

# CREMLINplus

# Kick-off Workshop

Overview and Coordination  
of a 4-year EU-Russian Project

Funded under Horizon 2020  
Grant agreement no. 871072



Martin Sandhop  
Hamburg, 19.02.2020

# From CREMLIN to CREMLINplus

- 1.5 years ago: CREMLIN Closing Conference June 2018 at DESY
- Seen from now: CREMLIN was a preparator and pathfinder for CREMLINplus
- CSA Project; DESY coordinator
- „First **CREMLIN Recommendations** for the European-Russian Megascience Cooperation“  
→ basis for follow-up project



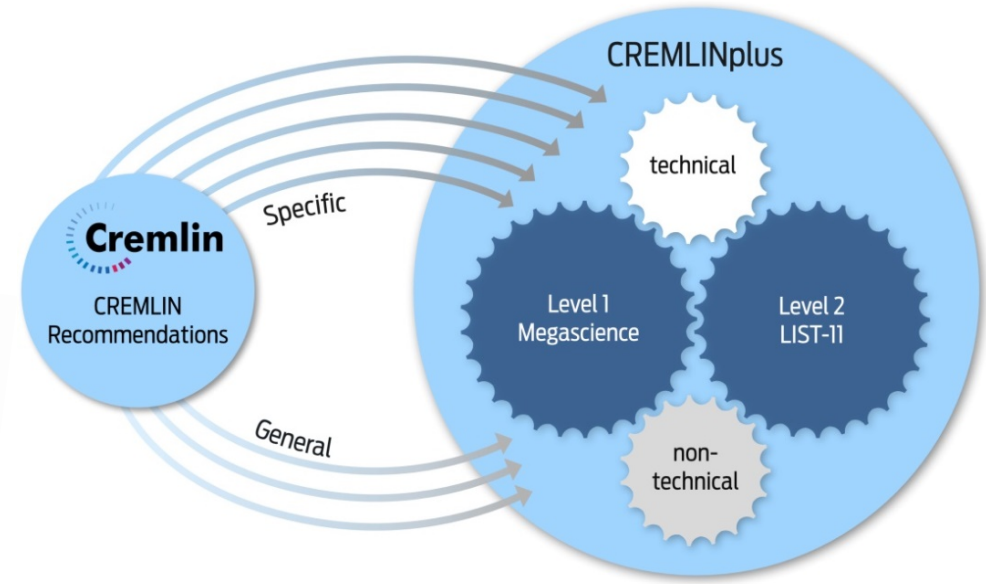
*CREMLIN Closing Conference, June 2018, DESY  
Picture: M. Mayer*

# From CREMLIN to CREMLINplus

## Recommendations

Two sets of recommendations:

- **Specific Recommendations** for the EU-Russian collaboration around all five megascience projects, or facilities
- **General Recommendations** for further actions concerning topics that are relevant for EU-Russian collaboration around a broader set of Russian R
- **Naming “CREMLINplus”** motivated by this special and strong link from one project to the next



