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ILGE integrated laboratories for geosciences and environment

MEET MONITORING EARTH'S EVOLUTION AND TECTONICS

Guidelines for Transnational Access and National Open Access (TNA/NOA) to Research Infrastructures within MEET WP3-ILGE: Processes, Procedures, and Management.

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1. Introduction and scope of the document

Research Infrastructures are pivotal in cultivating collaborative efforts within the research community and fostering the principles of open science, open innovation, and global accessibility. They form the cornerstone for realizing the European Commission's three strategic imperatives (Open Science, Open Innovation, and Open to the World), working collectively to unify, disseminate, and optimize the use of critical national and regional research assets. This collective synergy opens avenues for scholars from academia and research institutes, ensuring their access to these facilities to foster shared development and mutual progress.

The significance of Research Infrastructures is underscored by the European Commission's strategic imperatives. On November 26, 2021, the EU Council Recommendation 2021/2122 on a Pact for Research and Innovation in Europe established the need to further enhance open access, capitalizing on existing and new European and national research infrastructures, across all scientific domains. This strategic move propels the foundation of scientific excellence and equips European science to engage, collaborate, and compete on the global stage. Notably, this strategic priority aligns with the ambitions of several European countries, exemplified by their commitment to HORIZON 2020 principles, compliance with national requests such as the PNR 21-27 and PNIR 21-27, and their collective vision for the forthcoming Valutazione della Ricerca 2020-2024 (VQR 2020-2024).

Within the context of MEET WP3 - ILGE, a comprehensive protocol has been established to coordinate and manage the services and procedures for enabling transnational access (TNA) and national open access (NOA). This effort draws upon the experience gained from previous involvement in the framework of EPOS-ERIC and the EC projects EXCITE and EUROVOLC. The initiative aims to provide access to the National Institute of Geophysics and Volcanology (INGV) and partner institutions, including the University “Roma Tre” (UniRomaTre), the National Research Council of Italy (CNR) and National Institute of

Oceanography and Experimental Geophysics (OGS), responsible for ILGE Activities 3.1-3.10.

At its core, the TNA and NOA initiatives in ILGE seek to promote open science and innovation, as well as to enhance the efficient and effective use of laboratory equipment, by bringing together and opening up key national facilities to students (i.e. BSc, MSc, PhD), researchers, professors and technicians. This forward-looking initiative envisions providing a platform where individuals can exchange facilities, expertise, and ideas, all in pursuit of a common goal—enhancing our understanding of the intricate dynamics characterizing natural processes within the Earth system.

ILGE's foundational vision revolves around the establishment and rejuvenation of critical facilities within multidisciplinary laboratories throughout Italy. In alignment with this vision, the creation of a TNA/NOA network through two pilot calls aims to optimize investments in research infrastructures and catalyze collaboration at both national and international scales. Within ILGE, the management of TNA/NOA in the framework of Activity 3.11 guarantees centralized coordination for access to all WP3 laboratory facilities, by designing services and procedures to deliver competitive access to network laboratories in alignment with open science principles.

This document outlines the procedures practiced within ILGE for preparing and executing two pilot TNA calls to the facilities available in the network. This workflow serves as a general framework for the development of access procedures and modalities at laboratory facilities of ILGE partner institutions, offering a blueprint for regulating access to research infrastructures over a longer temporal scale.

2. Definitions

Transnational access (TNA): Transnational access provides free-of-charge access to laboratory facilities for applicants/users (both EU and non-EU) located in a different country than the host institution.

National open access (NOA): Free-of-charge access to laboratory facilities on a national scale for applicants/users employed in the same country as the host institution, with the exclusion of intra-institutional access.

Facility: A component of a research infrastructure (or a coherent group of facilities) along with their associated services, typically located at the same physical address. A facility may comprise one or multiple pieces of equipment and it serves as a TNA/NOA provider.

TNA/NOA activity: The execution of a granted TNA/NOA proposal at a facility within the ILGE network, which can involve either physical access or remote service.

