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ATMO-ACCESS D1.1 Report proposing a common access management concept for atmospheric RIs

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Deliverable 1.1: Report proposing a common access management concept for atmospheric RIs

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Comments	<p>The document's delivery was postponed by five months to ensure the collection and processing of sufficient user/provider feedback and thorough consideration of it to establish a robust common access management concept. At the moment of the deliverable, feedback was collected from all users concerned with the 1st Call for Pilot Training TNA and from most users in Calls 1 and 3. Feedback collection is ongoing for the other 5 regular calls and the 5 special calls.</p> <p>The contents and proposed solutions were presented and discussed with the ATMO-ACCESS community in all project meetings as they were developed, and were specifically</p>





ATMO ACCESS

Access to Atmospheric Research Facilities

shared at the 2024 annual meeting in Wuppertal (19-21 March 2024).



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atmo-access.eu



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1 Introduction

This document is prepared in the context of the ATMO-ACCESS project (Solutions for Sustainable Access to Atmospheric Research Facilities), a pilot project funded by the European Union (EU) to achieve recommendations for establishing a comprehensive and sustainable framework for access to distributed atmospheric Research Infrastructures (RI), ensuring integrated access to the services they provide.

This deliverable is the culmination of the work carried out in WP1 “Developing the concept and guidelines for access to distributed atmospheric Research Infrastructures” for Task 1.1 “Developing common access management concept, procedures and tools for access provision to distributed atmospheric research infrastructures”.

The delivery of the document was delayed for five months to allow consideration of as much user/provider feedback as possible to propose a common access management concept based on solid foundations incorporating all results from the testing phase. Further to that, and to provide genuinely useful recommendations to WP8 “Sustainable and strategic framework for access to distributed atmospheric research Infrastructures”, the WP1 team discussed the opportunity to postpone the release to M40 or M42 in one of the initial activity planning meetings. At the time of this deliverable, management activities, with the final step consisting of the feedback collection from all the concerned users (see section 4.2), have been completed only for the 1st Call for Pilot Training TNA launched in March 2023 in collaboration with WP4 “Developing and optimally integrating joint training services”. Management is ongoing for the other 7 regular calls and 5 special calls launched so far (see details in Section 4.1) and this feedback is still to be collected and processed.

2 Objectives, scope and methodology

In line with Task 1.1’s objective to facilitate easy and efficient access to ATMO-ACCESS facilities and services, this deliverable builds on the preliminary analysis presented in [Milestone 1.1](#) to propose a common access management concept and access procedures that result from the joint effort to harmonise and streamline the process of accessing facilities and services between the involved RIs. The document also intends to provide useful input to WP8 “Sustainable and strategic framework for access to distributed atmospheric research Infrastructures”.

The scope covers the organisation and management of the evaluation process for the users’ request for physical, remote or hybrid access to the RI’s facilities, and excludes virtual access (VA), which is access to data and digital products, and, as such, has completely different



modalities¹. The coordination of access provision and management of the post-access responsibilities for both users and providers is also in the perimeter of the document, which places a specific focus on harmonisation across various atmospheric RIs, each with facilities in different geographical locations and unique challenges and requirements, and on making the process more user-friendly and efficient.

Figure 1 below illustrates the 3-step methodology applied to achieve the task's objectives.

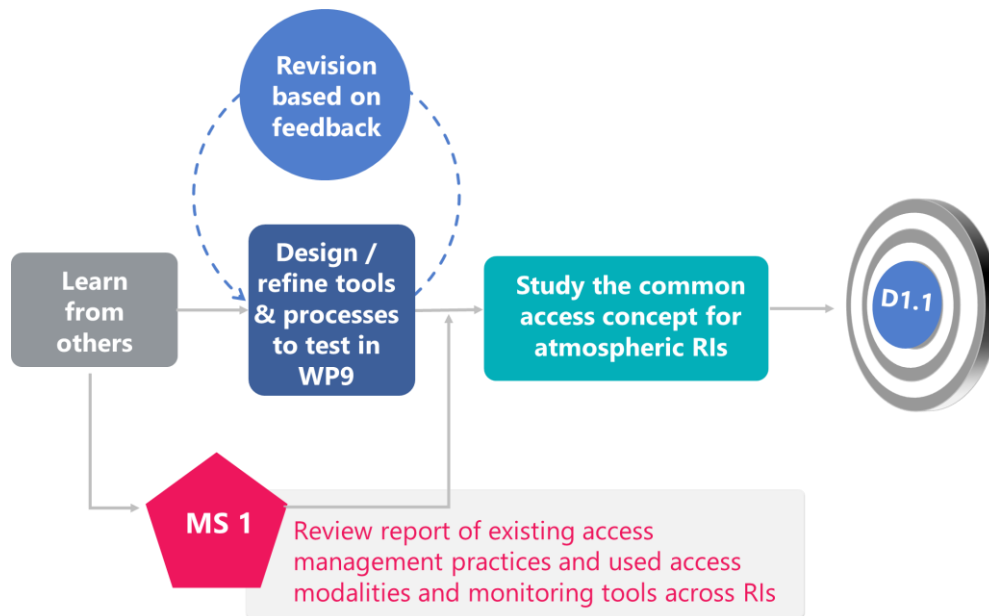


Figure 1 - Methodology used

The first step involved learning from existing access practices, gathering information or insights on how several RIs, not only in the environmental atmospheric domain but also others, manage access to their research facilities to identify and then study successful examples of access management.

The second step was designing a harmonised process for transnational access (TNA) to test in WP9 “Implementing access through TNA activities”, based on the insights gathered. The testing phase, still ongoing at the time of writing this deliverable, is crucial for identifying any potential issues or gaps in the process. The feedback collected so far provided (and continues to provide²) valuable insights into how the process works and where improvements were needed. Indeed, comments and suggestions from both users and providers have driven multiple ongoing revisions/refinements during testing, from one call to the other issued following the program defined in WP7 “Delivering an effective TNA-VA access programme”, allowing the introduction

¹ In ATMO-ACCESS, virtual access is covered in WP10 “Implementing virtual access to on-line data, computing and training service”. Complete information and considerations on VA can be found in WP10 documents and deliverables.

² As explained before, this is the main reason for the delay in the delivery of the document.

of numerous changes positively received by concerned actors in the access process. Furthermore, feedback made clear that some of the tested solutions did not meet with full endorsement from the community and did not produce the intended results. That led to multiple reviews and refinements, for instance, of the evaluation criteria and scoring system, as well as the rationale and methodology for setting a threshold to accept access proposals per call.

The third step involved studying and shaping the common access concept as a result of the iterative design, testing, and refinement process. As further developed in Section [5.3](#), the concept was designed based on TNA testing and is endowed with enough flexibility to also adapt for national access.

3 Current access in the atmospheric RIs

MS1.1 ([REF 3](#)) describes the access (types, modes) and current management practices adopted by 22 existing RIs in various domains.

To provide useful background here, Table 1 below summarises the analysis carried out for the atmospheric RIs. To give the full picture of the access practices in the atmospheric domain, RIs that have been found to provide almost exclusively virtual access are also described (2 out of the 5 considered). Moreover, the analysis has been updated to reflect the latest [European Strategy Forum on Research Infrastructures \(ESFRI\) Landscape Analysis 2024](#), particularly for the atmospheric sub-domain (shown in Figure 2), and integrated with the inclusion of the EISCAT_3D and EIRENE infrastructures that were not previously considered, and SIOS.

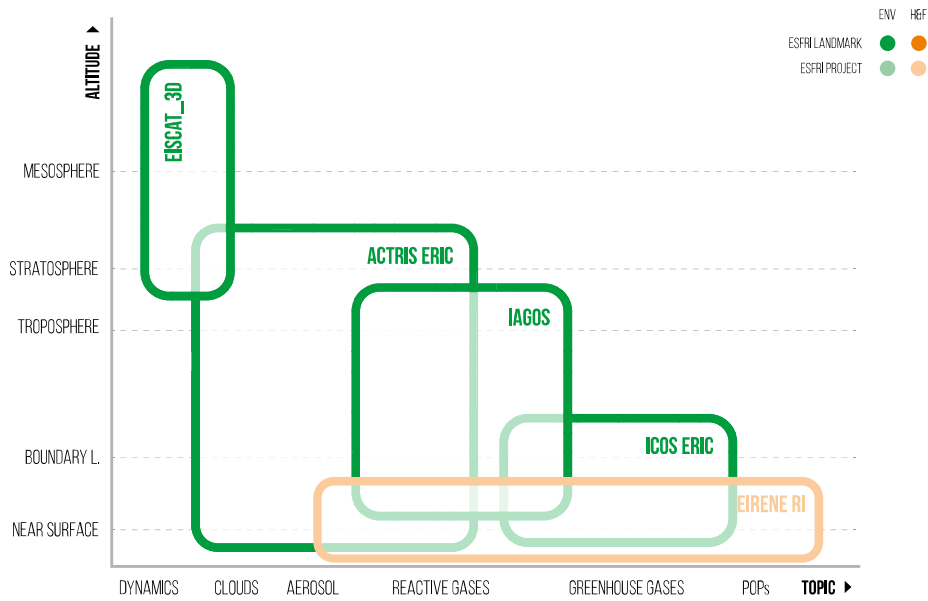


Figure 2 - Schematic overview of the ESFRI RI landscape for the atmosphere sub-domain. (Source: ESFRI Landscape Analysis 2024)

Table 1 - Overview of the current access management practices in the atmospheric RIs

RI Access	ACTRIS ERIC	IAGOS	ICOS ERIC	EIRENE	EISCAT_3D	SIOS
Facilities	<ul style="list-style-type: none"> - Topical Centres, - Data Centre - Observation Facilities, - Labs, - Simulation chambers, - Mobile facilities 	<ul style="list-style-type: none"> - Fleet of commercial aircraft equipped with IAGOS instrumentation (IAGOS CORE - IAGOS-CARIBIC) 	<ul style="list-style-type: none"> - ICOS Station Networks (measurement stations for atmosphere, ecosystems and ocean observations) - Thematic Centres (for atmosphere, ecosystems and ocean observations) - Central Analytical Laboratories - ICOS Carbon Portal 	<ul style="list-style-type: none"> -two instruments of gas chromatography (GC) coupled to high-resolution mass spectrometers (MS), -three instruments of GC coupled to triple-quadrupole MS working mainly in Electron Impact Ionization, -two instruments of GC coupled to triple-quadrupole MS working in Atmospheric pressure ionization, -three instruments ultra-high performance liquid chromatography coupled to MS. -Laboratory is equipped by two instruments for heavy metals, trace elements and species analysis concretely Inductively coupled plasma mass spectrometers possible to connect to GC or LC. 	EISCAT_3D system consisting of: <ul style="list-style-type: none"> - a phased-array radar system located in Northern Fenno-Scandinavia near space research centres in Kiruna (Sweden), Sodankylä (Finland) and Tromsø (Norway), - two rocket launch facilities at Andøya (Norway) and Esrange (Sweden), and - several other distributed instrument networks for geospace observation. 	<ul style="list-style-type: none"> - Observation facilities collecting SIOS data. - Airborne remote sensing platforms (aircraft and drones)
Access governance	<ul style="list-style-type: none"> - Service and Access Mgmt Unit (SAMU) of the Head Office, - Access evaluation board 	<ul style="list-style-type: none"> - Data Management Group (DMG) 		<ol style="list-style-type: none"> 1. Service and Access Management - responsible for the central management of the access 2. RI evaluation board 	EISCAT Scientific Association Director; EISCAT Council; EISCAT-established Review Panel; EISCAT Scientific Advisory Committee and EISCAT Staff Scientists	<ul style="list-style-type: none"> - SIOS Knowledge Centre (KC - manager of the access programme). - The RI Coordination Committee (RICC) and Board of Directors (BoD) prepare the calls. - Selection panel consisting of representatives from the SIOS working groups
Tools	<ul style="list-style-type: none"> - Data Centre - Access Management Plan 	<ul style="list-style-type: none"> - IAGOS Data Portal 	<ul style="list-style-type: none"> - ICOS Data Portal 	<ul style="list-style-type: none"> - Service and Access - online request 	<ul style="list-style-type: none"> - EISCAT_3D Data Portal (in EOSC) 	

