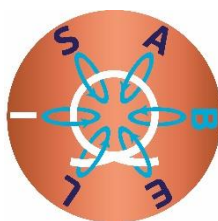




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<b>WP number:</b> 5	<b>Issue date:</b> 14/11/2022
<b>Lead Beneficiary:</b> HZDR	<b>Author(s):</b> T. Herrmannsdörfer (HZDR), Ch. Warth-Martin (CNRS), E. Bezgousko (CNRS), N. Bruyant (CNRS), U. Zeitler (RU), S. Krämer (CNRS), R. Hill (UNOT)
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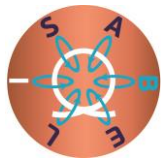
## ISABEL

### – Improving the sustainability of the European Magnetic Field Laboratory



#### D.5.2 Definition of novel access procedures REPORT

Version	Modifications	Date	Authors
1.0	First draft	24 October 2022	T. Herrmannsdörfer (HZDR), Ch. Warth-Martin (CNRS), E. Bezgousko (CNRS), N. Bruyant (CNRS), U. Zeitler (RU), S. Krämer (CNRS), A. Savourey (CNRS)
1.1	Updates	27 October 2022	R. Hill (UNOT),
2.0	Final version	14 November 2022	



## Document abstract

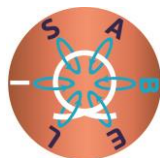
The deliverable 5.2 “Definition of novel access procedures” is part of Work Package 5 “New access procedures” which aims at developing and implementing additional access pilots for the user community.

Since the beginning of the project ISABEL, there has been good progress on the development of these novel access procedures. This deliverable will detail their operation mode and steps of implementation.

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## Table of contents

1. Introduction .....	3
2. Definition of EMFL novel access procedures .....	4
2.1. Fast-track access procedure (M12 – M48) .....	4
2.2. Long-term access mode (M12 – M48) .....	5
2.3. Industrial user access mode (M12 – M48) .....	5
2.4. Dual-access procedure to regional partner facilities and to EMFL (M1-M48) .....	6
2.5. First time access (M12-M48) .....	8
2.6. Technical-development access (M12 – M48) .....	8



## 1. Introduction

In work package 5 of the ISABEL project, we have prepared and introduced new access procedures to the EMFL for its users. The spirit behind that action is to serve Europe's and the global science community in the best possible manner. We have developed new access procedures in order to provide users with an evolved range of proposal-based research opportunities tailored to their individual and community-specific research needs. In the course of the ISABEL project, these new access procedures have or will be, step-by-step, announced on the ISABEL and EMFL websites, be presented in various articles in the EMFL news,

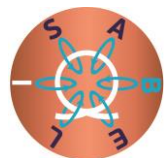
<https://emfl.eu/apply-for-magnet-time/>

<https://emfl.eu/isabel/novel-access-modes/>

[https://emfl.eu/emfl\\_newsletter/](https://emfl.eu/emfl_newsletter/)

implemented into the EMFL on-line proposal submission system, and started. Subsequent to the test periods of new access procedures, the outcome will be discussed with the user community and evaluated. To achieve these goals, we have prepared the following access procedures in WP5:

- **Fast-track access procedure**  
(task 5.2, M12 – M48, N. Bruyant (CNRS))
- **Long-term access procedure**  
(task 5.3, M12 – M48, U. Zeitler (RU))
- **Industrial user access procedure**  
(task 5.4, M12 – M48, S. Krämer (CNRS))
- **Dual-access procedure to regional partner facilities and to EMFL**  
(task 5.5, M1 – M48, R. Hill (UNOT))
- **First-time access procedures**  
(task 5.6), M12 – M48), U. Zeitler (RU))
- **Technical-development access procedures**  
Access mode added during RP1 of the ISABEL project, M24 – M48, T. Herrmannsdörfer (HZDR))