Equipment: A single analytical device located at TNA/NOA facilities, which applicants/users apply to access.

Research infrastructure: The infrastructure serving as TNA/NOA provider, granting access or offering service(s) to equipment and associated laboratories as part of a facility.

Organization: Refers to the research infrastructure as defined within the MEET-WP3 ILGE network.

Installation/Laboratory: This represents the physical location where equipment associated with facilities are housed, and thus it is the place where TNA/NOA activities take place.

Physical access: TNA/NOA activity where the users physically visit the facility to perform sample analysis.

Remote service: TNA/NOA activity where the users benefit from services, such as sample analysis performed by the operator at the facility.

Applicant/user: Individuals who apply either as principal investigator (PI) or participate in the proposal as associate investigator (AI) for the proposed research activity, which can be conducted using the selected equipment at the hosting facility or via remote service. Individuals eligible for this role include, but are not limited to researchers, doctoral candidates, technical staff and students (BSc, MSc, and PhD) actively participating in research within the framework of their studies.

Access Agreement: The agreement signed between the facility and the users under a single approved TNA/NOA project, encompassing all aspects of service provision and regulations.

TNA/NOA Management team: The team responsible for overseeing and managing TNA/NOA activities.

Facility Manager: The individual responsible for a specific facility handling all matters related to the TNA/NOA activities at the facility.

Review panel: An advisory panel of experts selected to evaluate the scientific excellence of proposals received during the TNA/NOA call and the positive outcome of the technical evaluation.

3. Preliminary steps for the TNA/NOA calls

3.1 Establishment of the TNA/NOA management team

The TNA/NOA management team, established under ILGE Activity 3.11, guarantees the centralized coordination of access to all WP3 laboratory facilities, by designing services and procedures to allow competitive access to the network laboratories. The tasks performed by the management team include various activities such as establishing TNA/NOA workflows, publishing online information about laboratories offering TNA/NOA, advertising open calls, providing guidance to applicants, organizing the evaluation process, reporting on the outcomes of the calls and organizing dissemination meetings. Additionally, the TNA/NOA management team produces a range of templates and documents, including call texts, technical and scientific evaluation forms, Access Agreements and policies, as well as proposal and reporting templates.

3.2 Compilation of available facilities

In the preparation of TNA/NOA calls, creating a comprehensive catalog of available facilities is a fundamental step that serves as a key resource for streamlining the process of offering laboratory access to potential users. This catalog is essential for facilitating the identification of willing research infrastructures, noting that laboratories within the ILGE network are not obliged to participate.

To facilitate this process, the TNA/NOA management team, in collaboration with MEET-WP11 personnel, as part of the initial preparatory phase, has undertaken the critical task of identifying existing infrastructures. Through this effort, a dedicated data portal has been established, and a comprehensive English-language catalog has been compiled, including information on organizations, installations, facilities, and related equipment. This information is seamlessly integrated into the web platform for application submissions. Each Facility Manager will then decide on each call for access to facility availability.

The catalog not only provides technical specifications of facilities and equipment but also includes contact details of Facility Managers and their respective organizational affiliations. Users can select the organization and installation of partner laboratories within WP3-ILGE, gaining access to detailed information on each facility in the network. This underscores ILGE TNA/NOA's focus on facilities as the primary recipients of applications. Once a facility is selected, the catalog offers comprehensive insights into individual pieces of equipment associated with that facility, detailed in dedicated data sheets. Each piece of equipment represents an independent component of the facility, and its usage during research activities carried out during TNA/NOA may vary. These equipment details serve primarily for informational purposes, allowing applicants to understand the facility's capabilities. The final decision on using specific equipment during research activities lies with evaluating the facility staff, also in consideration of previous communication with the users, to better align with project requirements.

3.3 Defining access modalities

The modalities for accessing laboratory facilities within the framework of ILGE TNA/NOA are Physical Access (i.e., hands-on) and Remote Service (i.e, send-in-sample). It is important to note that both modalities may not be available for every facility.

