



НАЦИОНАЛЬНАЯ
ТЕХНОЛОГИЧЕСКАЯ
ОЛИМПИАДА

International Space Games (ISG)

It is an international engineering and educational project implemented in the format of a space mission, and aimed at building and developing interdisciplinary engineering competencies necessary for training personnel to participate in future manned space missions, as well as to work in extreme and isolated conditions.

The ISG are implemented within the framework of the **National Project «Space»** and the **federal project of the Ministry of Education and Science of the Russian Federation «Personnel for Space»** and is aimed at the formation and development of human resources for the aerospace industry, related high-tech sectors, as well as scientific and engineering areas.

Participants

National student teams, represented by multidisciplinary engineering teams from BRICS+, SCO and other countries.

The project contributes to

- ♦ increasing the interest of young people in astronautics and engineering professions;
- ♦ developing the international aerospace education system;
- ♦ involving students in joint international practical project and research activities;
- ♦ building sustainable international educational and scientific networking;
- ♦ expanding channels for interaction between startups and international investors / industrial partners.



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Formats

- ◆ TV show: a thematic competition of «astronauts» focused on overcoming challenges and survival at a test site equipped with infrastructure developed by engineering teams and using advanced technological solutions;
- ◆ International Tournament «Orbita» aimed at involving student teams from schools, colleges and universities in space engineering and advanced research in the field of global space exploration.

Key Ideas

- ◆ The common space that unites us;
- ◆ International cooperation in space exploration and colonization;
- ◆ The competitions put «the individual» and «the engineering team» at the centre.

International Cooperation Platform

- ◆ Formation of a community of technology enthusiasts from different countries;
- ◆ A new generation of scientists and engineers guided by shared values to ensure human capital and technological sovereignty of the participating countries;
- ◆ New standards for joint peaceful space exploration.

Support

- ◆ Ministry of Education and Science of the Russian Federation
- ◆ Ministry of Foreign Affairs of the Russian Federation
- ◆ State Space Corporation «Roscomos»



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Key focus areas of the International Space Games

POWER

Autonomous power sources, solar panels, energy storage systems, intelligent power distribution, work under conditions of energy resource deficiency.

ROBOTICS

Maintenance and repair of equipment, preparation of rovers for operation.

SPACE DATA ANALYSIS

Satellite communication, geoportal organisation, data integration, terrain mapping, soil and terrain analysis, fine-tuning and adaptation of AI algorithms for mission tasks.

LIFE SUPPORT SYSTEMS

Provision and control of environmental parameters (air, water, pressure, temperature), development of emergency and non-standard scenarios.

BIOLOGY AND CHEMISTRY

Hydroponics, sustainable production and processing of resources under autonomous living conditions.

COMMUNICATION

Organization of stable communication channels, redundancy of communication systems, interaction with the Mission Control Center (MCC).

PSYCHOLOGY AND MEDICINE

Team dynamics, stress management, psychophysiological state of the crew, decision-making under conditions of uncertainty and time constraints.