## 2. Definition of EMFL novel access procedures

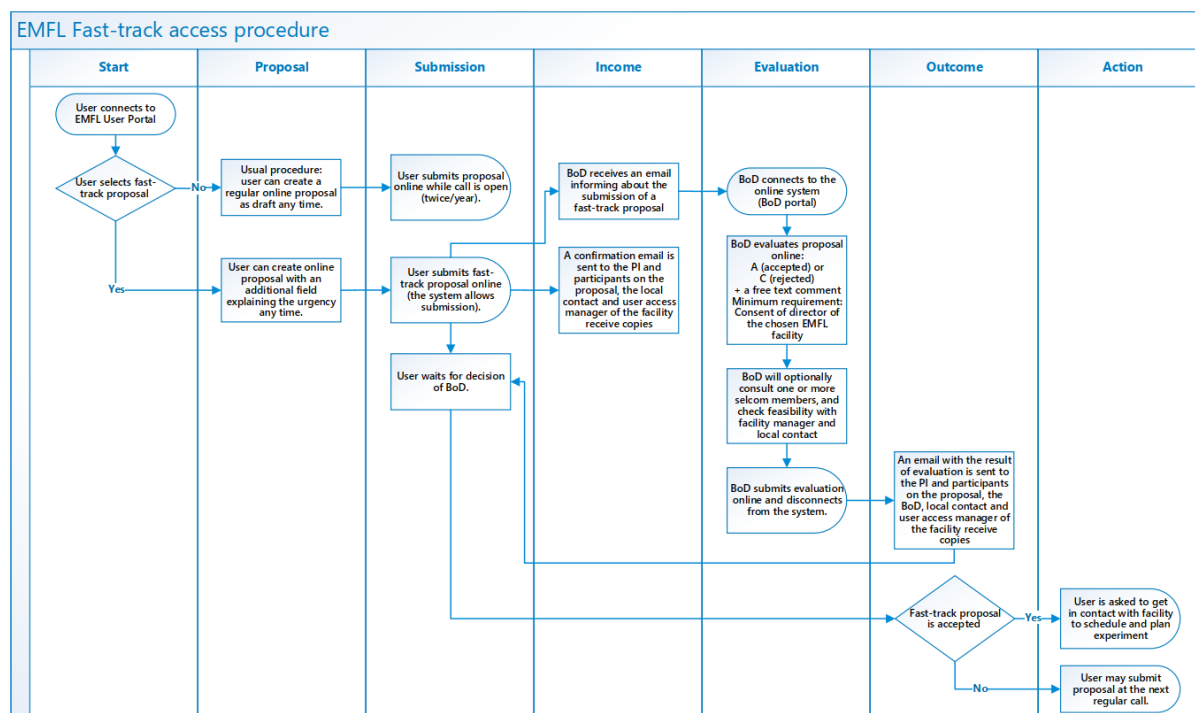
In the course of the first 18 months of ISABEL, we have developed certain standards for introducing new access procedures. In particular, in order to monitor and to discuss internal drafts of access modes we have introduced a flow chart that describes the full proposal submission, evaluation, decision, and communication scheme.

### 2.1. Fast-track access procedure (M12 – M48)

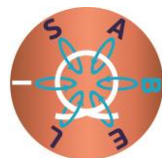
Task leader: N. Bruyant (CNRS),

We have prepared the novel fast-track access procedure in order to meet rapid developments in science and technology that call for faster, high-priority access to large-scale facilities than traditional access procedures would allow for. Prominent examples are the identification of novel superconducting or topological systems. On such occasions, a convincingly urgent scientific case should enable fast access to the EMFL installations. The high-field user community will clearly benefit and at the same time, the EMFL will raise its attractiveness and efficiency for the users. Fast-track access requests will be addressed to the EMFL BoD (see flow chart, Fig. 1, below). These will be evaluated and decided as soon as possible by the BoD, if needed, after consultation of one or more EMFL Selection Committee (SC) members. In case of a positive evaluation, the user will have priority and fast access to the EMFL installations. Fast-track access has been started in October 2022.