Physical access entails the direct involvement of the user, or the group of users, in all research activities at the specified laboratory facility, as outlined in the granted proposal. The maximum number of access days per proposal are defined by the facility and specified in the online application portal. Normally, the maximum number of users allowed to visit the laboratory is one, but exceptions may be applied by the facilities on an individual basis. The precise logistics of access are detailed in the Access Agreement (see Section 3.7.2), which is signed by both the user and the facility and is provided ahead of access. Users may incur individual expenses, such as living and transport costs, which can be partially or fully covered by the facility according to different modalities, as detailed in Section 7.4.

Remote service is a modality in which the user does not physically visit the facility but provides samples ahead of agreed access days, typically via shipment, if samples are required for research activities. This approach offers significant advantages, such as minimizing the

carbon footprint associated with facility access in compliance with the DNSH principle and mitigating the potential impact of adverse circumstances affecting individuals' travel plans and natural phenomena that could disrupt logistics. This, in turn, reduces their impact on project deliverables.

3.4 Defining access costs to TNA/NOA facilities

Access costs for research infrastructures to be covered in ILGE TNA/NOA calls consist of infrastructure costs and user costs. The budget allocated for these costs is assigned before the access period begins.

The infrastructure costs are costs related to the use of ILGE infrastructures in ILGE. They will be calculated as direct costs, which are expenses related to the use of the infrastructure exclusively during the access period. In the frame of the MEET project, it will not be possible to consider personnel costs related to facility use during TNA activities for the two pilot calls. As such, direct costs in ILGE include only consumable materials. In a future perspective, the ILGE network aims at establishing itself as a TNA/NOA provider. Accordingly, it is foreseen to adopt an estimate of infrastructural costs based on the actual costs, which encompass all expenses incurred by the infrastructure for the facility's operation. These expenses may be covered within the budget allocated to each infrastructure for the expected service days within the calendar year, and include consumables (including eventual replacement of equipment parts), personnel and maintenance. Proper accounting records will be needed for estimating actual costs.

User costs encompass personal expenses incurred during access, including transportation and living costs directly associated with the access period and location, as well as potential sample shipment expenses. Two options are available for covering user costs, based either on a *per diem* or on actual expenses, both within pre-established limits. More details on reimbursement procedures are given in section 7.4.

3.5 Development of the online application platform

The platform for advertising calls and collecting proposals streamlines TNA/NOA management by guiding applicants through the proposal submission procedure, supporting users and Facility Managers with the required documentation. It provides access to information about facilities, general eligibility rules and user obligations, funding and reporting guidelines, privacy and data policies. On each call for access, the portal will also provide users with information about available facilities and related equipment, period of availability and maximum number of access days to a facility per project and on the whole call.

In the context of WP3-ILGE, the collection and management of applications during the two TNA/NOA pilot calls will adopt an existing platform that will be adjusted to fulfill ILGE needs. Simultaneously, WP11 will develop and maintain a new dedicated online platform. This platform will enhance the organization of future TNA/NOA calls, taking into account the lessons learned from the TNA/NOA pilot calls.

3.6 Selection of the reviewers' panel

The review panel comprises experts from various geoscientific fields represented by partner institutions. The expertise of the panel's members is indicated by keywords describing the main geoscientific topics of interest. These keywords will be made available to users during the submission proposal phase to facilitate the matching process, ensuring that projects align effectively with the expertise of the reviewers. The review panel primarily consists of external reviewers to the hosting institutions (more than 50%). In all circumstances, it shall not include scientists working in the facility to which the application is directed. This approach will help to prevent conflicts of interest. The management team will directly contact scientists on the basis of their expertise, and the conditions to serve as reviewers will be regulated by an appointment letter.

