ACTRIS Access Management Plan

Prepared by: ACTRIS Head Office

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ACTRIS Access Management Plan

The Access Management Plan is an internal document to guide the operations of the personnel involved in access management, describing rules, procedures and detailed workflows to put into practice the principles for access stated in the ACTRIS access policy and to meet the need for operational effectiveness in a geographically distributed infrastructure like ACTRIS, in which access to a range of different resources, data and services is provided by a network of facilities in several countries.

Contents

1 Introduction

The present document provides version 1 of the ACTRIS Access Management Plan (AMP). The AMP complements the ACTRIS access and service policy approved by the ACTRIS ERIC General Assembly, describing rules, procedures and detailed workflows to put into practice the principles for access stated in the policy.

The AMP deals with physical, remote and hybrid access to ACTRIS, including access on demand to specific digital services provided by the Data Centre (DC). Virtual access to ACTRIS data and digital tools is addressed in the ACTRIS data policy and the ACTRIS data management plan, and it is outside of the scope of this document as clarified in section 3.

The AMP is an internal document to guide the operations of the personnel involved in access management. For each process involved in access management, the AMP presents a set of correlated and interacting activities that transform initial inputs into outputs. Furthermore, it describes the content of each activity to implement part of the processes, whose management, control and automation will be facilitated by the access management platform.

The first draft of the AMP was developed during the ACTRIS PPP - Preparatory Phase Project[1] and is included in the ACTRIS PPP D6.4. It describes the purpose, principles and main procedures for the management of the physical, remote and hybrid access of users to ACTRIS services. ACTRIS IMP Milestone MS 6.5 provided the 2nd draft of the ACTRIS Management Plan, with detailed descriptions of the access process and the main associated workflows following progress in the work carried out for the design and implementation of the access system.

This version of the AMP includes more complete descriptions of the whole access process, roles and responsibilities of the involved actors, evaluation guidelines and terms of reference for the experts involved in the peer review, tools in use, monitoring process, access metrics and KPIs. It also comprises an entirely new section dedicated to special access cases. But, more importantly, this version reflects all the major evolutions and revisions made with a view to continuous improvement following testing and feedback received.

Finally, it is worth mentioning that the sustainability of access and the formulation of a comprehensive cost and pricing scheme for access to ACTRIS services are currently being studied and analysed. While these aspects are an integral part of the long-term vision of ACTRIS, they are evidently outside the scope of the current version of the access management plan but will be addressed in future iterations once analysis is completed, decisions are made and strategies are consolidated.

2 Definitions

Part of the terminology used for access to ACTRIS services is included in the ACTRIS access and services policy and based on the EU Charter for Access to Research Infrastructures (see References) and is further adapted to the ACTRIS context and needs.

[1] ACTRIS PPP, supported by the European Commission under the Horizon 2020 – Research and Innovation Framework Programme, H2020-INFRADEV-2016-2, Grant agreement ID: 739530

"Access" means the legitimate and authorised physical, remote and virtual admission to, interactions with and use of Research Infrastructures and to services offered by Research Infrastructures to users.

"ACTRIS data" means ACTRIS data from observational NF and exploratory NF complying with the procedures established within ACTRIS. A more detailed definition of ACTRIS data is given in the ACTRIS data policy.

"ACTRIS tools" mean both digital and non-digital tools for data and instrument operation offered by ACTRIS to users.

"Background" means data, databases, data products and data-related tools or any other intellectual property rights generated before the access activities at the CF or NF started.

"Central Facility (CF)" means a European-level ACTRIS component, Head Office, Data Centre or Topical Centre, that offers ACTRIS data or research services and other services to users as well as operation support to National Facilities.

"Data Centre (DC)" means the Central Facility responsible for ACTRIS data curation, preservation, and distribution of data, value-added products and tools, and hosting the ACTRIS data portal.

"FAIR principles" means guiding principles to make data Findable, Accessible, Interoperable and Re-usable.

"Head Office (HO)" means the Central Facility responsible for coordinating and representing ACTRIS as well as for facilitating access to ACTRIS services.

"National Facility (NF)" means an observational or exploratory platform which has a contractual relationship with ACTRIS ERIC and which provides data and/or physical/remote access to its premises.

"Operation support" means the services and consultancy for quality assurance and quality control of ACTRIS measurements and data (including training and knowledge transfer, calibration, quality assurance/quality control tools, and development of standard operation and evaluation procedures) provided by Central Facilities to National Facilities.