Page | 4



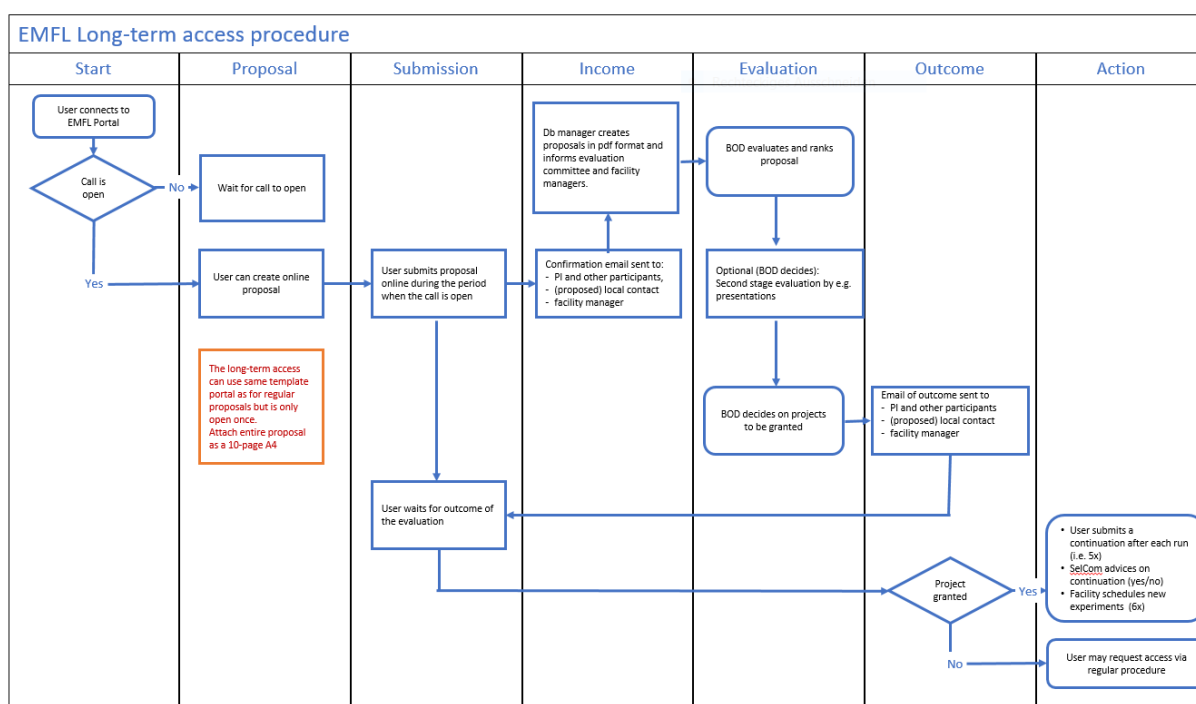
**Fig. 1** Flow-chart scheme of the new EMFL fast-track access procedure.



## 2.2. Long-term access mode (M12 – M48)

Task leader: U. Zeitler (RU)

In order to meet the demand for long-term access schemes such as complex high-level science cases which require a sequel of high-field experiments, we have developed a tailored long-term access mode. Long-term proposals will be evaluated starting by fall 2022 by the EMFL BoD as a special category, and if positively evaluated, will obtain an extended amount of access over a two to three-year period.



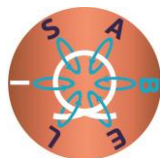
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**Fig. 2** Flow-chart scheme of a new long-term EMFL access procedure.