# Altogether more than 10 years...

2013-2024



**Cremlin** Connecting  
Russian and European Measures  
for Large-scale Research Infrastructures

 **2015-2018**  
CREMLIN  
project

 **2013**  
EU Expert  
Report

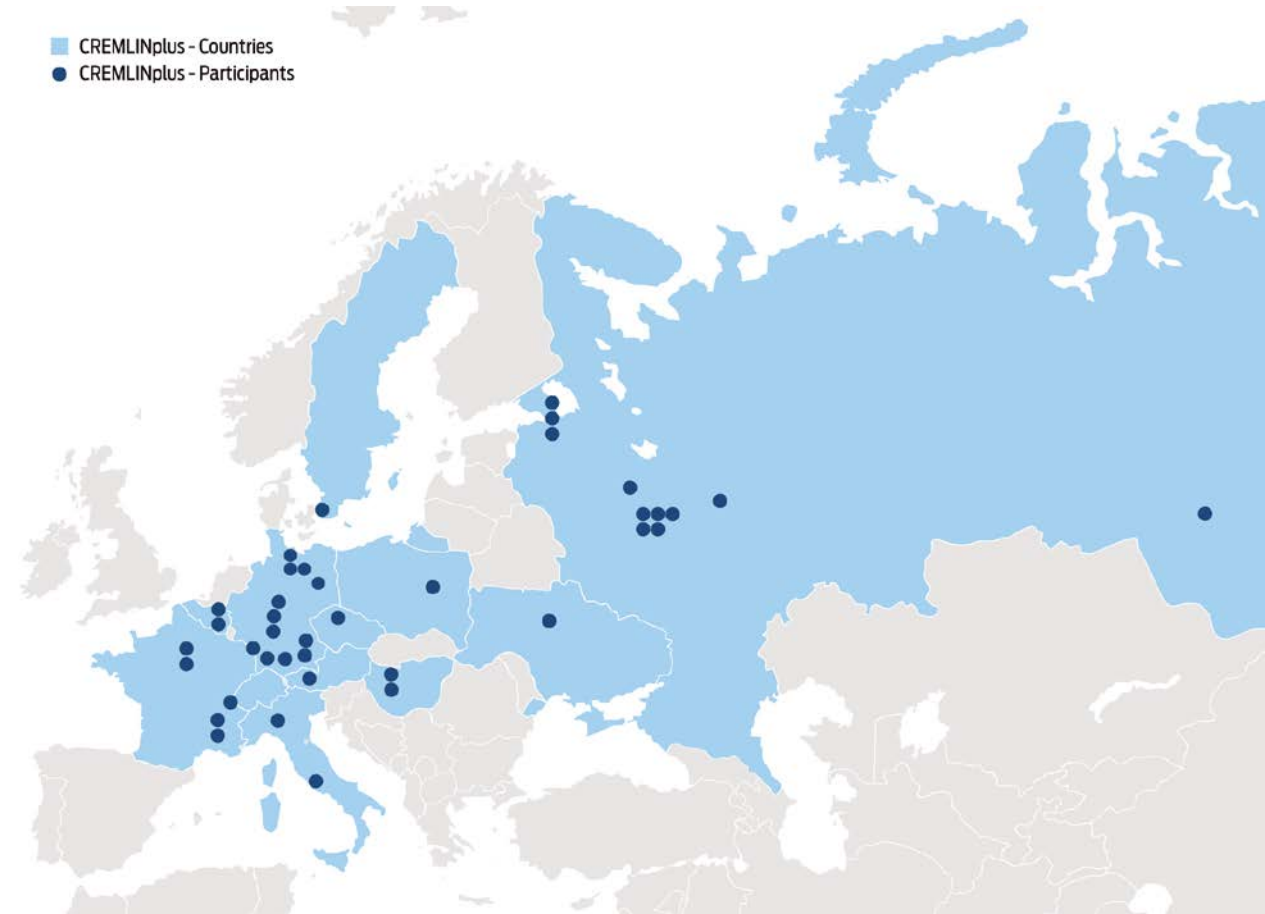
 **2020-2024**  
CREMLINplus  
project



# Facts about CREMLINplus

## A European-Russian flagship project

- Funded under EU's Research and innovation Programme Horizon 2020
- EU's **Flagship project** in the EU-Russian cooperation in the domain of RI
- CREMLINplus is a Research and Innovation Action (RIA), following INFRASUPP-01-2018-2019
- Project duration: 4 years, 01.02.2020-31.01.2024
- **Budget: 25 million EUR**
- **Consortium: 35 partners**
- Building on "First CREMLIN Recommendations"
- Coordinator: DESY



# Aim of kick-off workshop

- Aim of kick-off:
  - to recollect a **common understanding** of structure and aims of the project; plus of how the project is going to be implemented
  - Explain the idea how the project will be **coordinated**
  - Elaborate clear timeline of the WPs for the **next 12 months**
- Key challenge I: exceptional **size of the project**, in terms of consortium and budget
- Key challenge II: **prevent disintegration** of project into isolated WP silos
- CREMLINplus: in fact a **portfolio of projects**: WPs could easily be seen as projects, given their dimensions (budget, consortia)

# Status of preparation as of 19 February

- Consortium agreement (CA): all signed ✓
- General Assembly (GA): established ✓
- Executive Board (EB): nominated, yet to be approved on 20 February ✓
- Project logo: to be selected today ✓
- Project website: [www.cremlinplus.eu](http://www.cremlinplus.eu)  
needs to be set up
- Project team at coordinator: set up ✓
  
- First activities already in early February (WP2 NICA,..)

**Ready for take off!**



# Voting for the project logo

2 proposals – to be elected by workshop audience within voting procedure

- **Proposal 1:**



- **Proposal 2:**





# Project team at DESY



*Ute Krell, Head of EU Project Office at DESY*



*Martin Sandhop, Scientific Coordinator of project*



*Tom Minniberger, Finances & event management EUP*



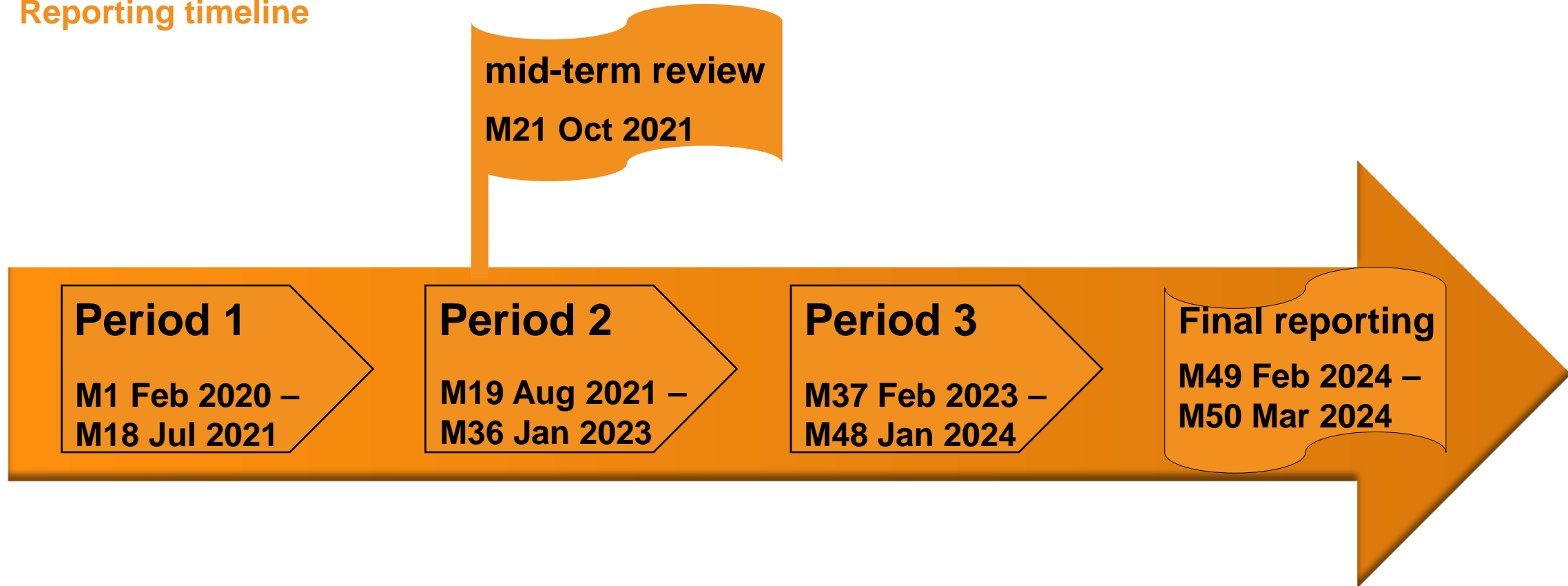
*Uwe Meyer, Advisor to DESY on CREMLINplus*



*Kaja Scheliga, Project Manager*

# Three Reporting Periods (RP) in CREMLINplus

## Reporting timeline



# What we take from the project proposal evaluation

## Access, access, access...

- Evaluation Summary Report provides valuable indications that definitely need to be taken up
- General statement: ESR especially highlights „tremendous challenge“ - „implementation of open **access** ... to services, resources and data by both EU and Russian facilities“
- Better clarify „How the recommendations to set open access ... should reach the **legislative level** necessary to harmonise ..“ standards in EU and in Russia  
→ will be addressed in WP8 TNA, and WP10 LTS
- „...access of EU researchers to Russian facilities needs a swift **development of rules and processes**“; „not consistently addressed..“  
→ will be given special attention within WP8 TNA