3.7 Preparation of documentation

3.7.1 Call texts

The call text provides potential applicants with all the information necessary to begin the application process for the TNA/NOA programme. This information includes details on the call opening and period of access, the type of access granted for the specific call (physical access/remote service), eligibility criteria (e.g., nationality requirements, compliance with data policies), evaluation criteria and available facilities within the network. The content of the call text is primarily aimed at informing potential applicants about the application process and rules, important deadlines and the access period. It also serves as the foundation for advertising the TNA/NOA call, announcing the opening of the access call and guiding prospective applicants to the online application portal where they can complete the application. A link to the online application portal is provided in the call text. More detailed information about each facility, such as specific periods of facility availability, details on equipment and contact information for Facility Managers are provided within the online application portal, along with the field dedicated to the description of the scientific proposal.

3.7.2 Access Agreement

The Access Agreement serves as a comprehensive document that lays out the terms and conditions governing access within the TNA/NOA project, ensuring clarity, accountability and a smooth collaborative process. This addresses various aspects, including financial arrangements, schedules, access protocols, health and safety guidelines, compliance with ILGE data policies, and privacy standards.

Key components of the Access Agreement include:

- TNA/NOA project details: This section outlines crucial project information, such as the project title, project ID, the designated Facility, the responsible Facility Manager, the chosen type of access (physical or remote service), and the project's timeframe;
- User Compliance with Research Institute rules: Users are required to adhere to a set of rules and regulations that ensure the safe and efficient use of the Facility. Depending

on the type of access (physical or remote), compliance may encompass health and safety guidelines, access protocols, and more. Misconduct can result in exclusion from both the ongoing project and future ILGE TNA/NOA activities;

- Data Management: The Access Agreement enforces the FAIR (Findable, Accessible, Interoperable, and Reusable) principles for research data, emphasizing proper data storage, archiving, and open accessibility. Additionally, it outlines specific terms for data publication, including a maximum moratorium period and requirements for peer-reviewed publications;
- User Compliance with ILGE Rules: Users are obliged to comply with ILGE Data Policy and TNA/NOA General principles, which may include documenting the effective number of access days, submitting scientific and financial reports, and providing feedback on their TNA/NOA experience;
- Reimbursement of User expenses: This section outlines the provisions and procedures for financial reimbursement of TNA/NOA activity;
- Liability and Confidentiality: These sections outline the provisions related to liability and confidentiality, detailing responsibilities and commitments of both parties

It is important to note that specific conditions within the Access Agreement may vary among different facilities, aligning with their unique needs and resources within the TNA/NOA collaboration.

Access Agreements for projects involving physical access need to include specific details on the exact days on which access is provided. For remote service projects, the Access Agreement must also be provided. In this case, the agreement should specify the period during which the analyses are conducted rather than indicating the exact days for each analysis, covering the total access days granted to the user.

At any time after the project approval, the Facility Manager may propose to the user to switch modality of access, to mitigate any circumstance adverse to the project fulfillment. All such amendments must be included in an updated version of the Access Agreement and promptly communicated to the management team. If agreement is not met between the user and the Facility Manager, it is the ultimate decision of the TNA/NOA management team if the TNA/NOA project and the related Access Agreement is to be discontinued.

3.7.3 Submission Template

The submission template for TNA/NOA comprises three essential parts, each tailored to collect specific information necessary for the evaluation and consideration of the project. Below is a description of the fields that applicants will encounter when submitting their applications in the online portal:

A. Project Information and Scientific Objectives

Part A is where applicants provide essential project information. This includes the project's title and the project's acronym. Applicants also specify the proposed period for accessing the relevant infrastructure. Additionally, this section collects information about the Principal Investigator (PI) and any additional investigators (AI), including their names, affiliations, and contact details.

Within Part A, applicants also outline the Scientific and Technical Objectives of their project. They are required to summarize the project's main objectives, describe its benefits to the scientific community, emphasizing the project's uniqueness and innovative aspects. The applicant will also provide a list of keywords to describe the project's focus. If the project involves working with samples, applicants should include relevant information about these samples. Part A also includes the Methodology section, which allows applicants to outline the research methodologies, the project's work plan, and the plan for disseminating results. Furthermore, within Part A, applicants have the opportunity to emphasize the scientific excellence of the PI and team members.