## 2.3. Industrial user access mode (M12 – M48)

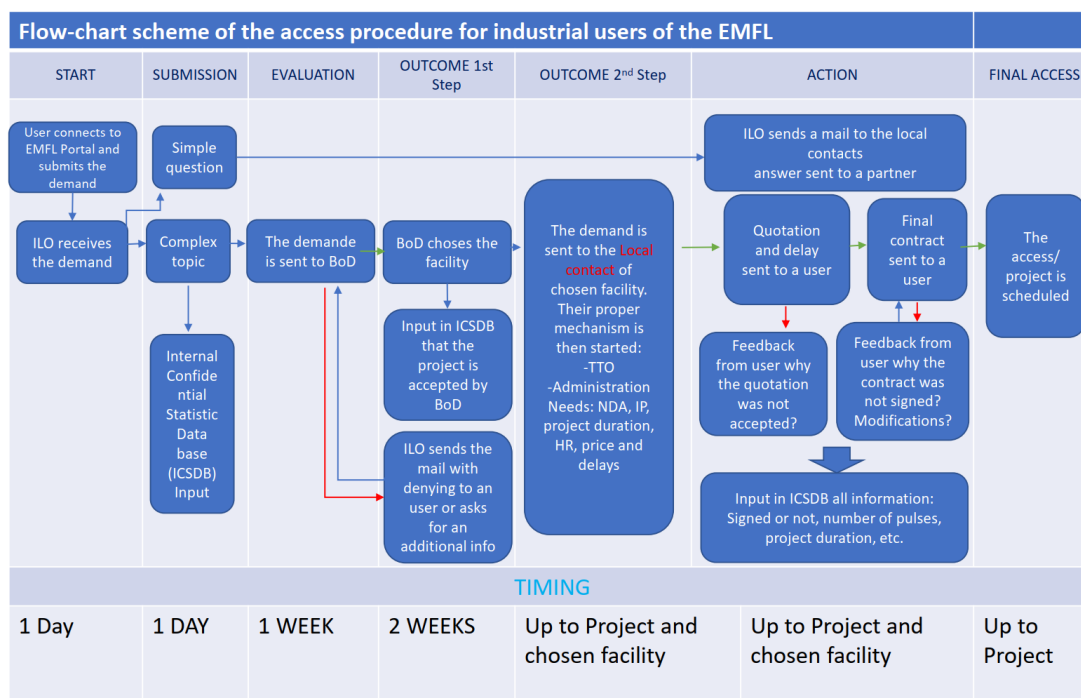
Task leader: S. Krämer (CNRS)

The EMFL aims at increasing its attractivity for industrial users. Therefore, the ISABEL project team has prepared a special access mode for industrial users. In contrast to academic researchers, mainly focusing on publicly funded fundamental research and interested in fast publication of results, industrial users often require confidentiality of their results. The definition and the implementation of the industrial access procedure has been done in the reporting period in close collaboration with task 3.4 of WP3. The corresponding flowchart is shown below. A special section with a contact form for industrial users has been created on the EMFL website. Once the needs of the industrial users have been defined, industrial access proposals will be evaluated and decided within 2 weeks by the CB. The official start of industrial access is scheduled for autumn 2022 together with the industrial part on the EMFL website.



In order to promote the industrial access, EMFL participated as an exhibitor in several fairs and congresses. Moreover, we are creating a data base of industrial companies interested in our activity. It will be used for the Industrial Partner Club, but also in order to introduce the Fast Access Mode for Industrial users (scheduled for Autumn 2022).

In the report period, the EMFL has already performed projects and measurements for selected industrial users in the technology fields such as magnetic forming, joining and welding (*Bmax*, Toulouse) and sensors for magnetic field measurement (*Paragraph*, Somersham, Cambridgeshire, UK).



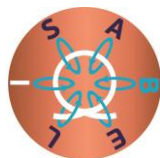
**Fig. 3.** Flow-chart scheme of a new industrial user access procedure.