	<ul style="list-style-type: none"> - Catalogue of services - PASS Platform for managing user Access to ACTRIS Services - Science and User Access Forum and Knowledge-base - Helpdesk 			<ul style="list-style-type: none"> - Searchable list of facilities allowing basic search of the facilities, with descriptive, facilities presentations 	<ul style="list-style-type: none"> - EISCAT Scientific Programmes and Observing Time Policy - EISCAT User manual - Online system for scheduling the observing time 	
Access types	<ol style="list-style-type: none"> 1. Physical, remote, virtual 2. Transnational (mostly EU project funded in this phase) 	Virtual	Virtual (mainly), Remote, and Physical (mostly for the facilities co-located with ACTRIS and in the ATMO-ACCESS project.	Physical, Remote	Mostly remote though visits are possible. Scheduled experiments are usually run for the user by EISCAT staff at the given site.	Physical, Remote, Virtual
Access modalities	<ol style="list-style-type: none"> 1. Standard: single facility, simultaneous access; 2. non-standard: multiple facilities, consecutive access, hybrid 3. Free 	Free	Free	Single-site or Multiple site requests	<ol style="list-style-type: none"> 1. Common Programme mode: experiments and observations are conducted for the benefit of the entire user community in the countries or institutions of the EISCAT Associates and Affiliates and the resulting data are immediately available to all 2. Special Programmes mode (for internal users); users conduct individual experiments dedicated to specific objectives. The resulting data are reserved for the exclusive use of the experimenters for one year from the date of collection. No review and distribution of the time based on the member investment and annual fee. 3. Open, Peer-Review Programme (for external users); individual experiments carried out by individual users or user groups to whom EISCAT grants observation time 	

					based on the scientific merit of the experiment proposal.	
Access process	<p>a) Publication of the Call for TNA (annual, semestral, topical)</p> <p>b) User request, via PASS</p> <p>c) 3-step selection, via PASS</p> <p>c.1 eligibility, by SAMU</p> <p>c.2 Feasibility, by the Facility provider assessing the scientific/technical feasibility and resources required to serve the users</p> <p>c.3 independent merit review, by ad-hoc panels of up to 3 reviewers</p> <p>d) access provision, starting with the user signing the acknowledgement of access terms</p> <p>e) post-access duties, including user scientific activity report, user feedback questionnaire, dissemination of the project results</p>	N/A	<p>ATMO-ACCESS access process:</p> <p>a) Publication of the call</p> <p>b) user application via PASS</p> <p>c) pre-screening for eligibility</p> <p>d) Feasibility check by the provider</p> <p>e) External evaluation</p> <p>f) selection</p> <p>g) access provision</p> <p>h) post-access duties</p>	<p>Applications for access are available via the Open Access proposal online submission form platform. Users are asked to provide a short proposal outlining what they would like to do, the problem it addresses and how it is linked to their ongoing activities.</p> <p>All applications are evaluated on a quarterly basis in a two-step process. Once the evaluation is completed, its results are presented to the RECETOX Extended Executive Board for final approval.</p>	<p>Peer-Review Programme, for external users (non-membership scientists).</p> <ul style="list-style-type: none"> - Applications can be submitted throughout the year but with two evaluation deadlines: (1st of May, 1st of November). - Reviewed by the EISCAT-established Review Panel consisting of the EISCAT Scientific Advisory Committee and the EISCAT Staff Scientists. The panel enlists the help of external referees where necessary. Proposals will be awarded time based on their scientific merit and novelty. 	<p>SIOS Access Programme:</p> <p>a) Publication of the call</p> <p>b) user application via online form</p> <p>c) pre-screening for eligibility</p> <p>d) Selection</p> <p>e) Feasibility by the provider</p>
Selection modes	<ol style="list-style-type: none"> 1. Excellence-driven access 2. Technical need-driven access 3. Market-driven access 4. Training need-driven access 	N/A	For the TNA provision in ATMO-ACCESS	<ol style="list-style-type: none"> 1. Scientific review (exc.-driven) 2. Technical review (feasibility) 3. Review for private users 	Excellence-driven access	Excellence-driven access
Review Criteria	<ul style="list-style-type: none"> - Scientific and technical value - Novelty and innovation - Innovation and market potential - Technical and scientific relevance - Scientific/learning objectives and motivation - Quality of the applicant 	N/A	<ol style="list-style-type: none"> I. Excellence-driven access criteria II. Technical need-driven access criteria III. Market-driven access criteria IV. Training need-driven access criteria 	<ul style="list-style-type: none"> -Technical feasibility -Scientific excellence 	<ul style="list-style-type: none"> -Overall scientific merit and potential of the proposal - Scientific novelty; -Capability of the applicant to fulfil the proposed research according to their plan; -Broader impact of the proposal (ability to increase the diversity of the EISCAT research community and expand the research 	<ul style="list-style-type: none"> -Scientific quality, innovation, and technical and logistical feasibility. - Relevance of the project to the vision and mission of SIOS

					capabilities of EISCAT facilities).	
Access monitoring tools	Monitoring is carried out by SAMU with monitoring tools embedded in PASS (access metrics, user feedback needs, KPI, quantitative-qualitative access provided, type of services requested). Periodic Customized Access KPIs & Service Provision Activity reports.		Access metrics collected via PASS	Monitoring is a responsibility of the Service and Access Management and covers the quantity and quality of access granted, type of services, type of user, geographic distribution, user satisfaction, type of results, etc. Service Provision Activity progress and final reports are produced every year.		Monitoring in terms of feedback mechanisms in place where the users can report their experiences and future needs, and their scientific activities, back to the RI.
User duties	Acknowledgement of the access terms Feedback provision Scientific activity report		Acknowledgement of the access terms Feedback provision Scientific activity report		<ul style="list-style-type: none"> - Short summary (max 1 page) of the experiment and foreseen results (even if they are negative) should be submitted within 4 weeks after the observations, - Short (max 2 pages) final report within 12 months after the observations, including the list of possibly published, submitted and foreseen publications and the educational and/or science programmatic outcomes. - Feedback questionnaire 	Users of SIOS RI shall acknowledge in any publication or any other derived work the contribution provided by the host institution and its staff
SPECIAL ACCESS	Plans for private sector access and fast-track / crisis access				Special Programmes for associated or affiliated users	

4 Development of the common concept for access management

Following the iterative methodology described in section 2, the development of the common concept has been based on a continuous cycle of designing, intense phases of testing and collecting feedback, and finally making improvements to ensure a model for access management as robust as possible.

The access process, related management procedures and tools were first designed in WP9 at the beginning of the project and described in MS 9.1 (REF 5), then reviewed after the first year of testing with MS 9.4 (REF 6) at the end of 2022. Apart from this formal opportunity for review, WP9's activities for handling the access process have offered plenty of chances for experimenting with the procedures, redesigning where needed, implementing changes, and testing again the devised solutions for transnational access management. That concerned the call format and schedule (handled in WP7), steps in the access process and consequent optimisation of the online tool for centralised access management PASS, tailored workflows to meet the distinctive needs of particular user groups, forms and criteria adapted according to the calls' specificities, and tailored communication with the actors involved all along the process.

The common concept presented in section 5 is the major result of all design, testing, feedback collection and actions and re-design efforts in response to comments, requests and suggestions received.

4.1 ATMO-ACCESS tests and participation of the RIs

Since the beginning of the project, 13 TNA Calls included in the [programme](#) released in WP7 have been published. This comprises 7 regular calls for TNA and 6 special calls, as follows:

A. Regular Calls:

- 1st TNA Call – General, based on existing best practices and expertise across the RIs.
- 2nd TNA Call – Topical (Green Deal Call)
- 3rd TNA Call – General
- 4th TNA Call – Topical (Remote and Hybrid access)
- 5th TNA Call – General
- 6th TNA Call – Topical (Multidisciplinary access)
- 7th TNA Call – General

B. Special Calls:

- 1st annual Call for Private Sector Users (2023)



- 2nd annual Call for Private Sector Users (2024)
- 1st Call for Pilot Training TNA – AGORA Aerosol Training Course: Characterization of atmospheric aerosol using in-situ and remote sensing techniques (2023)
- 2nd Call for Pilot Training TNA – Sensors and Drones in Atmospheric Science (Autumn School in Switzerland and Cyprus, 2024)
- Call for Pilot TNA to support the Cal/Val of satellite atmospheric missions
- Call for Pilot Fast-Track TNA

Of the three atmospheric RIs in ATMO-ACCESS, ACTRIS and ICOS took part in the TNA tests, which mostly involved ACTRIS and, to a lesser extent, ICOS, typically providing virtual access to data. IAGOS was not involved in any TNA testing, as no physical or remote access can be provided due to the unique nature of the RI. The ACTRIS-ICOS co-located facilities³ had a great opportunity to experiment with providing physical and remote access along with the typical virtual access provision. And, most importantly, these facilities could experiment with and get used to harmonised access procedures. 32,9% of the accepted TNAs (95 out of the 289 total applications approved so far⁴) involved access to co-located facilities, 65,7% concerned ACTRIS-only facilities, and 1,4% ICOS-only facilities. Details are shown in Figures Figure 3 and Figure 4.

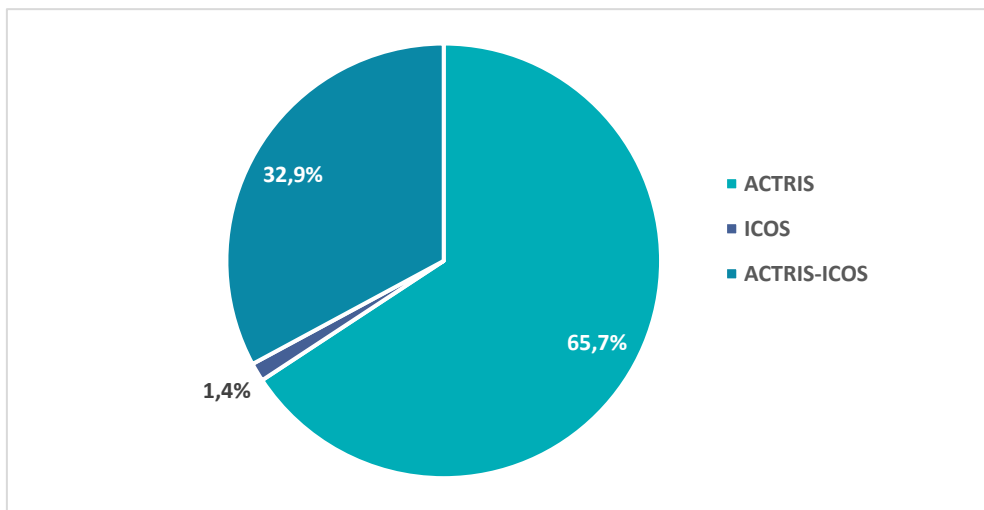


Figure 3 - Approved Transnational access projects per RI

³ The Pallas-Sodankylä Atmosphere-Ecosystem Supersite and the Station for Measuring Ecosystem-Atmosphere Relations II in Finland, the Site Instrumental de Recherche par Télédétection Atmosphérique, the Observatoire de Physique de l'Atmosphère à La Réunion and the Cézeaux-Aulnat Opme Puy de Dôme in France, the Finokalia Station in Greece, the CIAO and CMN-PV Observation facilities in Italy, the Cabauw Experimental Site for Atmospheric Research in the Netherlands, the Atmospheric Sounding Station El Arenosillo and the Izana observatory in Spain, the Hyltemossa Research Station in Sweden, the High Altitude Research Station Jungfraujoch in Switzerland.

⁴ The number includes partial data on the applications received under the 2nd Call for Pilot Training TNA and the 2nd annual Call for Private Sector Users which are still open at the moment of writing. The number excludes the 3 applications accepted under the Call for Pilot TNA to support the Cal/Val.

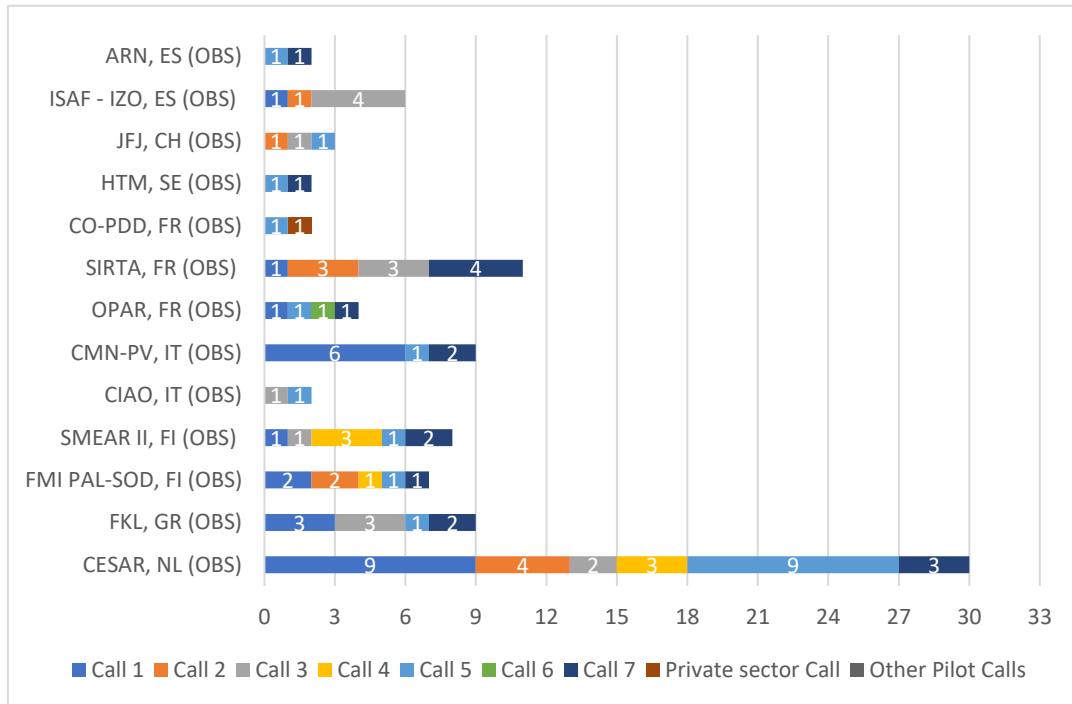


Figure 4 - Successful TNA applications per co-located facility and TNA Call

4.2 Feedback on the management process

At the moment of writing this document, feedback on the access management services was collected from approximately one-third of the user group leaders of successful TNAs (88 out of 292), and 33 providers from the 61 facilities offering physical, remote and hybrid access to services in ATMO-ACCESS. The following sections summarise the processed feedback and offer a useful glimpse into the users' and providers' perspectives on the access process, as well as the main suggestions derived from their comments. It's worth noting that reviewers also provided feedback via email or direct contact with the TNA management team. This has been taken into account in the feedback collection with the aim of refining the process throughout the project.