B. File Upload

Part B involves the submission of documents. Applicants are asked to provide the Curriculum Vitae (CV) of the Principal Investigator, which is essential for assessing their qualifications and expertise. A cover letter should also be provided, in case the PI is a student (MSc, PhD). In addition to the CV, this section allows for the inclusion of relevant

documentation related to insurance from the sending institution and a copy of a personal document on which the identity of the applicant may be verified.

C. Selection of Infrastructure and Access Type

Part C focuses on the selection of infrastructure and access preferences. Applicants specify the infrastructure or facility they intend to use for their project, providing a brief explanation of its relevance. They also indicate whether their project requires remote access or physical access to the chosen infrastructure, and the number of team members for which physical access is requested. Information on all users for which physical access is requested should be provided as well.

3.7.4 Reporting documents

Following completion of TNA/NOA projects, users are required to submit reports to a dedicated online form, covering both logistical and scientific aspects of their visits. A scientific and financial report template will be available through the website to users to create a comprehensive account of the scientific activities, access periods and incurred expenses related to TNA/NOA activities. In more detail, the scientific section of the reports include a scientific summary followed by a more in-depth description of the main outcomes and results of the investigation conducted in the laboratory, possibly integrated with preliminary interpretation and the potential for future continuation of the research. Prospective outcomes of the scientific activities, such as data and peer-reviewed publications, presentation at conferences, and dissemination activities, should also be included in the scientific report. Any encountered challenges or critical issues should also be detailed, serving to justify any deviations from the work plan outlined in the Access Agreement, including eventual changes in the days of delivered access.

The financial report must include all details regarding costs incurred during TNA/NOA, including exact dates for each expense, travel and sustenance costs for physical access and sample shipment costs for remote service projects. Receipts do not need to be included with the report, as they are to be provided solely to the access provider, in the form and modality requested by the access provider itself.

The scientific and financial reports, signed by users and countersigned by Facility Managers, will need to be uploaded to a dedicated online form. This form will also allow for the collection of information about the user(s) and feedback on the TNA/NOA experience (see Section 7.3). The information collected during reporting will serve as the basis for the management team to assess any challenges or critical issues within the TNA/NOA programme, allowing the network to grow and improve. This information will also be used to populate WP3-ILGE reporting documents, in order to record the progress of the access program during the pilot period.

4. Proposal submission procedure

4.1 Pre-submission feasibility check

Once the call opens, the proposal submission procedure takes around two months. The TNA/NOA applicant is required to interact with the selected Facility Manager to discuss the technical, logistic and financial feasibility of the proposal before submission. The Facility Manager may suggest modifications to the proposal, such as adjustments to the number of samples, experiments, access days, or experimental conditions. In some cases, the re-direction of the proposal to more appropriate facilities may also be recommended. It is the responsibility of the applicant to incorporate these amendments in the proposal before proposal submission and the actual feasibility assessment (see section 5.2).

4.2 Proposal submission phase

The TNA/NOA applicant submits the proposal through the online application portal described in Section 3.5. To be eligible for TNA/NOA, applicants must ensure they meet specific TNA/NOA rules, which include the following:

• Teams from both European and non-European countries are eligible to apply to the TNA programme.

• For eligibility in the TNA programme, the PI must work in a country other than the one where the installation is located. Additionally, if there are any AIs, at least 50% of them must work in a country other than the country where the installation is located.

• For eligibility in the NOA programme, the PI and more than 50% of the applicant group must work in the same country as the host installation, with the exclusion of intra-institutional access.

• Access is granted only to applicant(s) who are allowed to disseminate results in compliance with the ILGE Data Policy, and any additional requirements specified by the facility in the Access Agreement.