# What we take from the project proposal evaluation

- „Rules and procedures for mobility and staff exchange schemes are not clearly addressed“  
→ during first months of the project, WP9 TRAIN partners will develop the training schemes in more detail
- „... clear plan for the dissemination of the project´s results is missing“  
→ will be worked out in more detail as priority task in WP1
- „closer monitoring of the project advancement is necessary“: some tasks with long gaps between milestones  
→ WP1 management team will take measures to ensure a very close project progress monitoring, and will also bring this to the quarterly Executive Board meetings – quarterly WP progress reports

# Consortium



List of participants

- Consortium with 35 participants
- Much **extended** CREMLINplus consortium, building on CREMLIN consortium (19 participants)
- **EU MS & Associated Countries**: 25 partners from 9 countries

DE, FR, CZ, HU, IT, PL, BE, CH, UA

- **Russian Federation**: 10 partners

Moscow, Saint Petersburg & Gatchina, Dubna, Nizhniy Novgorod, Novosibirsk

Participant No *	Participant short name	Participant organisation name	Country
1	DESY	Stiftung Deutsches Elektronen-Synchrotron	DE
2	BINP	Budker Institute of Nuclear Physics of SB RUS	RU
3	IAP	Institute of Applied Physics, Russian Academy of Sciences	RU
4	ICISTE	International Centre for Innovations in Science, Technology and Education	RU
5	INR RAS	Institute for Nuclear Research of the Russian Academy of Sciences	RU
6	JINR	Joint Institute for Nuclear Research	RU
7	MEPhI	National Research Nuclear University "MEPhI"	RU
8	NRC KI	National Research Center "Kurchatov Institute"	RU
9	NUST MISIS	National University of Science and Technology MISIS	RU
10	PTI	IOFFE Physico-Technical Institute of the Russian Academy of Sciences	RU
11	SPSU	Saint Petersburg State University	RU
12	EKUT	Eberhard Karls Universität Tübingen	DE
13	European XFEL	European X-Ray Free-Electron Laserfacility GmbH	DE
14	FAIR	Facility for Antiproton and Ion Research in Europe GmbH	DE
15	FZJ	Forschungszentrum Jülich GmbH	DE
16	GUF	Johann Wolfgang Goethe-Universität Frankfurt am Main	DE
17	HZG	Helmholtz-Zentrum Geesthacht Zentrum für Material- und Küstenforschung GmbH	DE
18	JLU	Justus-Liebig-Universität Giessen	DE
19	TUM	Technische Universität München	DE
20	CEA	Commissariat à l'Énergie Atomique et aux Énergies Alternatives	FR
21	ESRF	European Synchrotron Radiation Facility	FR
22	ILL	Institut Max von Laue - Paul Langevin	FR
23	CNRS	Centre National de la Recherche Scientifique	FR
24	UCA	Université Clermont Auvergne	FR
25	ELI-DC AISBL	Association Internationale Extreme-Light-Infrastructure Delivery Consortium	BE
26	NPI CAS	Nuclear Physics Institute, Czech Academy of Science	CZ
27	MTA EK	Magyar Tudományos Akadémia Energiatudományi Kutatóközpont	HU
28	Wigner RCP	Magyar Tudományos Akadémia Wigner Fizikai Kutatóközpont	HU
29	INFN	Istituto Nazionale di Fisica Nucleare	IT
30	UNIMIB	Università degli Studi di Milano-Bicocca	IT
	ADSI (LTP*)	Austrian Drug Screening Institute GmbH	AT
31	CERN	European Organization for Nuclear Research	CH
32	WUT	Politechnika Warszawska	PL
33	ESS	European Spallation Source ESS ERIC	SE
34	INR NASU	Institute for Nuclear Research of NAS of Ukraine	UA
35	LLE-AISBL	Laserlab-Europe AISBL	BE

\*No. Official participant number; \*LTP: Linked Third Party

# 10 Russian partners: 4 also in CREMLIN; 6 joined

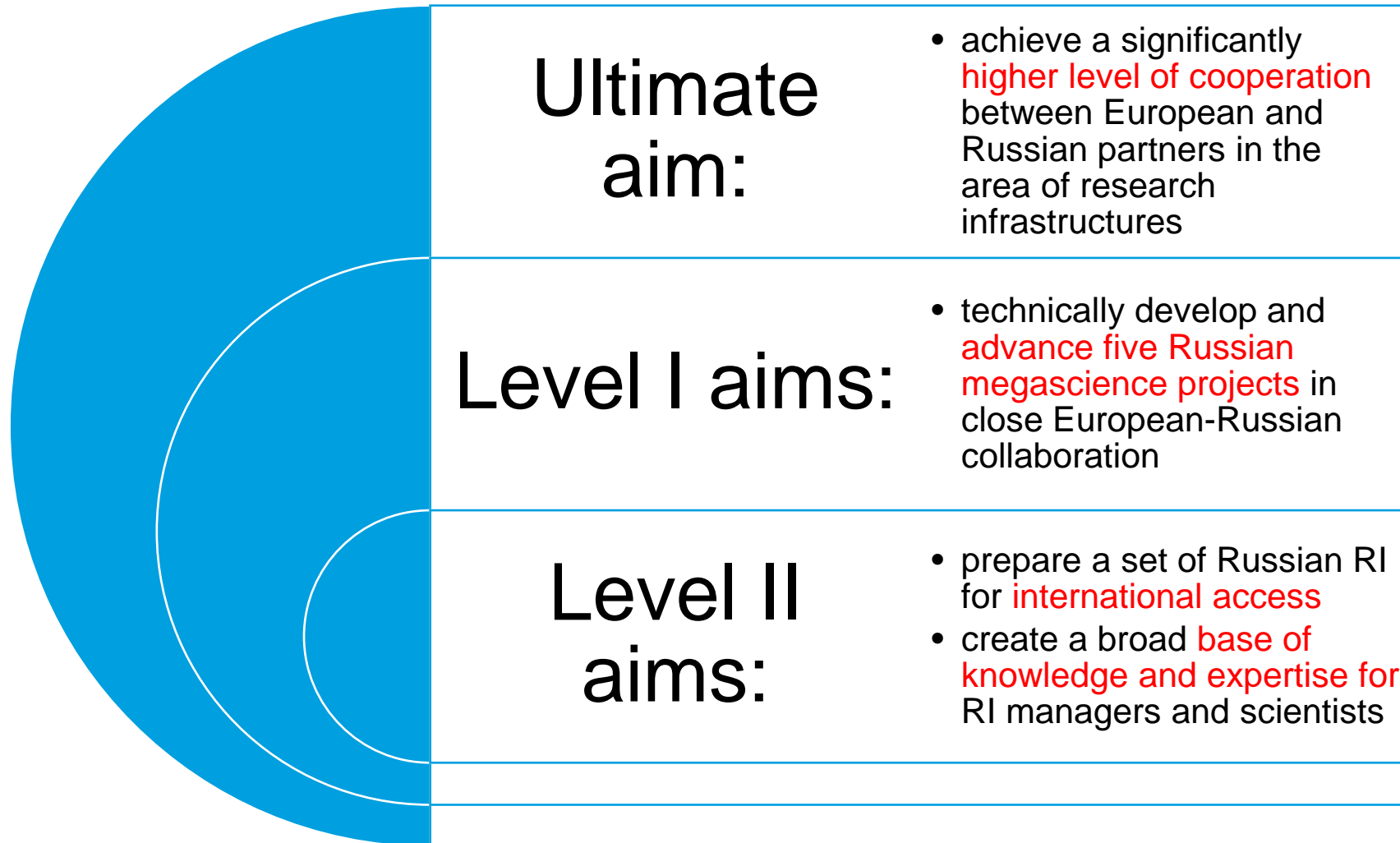
<b>BINP</b>	Budker Institute of Nuclear Physics of SB RUS
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<b>INR RAS</b>	Institute for Nuclear Research of the Russian Academy of Sciences
<b>JINR</b>	Joint Institute for Nuclear Research
<b>MEPhI</b>	National Research Nuclear University "MEPhI"
<b>NRC KI</b>	National Research Center "Kurchatov Institute"
<b>NUST MISIS</b>	National University of Science and Technology MISIS
<b>PTI</b>	IOFFE Physico-Technical Institute of the Russian Academy of Sciences
<b>SPSU</b>	Saint Petersburg State University