4.2.1 User perspective

Leaders of the user groups who completed their TNA projects at the requested facility provided feedback via a specific questionnaire. The questionnaire was included in the post-access duties and provided via PASS. Feedback questions ([Annex 1](#)) span from evaluating some specific aspects and activities involved in the access process to offering ideas and suggestions for improvement.

Figure 6 below shows the number of users who completed the access and feedback questionnaires per call (represented by the darker histograms) and the total number of users who had TNA projects approved per call.

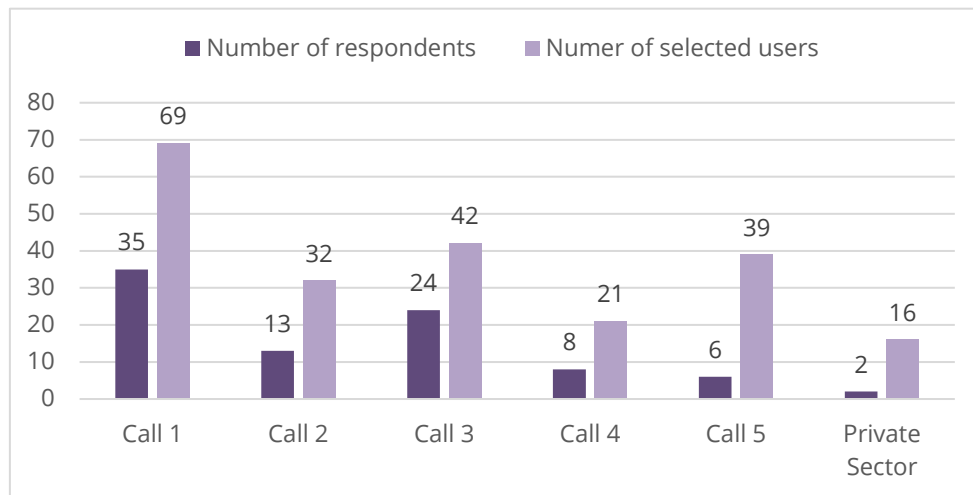


Figure 5 - User feedback: Number of respondents per call

It should be noted that not all questions were mandatory and not all the users answered all questions. Rates presented in the graphs that follow only reflect the percentage of answers to the specific question they refer to.

Overall, the ratings for the various elements of the access process are very positive, with average marks quite close to the maximum (5 on a 0-5 scale) for almost all aspects assessed as presented in Figure 6.

It's worth remarking that all the 88 users completing the feedback form answered the question and that the 2 users in the call dedicated to the private sector gave systematically lower scores to the main aspects of the process, especially the application form and the post-access requirements (activity report, feedback and carbon footprint questionnaires). Although 2 out of 16 is quite a small feedback sample, it can still stimulate reflections on the need to rationalize further and reduce the burden of duties for private users.

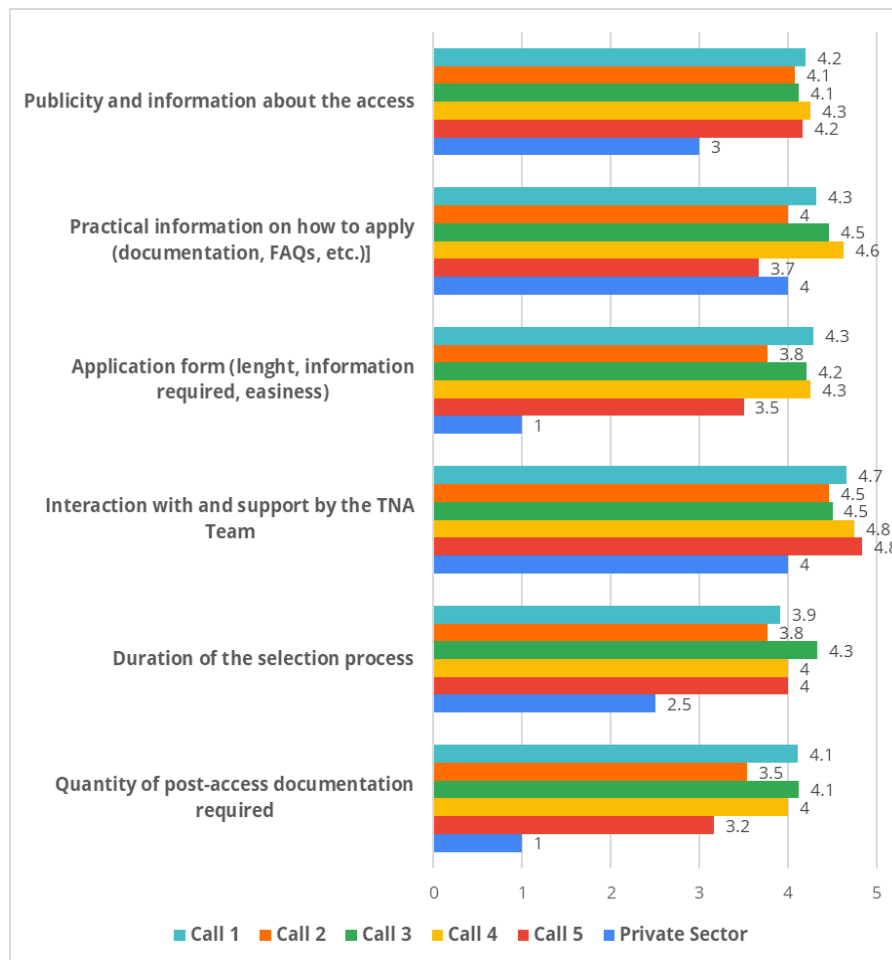


Figure 6 – User feedback: average ratings per specific aspects evaluated and TNA call

A few users, 5 out of the 65 answering the relevant question, reported encountering some difficulties during the process, which mostly related to:

- 1) knowing in advance the exact modalities for disbursement of the financial contribution for travel and subsistence,
- 2) having to co-fund their travels and get coverage for the shipment costs, and
- 3) the duration of the entire process.

It is noteworthy and very encouraging that users are progressively acknowledging the efforts made towards streamlining and accelerating the process from one call to another, with some declaring that “ [...] Overall, it appears that TNA has succeeded in keeping bureaucracy and paperwork at a reasonably low level”, or, as affirmed by a user from the US “This is an excellent process and should be used as a role model”, or “In my view, it's everything fine. The application for the access was very easy, and the deadlines were very reasonable.”

Growing acceptance and support for the process being designed is also confirmed by the increasing percentage of users from call 1 to 5, who had no improvements to suggest, as shown in Figure 7.

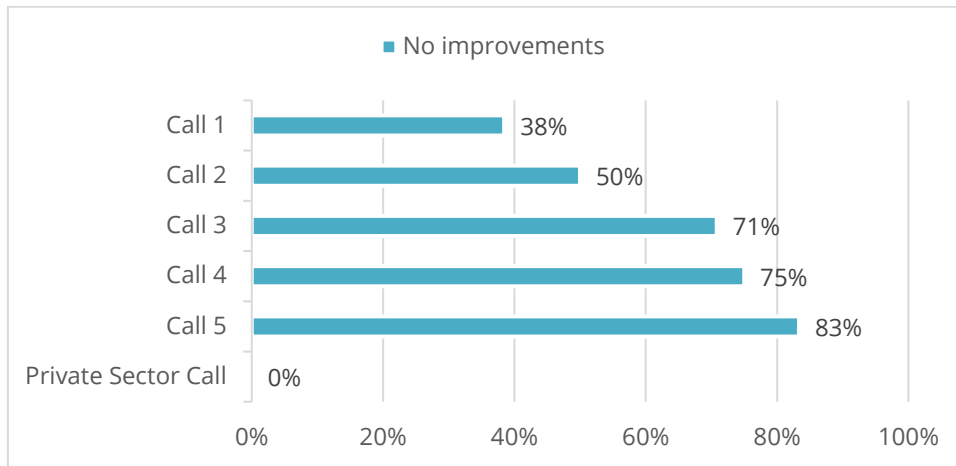


Figure 7 - User feedback: Percentage of users with no suggestions for improvement in the different TNA Calls

However, actionable feedback, comments, and suggestions for possible improvements to the access organisation were received from the users in the different TNA calls, as reported in Figure 8. Figure 12

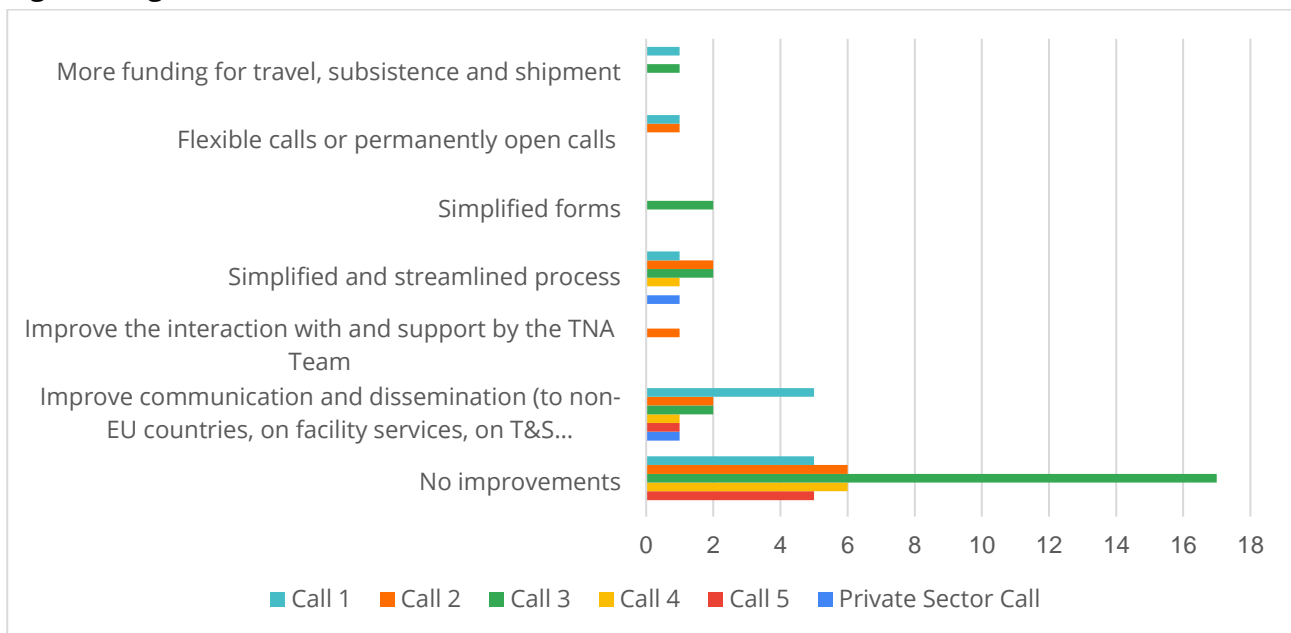


Figure 8 - User feedback: Proposals for improvements

4.2.2 Provider perspective

In the frame of WP2 activities for “Integrated modalities for engaging users, enhancing awareness and monitoring success of access strategies”, a specific feedback questionnaire ([Annex 2](#)) was prepared and administered to providers in Spring 2024. Providers were asked to

give their views on the access organisation within the project, report the main pain points and issues encountered, and offer recommendations and suggestions. Figure 9 presents the level of providers' satisfaction with how the access is organised within the project, rated on a scale of 1 to 5. Notably, the chart shows a high level of satisfaction among providers, with larger segments indicating the percentage of respondents who selected higher ratings.

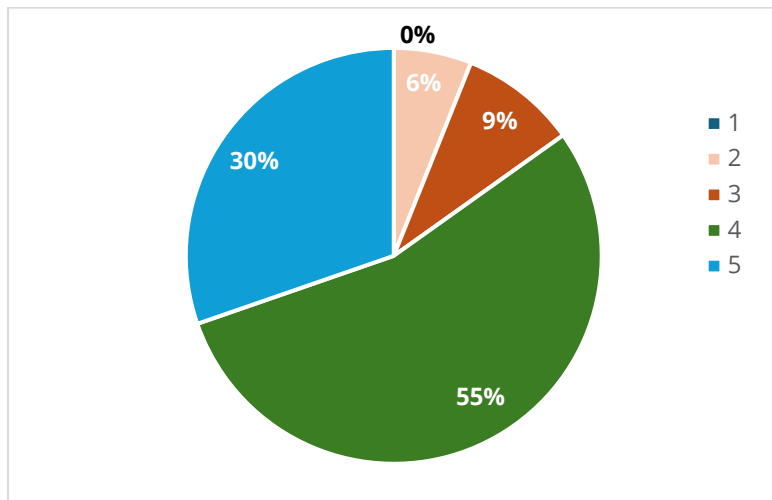


Figure 9 – Provider feedback: Level of satisfaction with the organisation of access in ATMO-ACCESS

The main bottlenecks experienced by providers are reported in Figure 10.

