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Report on best practices and guidelines

CREMLIN Deliverable D2.1

WP2: Exchange platform

Task 2.1 Horizontal integration and support

Lead partners: DESY; NRC KI

Introduction:

The goal of the CREMLIN Task 2.1 is to “provide a knowledge base and mutual learning platform for the analysis and continuous exchange of project findings and results of the five thematic WPs - including the Russian fusion project IGNITOR on the best practice exchange - and to organize special cross-topical meetings, expert round tables and workshops including external experts and advisors to cross-fertilize the thematic WPs and to exploit synergies to develop common approaches and solutions dedicated to issues such as:

- Internationalization
- Open access, user policies
- Governance
- Data sharing, access and management
- User services
- Safety and legal issues
- Interoperability”

The topic of “**internationalisation of research infrastructures**” (including related topics such as access; governance, user services) is a key topic in this context. A dedicated European-Russian CREMLIN workshop was organized in June 2016, in order to foster this dialogue and to work out recommendations.

Another European-Russian CREMLIN workshop was organized within WP2 in order to address topics related to the Russian **fusion project IGNITOR**, in July 2017.

Workshop on internationalization aspects of megascience facilities

In order to address the important topic of “access to Research Infrastructures”, and to discuss the related topics of “internationalisation of RI”, “Open access to facilities”, “user policies”, “governance of RI” in a European-Russian context, DESY and NRC KI have together with ESS organized a special workshop. This workshop was realized back-to-back with the second CREMLIN Consortium board meeting on 30/06/2016, at the ESS premises in Lund, Sweden.

The workshop was organised and structured along a number of **key questions** out of three dimensions: (i) user level and utilization of the facility; (ii) governance; (iii) collaboration framework on science policy level):

- Open access: How is Open Access organised at the facility?
- Is access and usage solely based on scientific excellence of the application and the planned research?
- Is there any independent proposal review system in place?
- Are there any user fees?
- How is the User welcome culture organised? (guest houses, visa support, Users office...)
- Is there an international advisory body or scientific committee in place?
- Are international strategies or policies part of the mission of the megascience facility / hosting lab?
- How difficult is it to hire international staff?
- Are there collaborative framework programs (bilateral or multilateral) in place that promote international cooperation at / of the facility?
- Has the facility/lab access to funding resources or other means that allow and support international cooperation?

These questions and issues have been discussed by more than 50 representatives of the European and Russian megascience facilities, including best practice examples from facilities at the beginning of their life cycle (both Lund-based facilities European Spallation Source and the MAX IV Laboratory) and reports from the six Russian projects (“How do Russian megascience facilities address internationalisation? Where do they see challenges and opportunities?”). Also, a Round table discussion took up the specific challenges that are connected to “internationalization of RI”: “Tailoring the Internationalisation of RIs: Opportunities and Challenges within the EU-RU Megascience Collaboration”.

Results:

- Recommendation to the CREMLIN project, to address internationalisation issues as a key priority, to moderate the process of setting up specific internationalisation strategies for the six Russian Megascience facilities and to eventually synthesise and propose a Russian charter on internationalisation of mega facilities
- Recommendation to prepare a status paper on internationalisation of the six Russian projects, to be submitted to ESFRI representatives.

CREMLIN news WP2 Workshop on Internationalisation Aspects of Megascience Facilities:

https://www.cremlin.eu/news/2016/cremlin_annual_meeting_and_workshop_on_internationalization_at_ess_eric_in_lund/

Group Picture of the workshop (Credits: Roger Eriksson, ESS ERIC)