All personal data collected from users during the application process are used solely by the ILGE Network for the operational management of TNA/NOA and for the proper performance of its legal tasks and duties related to communication and research, in accordance with the General Data Protection Regulation (GDPR – Regulation (EU) 2016/679) and the institutional Privacy statement (link here). No personal data is shared with the external review panel during the review phase, nor will personal data be rented, sold, or otherwise shared with or provided to third parties other than for reporting purposes. Applicants are required to view and consent to the ILGE TNA/NOA privacy policy upon application.

The management team will be available to address inquiries from both users and Facility Managers regarding diverse aspects of the application process, as well as the overall access procedures and requirements.

5. Proposal evaluation

5.1 Eligibility assessment

Proposal evaluation starts after proposal reception and lasts between one and two months. Upon receiving applications, the management team conducts an initial eligibility check to ensure compliance with ILGE TNA/NOA regulations. Applications compliant with regulations are then forwarded to the Facility Managers to assess their technical feasibility, and stripped of all personal information to be sent to the scientific review panel for the subsequent scientific evaluation.

5.2 Technical evaluation

The technical evaluation aims to ensure alignment between user needs and project requirements with laboratory capabilities. The Facility Manager serves as an internal reviewer who assesses the technical feasibility of the proposal. The assessment is based on the project's scientific goals and the user's requests in terms of equipment and duration of access. To standardize the criteria for this technical assessment, a dedicated form will be provided to Facility Managers. A feasible project could undergo minor amendments at the request of the Facility Manager (e.g., details on sample preparation or changes in the proposed period for access) to ensure the optimal use of the requested equipment. If projects are found to be unfeasible during the technical evaluation, Facility Managers may suggest amendments that could help the applicant review the project for future TNA/NOA calls. As outlined in Section 4.1, to ensure the best outcomes in terms of technical feasibility, applicants are requested to reach out to the Facility Manager before finalizing their application. This consultation allows for discussion on strategies and procedures related to the requested equipment, as well as logistics for TNA/NOA visit/service. Comprehensive instructions and information on the procedures and facility capabilities will be available through the dedicated platform for application and proposal submission.

5.3 Scientific evaluation

If the proposal is determined to be technically feasible in terms of its technological and logistical aspects, access will be granted on the basis of the scientific evaluation outcome, which is assigned by the scientific review panel (see Section 3.6). The review processes for TNA/NOA are designed to ensure that access is granted based on the scientific quality of the proposals. Funded access is provided through a double-blind evaluation process of TNA/NOA proposals, ensuring transparency, anonymity, gender equality and the overcoming of regional barriers. To maintain consistency in the scientific assessment of all proposals, a standardized evaluation form will be adopted. Different aspects of the proposed research are evaluated, including innovativeness and overall quality of the scientific rationale, the clarity of the proposal text and the robustness of the proposed methodology. Based on these evaluations, a final score is assigned, which is used for the final assessment and proposal ranking. Proposal ranking is taken into account for the final decision on the grant only if there is a shortage of facility availability.

5.4 Evaluation outcome & Proposal ranking

Proposals that successfully pass both technical and scientific revisions are ultimately ranked based on the score assigned during the scientific evaluation. This ranking is used only when there is an excess of access demands in comparison to available supply at a given facility. In such a case, proposals are assigned to the overbooked facility based on their score. Proposals with lower scores may be considered for assignment to another facility capable of conducting the requested research project, provided that the Facility Manager agrees. If decisions need to be made between proposals with equal ranking, priority is given to early career scientists (i.e., individuals who received their highest certificate, typically PhD, within the past 7 years), bachelor and master's students, as well as users who have not previously visited the facility

within the TNA/NOA programme. Alternatively, they may be postponed to the subsequent call if a facility is able and willing to fulfill the task. If such arrangements are not possible, the proposal is not granted access. Therefore, a positive evaluation does not guarantee access provision by itself.