# 25 European partners: 12 also in CREMLIN; 13 joined

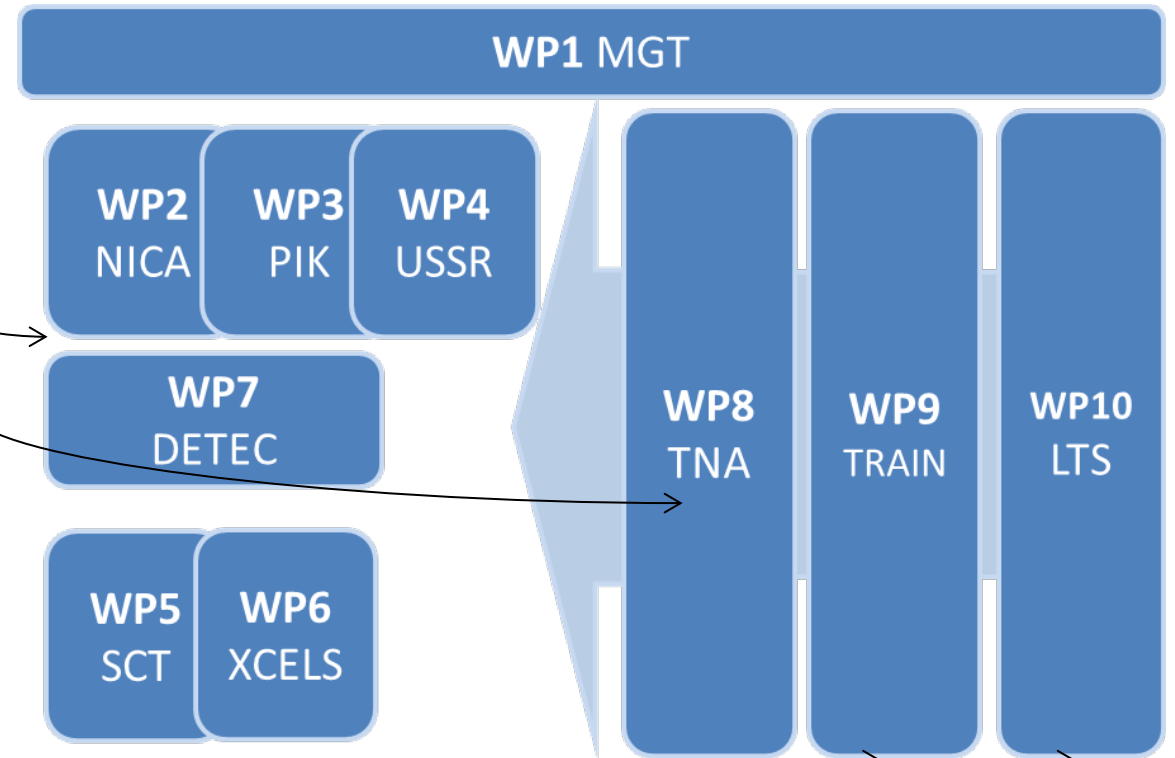
<b>DESY</b>	Deutsches Elektronen-Synchrotron
<b>EKUT</b>	Eberhard Karls Universität Tübingen
<b>European XFEL</b>	European X-Ray Free-Electron Laserfacility GmbH
<b>FAIR</b>	Facility for Antiproton and Ion Research in Europe GmbH
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<b>UNIMIB</b>	Università degli Studi di Milano-Bicocca
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<b>WUT</b>	Politechnika Warszawska
<b>ESS</b>	European Spallation Source ESS ERIC
<b>INR NASU</b>	Institute for Nuclear Research of NAS of Ukraine
<b>LLE-AISBL</b>	Laserlab-Europe AISBL

# Aim of the project



# Structure of the project

- Pillar 1: **Megascience collaboration**
  - around PIK, NICA, USSR, SCT, XCELS; joint development of **detector technologies**
- Pillar 2: **ACCESS**
  - **Facilitate the access** of EU scientists to Russian Research Infrastructures for a defined set of Russian RI “**LIST-11**” covering all 6 thematic domains of ESFRI Roadmap
  - Working out **Recommendations** for setting models and access conditions to selected Russian RIs
- Pillar 3: Develop **staff exchange programme and training for RI management**
- Ensuring **WP-interaction**, addressing **cross-topical issues** for all