"PASS" means **P**latform for managing user access to **A**CTRIS **S**ervice**S**, managed by the SAMU.

"RI Committee" means the **R**esearch **I**nfrastructure **C**ommittee, an advisory body on matters related to consistency, coherence and sustainability of the implementation and operation of the RI.

"SAMU" means the Service Access Management Unit of the ACTRIS Head Office.

"Side-ground" means data, databases, data products and data-related tools or any other intellectual property rights generated at the same time the access activities at the CF or NF take place but which are not generated as part of the access activities.

"SUPRA" means the **S**AMU **U**ser helpdesk function for **P**hysical and **R**emote **A**ccess

'Topical Centre (TC)' means a Central Facility, which is either included in ACTRIS ERIC or has a contractual relationship with ACTRIS ERIC, offering services and operation support for quality assurance/quality control

of measurements and data (including training, calibration, quality assurance/quality control tools, and development of standard operation and evaluation procedures).

"User" means a person, a team, or an institution from any sector, including the public and private sector, making use of ACTRIS data or other ACTRIS services, including access to ACTRIS facilities.

In this document, terms defined here are generally presented in lowercase letters unless they are part of a formal definition or abbreviation.

3 Access to ACTRIS services and scope of this document

Access to ACTRIS services is divided into two main categories, each governed by a corresponding policy:

(1) access to Data services – high quality, harmonized, and documented ACTRIS data from observational and exploratory NFs (guided by the ACTRIS data policy),
(2) access to Technical / Research / Innovation / Training services provided by the ACTRIS facilities (guided by the ACTRIS access and service policy).

Access to ACTRIS data, data products and digital tools provided through communication networks (virtual access as defined in section 1.2) is addressed in the ACTRIS Data Policy and the ACTRIS Data Management Plan (DMP), which respectively establish the principles and process for data provision. Therefore, it is beyond the scope of this document.

Access to Technical / Research / Innovation / Training services provided to users on-site, remotely or in a hybrid format (see definitions and specifications in section 1.2) by ACTRIS TCs and NFs, including remote access to specific on-demand services of the DC related to ACTRIS data, data products and digital tools is governed by the ACTRIS access and service policy and this Access Management Plan (AMP).
Training services target both ACTRIS staff and ACTRIS users to ensure knowledge-sharing and best practices. Training concerned in the AMP is the one provided remotely, physically or in a hybrid format to external users.

TCs' provision of services to NFs that constitutes operational support is outside the scope of the AMP.

1.1 Access types, modes and classifications

Access to ACTRIS services can have various attributes, characteristics, types and modes.

Based on the research object/topic covered, and following the indications of the European Commission[2], access to ACTRIS can be:

- Curiosity-driven: when access to services is provided to support fundamental or disruptive research in all fields, motivated primarily by a desire to expand knowledge, secure the excellence of European research and achieve future technological progress.

[2] *European Commission*, Horizon Europe - Work Programme 2023-2024 - Research Infrastructures.

- **Challenge-driven**: when access to services is provided to address challenges or problems that have immediate or future societal relevance, supporting scientific or academic investigations specifically directed towards finding practical solutions.

Based on the potential charge, access may be:

- **Free access,** when the ACTRIS services are provided to users free of charge
- **Fee-based access**: although ACTRIS aims at providing free access for users whenever possible, some services may involve user fees, especially in the case of large private sector/industry users.

Considering the conditions for provision, access may be:

- **Wide access** aims at guaranteeing the broadest possible access to ACTRIS data and digital tools, maximizing availability and visibility. Wide access is virtual, open and free access; it does not involve any selection of users and it is outside the scope of the AMP.
- **Competitive access** means that the requested ACTRIS services are not unlimited and a selection process via the SAMU is required. Competitive access concerns physical, remote and hybrid access to services offered by the ACTRIS TCs and NFs, as well as remote access to specific, on-demand services of the DC. The guidelines for competitive access are formalized in the ACTRIS access and service policy and it is covered by the AMP.