MEDIA

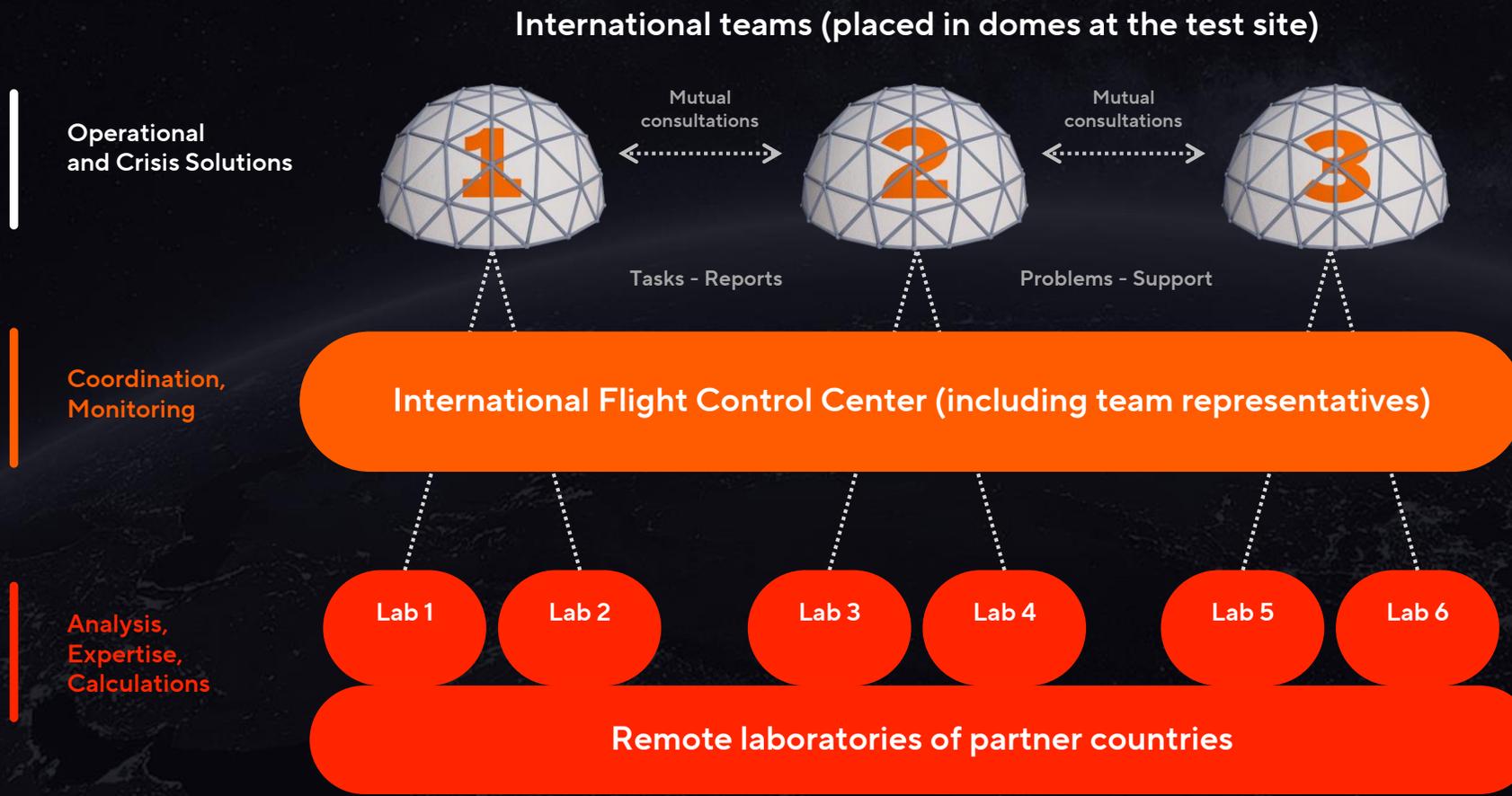
Mission diary maintenance, video reporting, interviews with team members, use of backup communication channels.



