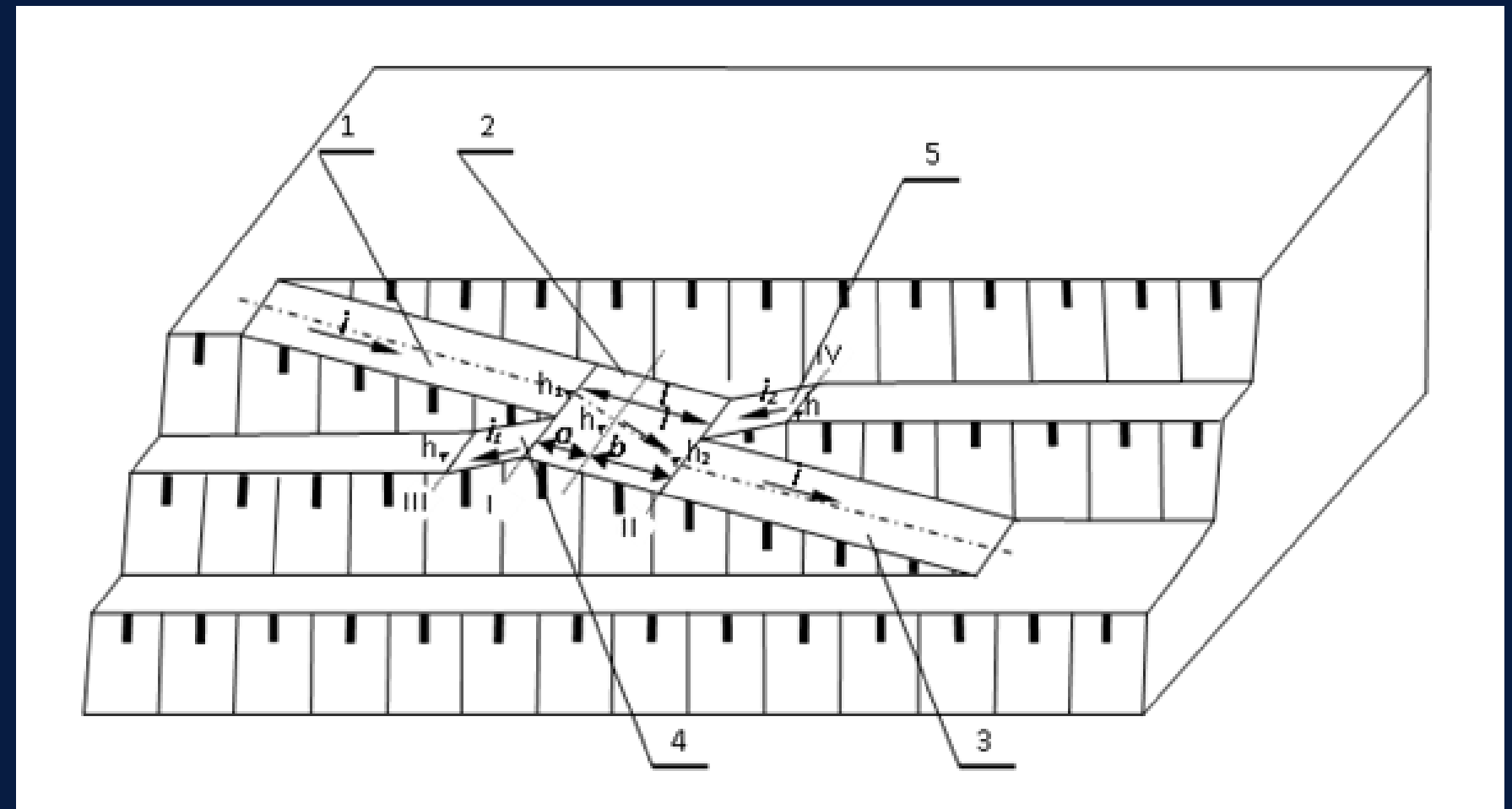
- 1 – mined ore layer;
- 2 – sector-shaped block prepared for excavation (excavation belts are shown by lines);
- 3 – worked out and embedded part of the layer;
- 4 – previously worked out space with a backfill;
- 5 – haulage workings;
- 6 – workings inside the worked out layer for the organization of ventilation and emergency exits;
- 7 – vertical well;
- 8 – inclined pipeline;