Even positively evaluated proposals may still be subject to small amendments at the request of the Facility Manager. It is the responsibility of the Facility Manager to request minor changes to proposals that have received a positive technical evaluation, if needed. These requests are intended to be fulfilled by the applicant within the short time frame between the review phase and the access period.

Rejection of proposals is communicated to the users after the evaluation phase, along with eventual feedback provided by Facility Managers and reviewers. These comments can be instrumental in helping applicants improve the weaker aspects of their research projects, especially if they intend to submit an improved version of their proposals in a subsequent call for access.

In some instances, it may occur that the maximum number of accepted proposals for a certain facility is not met. In such cases, there may be unspent dedicated TNA/NOA budget left. In this situation, the management team may decide to make this budget available to already approved projects. Before finalizing the Access Agreements, the Facility Manager may decide to distribute the left-over funding over the accepted TNA/NOA projects, for instance, by increasing the number of samples/days for the proposed experiments.

6. TNA/NOA operational phase

6.1 Signing the Access Agreement

The management team will provide a template for the access agreement, and it is the Facility Manager's responsibility to tailor it to the specific requirements of users if necessary. The agreement necessitates signatures from both the Facility Manager and the user, and must be completed and signed before the starting date of each TNA/NOA project. Thus it is recommended that the document is completed and signed before any travel and logistics arrangements are made in relation to access. By signing the Access Agreement, the User/User group agrees to data management and reporting policies, which will be accessible to users via the website. Once signed, the document should be forwarded to the management team, and it will be collected through a dedicated repository.

6.2 Access to facilities

Successful proposals are granted access to facilities. In ILGE, the access phase encompasses a total of six months, during which individual facilities may be available for the entire period or part of it. Depending on the access modality chosen (Remote Service or Physical Access), the TNA/NOA operational phase varies. In the case of Remote Service, the Facility Manager or designated laboratory personnel perform experiments based on user instructions and sent-in samples. In contrast, the Physical Access modality involves users themselves participating in experiments within the selected facilities, under the guidance of the Facility Manager, who provides safety regulations and essential training. Users are responsible for organizing visits, travel arrangements, and accommodation. Physical access in ILGE is normally provided to only one user among those listed in the team upon application. Strong communication between users and Facility Managers is encouraged to enhance the efficiency of the planning of research activities.

Should equipment malfunction occur, whether before or during access, the project may experience a temporary pause. Access days affected by equipment issues are rescheduled at the discretion of the Facility Manager. Under certain circumstances, a transition from Physical Access to Remote Service may be necessary, a decision typically proposed by Facility Managers when it is considered the most effective way to complete an interrupted project. This change could be motivated by factors such as the significant increase in costs associated with maintaining physical access during equipment downtime. Users and Facility Managers can collaboratively agree to switch between modalities as circumstances demand, ensuring adaptability to unforeseen challenges and the successful execution of research activities.

7. Post-TNA/NOA

7.1 Reporting templates

Once the project is concluded, the Facility Manager informs the TNA/NOA management team, highlighting any criticality met. Users will be required to submit reports detailing the activities carried out during the access period. All reports will be generated using a dedicated template and collected by the management team through a dedicated repository. The reports are comprehensive documents that include scientific methods, experimental setup, preliminary results and conclusions, and potential future studies that result from this project. Additionally, reports must include information about the access periods during which TNA/NOA activities were carried out, any critical issues encountered during the research activities and expenses for which reimbursement is sought. These details should be provided in dedicated sections of the reporting template. Matters related to the reimbursement of user expenses will be handled by the local administration of the organization department/division to which the laboratory/installation belongs.

The reports must be signed by only the user(s) granted access (or the PI in case of remote service) and reviewed by Facility Managers, who will agree on the report's content and countersign the document. Then, users are required to upload the reports to a dedicated repository handled by the management team, no later than one month after completing the project. Projects that are not properly reported will not be considered as completed.

Accordingly, only projects for which scientific and financial reporting are provided, along with a completed user feedback questionnaire, can be considered eligible for reimbursement.

