RAREMET 2026

The International Congress on Rare Metals, Materials and Related Technologies

Moscow

The International Congress on Rare Metals, Materials and Related Technologies **RAREMET-2026**

May 20-22, 2026, Moscow

INFORMATION LETTER

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The International Congress on Rare Metals, Materials and Related Technologies RAREMET-2026

RARE MET 2026 The International Congress on Rare Metals, Materials and Related Technologies Moscow

ABOUT THE CONGRESS

GIREDMET State Research and Design Institute of Rare Metal Industry, JSC is pleased to invite you to take part in **The International Congress on Rare Metals, Materials and Related Technologies – RAREMET-2026**, to be held in **Moscow, 20–22 May 2026**.

The RAREMET 2026 Congress represents the latest evolution of a distinguished intellectual legacy and progressive institutional transformation. It originated as the "**Sazhin Readings**" seminar series, established at GIREDMET in 1970 under the auspices of the USSR Academy of Sciences in honor of Academician N.P. Sazhin, founder of the Soviet rare-metal industry. In modern history, this foundational series evolved into the international **RAREMET conferences** held in Moscow in **2021**, **2022**, and **2024**, and now expands further as the comprehensive **RAREMET Congress**. Over this trajectory of development, the platform has emerged as Russia's premier international integrator of scientists, technologists, policymakers, and business leaders, dedicated to comprehensive discussion of the scientific, technological, systemic, and global aspects of rare-metal industry development.

Building on this legacy, the 2026 Congress will highlight cutting-edge scientific results, sector-defining trends, and forthcoming breakthroughs across rare-metal technologies - from strategic mineral resources and sustainable processing to high-purity compounds, advanced metallurgy, functional materials, and applications in high-tech industries.

CONGRESS FORMAT and SCOPE

The Congress program will feature a general plenary session, panel discussions, expert sessions, and four scientific conferences: **RAREMET:Minerals**, **RAREMET:Metallurgy**, **RAREMET:Chemistry**, and **RAREMET:Functional** – each dedicated to a particular group of topics. The conferences will include oral and poster sessions.

Government-to-government (G2G) level meetings are planned to be held at the Congress that will be further announced in Feb-Mar 2026.

SCIENTIFIC CONFERENCES

1. RARE METAL MINERAL RESOURCES & SUSTAINABLE PROCESSING TECHNOLOGIES (RAREMET:Minerals)

- Exploration, mining, and beneficiation of natural and secondary resources; reduction and processing of tailings and slags;
- Underground and heap leaching, agitation and bioleaching of rare metals; integrated water-balance management;
- Hydrometallurgy (ion exchange, membrane processes, solvent extraction) and pyrometallurgy for ores and residues;
- Footprint reduction and decarbonization; life-cycle assessment (LCA) of processing routes;
- E-waste and renewables-sector waste valorization; circular-economy supply chains and reverse logistics for critical materials;
- “Urban mining”: efficient and environmentally friendly recovery of critical metals from end-of-life magnets, batteries, and electronics;
- Digital mineralogy, process modeling and optimization, deposit/flowsheet digital twins, and digital material passports.

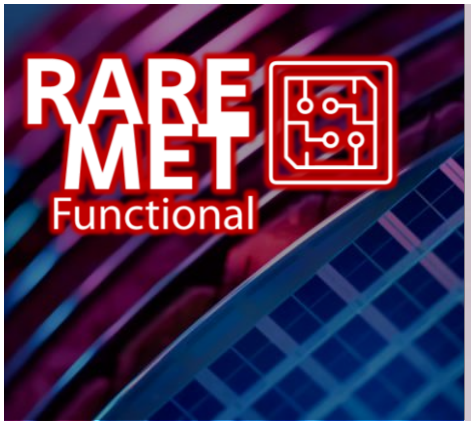
2. METALLURGY, MAGNETIC MATERIALS, POWDERS & COMPOSITES BASED ON RARE METALS (RAREMET:Metallurgy)

- Electrolytic and metallothermic production of rare metals; deep refining of rare metals;
- Alloy and master-alloy design: intermetallic, high-entropy, shape-memory and other systems;
- Nd-Fe-B and Sm-Co permanent magnets; HRE-lean/free solutions; advanced magnet fabrication routes;
- Refractory-metal powders and dispersoids; rare metal-based composites and nanostructured materials;
- Additive manufacturing (L-PBF, DED) of rare earth and refractory metal alloys with in-situ microstructure/texture control;
- Production and purification of light rare metals (Li, Be, Rb, Cs);
- Dispersed/scattered metals (In, Ga, Sb, Ge, Re): from raw materials to ultra-high-purity metallic forms.

SCIENTIFIC CONFERENCES


3. CHEMISTRY & TECHNOLOGY OF HIGH-PURITY RARE-METAL COMPOUNDS & MATERIALS (RAREMET:Chemistry)

- Rare metal chemistry at lab-to-pilot scale: precursors, salts/coordination and organometallic compounds for functional materials and catalysis;
- High-purity production, refining, stability assessment, and certification;
- Analytical chemistry of rare metal based materials: multielement, isotopic, and trace analytics; reference materials and standardization frameworks;
- ALD, CVD and other precursors: design, volatility, thermal stability, and clean decomposition;
- Ionic liquids and deep eutectic solvents as selective “green” media for extraction and purification;
- Autonomous laboratories and AI-guided synthesis: robotic screening and active-learning workflows.