METHOD FOR JOINING SLOPED TRANSPORT BERMS AT THE AREA OF CONNECTION TO THE SAFETY BERM (INTELLECTUAL PROPERTY OF ALMAZINTEKH LLC)

It leads to a decrease in the volume of overburden work and to a decrease in the distance of transportation of the rock mass from the quarry.

- 1 – overlying fragment of an inclined transport berm of single width;
- 2 – a fragment of an inclined transport berm with a width equal to the total width of the transport and safety berms;
- 3 – underlying fragment of an inclined transport berm of single width;
- 4 – inclined fragment of the safety berm;
- 5 – inclined fragment of the safety berm;



SUBSIDIARIES AND JOINT VENTURES "ALMAZINTEKH" group



- Engineering Test Center (NPP GeoTestService), RF.

The test center was created to introduce innovative technologies in the field of large-sized ore sorting at operating enterprises for the processing of primary ores and technogenic raw materials.

- "Almaztekhproekt" company, Russian Federation.

- Aprilskoe Company, Kyrgyz Republic.

- Bircat KG, Democratic Republic of the Congo.

SUBSIDIARIES AND JOINT VENTURES "ALMAZINTEKH" group

ENGINEERING TEST CENTER CJSC NPP GeoTestService

**Provision of a full range of
geotechnological and engineering
services**

- Team of highly professional specialists.

- All types of radiometric separation.

- Carrying out from laboratory work to industrial testing of ores of all solid minerals.

- Development of new models of separators, maximally focused on the Russian market.

SUBSIDIARIES AND JOINT VENTURES "ALMAZINTEKH" group

COMPANY "ALMAZTEHPROEKT"

Started work in 2005. It brought together specialists – designers working in the field of mining and processing of ores and placers of precious metals and diamonds, with many years of experience in designing and building mining enterprises in Russia and the CIS countries.

Specialists of the Almaztekhproekt company at various times worked in such research and design enterprises as: VNIIPromtekhlogiya, VIMS, TsNIGRI, Ginalmazzoloto and others.

With the direct participation of Almaztekhproekt specialists, the design of such large facilities as:
– Mayskoye field (Chukotka)
– Mnogovershinnoye deposit (Khabarovsk Territory) and others.

- Field modeling and reserves estimation (including in JORC format).
- Implementation and protection in the GKZ and TKZ of feasibility studies of permanent and exploration conditions.
- Examination of projects, evaluation and comprehensive inspection of production.
- Implementation of business plans, technical and economic assessments, calculations and justifications.



OUR INTELLECTUAL PROPERTY

**1. METHOD OF REBUILDING THE NON-WORKING BOARD OF THE PIT
Y.G. ZHELYABOVSKY (Author's certificate No. 1694900)**

**2. METHOD FOR JOINING SLOPED TRANSPORT BERMS IN THE AREA
OF CONNECTION TO THE SAFETY BERM (Eurasian Patent No.
008729 and No. 008469)**

**3. SYSTEM OF UNDERGROUND MINING OF MINERAL
RESOURCES WITH NON-HARDENING BACKBACK
(Patents No. 2274748 and No. 2219339)**

**4. METHOD FOR PROCESSING DIAMOND-CONTAINING ORE
CONCENTRATES AND CHEMICAL CLEANING OF DIAMOND
SURFACE (Patent No. 2286945)**

**5. METHOD FOR SEPARATION OF DIAMOND-
CONTAINING MATERIALS (Patent No. 2336127)**

**6. METHOD FOR IDENTIFYING DIAMOND
CRYSTALS (Patent No. 2329489)**



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