After the conclusion of the access period for each call, the management team elaborates the reports and the feedback over a two months period, which is contemporaneous to the preparation of the next call for access. The management team then produces a final TNA/NOA report, which documents the performance of the call, including anonymized statistics on the applicants, user feedback, and lessons learned. This report is provided as part of the MEET deliverables report.

7.2 Data sharing

Data produced during access within the ILGE network will adhere to FAIR principles. This means data will be deposited with metadata through trusted repositories (Findable), have persistent identifiers and made available under open licenses (Accessible), in a common format following open data standards (Interoperable), and comply with high-quality documentation practices (Reusable). This will be ensured by requesting users to publish their data sets on the GFZ Data Services repository. Alternatively, if the data formats are unsuitable for this portal, users are requested to publish data in another appropriate data repository under a CC:BY 4.0 license, which permits data sharing and reuse with proper attribution. An embargo period of two years, during which metadata publication must be ensured, may be adopted. The duration of the embargo will be determined based on the duration of the main external project (e.g. PhD or ERC) associated with the TNA/NOA project. If no specific project exists, the embargo period is set to 2 years. In all cases, this embargo period begins the day after the TNA/NOA project is completed. Based on arrangements made in the Access Agreements between the host facility and the user, a copy of the raw data is also left with the host facility and the user.

If peer reviewed publication(s) result from the data acquired through TNA/NOA activities, users must ensure open access publication as detailed in the Data Policy. They are also required to acknowledge the MEET project, the ILGE network and the support from the

NGEU Programme, in any resulting publication with the standard statement: "*This publication results from work carried out under transnational access/national open access action under the support of WP3 ILGE - MEET project, PNRR - UE Next Generation Europe program, MUR grant number D53C22001400005.*".

7.3 Feedback questionnaire

As part of the commitment to continuously improve the TNA/NOA program, user feedback is highly valued. Therefore, a comprehensive Feedback Questionnaire will be developed to assess the TNA/NOA user experience. The questionnaire covers aspects about the application and proposal submission process, the efficiency of the application platform, the quality of communication with Facility Managers and delivery of information to users, the sufficiency of safety regulations and training, and overall satisfaction with the TNA/NOA program. Users will be encouraged to share their suggestions for improvements, any challenges encountered, and recommendations for fellow researchers. By collecting this valuable feedback no later than a month after facility access, the aim is to enhance the TNA/NOA program and better cater to the needs of the research community, ensuring a seamless and productive experience for all participants.

7.4 Reimbursement procedures

In ILGE, the maximum allowable costs for travel and living expenses are centrally determined by the management team. As outlined in Section 3.4, user costs encompass personal expenses incurred during access, including transportation and living costs directly associated with the access period and location, as well as potential sample shipment expenses. The two options are available for covering user costs are:

a. Reimbursement and reporting through a *per diem*, in accordance with ministerial regulations for institutions that adhere to this procedure. *Per diem* rates vary based on institutional arrangements, and the reimbursable amount per individual researcher is subject to a cap determined by the available budget.

b. Reimbursement and reporting of actual expenses for institutions unable to implement a *per diem* system. This method involves the submission of documented expenses directly associated with the period of TNA/NOA service utilization at the host institution. In this case as well, reimbursement is subject to a spending limit established based on the allocated budget.

All details regarding the expenses for which users request reimbursement must be included in the report provided no later than one month after the end of the access period, which is countersigned by the Facility Manager. If reimbursement for actual expenses is requested, users must also provide to the host institution a digital copy of all receipts along with the report. Reimbursement procedures are the responsibility of the institution, and, depending on its internal administration, may more specifically pertain to the department that houses the facility providing access. Only users who have correctly deposited the report on the dedicated repository and ensured compliance with the ILGE Data Policy and ILGE TNA/NOA regulations will be eligible for reimbursement. The host facility should await approval from the management team before proceeding with the refund of user expenses.