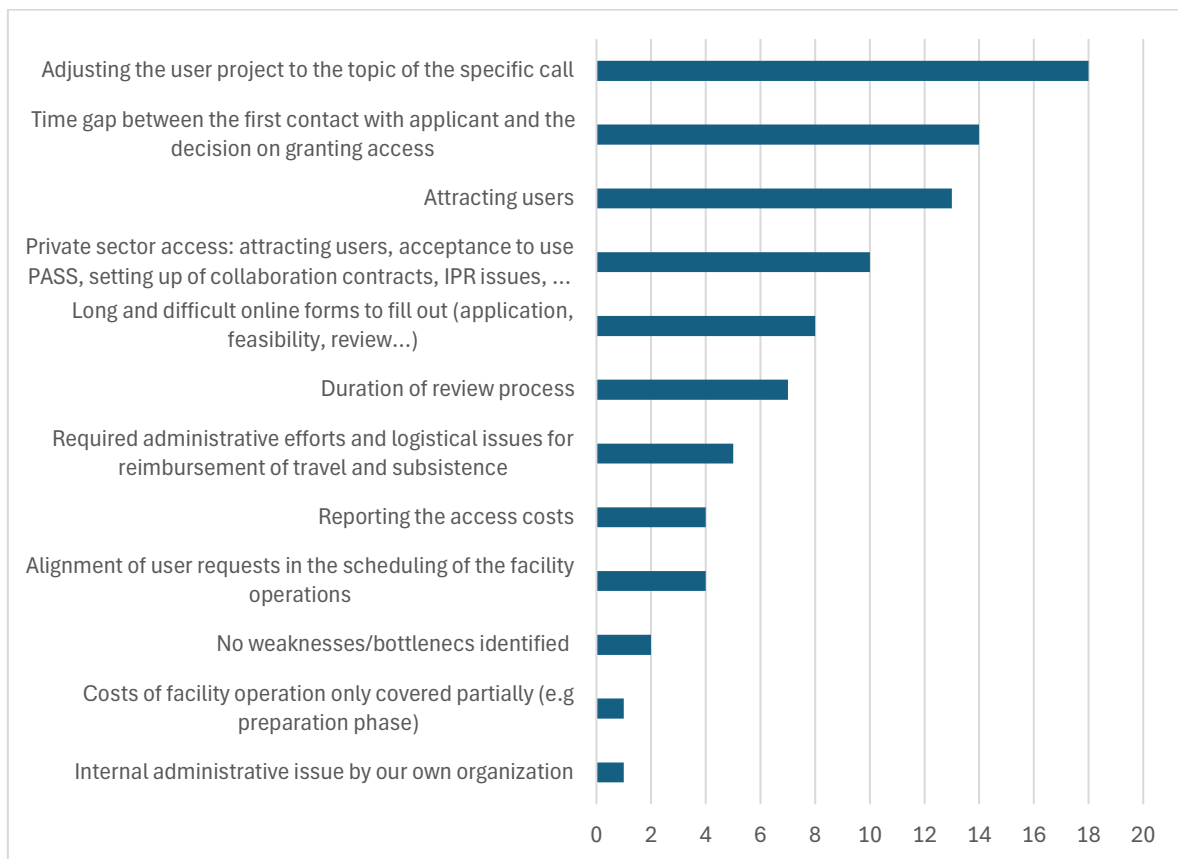


Figure 10 – Provider feedback: Main bottlenecks identified in the access process

It's interesting to note that among the most frequently reported issues are the difficulty in helping users adapt their projects to fit the requirements of the specific open TNA call, the time gap between the first contact with the users and the moment access can begin, and attracting users. These issues could be related. Indeed, for access to begin users and providers must wait for the conclusion of the access process. This process usually involves anticipating the opening of the suitable call, waiting for its deadline to expire to allow processing to start, and then expecting completion of all subsequent evaluation steps. All this can negatively impact the facility's ability/ possibility/ effectiveness to attract users.

However, despite the issues highlighted, the vast majority of providers are in favour of a common access management concept for distributed atmospheric RIs, deeming it to be beneficial though challenging to implement (64%) or even necessary (15%), as shown in Figure 11, and offer plenty of useful suggestions for improvements to help its design (Figure 12).

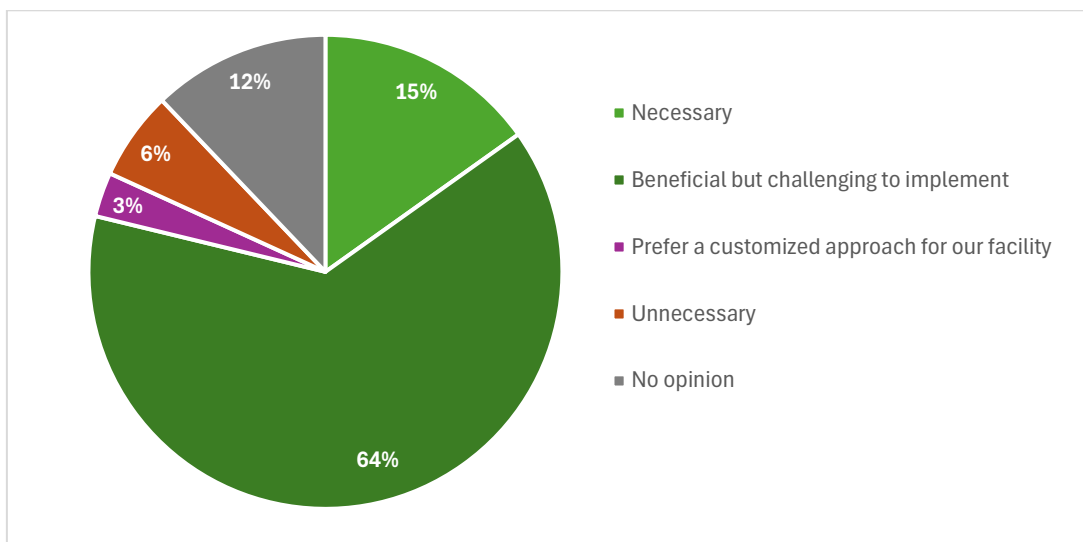


Figure 11 – Provider feedback: Opinion on the common access management concept for distributed atmospheric RIs

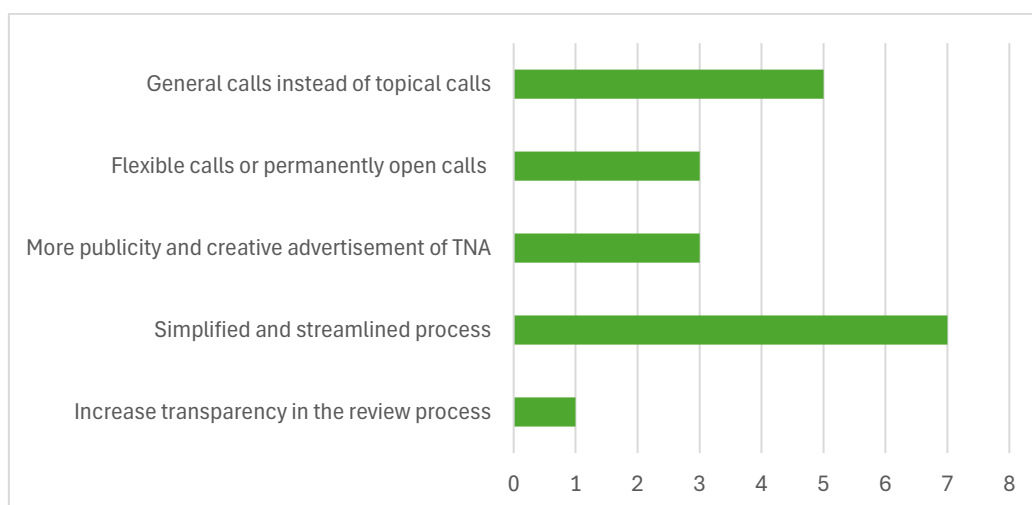


Figure 12 – Provider feedback: Proposals for improvements

5 Common concept

Access management is a concept and a process that includes more than just letting people visit a research facility. It extends to selecting who has access, evaluating the excellence of the research and activities to be supported with services received at the facilities, and ensuring access is monitored all over time till its completion, and possibly beyond, to keep track of its results and impacts.

Access management is important *for Research Infrastructures* as access is a key activity for achieving the RI's mission, i.e., to foster excellent science in a particular research area.

It's important *for the providers* at the facilities, who, with a robust, uniform and controlled process in place can be assured they serve qualified users with proven track records or prospects and great ideas and can enjoy possible fruitful collaborations with other scientists, research institutions and also private sector users. Not to mention that RI's centralised access management relieves providers of the burden of organising the selection, identifying and managing independent experts for reviews, and keeping up with users for post-access obligations. This allows them to focus on scientific activities rather than management and administration.

And, most importantly, access management is important *for the users*, even if they may not have this perception and, on the contrary, can host the feeling that it's only an unnecessary burden that weighs down and slows down the immediate satisfaction of their research needs.

Yet, especially in distributed research infrastructures, centralised access management guarantees users common and standard procedures across different facilities, the same evaluation criteria, the same quality of the access and service provision, if possible and when the peculiarities of each facility consent, etc. Additionally, as underlined by some providers in their answers to the feedback questionnaire, common access management is necessary to strengthen the research network and international collaboration, better exploit the facilities, share knowledge and resources, and develop excellent science.

If we extend that *to an entire scientific domain* - atmospheric science in our case - the implications and benefits extend to the whole scientific community active in or interested in it, ensuring that all users, even those belonging to different communities and groups, have uniform access conditions, same criteria, same process, same access experience. This is the direction indicated by the [H2020 INFRAIA-03-2020](#) call that financed the ATMO-ACCESS project, and this was the objective pursued in every phase of design - re-design of the access procedures implemented in ATMO-ACCESS. And, finally, it is also worth noting that in the current Framework Programme, great emphasis is placed on further, inter-domain harmonisation.

5.1 Key Components

An important question that providers were asked to answer in their feedback questionnaire was what they believe the key components of a common access management concept for distributed atmospheric RI should be. Providers were offered the possibility to select multiple alternatives and, while this may have limited the creativity and inventiveness of the suggestions made, it still led to interesting responses, demonstrating increased maturity in providers' knowledge and understanding of access. Table 2 below reports the answers collected and their frequency. The total number of selections (89) is bigger than the number of respondents (33) because providers could select multiple alternatives.

Key components	Number of selections
Common principles defined in the access and data policy	19
Defined evaluation criteria and selection process	18
Unique entry point	16
Harmonised procedures	12
Centralised management	12
Monitoring and reporting	10
Transparent procedures and flexible calls	2

Table 2 - Frequency Distribution of providers' selection of key components of a common access management concept

Very remarkably, common policies to inspire and guide access management, along with more organisational aspects, like the unique entry point, harmonised procedures and centralised management, are the most selected answers. Indeed, these are the core of access management in a research infrastructure and the necessary components of an access framework meant to be common and shared by a group of RIs.

Drawing from this valuable feedback, and mostly from the 3-year experience of TNA management in ATMO-ACCESS, and all the comments and inputs collected in the project meetings and daily exchanges with providers and users while processing more than 400 TNA applications, the following elements were identified as key components of the common concept for distributed atmospheric RIs:

1. Harmonised access and data policies
2. Common Access programme
3. Shared management principles
4. Harmonized procedures
5. Common tools for centralised management
6. Common strategies for communication, user attraction and engagement.

Apart from 1. (access and data policies), 2. (access programme), and 6 (communication, user attraction and engagement), which are addressed in the specific deliverables and documents

produced respectively in Task 1.2 of WP1, WP7 and WP2, the other key components of a common access management concept for distributed atmospheric RIs are presented in sections below.

5.2 Shared principles for access management

A common framework for managing access across a group of RIs needs to be built on the backbone of shared principles that serve as fundamental guidelines agreed upon and adhered to by all parties involved in the access management process. Aside from the higher-level principles enunciated in the access and data policies, which are out of the scope here, principles shaping and guiding management must be shared. Namely:

- A. Organisational principles - like centralised management and a common unique entry point - that can be derived from the ESFRI indications and requirements for distributed RIs and adjusted to extend to the RIs that populate an entire research domain, like atmospheric science.
- B. Operational principles, guiding the operations and prescribing how to get things done.

As regards the *organisational principles*, strict, pure and simple adherence to those of centralised management and single point of access for users would imply for the atmospheric RIs the need to have a joint structure or unit entrusted with centrally managing access to all the RIs and their facilities. While the idea can be valued, its implementation seems hard to establish unless external resources sustain it. Where no additional, external funding is available, the RIs would need to find an agreement on how to share the financial burden, guaranteeing a stable and sufficient flow of resources to cover the costs of the joint access management structure. That is certainly advisable for access to RIs' co-located sites when access projects require cross-RI competencies and resources since it offers clear advantages in terms of efficiency in the organisation/scheduling of the access and enhanced user experience, with users not having to apply twice for the same project and the same site. Additionally, it appears to be relatively easier to achieve and implement, considering the fraction of access projects to co-located platforms and, more specifically, of cross-RI access projects.

However, especially for single RI platforms, more realistically, it can be that each RI in the domain decides to keep and operate its single point of access while adopting, at the same time, the same operational principles and uniform procedures. When shared among the RIs, these principles and procedures become key in realising a common access management framework and, above all, in guaranteeing users the same access experience with uniform access conditions, same process and criteria.