1.2 Access types

ACTRIS offers the following types of access:

- **Virtual access** is free access to users provided through communication networks; the available services or resources can be simultaneously used by an unlimited number of users and the users are not selected. Virtual access within ACTRIS concerns access to ACTRIS data and digital tools offered by ACTRIS through the ACTRIS DC or virtual access to training and ACTRIS tools offered through an ACTRIS TC. As previously stated, virtual access is out of the scope of the AMP.
- **Physical access** is "hands-on" access when users physically visit an infrastructure/facility/equipment. Physical access means access to services offered by ACTRIS through an ACTRIS TC or NF. The available services or resources are not unlimited and a competitive process is required following a defined procedure and criteria for the selection of users. Physical access within ACTRIS may concern access to ACTRIS TCs, observational and exploratory NFs.
- **Remote access** is access to resources and services offered by ACTRIS through an ACTRIS TC or NF without users physically visiting the infrastructure/facility. Similar to physical access, the services or resources are not unlimited and a competitive selection is required. Remote access within ACTRIS may concern access to the DC in case access provided through communication networks regards on-demand services or resources of the DC (for example computing cycles or digital tools) that cannot be simultaneously used by an unlimited number of users. In these cases, access to the DC is not virtual but remote. As such, it requires a competitive selection of the users to be served and is covered in the AMP.

- **Hybrid access** combines multiple types of access to ACTRIS resources and services, including virtual access to data and digital tools, and/or on-site access to the physical laboratories and premises of an ACTRIS CF or NF, and/or remote access to various resources or equipment within the facility. As it involves resources for which the ACTRIS facilities have limited capacity, a competitive selection of users is required. The AMP only covers the physical and remote parts of the hybrid access.

1.3 Access modes

In the case of competitive access, the process for selecting users for ACTRIS services is based on access modes. The access mode regulates the conditions for the selection of users. Access modes are part of the ACTRIS-internal access process and are not discernible to users. Access modes may differ as a function of the service requested or the requesting user, and may depend on possible contractual and legal obligations, capacities, resources, membership, etc. Within ACTRIS, the following access modes apply:

- **Excellence-driven access**: the access depends on scientific excellence, originality, quality and technical and ethical feasibility of an application. The access requires a user selection.
- **Need-driven access**: access to ACTRIS services is required to meet specific needs of users, e.g., **technical** needs to guarantee quality assurance and high instrument performance (e.g. calibration, comparison and combination with other instruments or RIs), or **training** needs to expand knowledge and expertise, and dissemination of good practices. The access is Competitive and requires a review process and evaluation.
- **Market-driven access**: when access to ACTRIS services is requested by a private sector user and is possibly defined through an agreement between ACTRIS ERIC and the user. The access may be tailored to the user's needs and may lead to an access fee that may remain confidential. This access is considered competitive and could not involve a peer review if fee-based.

1.4 Classification of access

Based on the characteristics, types and modes detailed in previous sections, access to ACTRIS is systematized in five levels that are proposed to ease the internal management of the user requests to access ACTRIS services. Users choose the service they need. The access type and conditions, i.e. 'how' a user will actually access an ACTRIS TC or NF, or the DC for specific on-demand remote services, are inherent to the specific service requested and involve specific procedures and tasks according to the attributes that the specific service gives to access.

For example, access to a DC service may be wide, virtual and free (if directly available via the DC, e.g., downloading ACTRIS data) and, as such, not touched in the AMP, or competitive, remote and free/subject to fee (if the DC has limited capacity, e.g., archiving data related to a measurement campaign). Likewise, physical access of a user to an exploratory NF is competitive and requires a selection process based on criteria related to the scientific quality of the planned research project, whereas physical access to a TC for the calibration of an instrument is competitive the same, but requires a selection process based on criteria

related to the technical needs for optimizing instrument performance and improving the quality of the research activities.

Figure 1 below presents the classification of access levels within ACTRIS.