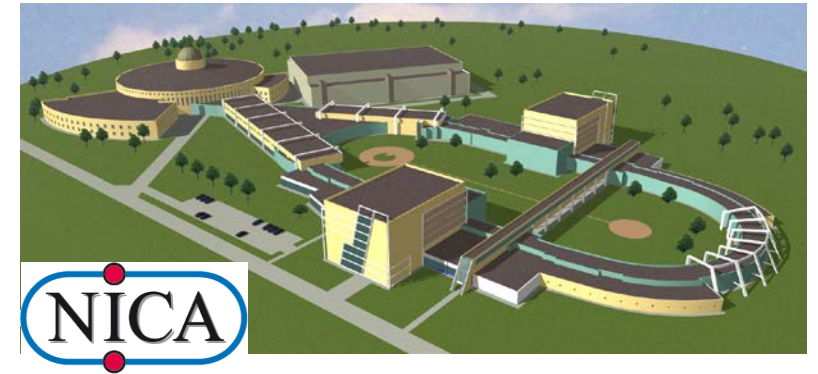


# WP overview

WP1 MGT	Management and dissemination	<u>DESY &amp; NRC KI</u> BINP; IAP; ICISTE; FAIR; FZJ; UNIMIB
WP2 NICA	Collaboration with NICA	<u>FAIR &amp; JINR</u> INR RAS; MEPhI; EKUT; NPI CAS; Wigner RCP; WUT
WP3 PIK	Collaboration with PIK	<u>FZJ &amp; NRC KI-PNPI</u> JINR; PTI; SPSU; HZG; TUM; CEA-LLB; ILL; UCA; MTA EK; UNIMIB; ESS
WP4 USSR	Collaboration with USSR	<u>NRC KI &amp; ESRF</u> DESY; European XFEL; INFN
WP5 SCT	Joint technology development around SCT and future lepton colliders	<u>BINP &amp; CERN</u> JLU; CNRS-LAL; INFN
WP6 XCELS	Joint technology development around XCELS	<u>IAP &amp; CEA-LIDYL</u> ELI-DC AISBL; Laserlab-Europe AISBL
WP7 DETEC	Joint development of detector technologies	<u>FAIR &amp; JINR</u> DESY; BINP; NRC KI-PNPI; GUF; CNRS-IPHC; UNIMIB; CERN; ESS; INR NASU
WP8 TNA	Access to Russian RI	<u>ICISTE &amp; DESY</u> NRC KI; NUST MISIS
WP9 TRAIN	Staff exchange and training for RI management	<u>UNIMIB &amp; NUST MISIS</u> DESY
WP10 LTS	Joint long-term sustainability of RIs	<u>NRC KI &amp; DESY</u>

# 5 Russian megascience projects

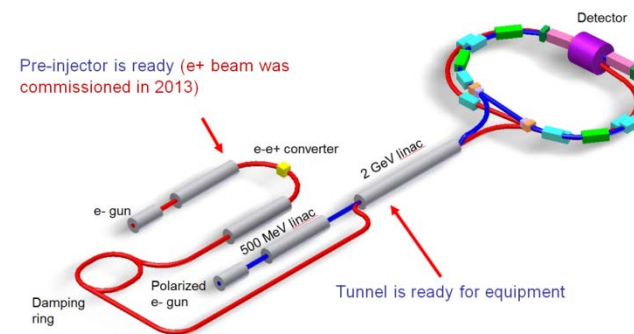
- **NICA**: Superconducting accelerator complex („Nuclotron-based ion collider facility“); Dubna
- **PIK**: High-flux research reactor (International Centre for Neutron Research, ICNR); Gatchina
- **USSR**: Ultima Synchrotron Storage Ring; Protvino
- **SCT**: Lepton Collider „Super Charm-Tau Factory“; Novosibirsk
- **XCELS**: High power laser „Exawatt Center for Extreme Light Studies“; Nizhniy Novgorod



USSR sketch, NRC KI



PIK



SCT sketch



XCELS

# LIST-11 Facilities

- List of 19 Russian Research infrastructures, hosted by 11 „operating organisations“
- Facilities for conducting research in 6 domains: „Science centres for collective use“
- Open for users from Russia as well as from EU
- **→especially addressed in WP8:** WP8 TNA will develop and apply access model with LIST-11, inviting EU scientists to use and do experiments at these facilities
- In part the 5 megascience projects invited: knowledge transfer around European Charter of Access, and in the domain „access to scientific data“

List of Russian priority research infrastructures: “LIST-11 facilities”  
(in bold: CREMLINplus consortium participants)