The *operational principles* proposed as fundamentals for the common access framework are:

1. Flexibility for Diverse Needs: This is the main, fundamental principle that must guide operations. It is true for most organisations nowadays, considering the rapidly and continuously evolving scenarios that the world is facing, and it's especially valid for distributed RIs, even more so for a group of diverse RIs like those in the atmospheric domain. Although operating in the same area, the RIs are rather diverse, with various types of facilities, distinctive operational approaches, different access types and modalities. That implies that, while some common concepts and rules need to be there for all, very particular aspects need to be dealt with in a customised way based on their specificity.

Moreover, flexibility also entails having the organisation, willingness and capability to adapt to the sudden, or very specific, demands that users may have because of external or internal distinctive situations. That may require to be ready for quick adjustments in the procedure, timing, tasks and activities.

2. Effectiveness and Efficiency: these two need to go together to ensure that common access management for the atmospheric RIs is worth the harmonisation efforts it requires. Where effectiveness refers to doing the right things, efficiency deals with doing things right. The first requires that activities, tasks and processes are designed and organised to achieve the established goals and produce successful outcomes, meeting the needs of all involved parties. The second entails that activities, tasks and processes use resources wisely, avoiding unnecessary lengthiness and minimising the associated time, effort and costs.

Translated into the RIs' world, following the experience in TNA management and the feedback received, this means:

- a. Streamlining the access process to reduce complexity and maintain high standards without compromising the quality of the results. This involves simplifying the application and review forms, drafting precise instructions, checklists, and templates to help applicants and reviewers, and reducing the time frame between request submission and evaluation results as much as possible.
- b. Optimising the calls' schedule to balance the workload of access management, providers and reviewers, and to help ensure compliance with the established timeline for completing the evaluation. This involves considering fewer calls during the year with different and strategic cadences to guarantee a sound selection process without too high peaks, which could require extraordinary efforts from all the parties involved and likely result in delays. Having annual open general calls and a maximum of 2 thematic calls per year is a suitable solution to achieve a good balance between the different objectives of simplifying the process and promoting some user competitiveness. Furthermore, it



addresses the needs and demands expressed on many occasions by users and providers and offers the advantage of allowing the access management team's resources to be allocated effectively, helping keep balanced activity levels during the year.

3. Transparency and Accountability: these are key for governance in all organisations and become crucial especially when the governance of a process is to be shared between close but different organisations, like the atmospheric RIs. Transparency means enabling whoever is interested to see and understand how access management is operated, how decisions are taken and their basis. This involves stating the access evaluation and approval criteria clearly, fixing rules and possible exceptions, making all the documentation publicly available, publishing the list of approved access projects and their scores on the website, and providing accurate, complete information about the activities and governance to stakeholders, in a timely way.
4. Commitment and engagement: during testing in the ATMO-ACCESS project, access management has proved to work best for everyone when all the parties feel committed. A sense of shared responsibility and involvement needs to be promoted and maintained to produce satisfactory results. This can be achieved through constant information and consultation with involved RIs and their staff about activities, results, and possible issues, acknowledgement of the contribution of all actors, and transparent decision-making processes (see point above). Above all, commitment and engagement can be effectively fostered when the RIs see the mutual benefits in terms of time savings, cost sharing, increased collaborations, visibility, success in meeting their own objectives, etc.) of working together as parts of a single mechanism serving science at its best.

5.3 Harmonized procedures and workflows

As anticipated in the previous section, adopting harmonised procedures and analogous workflows is key to implementing a common access management concept for a group of different but close RIs aiming at offering standard access to a wider and integrated set of advanced services for cutting-edge, multidisciplinary research.

The access process designed for ATMO-ACCESS is largely based on the current requirements for TransNational Access provision in the EU-funded projects and, consequently, with minor differences here and there, is in line with the European charter of access to research infrastructures and consistent with processes implemented by the RIs not only in the environmental domain. This has been an advantage in the harmonisation efforts. However, thanks to the process's flexibility, nothing prevents slight adjustments from being introduced if

the main source of financing were to change in the future and impose other particular requirements, or in the case of national access. Access management and the process (i.e., organisational and operational principles, steps, activities etc.) can remain mostly the same, no matter if requests are for transnational or national access. For the latter, a major change will be to remove transnationality from the eligibility criteria. Other refinements (number, composition and provenience of reviewers, additional criteria, different roles, etc.) could also be needed though these should still be “minor”, and not overturn the entire system. In any case, the objective is always to simplify the access process, make the conditions uniform for all users and open the facilities as much as possible, ensuring wider communities of users have effective and convenient access to conduct excellent research, and guaranteeing their optimal use of RI resources.

The process shaped in ATMO-ACCESS is proving to be flexible enough to support even major adjustments and changes. The extensive testing allowed accumulating experience and trying various solutions and articulations to verify their validity and decide what was good to keep, what was not so good and what had to be reviewed because the communities were not ready to accept it. Ultimately, based on the results achieved and the positive evaluations it received, in the end, from users, reviewers and providers, it can be safely proposed as a major component of the common access management concept.

The process is articulated in 4 main phases:

1. User application, with a description of the objectives and content of the requested access
2. Eligibility check to ascertain formal compliance with the (funding agency's) requirements, in case
3. Feasibility confirmation, from the provider to ensure the access can be accommodated
4. External evaluation, involving experts with no direct and formal links with the user requesting access or the facility provider.

Each of the steps mentioned above can be minimised as the process can be easily adapted to contingent situations. That may happen, for example, in case of new projects the RIs can be involved in, together or singularly, at the national, European or international level, or where particular categories of users (like users from the private or the public sector) request access, for specific types of services (like routine technical services) or, finally, in case of unexpected, critical situations requiring fast response.

The organisation and articulation of the process is important to guarantee standard procedures so that the users can expect the same journey to have access to an atmospheric science facility. However, to actually ensure uniform conditions of access to all users in the atmospheric field it is vital that the main review steps of the process are carried out following the same criteria. This means that every user request, regardless of its origin or the specific atmospheric research infrastructure it targets, should be evaluated based on a consistent set of standards.



Shared guidelines and criteria for the quality and merit evaluation in atmospheric research were developed in WP9 and underwent multiple revisions thanks to the very helpful suggestions from access providers, ensuring ample agreement and support. The proposed criteria acknowledge the different purposes of access and include the scientific and technical merit of the proposed research, the qualifications of the applying researcher or team, the relevance for the community and the potential impact on the field.

The TNA general evaluation guidelines elaborated in WP9 are reported in [Annex 3](#) to serve as a basis for further developments and for starting the common access management concept implementation.

5.4 Common tools for centralised access management

To be truly integrated and shared, the access management framework for the group of atmospheric RIs should be based on common tools that allow the RIs to govern the harmonised access procedures and present their offer to users in a complete, varied but uniform way. Common tools give users also a visual perception, and guarantee, of the uniformity of the access experience and the service they receive.

A common catalogue to ensure the findability of all the accessible services is a desirable tool to have, as the ATMO-ACCESS experience has shown. Considering that the RIs in ATMO-ACCESS already have their well-established catalogues, at the time of the proposal it was not planned to have a new one. However, it turned out that not all the RIs have comprehensive descriptions of their services open for physical, remote or hybrid access and that the addition of a new channel for the discoverability of the RIs' offer could be useful, and requested, by the users.

Besides, a "common" catalogue is very helpful when users from different RI communities realise they can access the services of other RIs, which can be very valuable for their research. That happened, for instance, for some ICOS users discovering the usefulness of the ACTRIS services, and vice-versa, or the possibility of combining access to ACTRIS and ICOS facilities for the same scientific project.

However, sticking to the principles of efficiency and effectiveness, this common catalogue should mainly serve as a comprehensive directory, aggregating information from multiple service catalogues into one accessible location. The catalogue should not directly host any resource, but only provide a common, user-friendly interface where users can enjoy a clear path to the information they need, with each individual catalogue maintaining its autonomy and distinct identity.

As regards the tool for centralised access management, very much needed in case of numerous facilities and large user communities to serve, the same considerations on the opportunity of relying on a common one apply. However, a considerable difference in this case is that at the

moment, except for ACTRIS, none of the other RIs involved in the project is equipped with their own tool for centralised access management. Therefore, no major issues of overlapping tools or duplications and redundancy. Virtual access to data is the unique service for IAGOS and the main for ICOS. For ICOS, the provision of physical and remote access has been limited. More services open for on-site, remote and/or hybrid access require additional and different management efforts, and it will certainly be wise and good to rely on an already available, tested and successful tool that can be possibly used in common. All TNAs in ATMO-ACCESS have been managed with the [ACTRIS PASS](#) (Platform for managing user access to ACTRIS ServiceS) tool, whose features and flexibility have been widely tested in the project proving its capability to automatise as much as possible the control of all the activities, tasks and people involved in access management, and related duties. The distribution of roles, tasks and efforts for running the centralised access management tool needs to be defined and agreed upon, but the solution seems effective in achieving the goal of having a simplified and more efficient access process for the involved RIs.

Additionally, a unique online tool to collect and process all the user requests for the facilities of the atmospheric distributed RIs will enable the collection of service and user metrics that are relevant not only to a specific RI but to the entire atmospheric research domain, and help evaluate common KPIs to base further common development strategies.

Finally, among the tools that it would be advisable to share between the atmospheric RIs is the [Helpdesk](#). A shared Helpdesk should cover all aspects of the RIs operations, providing assistance and support not only to end-users but also to Facilities, operators and all relevant stakeholders. None of the ATMO-ACCESS RIs has at the moment a specific tool for that, but they all operate helpdesk functions to support their users. Shall a more stable and institutionalised framework of cooperation on access management be in place in future, there will very likely be the need to adopt a common tool for the helpdesk, considering the, at least, tripled volume of the requests for support⁵. There are a lot of affordable and effective solutions on the market, which enable the collection of all kinds of support requests from different users, conversion into support tickets and automatic forwarding to the suitable staff for proper handling based on their content to ensure every user gets a quality and timely response. As for the access management tool, the RIs will have to agree on how to share the managerial and financial burdens of the helpdesk.

After all, the entire implementation of the common management concept, and mostly its sustainability, depends on the RI's willingness to adhere to it and their desire to collaborate and share operations, activities and resources to achieve common objectives.

⁵ The ACTRIS Helpdesk function has managed more than 900 requests from users in the 3 years of TNA provision.

6 Conclusions and recommendations

The aim of this document was to study, deliver and propose a common concept for access management as a component of the wider strategic framework for access to distributed atmospheric Research Infrastructures. Inspired by conceptual engineering, the work carried out to achieve the objective included a description and study of the access management concept used in current atmospheric RIs contexts. This ameliorative analysis served as a basis for designing and delivering an improved scheme resulting from the joint effort to harmonise and streamline the process of accessing facilities and services between the involved RIs. The access management scheme was then implemented, thoroughly tested and evaluated, and finally consolidated into a concept that starts from the specific characteristics of the RIs' reality, focuses on the common points deemed relevant, builds and develops on them, and is flexible enough to be brought back into the RIs' multifaceted reality and adapted to it.

The proposed common access management concept for distributed atmospheric RIs includes six key components, which are:

1. Harmonised access and data policies
2. Common Access programme
3. Shared management principles
4. Harmonized procedures
5. Common tools for centralised management
6. Common strategies for communication, user attraction and engagement.

While access policies, access programme and communication strategies are not addressed here as they fall in the scope, respectively, of deliverables for Task 1.1, WP7 and WP2, common management principles, harmonized procedures and common tools to ease centralised management are elaborated in this document.

As regards the management principles, those proposed are both organizational (common unique entry point and centralised management) and operational (flexibility, effectiveness and efficiency, transparency and accountability, commitment and engagement). The harmonized access procedures shape a process based on 4 main steps, which can be adjusted according to needs and specificities (for instance, particular categories of users, services provided, and contingent situations). The recommended tools for common centralised access management are:

- a common catalogue of services in the form of a comprehensive directory, aggregating information from existing service catalogues into one accessible location,
- a shared online tool to collect and process all the access requests enabling centralised control of every step in the access process and the activities of the involved actors,

- a tiered helpdesk to centrally receive all requests for support from the users and distribute them to the suitable staff for proper handling based on their content.

All elements proposed for this common access management framework were refined after feedback and can stand as shared and accepted. Tested solutions that were not positively received by the community, such as the thresholds for proposal acceptance and the way to set them⁶, were removed from the model and are recommended for further discussions, elaborations and developments.

At the same time, additional work is to be done, at the single RI level and in parallel at intra-domain or even cross-domain level, to:

- a) Better address the access of private sector users by further streamlining the process, for instance by:
 - i. envisaging a direct negotiation with the facility moderated by the centralised access management team,
 - ii. relieving private users of most post-access duties (for example, placing the burden of very simplified final activity reporting on the provider),
 - iii. preparing and adopting tools to guarantee the confidentiality/non-disclosure of access activities and results for companies that need it (common templates for general confidentiality agreements).
- b) Push further the harmonisation of service provision management starting to work at documents establishing, per type of facility, some general performance standards the user can expect in the provision of the services. For instance, likely outputs and results, assistance and ancillary services, the nomination of a responsible person entrusted with supervising the access and ensuring support in all the technical, administrative and logistical needs, etc.