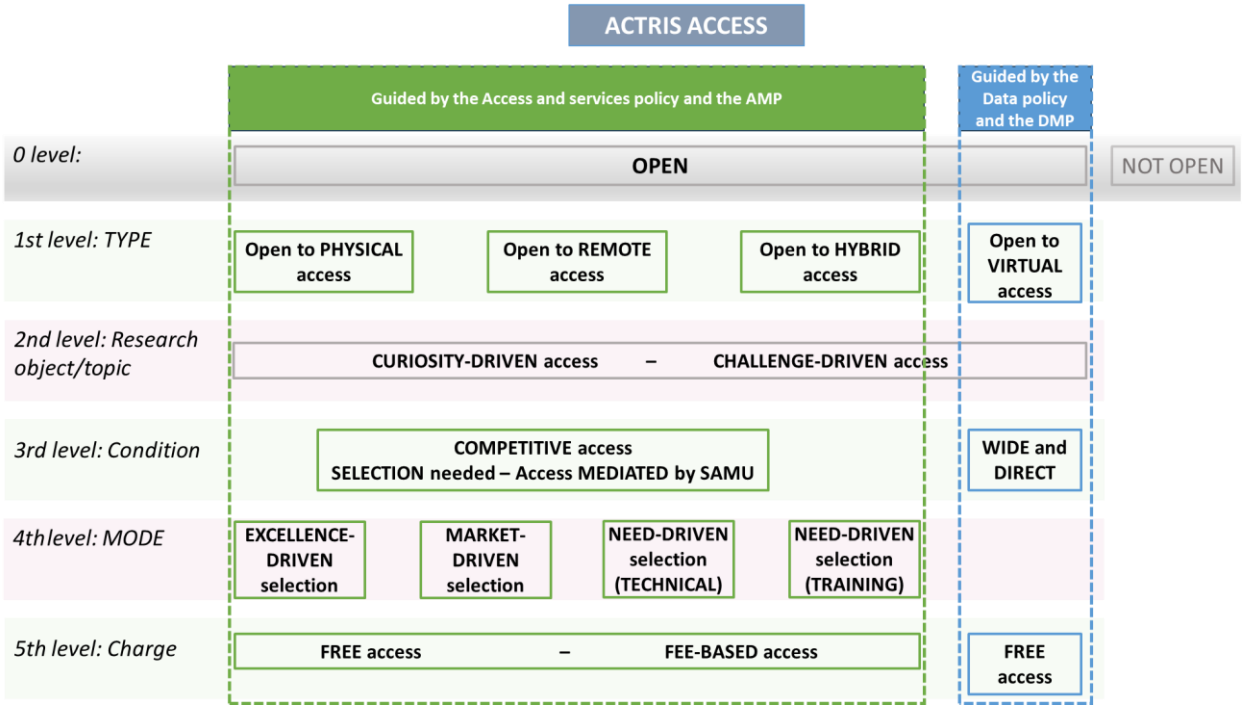

Figure 1- Access to ACTRIS - Classification

Level 0 highlights the fact that, while ACTRIS aims at open access to ACTRIS services, it may be that some services and data are not ready to be open for user access (for instance Level 0 data or services still to be perfected).

Levels from 1 to 5 distinguish open access based on how it is actually provided (types), the research object/topic, the conditions under which it is provided, how selection will be done (modes), possible charges.

This classification is solely meant to prepare and simplify and the access management work making the identification of the procedure to be followed and the tasks to be carried out as immediate and automatic as possible. The figure can also visually illustrate a tree-like graph or model of decisions, with each level representing a point of deliberation and decision where access attributes or features are systematically checked to determine a final category.

4 Principles

The general principles for access provided by ACTRIS to users are affirmed in the ACTRIS access and service policy approved by the 1st ACTRIS ERIC General Assembly in June 2023.

The following sections build on the principles set out in the Policy, elaborating them in specific detail to support the development of the access management system.

1.5 Access principles

1.1.1 Openness

ACTRIS aims at open access to ACTRIS services, following the principles set out in the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003) and the open access and open science strategy promoted by the European Commission and the European Strategy Forum on Research Infrastructures - ESFRI. ACTRIS strives to extend the principles of openness to the whole research cycle (see *Figure 2* below) as far as possible, fostering collaboration and sharing of resources, methods or tools at any stage of the research process.