4. RARE METAL BASED FUNCTIONAL MATERIALS FOR ELECTRONICS, OPTICS, PHOTONICS, ENERGY CONVERSION & STORAGE (RAREMET:Functional)

- Elemental semiconductors (Si, Ge);
- Compound semiconductor families III–V, II–VI, IV–IV, IV–VI, (II,III)–VII;
- Wide-bandgap semiconductors for power electronics and UV photonics;
- Luminescent and optical materials across the UV–visible–IR spectrum;
- Rare earth and transition metal based magneto-optical materials;
- Quantum cutting and up-conversion materials based on rare earth ions;
- Semiconductor and scintillation materials for ionizing-radiation detection in nuclear energy, security, and medical imaging;
- Spintronics materials: dilute ferromagnetic semiconductors, half-metallic oxides, and Heusler alloys;
- Metal-ion (Li-, Na-, Al-, Zn-, Mg-ion systems) batteries, related materials and architectures;
- Thermoelectric materials (TMs) and processing. TM devices and applications.
- Hydrogen-energy technologies: fuel cells, electrolyzers, membrane reactors, H_2 storage.

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PLENARY SESSION TOPICS

Rare metals are fundamental to modern technology and serve as a key driver of sustainable development worldwide. Their unique properties enable critical innovations across high-tech sectors, including electronics, optics, renewable energy, medical technology, defense, and environmental applications. As global demand for advanced materials continues to rise, rare metals (including rare earth, refractory, scattered and light rare metals) are indispensable for manufacturing products such as electronics, optical and photonic elements, lasers, energy storage systems, wind turbines, medical devices, catalytic converters, aerospace and defense systems, and green technologies. Securing their sustainable supply, responsible processing, and efficient utilization is essential for maintaining industrial competitiveness, facilitating the energy transition, and supporting global efforts to establish environmentally responsible value chains for the future.

During the **plenary sessions** and **panel discussions** the following issues will be addressed:

- Global transformation of the rare & rare-earth metals sector: technological, geopolitical, and economic perspectives;
- Strategic partnerships and international cooperation in rare metals & critical materials as drivers of sustainable industrial strategies;
- Advanced training & education of professionals for the rare metals sector;
- Development of integrated technological chains from raw materials to finished products
- Technological & economic challenges in mining and metallurgical production of rare metals;
- Interdependence of high-tech industries & the rare metals sector. Which comes first?
- AI & digital materials science, etc.

RAREMET Expo

In addition to the conference and plenary sessions, the event will host the **Exhibition of Technologies and Materials Based on Rare and Rare-Earth Metals** (**RAREMET Expo**) where leading companies and research institutions showcase cutting-edge innovations in extraction, processing, and application of rare metals. This is a unique opportunity to present your breakthroughs to an audience of 500+ specialists, decision-makers, and key industry players from Russia and internationally. Exhibition spaces range from 6 to 18 m^2, with flexible configuration options. **Special terms** and **sponsorship packages** are available for **companies** seeking prominent visibility and direct engagement with the rare-metals international community.



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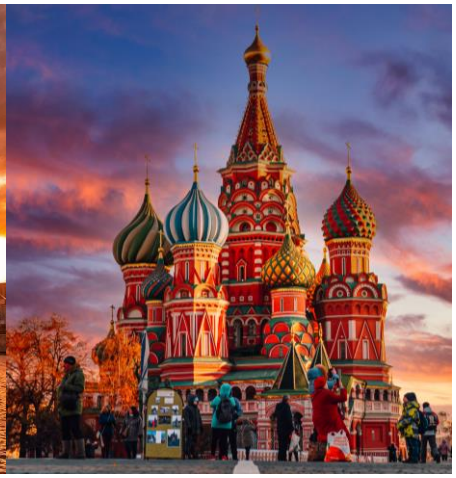
PARTICIPANTS

It is expected that around **500 representatives** from science and industry will take part in RAREMET-2026, including prominent scientists and top managers of leading high-tech companies working in the field of rare-metal technologies. Participants will include specialists and industry leaders from **Russia, India, China, Egypt, Turkey, Indonesia, Malaysia, Kazakhstan, Kyrgyzstan, Tajikistan, Iran, Vietnam, Nigeria, Niger, Belarus, Mongolia, Venezuela,** and other countries. The largest foreign delegation is expected from **India**.



KEY DATES AND INFORMATION

- Call for participation and abstract submission opens: **1 Dec 2025**
- Deadline for registration and abstract submission: **5 Apr 2026**
- Notification on acceptance: **27 Apr 2026**

Further details are available at the Congress website: **redmet.giredmet.ru.**

CONTACT INFORMATION

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We would be honored to welcome you and your colleagues at RAREMET-2026 in Moscow and look forward to your contribution to the discussions shaping the future of the global rare-metals industry.

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Official website
redmet.giredmet.ru

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