In addition to standardizing service provision as much as possible, these documents offer the significant advantage of increasing user trust and, consequently, their engagement with the facility, the individual RI, and the group of RIs that share their format.
- c) Deal with aspects related to the financial management of access provision, which could/should be centralised as well though details and actual operations largely depend on the conditions imposed by the different administrations and funding sources.

⁶ For instance, the success rate, which was established a priori, was variable and not linked to a fixed budget per call or the same scoring thresholds, leading to criticism in an otherwise accepted and transparent process.

- d) Work at ensuring that the common access management concept is effectively applied also to national access. Apart from possible minor adjustments that may be necessary, this primarily involves fostering and securing the engagement of facilities and research-performing organisations to utilise RI centralised management whenever access is requested, no matter the provenience of users and/or how it is funded. This particularly concerns the possible roles that facilities will be willing to abdicate or retain (for instance in the final decision on access), which will require careful discussion and enforcement at the single-RI level before any domain or inter-domain harmonisation.

7 Reference documents

- REF 1. ATMO-ACCESS Grant Agreement (ID: 101008004)
- REF 2. [European Commission \(2016\), European Charter for Access to Research Infrastructures: Principles and guidelines for access and related services](#). Publications Office of the European Union, 2015. ISBN: 978-92-79-45600-8, doi: 10.2777/524573, KI-04-15-085-EN-N.
- REF 3. [ATMO-ACCESS Milestone 1: Review report of existing access management practices and used access modalities and monitoring tools across RIs](#)
- REF 4. [ATMO-ACCESS Milestone 32: Completion of 3rd programme revision with WP4-6 recommendation](#)
- REF 5. [ATMO-ACCESS Milestone 9.1: Description of application, review and selection process for TNA to ATMO-ACCESS facilities](#)
- REF 6. [ATMO-ACCESS Milestone 9.4: Review of application, review and selection process for TNA to ATMO-ACCESS facilities](#)
- REF 7. ATMO-ACCESS Deliverable 9.1: First assessment of TNA provided to ATMO-ACCESS facilities, available on request.
- REF 8. ATMO-ACCESS Deliverable 9.2: Second assessment of TNA provided to ATMO-ACCESS facilities, available on request.



- REF 9. ATMO-ACCESS Deliverable 9.3: Third assessment of TNA provided to ATMO-ACCESS facilities, available on request.
- REF 10. [ATMO-ACCESS Milestone 34: Completion of evaluation of Calls 3, 4 & 5](#)
- REF 11. [ATMO-ACCESS Terms Of Reference for the Access Evaluation Panel – AEP](#)
- REF 12. Isaac, M. G., Koch, S., & Nefdt, R. (2022). Conceptual engineering: a road map to practice. *Philosophy Compass*, 17(10), e12879. <https://doi.org/10.1111/phc3.12879>
- REF 13. Chalmers, D. J. (2020). What is conceptual engineering and what should it be? *Inquiry*, 1–18. <https://doi.org/10.1080/0020174X.2020.1817141>



ANNEX 1 – User Feedback Questionnaire

ATMO-ACCESS User Feedback


ATMO-ACCESS deeply values feedback from user groups granted with TNA in the frame of the project. Your opinions and feedback will help the ATMO-ACCESS community (TNA management Team, Strategic TNA Board, Project coordination, Facilities and Providers) understand what we're doing well and where we need to get better. The questionnaire consists of a series of questions about different aspects of your access experience (communication, access procedures, scientific/technical services, support services). The questionnaire must be submitted once by each user group as soon as the TNA ends. All replies will be treated in the strictest confidence. The information given will only be used for monitoring and assessment purposes. By submitting this form, you are also giving us permission to contact you.* Required


Privacy notice *

The ATMO-ACCESS privacy notice can be accessed at this link: <https://www.atmo-access.eu/atmo-access-privacy-policy/>


I agree with the ATMO-ACCESS privacy policy and terms of use

 First Name

 Last Name

 Home Institution

 Title and acronym of the ATMO-ACCESS Trans-national Access (TNA) project

 Facility accessed

How did you first find out about the possibilities of access supported within the ATMO-ACCESS project?

Check all that apply.

- ATMO-ACCESS website
- Research infrastructure websites (please specify in other)
- Direct mailing from Research infrastructure (please specify in other)
- Social media (please specify in other)
- Information received by colleagues/personal contacts
- Information received at an event (please specify in other)
- Other: _____

Without the support of ATMO-ACCESS funding, would you have been able to access the facility?

- Yes
- No



If no, please indicate the reason

Check all that apply.

- Not otherwise eligible to apply for access to the infrastructure/s
- Unable to pay a (possible) user fee
- Unable to pay travel & subsistence for one or more of the group members
- Other: _____

If yes, please give details or indicate possible co-funding options

Evaluate the services provided by ATMO-ACCESS

Please assess the following points rating them on a scale from 'very poor' to 'very good'. (0 = very poor, 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent).

Please evaluate the ACCESS SERVICES

Please rate all the elements

	0	1	2	3	4	5
Publicity, and information about the access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practical information provided on how to apply (documentation, FAQs, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Application form (length, information required, easiness)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interaction with and support from the TNA Team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Duration of the selection process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quantity of post-access documentation required	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


Please indicate any comments or suggestions you would like to make on the ACCESS SERVICES


Please evaluate the FACILITY/IES' SERVICES

Please provide at least 4 ratings. Leave blank when the point is not applicable

	0	1	2	3	4	5
Information and support for organizing the access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientific and technical support to conduct your research and interpret the results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical support for your instruments (calibrations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Logistic support at the facility (space, computing, libraries, accommodation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administrative support (including the reimbursement of travel & subsistence expenses)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


Overall appreciation of the services accessed)


 Please indicate any comments or suggestions you would like to make on the FACILITY/IES' SERVICES

 Please evaluate the overall service provided by the ATMO-ACCESS TNA


Please rate together both the ACCESS SERVICES and the FACILITY/IES' SERVICES


- 0
- 1
- 2
- 3
- 4
- 5


 If your evaluation is ≤ 2 , please briefly explain why:

 Shortly comment the benefits of the TNA and/or lessons learnt

 Has the TNA led to new discovery, breakthroughs, novelties...?

 Has the access via TNA contributed to filling a patent or to the design of a prototype?

 Do you have any further comments/ suggestions for improvement?

 Mark as complete this task and move to the next task "TNA carbon footprint" (check the box on the left part of the page). Remember to click on Submit to complete your post-access requirements.

ANNEX 2 – Provider feedback questionnaire

This feedback form targets the TNA Providers involved in the ATMO-ACCESS access programme. Your answers will help us to shape the future calls for access to Research Infrastructures in atmospheric domain, as well as to derive recommendations to be provided to the European Commission for future access programmes (Horizon Europe INFRA-SERV).

TNA Providers, we kindly invite you to share your experience and your views on access by participating in this 10 min online survey!

The results will be shared during the ATMO-ACCESS General Assembly in March 2024.

For any questions or technical problems, please contact Ariane Dubost <a.dubost@opgc.fr>.

Please fill in this survey by **8.03.2024**

Thank you very much for your valuable cooperation!

ATMO ACCESS Project office

* Indicates required question

1. What type of facility are you representing? *

Check all that apply.

- Observational platform
- Atmospheric simulation chamber
- Mobile platform
- Central laboratory

2. Facility name (optional)

3. Are you satisfied/unsatisfied with the organisation of access in ATMO-ACCESS? *

Mark only one oval.

1 2 3 4 5
very very satisfied

4. Please comment if you wish:

5. In your opinion, what are the bottlenecks in the current organization of access? *

Check all that apply.

- Attracting users
- Adjusting the user project to the topic of the specific call
- Alignment of user requests in the scheduling of the facility operations
- Long and difficult online forms to fill out (application, feasibility, review...)
- Time gap between the first contact with applicant and the decision on granting access
- Duration of review process
- Reporting the access costs
- Required administrative efforts and logistical issues for reimbursement of travel and subsistence
- Private sector access: attracting users, acceptance to use PASS, setting up of collaboration contracts, IPR issues, ...
- Other: _____



6. Which improvements would you propose?

7. In your perspective, do you consider a common access management concept for distributed atmospheric Research Infrastructures (RIs) to be: *

Mark only one oval.

- Necessary
- Beneficial but challenging to implement
- Unnecessary
- Prefer a customized approach for our facility
- Unachievable
- No opinion

8. Please indicate why, why not?

9. What do you believe should be the key components of a common concept of access management? (Please tick all that apply)

Check all that apply.

- Unique entry point
- Common principles defined in the access and data policy
- Harmonised procedures
- Centralised management
- Defined evaluation criteria and selection process
- Monitoring and reporting
- Other: _____

10. Regarding the organisation of access of users to your facility, recommendations for a common legal framework applicable to facilities in the RI include: i) rights and responsibilities, ii) intellectual property, iii) treatment of personal data, iv) data management and v) publications and acknowledgement. Is there any other aspect that you consider necessary?

Mark only one oval.

- No
- Yes

11. If yes please specify

12. Regarding publications, what level of authorship would you suggest to apply for users? *

Mark only one oval.

- Users and providers are authors
- Providers are acknowledged
- Authorship of providers depends on their level of involvement
- Depends on the type of access: virtual/physical/remote (explain below if needed)

13. Please comment if necessary:

14. Does your facility propose a "Terms of Use" agreement that the user needs to sign before any access? *

Mark only one oval.

- Yes
- No

15. In the "Terms of Use" agreement, do you:

Check all that apply.

- Refer to the data policy and access policy of the RI concerned?
- Recall compliance with local and national regulations, safety rules, data management processes, etc?
- Address the issue of insurance?
- Address the dissemination policy (publications, acknowledgements, authorship, etc)?
- Remind user of the obligation to provide the data from the access (except for specific cases)?
- Issues related to transport and access to the facility?

Access provision in the future

16. If there is another opportunity for a TNA programme in Horizon Europe or further Framework programmes, will you be interested in participating?

Check all that apply.

- Yes, I am already participating in a Horizon EU INFRA-SERV project
- Yes, I am interested in participating in a future access-related project
- Maybe, depending on the call topic
- I'm not interested in participating if the modalities are too restrictive
- No, I am not interested in participating in another access related project
- No opinion

17. Will you continue access provision in case no TNA funding is available?

Mark only one oval.

- Yes
- No

18. What are your needs in the future in terms of funding to be able to continue the access activities?

Mark only one oval.

- No needs. National/local funding is enough to accommodate the access needs of my facility
- EC funding is key to continue offering access to non national users
- Both support form national/local funding and EC funding is crucial
- User fees would be helpful
- Other: _____



19. Which type of access among those tested would you require most based on your experience? (please select 3) *

Check all that apply.

- physical
- remote
- hybrid
- fast-track
- multi-facility
- Other: _____

20. Please comment if you wish

21. Would you like to present your experience of access in Wuppertal at the ATMO-ACCESS General meeting (session scheduled 19 February afternoon)? *

Mark only one oval.

- Yes
- No

22. If yes please provide your email address:

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ANNEX 3 – TNA General Evaluation Guidelines





ATMO ACCESS
Access to Atmospheric Research Facilities

TNA General Evaluation Guidelines

v04

June 2024



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atmo-access.eu

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Annex 3 - TNA Merit review form for Excellence-driven access	Erreur ! Signet non défini.
Annex 4- TNA Merit review form for Technical need-driven access	Erreur ! Signet non défini.
Annex 5- TNA Merit review form for Market-driven access	Erreur ! Signet non défini.
Annex 6- TNA Merit review form for Training need-driven access	Erreur ! Signet non défini.

HISTORY OF CHANGES



Version	Date	Prepared by / Modified by	Change
0.1	17/11/2021	Rosa M. Petracca Altieri, WP9	First draft
0.2	25/11/2021	Rosa M. Petracca Altieri, WP9	Comments added by project coordination
1.0	1/12/2021	Rosa M. Petracca Altieri, WP9	Initial version following acknowledgment of the project coordination and the Scientific Steering Committee
1.1	18/05/2022	Rosa M. Petracca Altieri, WP9	Added training need-driven access mode with related evaluation criteria and review forms
1.2	21/06/2022	Rosa M. Petracca Altieri, WP9	Added input from project coordination about the 2 nd TNA call timeline and the need for a final selection of recommended TNA proposals by a joint Coordination/STVB/SAMU meeting
2.0	04/07/2022	Rosa M. Petracca Altieri, WP9	Second version, consolidating feedback and comments from discussion in the 2 nd TNA providers meeting (June 23, 2022)
3.0	08/09/2023	Rosa M. Petracca Altieri, WP9	Third version, incorporating input and suggestions from discussion in the ATMO-ACCESS Annual meeting in Valencia (March 29-30, 2023), SIAB advice, and further feedback and exchanges with reviewers and providers.
4.0	20/06/2024	Rosa M. Petracca Altieri, WP9	Fourth version, consolidating the processed feedback from users and TNA providers.

1 Introduction

These guidelines provide the criteria and procedures for evaluating the user TransNational Access (TNA) requests submitted under the ATMO-ACCESS project.

ATMO-ACCESS (Solutions for Sustainable Access to Atmospheric Research Facilities) is an Integrating Activity supported by the European Commission under the Horizon 2020 – Research and Innovation Framework Programme, H2020-INFRAIA-2020-3, Grant Agreement number 101008004.