## 2.4. Dual-access procedure to regional partner facilities and to EMFL (M1-M48)

Task leader: R. Hill (UNOT)

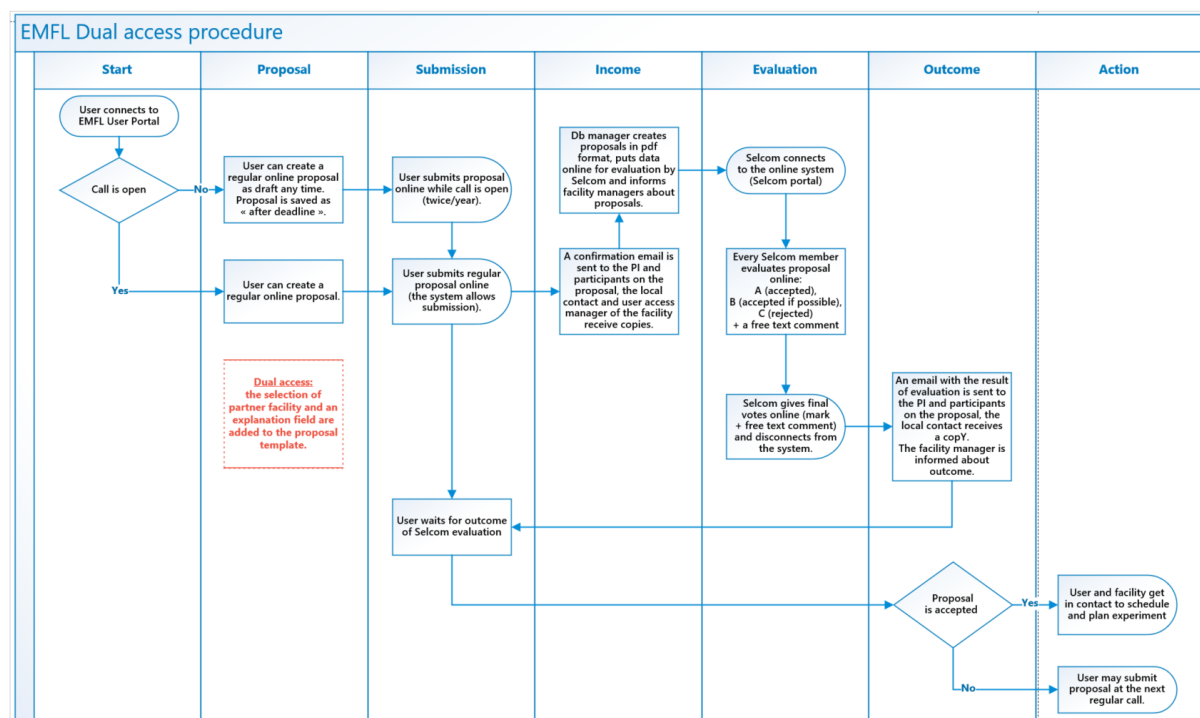
In accordance with the schedule of the ISABEL proposal, we have started to develop and to introduce the dual-access procedure in the first project months in early 2021. The motive for this was to lower the barrier of potential EMFL users which do not have direct access to experimental equipment that allows for performing preliminary studies at lower magnetic fields to validate the experimental feasibility. In order to ease the access to EMFL installations and to enlarge the potential user community, we have started the novel dual-access method subsequently to the first call after starting ISABEL in April 2021. This new mode will enable a combined proposal consisting of preliminary experiments in moderate fields at the following regional facilities,

- Superconducting magnet laboratory, University of Nottingham
- Oxford Centre for Applied Superconductivity, University of Oxford
- Nicholas Kurti High Magnetic Field Laboratory, University of Oxford



- Laboratory of Low Temperatures and High Magnetic Fields, Universidad Autonoma de Madrid
- Research Laboratories of the Faculty of Physics, University of Warsaw
- Materials Growth and Measurement Laboratory, Charles University, Prague.
- Research Facilities of the National Institute of Chemical Physics and Biophysics, Tallinn
- Spintronics and Nanomagnetism Laboratory, University of Salento

followed by high-field experiments in EMFL high-field magnets. Dual-access proposals are collected subsequently to regular EMFL calls. The EMFL SC judges the pertinence of the low-field experiments and grants conditional access to the EMFL installations, see flowchart (Fig. 4).