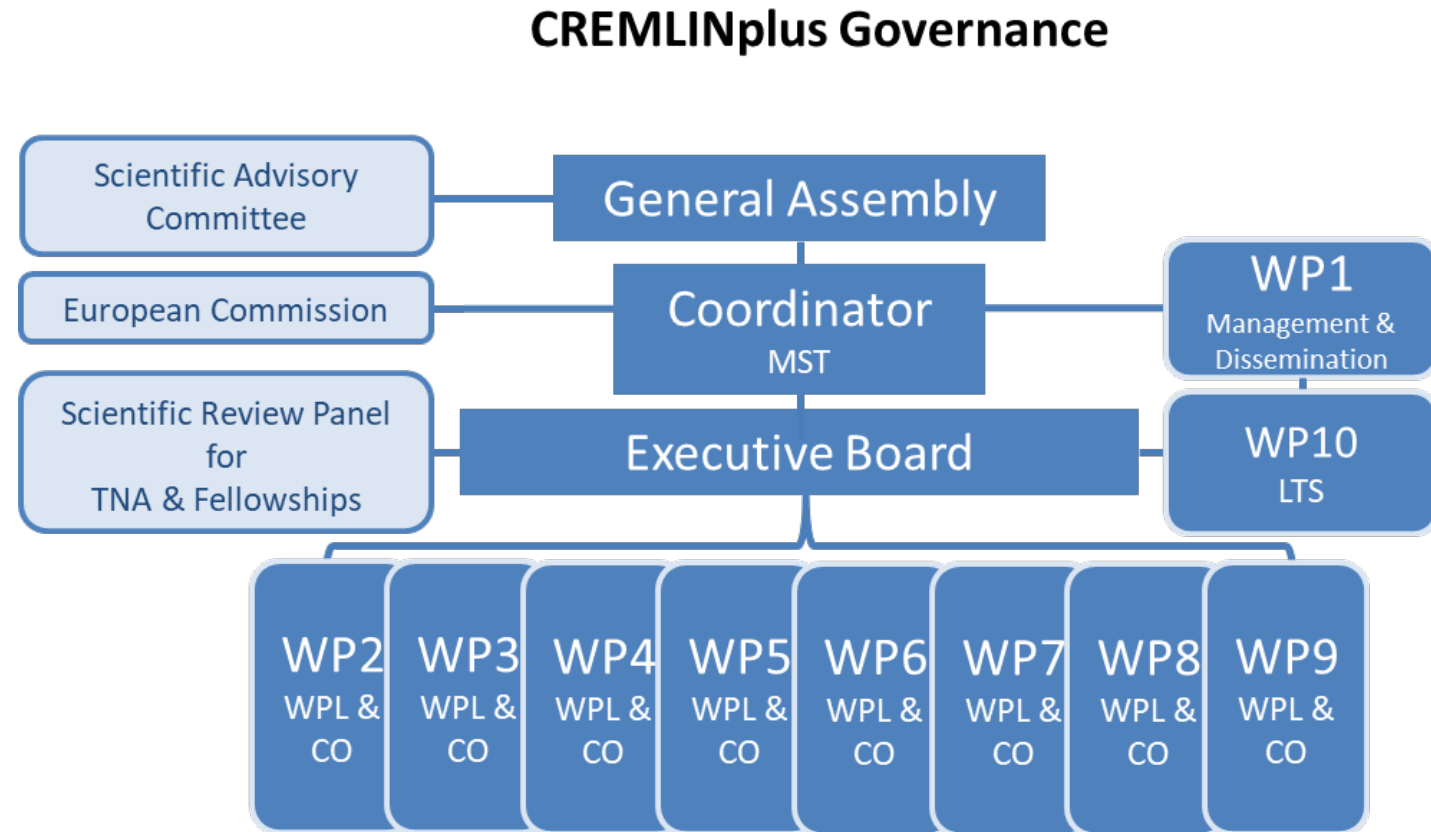
No.	Founding (“operating”) organisation	Name of research infrastructures	Domain
1	Federal Scientific Research Centre “Crystallography and Photonics”, Russian Academy of Sciences	Shared Research Center of FSRC “C&F” “Structural diagnostic of materials”	H&F PSE
2	National Research Center “Kurchatov Institute” NRC KI	The Kurchatov complex for synchrotron-neutron researches	PSE
3	Saint Petersburg State University SPSU	Research Park SPbU	ENV H&F PSE DIGIT
4	Institute of cytology and genetics of Siberian Branch of the Russian academy of science	Genetic Resources Center for laboratory animals	ENV H&F
5	Joint Institute for Nuclear Research JINR	SHE Factory (Factory of SuperHeavy Elements)	PSE
		Cyclotron complex	ENE
		Pulsed atomic reactor IBR-2	ENE
		IREN (Intense REsonance Neutron Source)	ENE
6	Institute for Nuclear Research INR Joint Institute for Nuclear Research JINR	Baikal-GVD: Baikal deep water neutrino telescope	PSE
7	Budker Institute of Nuclear Physics of the Siberian Branch of the Russian Academy of Sciences BINP	Novosibirsk Free Electron Laser, terahertz range (NovoFEL)	PSE
		Complex of electron-positron collider VEPP-4-VEPP-2000	H&F PSE
		Complex of Long Open Traps	ENE ENV PSE
		Siberian Synchrotron and Terahertz Radiation Centre	ENE ENV PSE
8	Special Astrophysical Observatory of the Russian Academy of Sciences	BTA	PSE
		RATAN-600	PSE
9	Northern (Arctic) Federal University named after M.V. Lomonosov	Core Facility Center “Arktika”	ENV
10	National Research University Higher School of Economics	Russian Longitudinal Monitoring Survey (RLMS-HSE)	H&F SCI
		The Joint Economic and Social Data Archive (JESDA)	SCI
11	National Medical Research Center for Obstetrics, Gynecology and Perinatology, Ministry of Healthcare	Research Biobank for Reproductive Biology and Medicine	H&F ENV

Domains: ENE Energy, ENV Environment, H&F Health & Food, PSE Physical Science & Engineering, SCI Social & Cultural Innovation, DIGIT Digital Research (according to ESFRI Roadmap 2018 Landscape Analysis)



# Governance

- **General Assembly** (GA): decision-making; annual meetings
- **Executive Board** (EB): engine of the project; quarterly; = WP lead tandems, following policy of **shared responsibility**
- **Scientific Advisory Committee** (SAC): recommendations to GA
- **Scientific Review Panel**: evaluates proposals within several calls in WP8 TNA and WP9 TRAIN
- **Management Support Team** (MST): to be set up with members not only from DESY



# General Assembly

- General Assembly is set up with members and deputies
- First meeting: constitutive meeting 20 February along the kick-off workshop

insert-CREMLINplus-logo] → → → → → → → → 

EC Grant Agreement No. 871072  
Project duration: 1.2.2020-31.01.2024

## CREMLINplus General Assembly (GA)

List of Members

Last update: 17. Feb.

No.	Beneficiary	Member	Deputy
1	DESY	Ute-Krell	
2	BINP	Vitaly-Vorobyev	Yury-Tikhonov
3	IAP	Efim-Khazanov	Andrey-Shaikin
4	ICISTE	Irina-Kukijina	Anastasia-Zadorina
5	INR-RAS	Fedor-Gubere	
6	JINR	Yuri-Murina	César-Ceballos
7	MEPhI	Oleg-Nagornov	
8	NRC-KI	Lev-Levin	Vladimir-Kravchuk
9	NUST-MISIS	Evgeny-Levashov	Marine-Melkonyan
10	PTI	Alexander-Vul'ni	Artur-Dideikin
11	SPSU	Sergey-Mikushov	Sergey-Grigoriev
12	EKUT	Hans-Rudolf-Schmidt	Günter-Lang
13	European XFEL	Mikhail-Rychev	
14	FAIR	Jürgen-Eschke	Peter-Senger
15	FZJ	Stephan-Förster	Stefan-Mattauch
16	GUF	Joachim-Stroth	
17	HZG	Martin-Müller	Klaus-Pranzas, Jochen-Fenske
18	JLU	Michael-Düren	Mustafa-Schmidt
19	TUM	Wiebke-Lohstroh	Jürgen-Neuhaus, Michael-Müller
20	CEA	Catalin-Miron	
21	ESRF	Harald-Reichert	Jean-Luc-Reyrol
22	ILL	Ralph-Dieter-tbd	Oliver-Zimmer-tbd
23	CNRS	Marc-Winter	Walid-Kaabji
24	UCA	Marc-Dubois	
25	ELI-DCAISBL	Allen-Weeks	Florian-Gliksohn
26	NPI-CAS	Andrej-Kugler	Ondrej-Svoboda
27	MTA-EK	Ákos-Horváth	László-Rosta
28	Wigner-RCP	Wolf-Gyorgy	
29	INFN	Mikhail-Zobov	Gianluigi-Cibinetto
30	UNIMIB	Maria Luisa-Lavitrano	
31	ADSI-(LTP*)		
31	CERN	Lucie-Linsse	Andre-Sailer
32	WUT	Wojciech-Zabolotny	
33	ESS	Andreas-Schreyer	Richard-Hall-Wilton
34	INR-NASU	Valery-Pugatch	
35	LLE-AISBL	Claes-Göran-Wahlström	Jens-Biegert