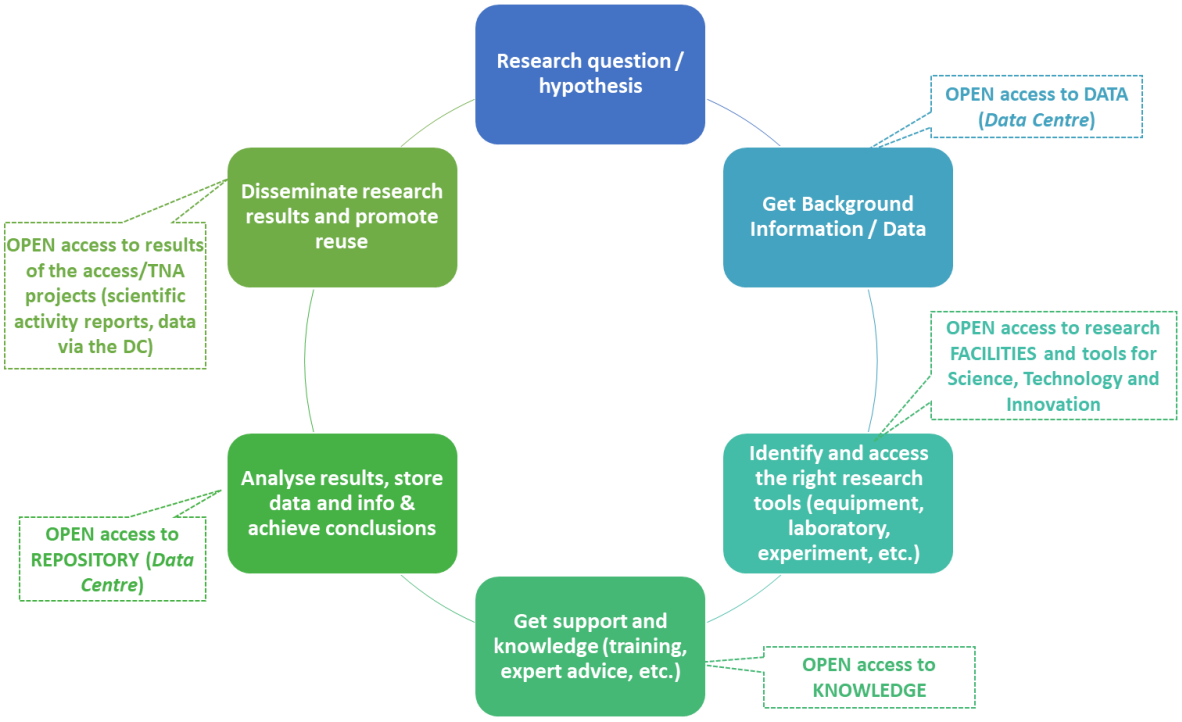

Figure 2 - ACTRIS contribution to Open Science

With open access to research outputs of different kinds (data, articles, standards, etc.) and open access to research facilities (laboratories, equipment, experiments, field campaigns) ACTRIS is committed to play a relevant part in implementing the open science strategy promoted by the European Commission to improve knowledge circulation and innovation.

Open access means that, whenever possible, the ACTRIS services are open to all users, and that they are findable and accessible. Some research objects (including data and services), however, may be temporarily non-open, being not ready to be open for user access or not meant to be accessible. Open access to ACTRIS services and resources is provided within the limits of the ACTRIS facilities' capacities.

1.1.2 Equality and Non-discrimination

In granting access to users, ACTRIS does not discriminate on any personal grounds such as gender, race, colour, language, religion or belief, political or other opinion, national or social origin, association with a national minority, property, birth or other status, including ethnicity, age or sexual orientation.
As access is provided within the limits of the ACTRIS facilities' capacities, whenever a selection of users is needed it will be relevance-driven and exclusively based on scientific, technical and socio-economic merit grounds.

1.1.3 Sustainability and Affordability

Access to ACTRIS facilities and resources should be sustainable. Costs generated at the facilities by the provision of services to users need to be covered, also with the possible contribution of the users benefiting from the services they have access to.

Fees for access, to the extent found necessary and according to the pricing scheme for access to be applied within ACTRIS, should contribute to the financial sustainability of the ACTRIS service provision. At the same time, fees have to be affordable to users, that is, set at reasonable levels, which allow a contribution to the costs incurred by the provider but do not compromise the attractiveness of the services or reduce the demand for access. Access fee pricing schemes are currently being defined and will be incorporated in a later version of the AMP.

1.1.4 Serving Users: ACTRIS User Strategy

ACTRIS is a research infrastructure built and operated to support excellent research by the broad scientific community (not only the internal community). ACTRIS aims to place the service to users at the centre of its operations and strategic development.

Access and service provision are aligned with the ACTRIS user strategy, which is constantly updated to involve users and ensure that service development/improvement efforts meet their expectations and needs, and will continue to do so over the RI's lifespan.
Details on the continuous development and update of the user strategy are provided in Annex 1.

1.6 Access management principles

Access management within ACTRIS is assigned some strategic and operational objectives:

- Foster a collaborative environment by facilitating access to the research infrastructure for diverse communities of researchers.
- Ensure efficient, consistent access processes, streamlining and optimizing the access application, evaluation and approval.
- Increase user trust thanks to predictability in the user experience: enforcing common and standard procedures across a distributed research infrastructure establishes a consistent and fair framework for all users. Regardless of the specific facility they access, users can expect a reliable process based on uniform practices and criteria, gaining confidence that they are treated fairly and impartially. This predictability reduces uncertainty and contributes to a positive perception of the infrastructure, reinforcing the user trust in the system.