**Fig. 4** Flow-chart scheme of the new dual-access procedure.

On the experience of the start of the dual-access procedure in RP1, the WP5 project team likes to suggest the following processing steps:

- After performance of the first low-field part of the proposal at the partner facility (step 1) and in any case, the user (PI or participant of the proposal) will fill out the usual online progress report form on the EMFL user portal for this proposal.
- The user will then contact the local contact at the high-field facility and decide with the local contact if the project will be proceeded in high-fields (step 2). In the course of ISABEL RP2, WP5 will evaluate whether EMFL SC should be involved in the decision process at this stage of evaluation.
- The local contact informs the person in charge of the planning at its high-field facility if the proposal continues in high-fields or not.
- If the proposal continues in high-fields and after performance of the experiment the user (PI or participant on the proposal) follows the usual procedure for high-field proposals: submitting an online progress report with publications etc. In





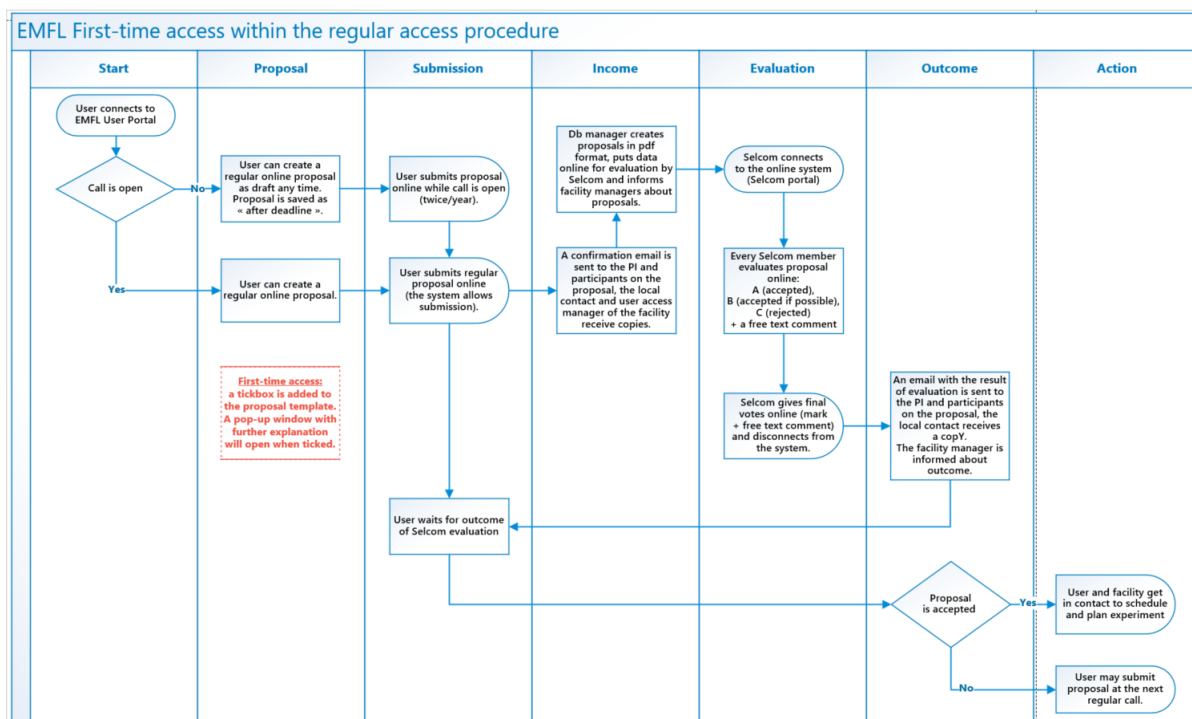
case of a dual access proposal the progress reports of step 1 and step 2 will then automatically be merged to one file.

By following this organizational protocol, the user will have all administrative information on its personal proposal page on the EMFL user portal. The local contact and EMFL will get the information when step 1 have been done and if step 2 must be planned. Another advantage will be that the members of the selection committee will have access to the progress reports (step 1 and 2) in only one pdf file. This protocol could also be used for the intermediate and final progress reports of the long-term access proposals.

