

CREMLIN PLUS

Connecting Russian and European Measures
for Large-scale Research Infrastructures



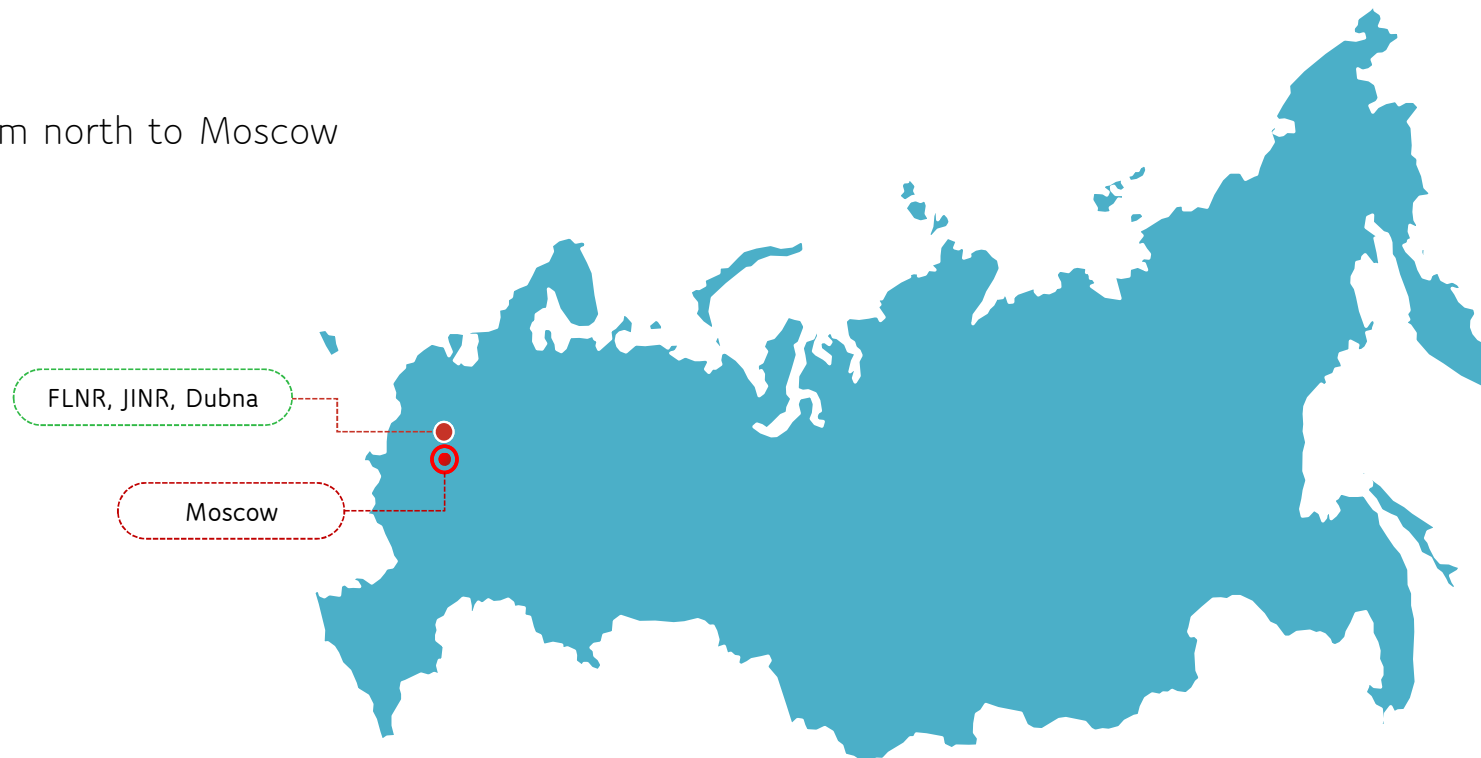
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 871072