To ensure the achievement of these objectives, access management is organized conforming to the following principles:

1. **Process Approach**:

The process approach is chosen to guarantee that the ACTRIS organization for access operates as an integrated and complete system. It entails the definition of access processes as sets of interrelated or interacting activities that use inputs to deliver intended outputs. Consequently:

   a. all requirements, activities and interrelations to grant access and provide the ACTRIS services are clearly defined and planned, communicated to all parties involved (users, providers, interface) and improved based on their needs and feedback.
   b. Roles, responsibilities and tasks are clearly identified and described.

2. **User-centered approach**:

In line with the general user-driven approach of ACTRIS, users are put at the heart of the access management system design. This involves the responsibilities of responding to the needs of the users, operating as effectively and efficiently as possible, and being timely and accurate with providing information and support. Following this approach:

   a. the provision of access and services is aligned to user needs, to be periodically ascertained through specific need analyses as well as by processing the feedback received.
   b. services are delivered in a defined quality sufficient to satisfy the identified user requirements.

3. **Continual Improvement**: Services and access management processes shall be continually improved, based on:
   a. the feedback solicited and received from users and stakeholders, and
   b. continual monitoring of the process performance and effectiveness.

This AMP will be updated as the processes evolve so that it builds on monitoring and reviews to learn from observation of the impacts of access management, adapting the management actions (and services) accordingly and adjusting to changes.

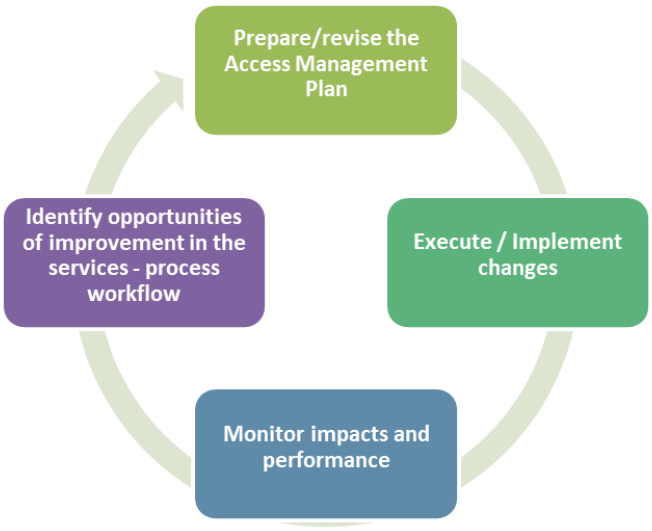

Figure 3 - Access management updates as part of the continuous improvement process

1.7 Organizational principles

The basic principles to organize the access management are established following the recommendations included in the ESFRI Roadmap for the distributed research infrastructures like ACTRIS and are:

1. Single point of access for all users
2. Centralized management
3. Support structure dedicated to optimizing the access of users for the proposed research

Principles 2 and 3, in ACTRIS, are embodied in the organization and functions of the SAMU of the ACTRIS ERIC HO (see section 5), which is in charge of organizing and managing the access to the entire RI and supporting users to make full use of ACTRIS opportunities.

1.1.5 Single point of access

A single point of access describes an access organization where all services share a single set of contact information and all access requests are channelled through a single entry.
Access of users to the ACTRIS facilities is offered through a single entry point, including:

- Virtual access to data services, training services and other virtual tools, covered in the DMP;
- Physical, remote and hybrid access to research services, technological, innovation and training services offered by the ACTRIS Topical Centres and National Facilities, including on-demand specific digital services remotely provided by the DC, is covered in this AMP and provided through the mediation of a single unit and team that governs, completes and supervises all administrative procedures required for the access. This unit is the SAMU, which grants users a simple way of getting in touch and contacting all services distributed in the ACTRIS territory, regardless of the provider institute or organization. This is also essential for providing integrated, user-centred support.

1.1.6 Centralized management

Centralized management implies the existence of formal management structures that coordinate and monitor a distributed organization from a central point. Applied to research infrastructures and to access, the principle entails that all activities involving the provision of access to all facilities in a distributed research infrastructure are concentrated at a specific location and organized from there. In the case of ACTRIS, this location is the HO. Centralized access management ensures resource and process optimization, reduction of the time, cost and complexity associated with access management while providing for compliance and consistency across all the RI's components.