## 2.5. First time access (M12-M48)

Task leader: U. Zeitler (RU)

This task aims at lowering the barrier for researchers to start using the EMFL facilities. The EMFL offers support in preparing the access proposals, reinforced on-site support and reimbursement of travel and accommodation expenses. This allows for increasing the size and diversity of the user community. We have introduced and started the first-access procedure in April 2022. In the first EMFL selection round of 2022, nine first-access proposal have been submitted (within 139 proposals in total)



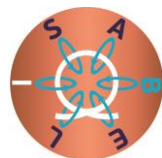
**Fig. 5** Flow-chart scheme of the first-time access procedure.

## 2.6. Technical-development access (M12 – M48)

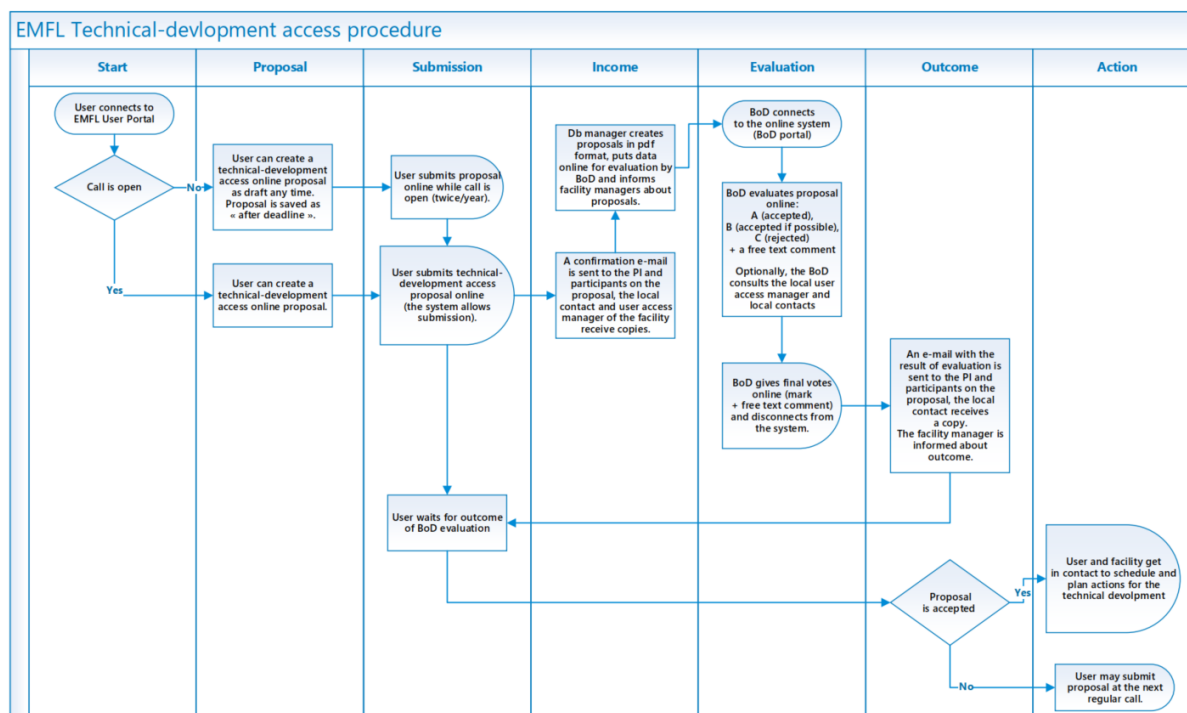
Task leader: T. Herrmannsdörfer (HZDR)

In addition to the description of work of the project proposal, in October 2022 we have introduced and started a further novel access mode dedicated to the interests of scientists wishing to develop and improve technical installations and metrological procedures that could





also be of great interest to other EMFL users, the technical-development access. This task aims at improving the quality of EMFL installations with clear benefit to the wide EMFL user community.



**Fig. 6** Flow-chart scheme of the new technical-development access procedure.