Joint Institute for Nuclear Research

CYCLOTRON COMPLEX

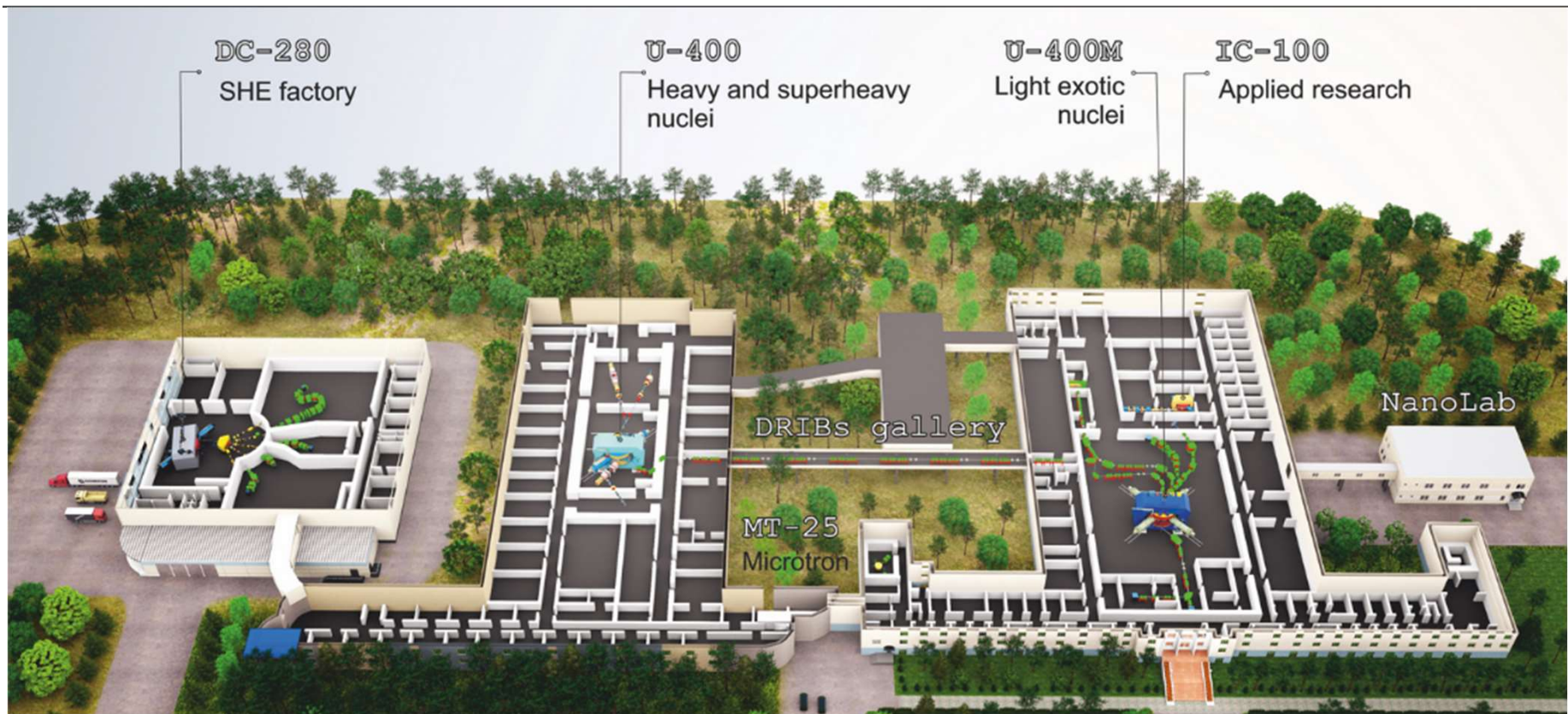
1. Location of the facility (indicating the place on the map of the Russian Federation)

Dubna: ~130 km north to Moscow





1. Layout of the facility (FLNR accelerator complex)



+ 2. Facility uniqueness (key advantages and opportunities open up for researchers)

Fleet of heavy-ion accelerators (four cyclotrons) and an electron accelerator (microtron).

Unique dedicated facility for superheavy element research: SuperHeavy Element Factory.

Wide range of accelerated ions: from He to Bi.