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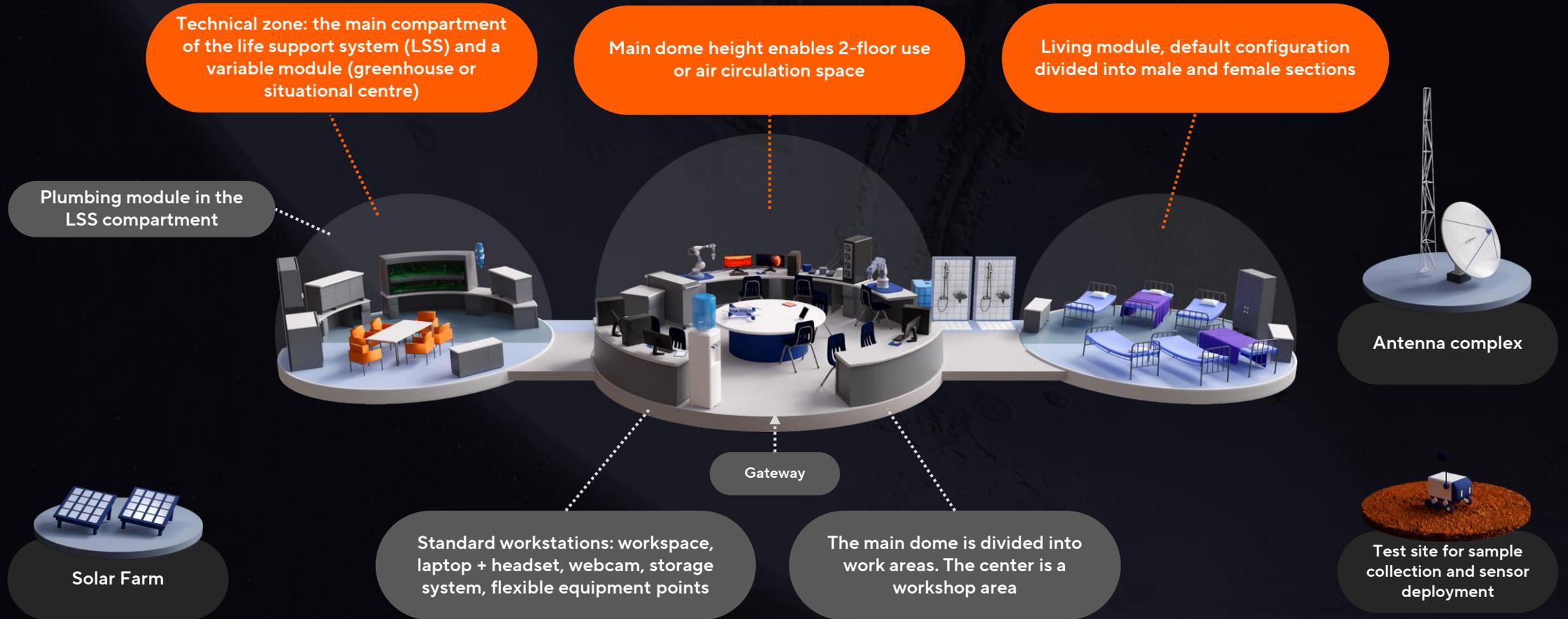
Structure of the International Space Games



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Layout of the space dome



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Infrastructure of the International Space Games

Test Site

Operational centre,
including the media centre headquarters

Stratospheric launch area



Near the test site

Living area for the organizers and
the eliminated participants

Duty stations of emergency
services (Ambulance Service,
Emercom)

ISG public base

Media Center

International
Flight Control Center

Work area of the teams of the
International Space Tournament
"ORBIT"

Lab 1

Lab 2

Lab 3

Lab 4

Lab 5

Lab 6



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International partnership

Countries

- ♦ SCO/BRICS+ countries
- ♦ Belarus
- ♦ Kazakhstan
- ♦ Kyrgyzstan
- ♦ Uzbekistan
- ♦ China
- ♦ India
- ♦ UAE
- ♦ Saudi Arabia
- ♦ Brazil

Formats and areas of partnership

- ♦ Methodological support in the development of ISG tasks;
- ♦ Expert support during the ISG;
- ♦ National teams of young engineers;
- ♦ Exchange of equipment and technologies.

At the international level, ISG contributes to:

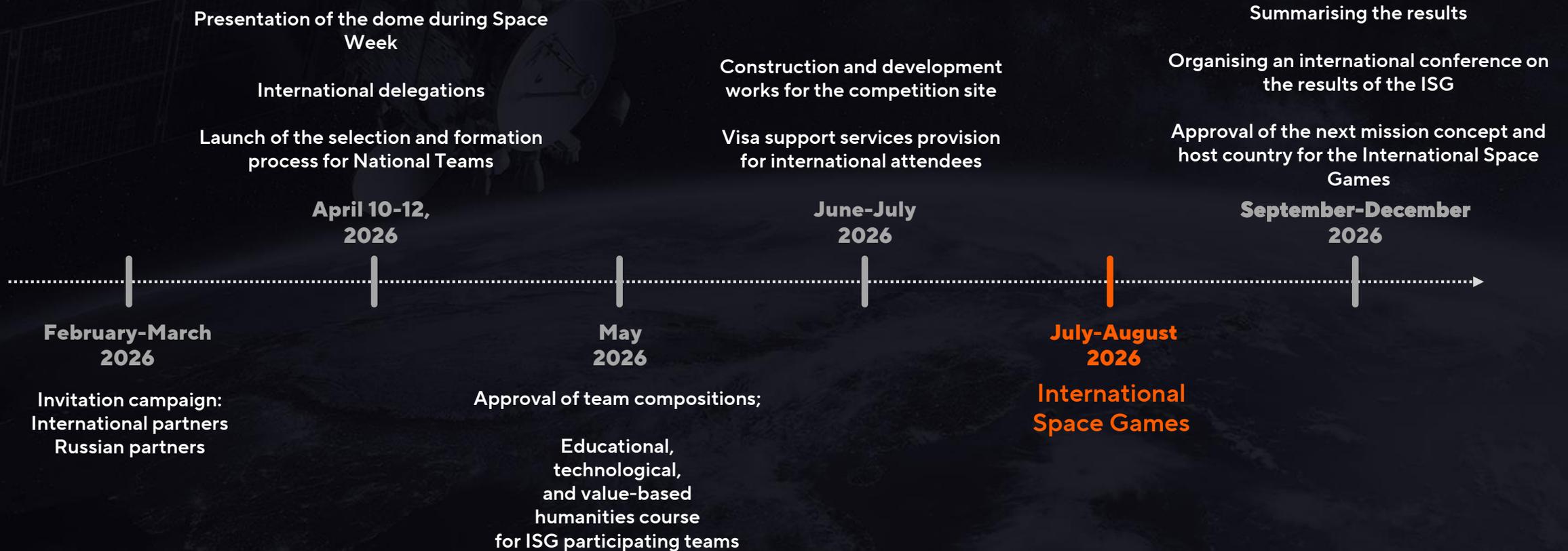
- ♦ deepening cooperation on key national human spaceflight programmes among BRICS+, SCO, and EAEU countries through the exchange of personnel and MCC protocols;
- ♦ establishing a unified technological platform of standardised crew training and mission management standards for space agencies of BRICS+, SCO, and EAEU;
- ♦ organising the International Flight Operations Control Centre as a coordination hub for joint analog missions;
- ♦ developing a talent pool of specialists with verified CTC metrics for national space programmes (CTC – Cosmonaut Training Centre);
- ♦ developing the international innovation ecosystem through the integration of space-themed technology parks and accelerators;
- ♦ developing a prototype infrastructure for the International Lunar Research Station (ILRS);
- ♦ conducting joint applied research using geotechnologies from GLONASS, Beidou (China), and NavIC (India);
- ♦ expanding scientific partnerships through Scopus publications and ERASMUS+ educational modules



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Stages of the International Space Games



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Location for the International Space Games

Territory of the Skolkovo Innovation Center

Logistics and infrastructure

Accessible logistical location within Moscow and the Odintsovo District, supported by well-developed infrastructure

Dates of the event:

July 27 – August 2

Landscape

Technological landscape and an opportunity for international participants to explore the capabilities of the Skolkovo Innovation Center



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According to the results of the International Space Games

Deepening space cooperation

Participating teams will have the opportunity to conduct joint analog missions under the ILRS (Russia–China), Gaganyaan (India), and Tiangong (China) programmes, as well as ground operations at the Baiterek and Alcântara facilities, using standardised protocols of the Mission Control Centre (MCC) and personnel exchange.

Establishing International MCC

The International Mission Control Centre of the ISG operates as an equivalent to the NASA Mission Control Center, providing a unified coordination hub for national space agencies of the BRICS+ and SCO member states to manage joint analog manned missions to the Moon and Mars.

Building a talent pool

Selected candidates with verified CTC metrics (stress resilience, cognitive abilities, teamwork skills) who are ready for integration into active programmes of CNSA, ISRO, MBRSC, Kazcosmos, and similar national projects.

Conducting joint research

A series of experiments on the practical application of Russian and partner geoinformation technologies (GLONASS, BeiDou, NavIC) for monitoring extreme conditions, simulating Lunar/Martian surfaces, and analysing data from ground operations.