Workshop on IGNITOR

Meeting on Russian-Italian “IGNITOR” tokamak project at DESY

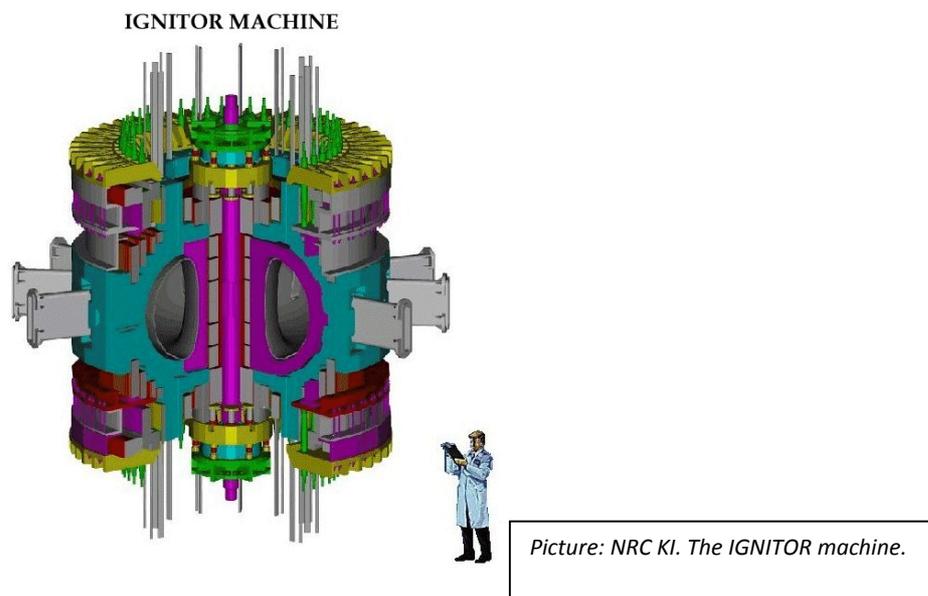
Although the fusion project IGNITOR is a topic that is – from a Horizon 2020 point of view – not to be discussed within CREMLIN, since “fusion” generally is not under H2020, but under EURATOM, it has been agreed to introduce this topic on an informal level within CREMLIN, WP2. IGNITOR: this is one of the six Russian megascience projects. It is currently a Russian-Italian bilateral collaboration, that is, however, open to further international opening and collaboration.

DESY has – together with the NRC KI – organized on 13/07/2017 at DESY Hamburg an informal working meeting on this topic.

IGNITOR’s main purpose is “to achieve the ignition of controlled thermonuclear fusion reactions under strong / superstrong magnetic field up to 13 Tesla by Ohmic heating only”. IGNITOR is intended to be constructed at the Troitsk Institute for Innovation & Fusion Research “TRINITI”, near Moscow.

The WP2 exchange meeting provided an informal platform for a discussion and an exchange on the status and the technical parameters of the IGNITOR project, mainly by representatives of the Russian-Italian bilateral project team.

The main outcome of the meeting was to show that there are no serious barriers currently detectable that would detain from achieving the physics goals and the technical implementation of the project, and that the project participants will highly welcome if the project will receive a broader European audience and the possibility for scientific exchange.



Outcome & Conclusions:

Joint discussions during the meeting have shown:

1. The Russian-Italian IGNITOR fusion project should be seen and recognized as a project that is open for European contribution.
2. Within the Russian Federation, the IGNITOR project is recognized as an *international megascience project*, and is receiving respective funding by the Russian Federation.
3. It has been noted that the concept design study (CDR) for the IGNITOR project has been finalized during May 2015. It is intended to prepare a publication in the near future, providing an executive summary of the IGNITOR-CDR.
4. The next step will be to prepare the joint work on the technical design (TDR) for the IGNITOR project. This can be started after the finalization of the Russian-Italian Intergovernmental Agreement on IGNITOR-collaboration. Russian and Italian scientists will support the work on the TDR. Moreover, it is expected that during the work on the TDR, some technological aspects will be better understood and ameliorated to be ready for a smoother manufacturing process.
5. It has become clear that – from a purely physics as well as technical and engineering point of view – there are no barriers currently detectable that would detain from achieving the physics goals and the technical implementation of the IGNITOR project.
6. The Russian scientific community – especially the fusion and tokamak physics experts – will highly welcome if the IGNITOR project and the efforts currently taken will receive a much broader European audience and the possibility for scientific exchange.
7. European-Russian scientific collaboration on physics related to the IGNITOR-project is very welcome. This includes explicitly also collaborative projects at a smaller level (less extensive).

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Materials: <https://indico.desy.de/indico/event/18319/>

CREMLIN news WP2 Working meeting on IGNITOR:

https://www.cremlin.eu/news/2017/meeting_on_russian_italian_ignitor_tokamak_project_at_desy/