1.1.7 Support structure

In strict combination with the single point of access, the existence of a unique structure dedicated to optimize the user access to the various distributed ACTRIS facilities is a basic principle in the organization of the framework for access. It offers users the clear advantage of having a single interface to turn to for help and support for accessing RI's services that are geographically distributed, as well as for assistance in dealing with different service providers, who can have different cultures and behaviours, to solve possible problems whenever they have any issues with or questions about ACTRIS services.

Such support structure helps ACTRIS users to get the most out of being connected to the RI and use the services provided by the CF and NF to produce excellent science.
Also, it is extremely useful to help developing and improving the services and overall ACTRIS performance as it enables gaining hints and feedback about the services with less need to organize costly focus groups regularly to grasp the user needs and sentiment regarding ACTRIS.

5 Role of the SAMU - Service and Access Management Unit

The principles for access management and organization presented in sections 4.3.2 and 4.3.3 are implemented, in ACTRIS ERIC, within the SAMU/HO, which provides the organizational entity for consolidating the governance of physical, remote and hybrid access to the entire RI and for addressing the users' evolving needs.

SAMU's mission is to improve the effectiveness, efficiency and quality of delivering ACTRIS services to the users, considering the distributed nature of the RI. The Unit operates to implement well-organized management of access to services that are geographically distributed, balancing the need for centralized control and process consistency with the necessity to allow freedom and differences in the actual access provision, which is the result of the distributed nature of the RIs and of the variety of ACTRIS components and requirements for providing different services to different users.

All details on the organization, operations and resources of SAMU, as well as interlinkages and relations with the other HO organizational units, are provided in the ACTRIS HO Implementation plan and the HO annual plans.

To successfully govern the physical, remote and hybrid access provision for the entire ACTRIS, a core function of SAMU is the interface between users, TCs and NFs. SAMU liaises and serves as an official go-between

users, facilities and ACTRIS, facilitating exchanges, interactions, cooperation and engagement. Proper workflows are established to consent SAMU to act as a core point of contact and mediate the relations between users and the Facilities regarding access to the services.

Being at the centre of the relationship between users and ACTRIS, SAMU ensures the smoothness and fairness of all interactions with the TCs/NFs, supporting the users as well as the service providers so that both receive benefits from the relationship.

Other main functions of SAMU relevant to this context and described in full detail, outlining the activities, workflows and interactive actions, are:

1. Helpdesk for physical and remote access, presented in section 5.1;
2. Access process management, in section 7 and Annex 3 ;
3. Monitoring access and service provision, illustrated in section 8.

Along with those, SAMU is also responsible for ensuring:

a. Analysis of the user needs and periodic updates (see Annex 1)
b. Updates of the Access Management Plan
c. Periodic updates/upgrades of the platforms and tools managed by SAMU: ACTRIS Catalogue of Services available for physical, remote and hybrid access (see Annex 2), ACTRIS PASS, ACTRIS Science and User Access Forum.

1.8 SAMU User helpdesk function for Physical and Remote Access

SAMU operates and coordinates a specific support function for any user or provider enquiries related to access. This includes providing day-to-day support and information to users willing or admitted to physical, remote and hybrid access to ACTRIS, as well as assisting providers who may need clarifications on the access and service provision process.

This function is conventionally referred to as SUPRA - SAMU User helpdesk function for Physical and Remote Access and aims to ensure full end-user and provider support in the entire process related to physical, remote and hybrid access. With this function, SAMU walks users and providers through a problem-solving process whenever they have questions about or issues with ACTRIS services, following up with them to ensure the issue has been resolved and soliciting feedback.

SUPRA is organized and operated as a multi-tier function that involves both the SAMU Team and the Facility providers, who receive support but also offer second-level support for scientific and technological user enquiries.