# Coordinator

## Coordinator DESY will ensure:

### Management:

- Organise annual project meetings, in connection with General Assembly meetings
- Organise the quarterly Executive Board meetings
- Organise the annual SAC meetings
- Support the SRP panels
- Submit all 89 Deliverables: request in advance, provide template,...
- Submit all 47 Milestones
- Intermediary between Parties and EC
- Collecting, reviewing, submitting all reports to EC
- Administer financial distribution

### Dissemination – together with NRC KI:

- Develop project website and logo, for internal plus external communication and outreach
- Website: also platform to calls for transnational access WP8 and for fellowships in WP9 TRAIN
- Develop dissemination plan
- Develop project newsletter
- Set up Data Management Plan



## Contact

**DESY.** Deutsches  
Elektronen-Synchrotron

[www.desy.de](http://www.desy.de)

Martin Sandhop  
International Cooperation  
Directorate's Office  
[Martin.sandhop@desy.de](mailto:Martin.sandhop@desy.de)  
Phone +49 40 8998-4172



# WP8 Access to Russian RI

- **Consortium:** ICISTE & DESY; NRC KI; NUST MISIS
- **Budget** 2.43 M€
- **Objectives:**
  - contribute to overcome the barriers that prevent European scientists from accessing Russian research infrastructures (Russian RIs) of European interest
  - supporting Russian facilities in setting-up the appropriate access conditions
  - setting up a helpdesk and cover the travel and subsistence of European researchers accessing Russian RIs
  - a particular focus will be on the recommendation list of 11 priority RIs provided by the Russian Federation (LIST-11)



# WP9 Staff exchange and training for RI management

- **Consortium:** UNIMIB & NUST MISIS (coordinating partners); DESY
- **Budget** 2.74 M€
- **Objectives:**
  - develop a fellowship/bursary and staff exchange programme
  - provide access to thematic conferences, workshops, summer schools
  - foster exchanges of best practices on management practices, trans national access including user services
  - train staff of Russian RIs on operating RIs with international user community
  - foster sustainable collaborations between RI Staff (Scientists, Managers and Administrators) coming from both the Russian Federation and European Union
  - enhance intercultural communication skills, all tasks



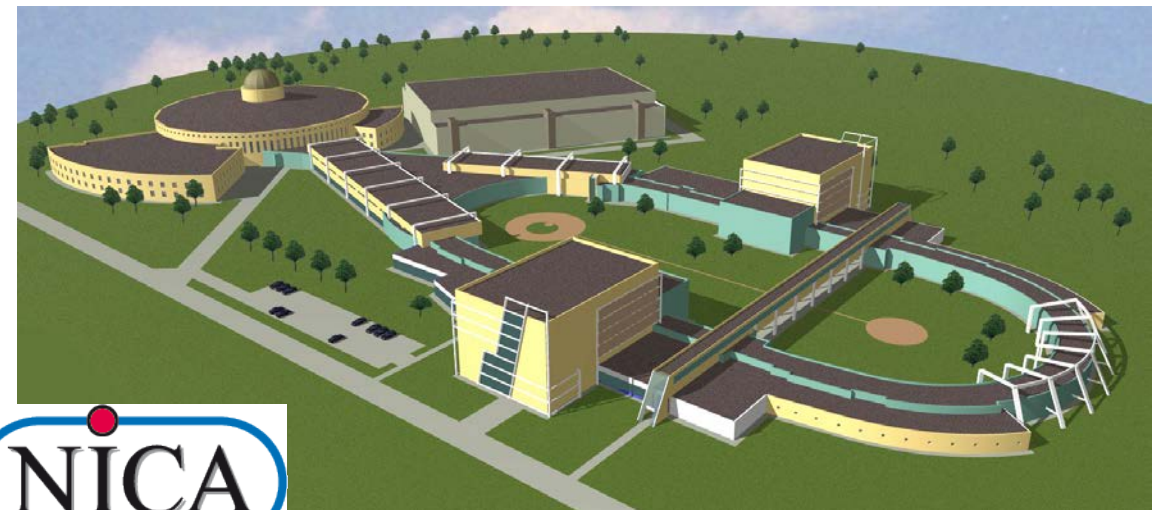
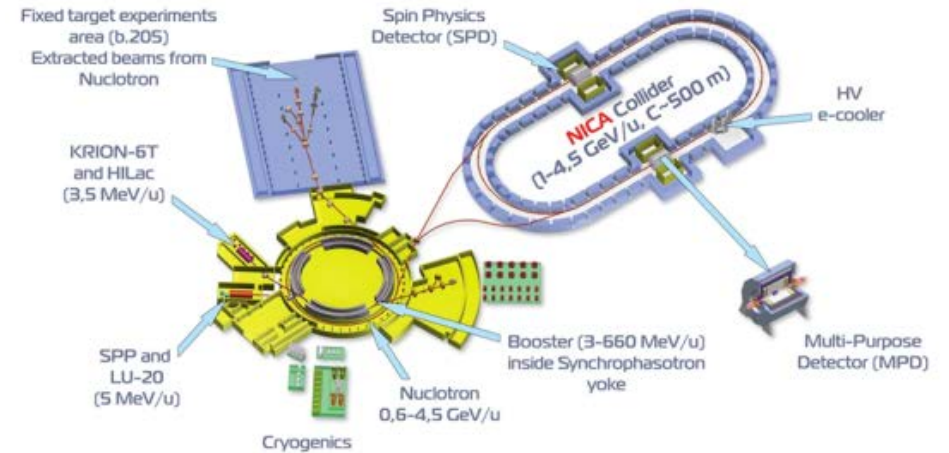
# WP10 Joint long-term sustainability of RIs