The project offers unique opportunities for transnational access to state-of-the-art facilities belonging to the European research infrastructures Aerosol, Clouds and Trace Gases Research Infrastructure (ACTRIS), In-service Aircraft for a Global Observing System (IAGOS) and Integrated Carbon Observation System (ICOS).

The document describes the steps in the evaluation process, its inputs and outputs, the main general criteria and the responsibilities of the people participating in the process.

It is especially meant to guide members of the Access Evaluation Panel (AEP) in performing the fair merit review of user TNA proposals and to provide complete and transparent information to applicants on the selection process.

The Guidelines serve also as a primary point of reference for users requesting transnational access to understand the key questions they should address in their applications to prepare for evaluation properly.

The present version incorporates feedback received and results of the tests carried out with evaluations for the 2nd, 3rd, 4th TNA calls as well as the two special calls for Pilot AGORA Aerosol Training Course and for private access managed during the first half of the ATMO-ACCESS project.

The review of the Guidelines mainly focused on the following:

- 1) Addressing gender differently as a scoring criterion (see section [4.6](#)),
- 2) Simplifying the evaluation process by exempting reviewers from non-merit assessments, such as user group compositions, new users, early career, and students (ibid)
- 3) Introducing ratings along with scoring (section 4.7).

2 ATMO-ACCESS Evaluation Process

Successful user TNA requests are established at the end of a multi-stage process that includes three main steps. Before undergoing actual merit evaluation - the third formal evaluation stage - the applications received are subject to two preliminary checks: eligibility and feasibility. Only proposals that successfully pass the eligibility and feasibility checks are retained for the independent review, which ascertains the scientific/technical merit or market relevance of the proposed access.

2.1 Eligibility check

The eligibility check is ensured by the TNA Management Team (WP9) using the checklist in Annex 1. TNA proposals must meet all the eligibility conditions set out for the access in the H2020 regulations, namely:

- **TransNationality:** the user group leader and the majority of the users must work in a country other than the country where the installation providing access is located (except for international organisations, an

ERIC, the EC Joint Research Centre, or in case of remote access to a set of facilities in different countries offering the same type of service).

- **Affiliation:** applications from user groups with a majority of *users working outside EU* are eligible, though limits may be applied as TNA to users not working in an EU or associated country must be globally limited to max 20% of the total access units provided within the project.
- **Dissemination:** User groups shall be entitled to and willing to disseminate the knowledge they will generate under the project, unless they are working for private sector companies

If revisions are needed to make the proposal eligible, the user group leader is given details and asked to provide what needed by a fixed deadline.

Proposals and applicants shall remain eligible during the evaluation process as well as all throughout the actual provision of the granted TNA.

In the eligibility phase, the TNA Management Team also screens the proposals for the possible assignment of the bonus points referred to in section 4.6, which, however, are to be confirmed by the selection committee in the final selection meeting.

2.2 Feasibility check

The feasibility check aims to ascertain/confirm that the TNA requests can be dealt with successfully by the access provider, considering the facility calendar, the availability of logistical, human and financial resources to accommodate the access request, host users, provide on-site support, etc.

This step is minimized and only consists of completing a feasibility checklist (Annex 2) for Go/No-go when users and the facilities discuss the technical and scientific details before the formal submission of the application, as recommended in the TNA call.

If users and providers have not discussed the access project before submission, the feasibility check takes longer and covers the technical-scientific details. Interactions between providers and users can happen for that, in this phase, keeping always informed the TNA Team. During feasibility, the user can be asked, if needed, to amend the submitted proposal or submit a revised one.

2.3 Independent Merit review and TNA selection

The merit review and selection phase opens only for TNA proposals whose feasibility is confirmed by the TNA provider. Each TNA proposal is typically evaluated by an *ad-hoc panel* composed maximum of *three experts* from the Access Evaluation Panel (AEP, see section 3.1), identified based on their knowledge in the scientific or technical field that is the subject of the application to be reviewed. A *Rapporteur* is chosen⁷ among the three to draw up a summary of the individual assessments.

TNA requests only related to training, i.e. where training is not in connection to a wider scientific/technical project (for instance applications to participate to a scheduled training course, summer/winter school, or an online workshop, a conference, etc.) can be assigned to only one AEP expert for review.

⁷ By the TNA Management Team at the moment of establishing the ad-hoc panel (see next section 3.3) and based on the independence criterion.

Reviewers perform the individual evaluation of assigned proposals remotely, assessing the main elements (research activity and user group) against the general criteria detailed in [section 4](#)⁸, giving marks and completing synthetic individual assessment reports (Annexes 3 - 5).

Once complete, the *Rapporteur* receives the individual reports and prepares an evaluation summary report formulating recommendations for the selection. Only where needed, if the Rapporteur deems it necessary to produce recommendations, a remote meeting is directly arranged within the ad-hoc panel, if necessary.

Finally, recommendations for selection are notified to the TNA Management Team.

The TNA management Team draws up the shortlist of TNA proposals that pass the required thresholds and are recommended for selection by Rapporteurs. The shortlist ranks TNA applications based on the marks received and any advice from the independent experts concerning the priority order for proposals.

The TNA management Team transmits the shortlist to the Project Coordination and the Strategic TNA/VA Board (STVB)⁹ for their final selection in a consensus meeting in the presence of the TNA Management Team/SAMU¹⁰.

During the consensus meeting, the Project Coordination and the STVB establish the final list of selected TNA/VA projects, applying the agreed proposal acceptance rate¹¹ and/or priorities following principles set in section 4.8.

3 Roles and responsibilities

3.1 Access Evaluation Panel

The independent merit review of the user TNA feasible proposals is entrusted to the ATMO-ACCESS Access Evaluation Panel, the project's consolidated source of reviewers from which members are drawn to serve on ad-hoc review panels for TNA proposals based on their expertise.

The Access Evaluation Panel guarantees that the selection of TNA proposals submitted by users is based on an expert, sound, fair, and transparent assessment.

Composition, members profile, appointment, mandate and tasks of the AEP members are described in detail in the AEP Terms of Reference [REF 11]. The AEP code of conduct is reported for convenience in the following section, though already included in the ToR.

3.1.1 Code of conduct

1. The AEP members serve in their personal and technical capacities and do not represent their employer, institution or any other entity.
2. The AEP members perform the assigned reviews in a confidential, impartial, fair, and equitable way.

⁸ Further specific criteria can be introduced to meet the particular objectives and types of the ATMO-ACCESS TNA calls.

⁹ The STVB is a panel of experts acting as supervising board of whole process of TNA/VA attribution.

¹⁰ SAMU is the Service and Access Management Unit of the ACTRIS Head Office, participating in the ATMO-ACCESS project as TNA management Team.

¹¹ To be decided based on the number of received applications per TNA call.

3. Upon receiving a request to serve in an ad-hoc review panel, the expert shall report any conflict of interest (see point 4) or, in case, any temporary unavailability to take part in the review of the specific individual TNA proposal assigned.
4. The AEP members must disclose to the TNA Team any interest, affiliation, or different factor that may create an actual or perceived conflict of interest in assessing a specific proposal. The following situations are automatically considered as *conflict of interest*:
 - a. if the reviewer was involved in the preparation of the application
 - b. if s/he works in the same department/laboratory/institute of the user group leader/members of the proposal
 - c. if s/he has an ongoing scientific collaboration with the user group leader/members
 - d. if s/he has close family ties or other close personal relationship with a member of the user group.
5. AEP members must not communicate and discuss the assigned TNA proposal with any other AEP member except those in the same ad-hoc panel established for review of the said proposal.
6. Unless foreseen by the procedure, the AEP members reviewing a TNA proposal must not directly communicate with persons involved in the proposal, namely the principal investigator, any team members or any person linked to the users' affiliated entities.
7. The AEP members shall maintain the confidentiality of any documents or files received for the evaluation, deleting all copies of the files they may have stored on personal devices upon completion of the assignment.
8. The AEP members must not disclose the results of the evaluation outcome.

3.2 TNA providers

TNA providers are responsible for the feasibility check ([section 2.2](#)) of the TNA proposals that concern their Facility/installation/services, having to confirm the scientific, technical and logistical viability of the TNA proposal, and if it fits (for the proposed timing and requirements) in their availability, schedule and plans.

To avoid possible bias in the selection process, direct contacts between the applicants and TNA providers before the actual provision of the access can only take place for the feasibility check:

- Preliminarily if, as recommended, applicants discuss with facilities the technical and scientific details of the proposed TNA before the formal submission of the application, or
- After eligibility and before independent merit review.

Outside feasibility and until the end of the selection, the exchanges between applicants and providers can only happen through the TNA Team.

3.3 TNA Management Team

The TNA Management Team is the main interface between all key actors involved in the evaluation of TNA proposals (users, access providers, Access Evaluation Panel members, Project Coordination, STVB). The Team is largely made up of staff from the ACTRIS SAMU¹² and is responsible for organizing, coordinating and supervising all the process.

In particular, the TNA Team is responsible for:

- Receiving all applications and performing the preliminary eligibility check

¹² The Service and Access Management Unit of the ACTRIS Head Office.

- Liaising with TNA providers, users and review experts and supporting their work
- Communicating eligible requests to providers for the feasibility check
- Coordinating the review and selection process, establishing and instructing the ad-hoc review panels, proposing the Rapporteurs, and supporting their work
- Notifying users any possible request for further information from the reviewers or the providers
- Receiving the individual and summary evaluation reports, and preparing the shortlist of recommended TNA proposals
- Transferring the shortlist to the Project Coordination and the STVB for final selection
- Animating the consensus meeting
- Officially communicating the final decision on the TNA to the selected users.

3.4 STVB/Coordination

The STVB and the Project Coordination take part in the final evaluation step and are responsible for establishing the final list of approved TNA projects for each TNA Call.

The Project Coordination may decide on a specific proposal acceptance rate based on the available resources and the remaining TNA calls to be published. In case, this decision is made and publicized before the launch of the call or, at the latest, by its closure date.

The STVB and Coordination receive the shortlisted TNA proposals and meet in the presence of SAMU to discuss and decide by consensus applying the agreed priorities where needed. The TNA projects are selected following a joint decision for or against each proposal.

4 General merit review criteria

The general criteria for selecting users to any ATMO-ACCESS facilities stem from the EU Charter of access to research infrastructures [REF 2], the contractual and legal obligations under the Grant Agreement [REF 1], and acknowledge the different purposes of access. For this reason, the evaluation criteria vary according to the main characteristic of the requested access, considering the following access modes:

- **Excellence-driven access:** when the access to services shall depend on the scientific excellence, originality, quality and novelty of an application.
- **Innovation and Market-driven access:** when the request to access services comes from private sector users. In this case, the innovation potential of TNA proposals, possible technological developments as well as market developments and impacts on the economy are principally considered.
- **Technical need-driven access:** when access to services is required to meet technical needs to ensure instrument quality (maintenance, calibration, QA), high performance measurements, and operator training.
- **Training need-driven access:** when access to services is required to meet the researchers/operator training needs.

Sections 4.2, 4.3, 4.4 and 4.5 describe the evaluation criteria for each of the above categories of access. For each category (access mode), specific sets of evaluation criteria (sections) reflect the main evaluation issues that

reviewers have to consider when examining the TNA proposals that fall under the category. Each section has its own specified range of marks available for evaluating the criteria based on the level of achievement or performance demonstrated.

4.1 Scoring system

For each access mode, evaluators assign points to individual criteria in the sections using whole numbers, ranging from 0 to 10 (Sections 1 of each access mode), from 0 to 5 (Sections 2), and from 0-3 (Section 3 in the excellence-driven access).

Table 3 below provides the scoring scheme and explanations:

SECTION 1			SECTION 2			SECTION 3 (where present)		
Score	Performance indicator	Descriptor	Score	Performance indicator	Descriptor	Score	Performance indicator	Descriptor
0	Inadequate	the proposal fails to address the issue under examination or cannot be judged against the criterion due to missing or incomplete information.	0	Inadequate	the proposal fails to address the issue under examination or cannot be judged against the criterion due to missing or incomplete information.	0	Inadequate	the proposal fails to address the issue under examination or cannot be judged against the criterion due to missing or incomplete information.
1	Poor	The TNA proposal is significantly deficient and lacks key elements required for a satisfactory evaluation against the specific criterion.	1	Poor	The TNA proposal is not very convincing, and presents numerous weaknesses.	1	Poor	The TNA proposal is not very convincing, and presents numerous weaknesses.
2	Low	The proposal falls short of expectations and demonstrates limited elaboration or effectiveness.	2	Fair	The TNA proposal is moderately convincing on how it addresses the criterion, and presents some important inadequacies.	2	Good	The TNA proposal is good at addressing the criterion but presents some moderate shortcomings.
3	Weak	The proposal is below average and exhibits notable weaknesses or inadequacies.	3	Good	The TNA proposal is good at addressing the criterion but presents some moderate shortcomings	3	Very good	The TNA proposal is strong and addresses most aspects of the criterion convincingly, with minor weaknesses.