Wide range of beam energies: from 1 MeV/nucleon up to 50 MeV/nucleon.

Availability of rare beams, such as: ^{48}Ca , ^{50}Ti , and radioactive ion beams with $Z < 20$.

Availability of actinide isotopes for targets and cryogenic gaseous targets, including tritium.

More than 12 000 hours of beam on target annually.

+ 3. Existing types of access to the facility (direct, remote, online, etc.)

Access to the FLNR, JINR accelerator complex is organized in the form of joint nuclear physics experiments.

4. Open access \ Regulated access to the facility (if available)

FLNR executes experimental program approved by the JINR governing bodies: Program Advisory Committees, Scientific Council, and Committee of Plenipotentiaries of the JINR Member States.

The beam time is distributed by the FLNR Directorate.

The external users may propose joint experiments and/or join approved experiments on the basis of mutual interest.

+ 5. Procedures and internal access policies for external users (including foreign users), availability of special type visa (for scientists, etc.)

After distribution of the beam time, FLNR prepares first necessary documents for organizing the visit to JINR.

The JINR Visit Centre provides the communication with the users concerning visa procedure, booking accommodation, transport from Moscow airports to Dubna and back, on-site access permission.

JINR accounting department provides with daily allowance if proper.

+ 6. Main users of the facility (employees of the organization/external users (Russian or foreign), if foreign – specify the main partners).

Employees of JINR

Employees of scientific organizations from JINR Member States:

Armenia, Azerbaijan, Belarus, Bulgaria, Cuba, the Czech Republic, Georgia, Kazakhstan, Moldova, Mongolia, Poland, Romania, Russia, Slovakia, Ukraine, Uzbekistan, and Vietnam.

Employees of scientific organizations from JINR Associated Members: Egypt, Germany, Hungary, Italy, the Republic of South Africa and Serbia

Employees of scientific organizations from other countries: China, France, Japan, Switzerland, USA, etc.

+ 7. Cooperation with the European RI facilities (visits, exchange of experience, knowledge, etc.) (if no cooperation built yet – indicate the priority RIs for the future cooperation)

FLNR, JINR tightly cooperate with European scientific centers. This may occur in the form of:

Joint experiments at JINR and European scientific centers;

Visits, co-organization of workshops and conferences;

Exchange of knowledge, technologies and equipment;

8. Brief analysis of the facility (strengths, prospects for international development)

Diverse program of scientific research in the fields of low-energy nuclear physics, applied research, accelerator technologies

Well-developed international cooperation

Long-standing traditions and a scientific school

+ 9. Facility website screen shot and link (English version is highly required)

http://flerovlab.jinr.ru/flnr/dribs_III.html

JOINT INSTITUTE FOR NUCLEAR RESEARCH

FLEROV LABORATORY of NUCLEAR REACTIONS
Founded on May 20, 1957

About FLNR

Structure

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Research

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Education Activity

People

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FLNR ACCELERATOR COMPLEXES

DRIBS-III

- Project DRIBS-III, future development of the FLNR accelerator complex includes modernization of existing cyclotrons, construction of a new experimental hall, creation of the new high current cyclotron and the next generation experimental set-ups. Realization of the project is planned for 2016-2018.
- Project DRIBS-III according to recommendations of NPPACs, SCs and CPP:
 - Completion of modernization of cyclotrons [U400](#) and [U400M](#)
 - Sharing of physical tasks between accelerators
 - Creation of SHE factory based on the high-intensity universal [DC280_cyclotron](#) (A428, E410 MeV·A, I4 20 pA) in a new separate experimental building
 - Creation of new generation experimental set-ups
 - Total reconstruction of the U400 experimental hall, including 6 radiation safe experimental caves
 - Construction of a special building for physical groundwork of nanotechnology (1500 m²), based on [IC100](#) and [U400M](#)

DRIBS-III ACCELERATOR COMPLEX

DC-200 SHE factory U-400 Heavy and superheavy nuclei U-400M Light exotic nuclei IC-100 Applied research

NanoLab

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11. Contact details (cell phone, e-mail)

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