- **Consortium:** NRC KI & DESY
- **Budget** 0.44 M€
- **Objectives:**
  - to promote synergies between the Russian RIs
  - to enhance user capacity of Russian RIs
  - to promote sustainable networking across European and Russian scientific communities
  - to promote participation of Russian scientists in European projects
  - to stimulate dialogue between scientists and policymakers as a means of support for science diplomacy
  - to raise awareness of the innovation potential of the RIs as key drivers for the development of a competitive knowledge-based economy
  - to contribute to the European-Russian cooperation on RIs with European strategic initiatives
  - to raise awareness and knowledge on socio-economic impact of RIs

# WP 2 Collaboration with NICA

- **Consortium** FAIR & JINR (coordinating partners) and INR RAS; MEPhI; EKUT; NPI CAS; Wigner RCP; WUT
- **Budget** 4.6MEUR
- **Objectives:**
  - develop the instrumentation for NICA and FAIR/CBM:
  - To perform the prototyping, construction and installation of detectors
  - To develop the data acquisition chain, computing procedures, software packages for simulation and data analysis

Superconducting accelerator complex **NICA**  
(Nuclotron based Ion Collider fAcility)





# WP 3 Collaboration with PIK

- **Consortium** FZJ & NRC KI-PNPI (coordinating partners) and JINR; PTI; SPSU; HZG; TUM; CEA-LLB; ILL; UCA; MTA EK; UNIMIB; ESS
- **Budget** 4.35 MEUR
- **Objectives:**
  - Joint development of advanced cold neutron sources
  - Joint development of the instrumentation concept for reactor PIK
  - Establish international bodies at PIK: PIK-SAC
  - Development of the neutron user-based education platform and an user system
  - Support strategic coordination of PIK in the whole
  - initiate a **dialogue with LENS**



# WP4 Collaboration with USSR

- **Consortium** NRC KI & ESRF (coordinating partners) and DESY, European XFEL; INFN
- **Budget** 4.3 MEUR
- **Objectives:**
  - Development of USSR in three main areas: infrastructure, accelerator, experiments
  - Definition of an initial set of about 10 beamlines covering the main techniques in X-ray imaging, diffraction/scattering, and spectroscopy
  - Setting up two international advisory committees, Machine Advisory Committee (MAC) and Scientific Advisory Committee (USSR-SAC)
  - Develop Conceptual and technical designs CDR and TDR
  - R&D for specific technologies: RF-photogun test facility prototype, electron injection LINAC, beam diagnostics components; detector systems
- **Initiate closer interaction with ESFRI and dialogue with LEAPS**



*The USSR Sketch by NRC KI*

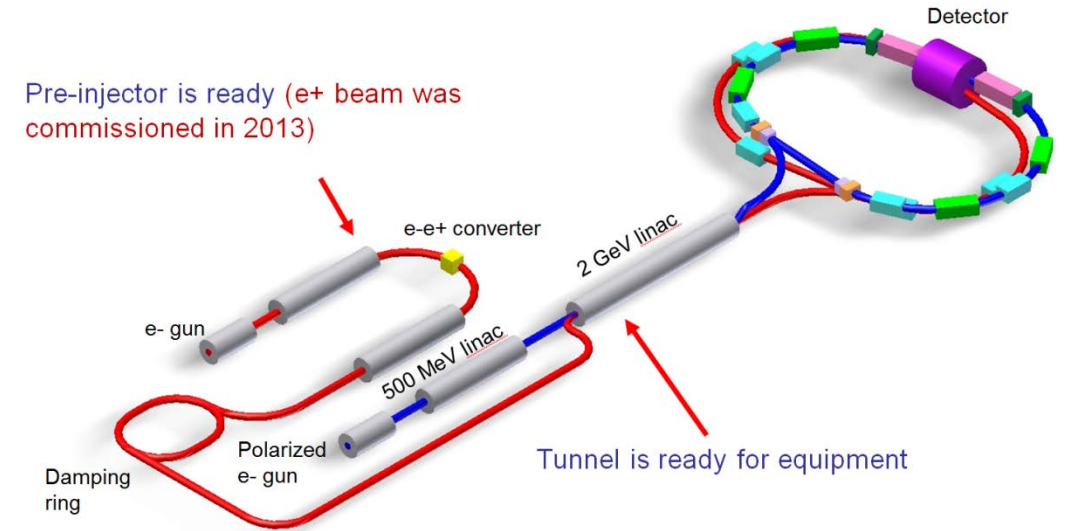


**LEAPS**

League of European  
Accelerator-based  
Photon Sources

# WP5 Joint technology development around SCT and future lepton colliders

- **Consortium** BINP & CERN (coordinating partners); and JLU; CNRS\_LAL; INFN
- **Budget** 2.19 MEUR
- **Objectives:**
  - support and develop EU and Russian scientific cooperation in the SCT project
  - make an example of good practice on establishing collaboration around Russian RI with extensive participation of EU institutions
  - support joint EU - Russian efforts on development of future lepton colliders
  - increase visibility of SCT project in EU and world-wide scientific and decision-makers communities





# WP6 Joint technology development around XCELS

- **Consortium** IAP & CEA-LIDYL (coordinating partners); ELI-DC; Laserlab Europe AISBL
- **Budget** 1.45 MEUR
- **Objectives:**
  - developing the necessary technologies to provide the key technological foundations for the XCELS project
  - Conceptual design of a relativistic plasma mirror well-suited for XCELS
  - Design and development of a prototype of nonlinear compressor of ultraintense laser pulses
  - Develop technologies for ultrashort laser pulse contrast enhancement based on non-linear optical devices
  - Training and scientific exchange on beam delivery, laser pulse contrast issues, metrology and best practices



# WP7 Joint development of detector technologies

- **Consortium** FAIR & JINR (coordinating partners); DESY; BINP; NRC KI-PNPI; GUF; CNRS-IPHC; UNIMIB; CERN; ESS; INR NASU
- **Budget** 1.8 MEUR
- **Objectives:**
  - develop beyond state of the art detector technology for the instrumentation of Russian megascience projects NICA and PIK as well as the ESFRI projects ESS and FAIR and other European research infrastructures
  - foster synergy effects in detector technology of thermal and cold neutron beams at ESS and PIK on one side, and nuclear and high energy physics on the other