4	Fair	The proposal meets the basic requirements but lacks elements of strength or excellence.	4	Very good	The TNA proposal is strong and addresses most aspects of the criterion convincingly, with minor weaknesses.			
5	Average	The proposal is satisfactory and meets the standard expectations without standing out positively or negatively.	5	Excellent	The TNA proposal is fully convincing, without weaknesses.			
6	Sufficient	The proposal meets the requirements and expectations at a basic level without any notable strengths.						
7	Good	The proposal is above average, demonstrating proficiency and effectiveness with some strengths						
8	Very good	The proposal is strong and exhibits notable proficiency and effectiveness with several strengths						
9	Excellent	The proposal is outstanding and demonstrates exceptional competence, effectiveness, and numerous strengths						
10	Outstanding	The proposal is exceptional in all aspects, exceeding expectations and setting a high standard for evaluation						

Table 3 - TNA proposal marking scheme

With this scoring system, different sections of the evaluation can be weighted differently, reflecting their relative importance and complexity of the review. This approach offers flexibility to assess diverse aspects of the application, ensuring that each section is appropriately weighted and contributing to the overall assessment accurately.

4.2 Evaluation criteria for excellence-driven access

The peer-review of excellence-driven TNA projects considers the evaluation criteria in the following three sections:

1. Scientific and technical value
2. Novelty and innovation
3. Quality and efficiency of the implementation

Table 4 below describes each group, detailing the criteria, related explanation and maximum points that can be scored in the different sections.

Criterion	Explanation	Score / Points available
1 - Scientific and technical value		30
a) Scientific and technical quality	Clarity and pertinence of the scientific objectives. Appropriateness and rationale of the proposed scientific work. Degree to which it is based on sound scientific and technical principles.	0-10
b) Impact on science	Degree to which results and the new knowledge are useful and may have a significant impact on the academic community, exploring creative, original, or potentially transformative concepts. Potential of the research project to go beyond the state of the art and open new scientific, technological or scholarly horizons.	0-10
c) X-disciplinarity	Degree to which the proposed work identifies and builds/enables X-disciplinary developments beyond atmospheric science. Are there any research projects in Europe or internationally related to the proposal? Are possible synergies and interactions described?	0-10
2 - Novelty and innovation		15
a) Use of new technology, methodology, or innovative approaches in data interpretation	Degree to which the proposed work makes use of new technologies, methodologies or explores innovative measurement / data evaluation approaches.	0-5
		0-5

b) Potential for seeding links with industry and innovation	Degree to which the proposed work shows potential for industrial applications, for contributing to new technology development, for prototype testing.	
c) Novel or unconventional access approaches	Degree to which the TNA request proposes novel forms of access (combinations of remote and physical access; simultaneous, hybrid or sequential access to multiple facilities; use of facilities for novel purposes).	0-5
3 -Quality and efficiency of the implementation		6
a) Quality of the workplan and dissemination plan	Quality and effectiveness of the work plan. Feasibility of the approach and activities to be developed. Recipients of dissemination clearly identified (stakeholders that could uptake and make use of results) and activities carefully planned.	0-3
b) Scientific qualification/ track-record of the user group	Research track-record, professional background, references, capabilities and experience of the user group leader and members. Degree to which the group presents a balanced participation of experienced and non-experienced users, who have the chance to learn from the others and be trained.	0-3

Table 4 - Evaluation criteria for excellence-driven access

4.3 Evaluation criteria for market-driven access

The assessment of market-driven TNA requests considers the following groups of evaluation criteria:

- Scientific/technical value and Innovation
- Quality and efficiency of the implementation

Table 5 below describes each group, detailing the criteria, related meaning and maximum points that can be scored.

Criterion	Explanation	Score / Points available
1 - Scientific/Technical value and Innovation		30
a) Scientific and technical quality	Is the proposed work based on a sound knowledge of the state of the art? Is the realization of the proposed solution/work realistic, considering the available knowledge, technical resources and expertise?	0-10
b) Likelihood of developing a new successful technology / product	The extent to which the proposed project will lead to new/improved products, processes or services with clear market potential.	0-10

c) Market potential (Anticipated benefits of the proposed work in comparison to current commercial and emerging technologies)	Is the solution a significant improvement over previous/other ongoing alternatives? Has it some potential to change the dynamic of the market and possibly to address a societal challenge?	0-10
2 - Quality and efficiency of the implementation		15
a) Quality of the workplan and exploitation plan	Appropriateness and rationale of the proposed scientific work. Does the proposed work include a credible path to deliver the (innovative) solution to the market? (i.e. adequacy of plans for commercialization and utilization of the proposed solution). Is there a clear future strategy for knowledge management and protection (IP strategy)?	0-5
b) References, capabilities and experience of the user group/company	Technical/scientific knowledge and experience of the team. Company profile and track-record.	0-5
c) Novel or unconventional access approaches	Degree to which the TNA request proposes novel forms of access (combinations of remote and physical access; simultaneous, hybrid or sequential access to multiple facilities; use of facilities for novel purposes)	0-5

Table 5 - Evaluation criteria for market-driven access

4.4 Evaluation criteria for technical need-driven access

The assessment of technical need-driven TNA requests considers evaluation criteria in the following two groups:

1. Scientific relevance
2. Technical need

Table 6 below describes each group, detailing the criteria, related explanation and maximum points that can be scored.

Criterion	Explanation	Score / Points available
1- Scientific relevance		30
a) Relevance of the instrument	Measurement needs served by the instrument and/or geographical pertinence.	0-10
b) Interest to the scientific community	Degree to which the requested service is useful to meet the quality expectations of a particular science community and/or end-users for the exploitation of data.	0-10

c) Availability and use of data (Dissemination plan)	Are the plans for a high-level exploitation of the instrument adequate? Is there any plan to make data and measurements supported by the instrument openly available through deposition in trusted repositories?	0-10
2 - Technical need		15
a) Frequency of the technical need	Is the requested service scheduled, required or recommended to continue ensure quality measurements?	0-5
b) Training for the staff using the instrument	Is training for the staff planned? Are proposals for such training innovative (i.e., remote training while the service occurs, etc.)?	0-5
c) References and experience of the user group	Research/measurements track-record and professional background	0-5

Table 6 - Evaluation criteria for technical need-driven access

4.5 Evaluation criteria for training need-driven access

The peer-review of training need-driven TNA applications considers the evaluation criteria in the following two groups:

1. Scientific/learning objectives and motivation
2. Quality of the applicant

Table 7 below describes each group, detailing the criteria, description and maximum points that can be scored.

Criterion	Explanation	Score / Points available
1 - Scientific/learning objectives and motivation		30
a) Relevance of the scientific and training objectives	Appropriateness, motivation, and completeness of the objectives of the proposed training.	0-10
b) Relevance of the training for the user current/future position	Degree to which the training is needed/useful and may have a significant impact on the applicants' career path. Would the applicants utilize knowledge and expertise gained regularly? How are the plans for exploiting the knowledge and skills acquired?	0-10
c) Relevance of the training for the belonging organization (multiplier effect of the training)	Degree to which the training is needed/useful for the operations/developments of the organization the users belong to. Degree to which the applicant could be counted on to further disseminate the knowledge and expertise gained (train the trainer).	0-10

2 - Quality of the applicant		10
a) Academic achievement	Evidence from CV or references of higher degrees, publications, honors, awards and scholarships, research experience. Knowledge and expertise	0-5
b) Research potential	Applicant's ability to conduct independent research and contribute to the field. This can be evaluated based on their research interests, previous research experience, and any publications or conference presentations.	0-5

Table 7 - Evaluation criteria for training need-driven access

4.6 Bonus points

Bonus points up to a maximum of 3 are added by SAMU to the average scores obtained after review, and prior to final ranking, to ensure a comprehensive evaluation taking consideration also of non-purely merit-related aspects of the proposals. Bonus points are assigned for:

1. Gender empowerment: Using gender as a criterion for scoring project proposals has proved to be a complex and sensitive issue, as it involves potential biases and discrimination, even though it aims to help promote gender equality and diversity in research. There are two possible ways to use gender as a criterion:
 - a) Evaluate how proposals address gender issues and include a gender perspective in their research design (done by assessing the proposal's methodology, objectives, and expected outcomes).
 - b) Evaluate proposals based on the gender representation of the research team, assessing the distribution of leadership positions and decision-making roles (done by considering the user group and the distribution of tasks in the work plan).

Following advice from the SIAB, it was decided to concentrate on aspects sub b).

2. Collaboration and access to new users: to promote/favour the access to facilities to users that have never used the facility services before, or working in countries where no similar facilities exist.
3. Involvement of students / young scientists: to promote/favour access to facilities to students, post-graduates, and young researchers

Table 8 below provides the explanation and rules for assigning bonus points to the TNA proposals.

BONUS POINT	Explanation	Score / Points available	Rule for scoring
		3	
a) For Gender empowerment	In case of: a) female/non-binary leadership of the user group b) user groups composed of the majority of women c) 50%-50% gender balance in the user group	1	If at least one of a), b), c) is YES then score 1 Otherwise no score

b) For collaboration and access to new Users	In case of: a) users who have not made previous use of the facilities; b) users working in countries where facilities similar to those requested do not exist. c) users from non-atmospheric/non-academic domains	1	If at least one of a), b), c) is YES then score 1 Otherwise no score.
c) For involvement of students / young scientists	In case of early career scientists and students at PhD level and below involved in the project	1	If YES then score 1 Otherwise no score.

Table 8 - Bonus points, Explanation and rules for scoring

4.7 Ranking

After scoring and based on the scores obtained, TNA applications are classified based on the range of scores achieved, receiving specific grade labels.

The score thresholds are predetermined per each access mode according to the maximum scores available, considering the specific evaluation criteria and their scoring. **Table 9** reports the specific ranking scheme used in the different mode for evaluation.

EXCELLENCE-DRIVEN ACCESS				
Max score (including bonus points): 54				
Accepted	A	Excellent	A+	51.x-54
			A	48.x-51
			A-	45.x-48
Accepted	B	Good	B+	42.x-45
			B	39.x-42
			B-	36.x-39
accepted or rejected, for discussion	C	Average	C+	33.x-36
			C	30.x-33
			C-	27.x-30
Rejected	D	Poor	D	<27
(or for revision)	E	Rejected or not eligible	E	

MARKET-DRIVEN ACCESS				
Max score (including bonus points): 48				
Accepted	A	Excellent	A+	40.x-48
			A	38.x-40
			A-	36.x-38
Accepted	B	Good	B+	34.x-36
			B	32.x-34
			B-	30.x-32
accepted or rejected, for discussion	C	Average	C+	28.x-30
			C	26.x-28
			C-	24.x-26
Rejected	D	Poor	D	<24
(or for revision)	E	Rejected or not eligible	E	

TECHNICAL NEED-DRIVEN ACCESS				
Max score (including bonus points): 48				
Accepted	A	Excellent	A+	40.x-48
			A	38.x-40
			A-	36.x-38
Accepted	B	Good	B+	34.x-36
			B	32.x-34
			B-	30.x-32
accepted or rejected, for discussion	C	Average	C+	28.x-30
			C	26.x-28
			C-	24.x-26
Rejected	D	Poor	D	<24

TRAINING NEED-DRIVEN ACCESS				
Max score (including bonus points): 43				
Accepted	A	Excellent	A+	37.x-43
			A	35.x-37
			A-	33.x-35
Accepted	B	Good	B+	31.x-33
			B	29.x-31
			B-	27.x-29
accepted or rejected, for discussion	C	Average	C+	25.x-27
			C	23.x-25
			C-	21.x-23
Rejected	D	Poor	D	<21

(or revision)	for	E	Rejected or not eligible	or	E		(or revision)	for	E	Rejected or not eligible	or	E	
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Table 9 - Ranking schemes by access mode

4.8 Prioritization criteria

In case of need, when some TNA requests rank equally after merit review and there is a necessity to discriminate/restrict the number of TNA, the TNA management Team applies the prioritization criteria described in Table 5 in preparing the final list of recommended proposals. Priority will be given to TNA requests that obtained higher marks in the criteria reported in the table, where applicable and in order of importance:

Source of priority	#	Prioritization criteria	Excellence-driven	Technical need-driven	Market-driven	Training need-driven
H2020	1	Collaboration and access to new Users, considering in particular: a. users who have not previously used the installation and are working in countries where no equivalent research infrastructure exists b. users from new/relevant regions or from less-favoured regions c. users from non-academic / non-atmospheric domains.	X	X	X	X
H2020, ATMO-ACCESS	2	Gender balance	X	X	X	X
ATMO-ACCESS	3	Novel or unconventional access approaches	X	X	X	
ATMO-ACCESS	4	X-disciplinarity	X			X
ATMO-ACCESS	5	Involvement of students / young scientists	X	X		X
ATMO-ACCESS	6	Potential for seeding links with industry and innovation	X			X
ATMO-ACCESS	7	Likelihood of developing a new successful technology/product with market potential			X	

Table 10 - Prioritization criteria

5 Reference documents

- REF 1. ATMO-ACCESS Grant Agreement (ID: 101008004)
- REF 2. [ATMO-ACCESS Terms Of Reference for the Access Evaluation Panel – AEP](#)
- REF 3. [ATMO-ACCESS Milestone 9.1: Description of application, review and selection process for TNA to ATMO-ACCESS facilities](#)
- REF 4. [European Commission \(2023\), HORIZON EUROPE Proposal Evaluation - Standard Briefing for Experts](#)
- REF 5. [European Commission \(2016\), European Charter for Access to Research Infrastructures: Principles and guidelines for access and related services](#). Publications Office of the European Union, 2015. ISBN: 978-92-79-45600-8, doi: 10.2777/524573, KI-04-15-085-EN-N.