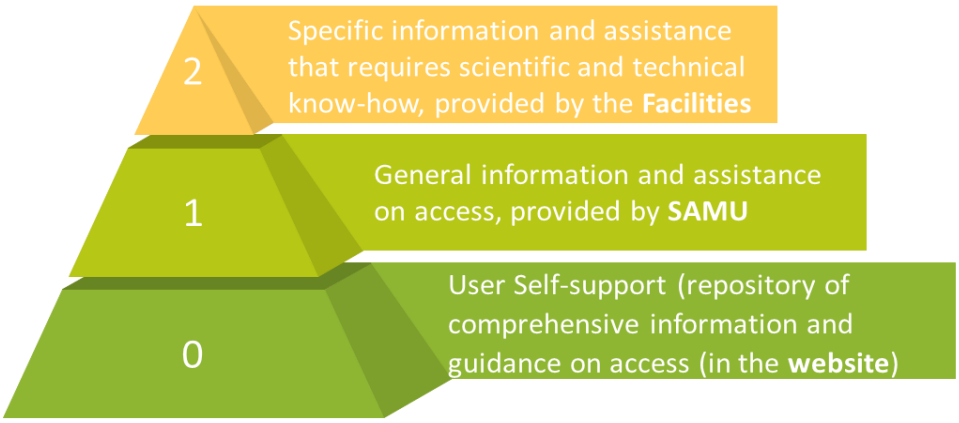

Figure 4 - SAMU multi-tier user helpdesk function

Tier 0 is the ACTRIS Access knowledge base, the online repository of resources (information, rules, guidelines, forms, instructions, glossaries and definition lists, tutorials both for users and providers, etc.) on access, which is available to users and providers, as self-support, in a section of the Science and User Access Forum (see section 6.3). Among other sources of generic information and support, the knowledge base includes specific access handbooks for users and providers that make it easy for users and providers to find the information they need and solutions to their problems without having to ask for help and wait for an answer.

Tier 1 is the helpdesk function performed by the SAMU Team providing users and providers with general information and assistance related to the access process (applications, Terms of Reference, preliminary checks, evaluation), the access platform and support for all user requests that are not related to science and do not need specific, technical know-how.

In case of user requests concerning scientific issues and technical problems, SAMU turns to and directs users to competent TCs and NFs, which act as *Tier 2* to provide second-level, specialist support. Facility providers are also responsible for handling and solving all support requests that are directly received by users during access.

Figure 5 below illustrates the workflow for the helpdesk function managed by SAMU.

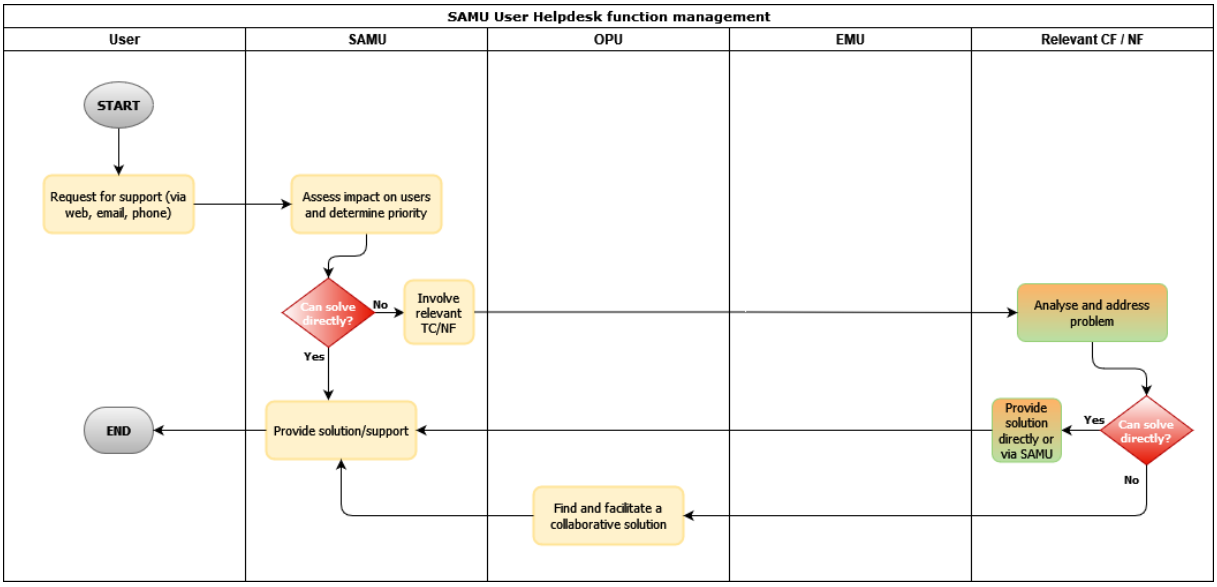

Figure 5 - SAMU User Helpdesk function workflow

6 Tools

1.9 Catalogue of Services

All ACTRIS services provided to users are included, described and accessible through the **ACTRIS Catalogue of services** (https://www.actris.eu/catalogue-of-services).

The Catalogue provides a comprehensive listing of services by the ACTRIS Facilities[3] with detailed information. Implemented as an online tool integrated into and accessible from the ACTRIS Website, the ACTRIS Catalogue of Services offers the user one location to find all relevant information about the available services provided by the entire RI and access details. The services are organized and grouped in a way that users find easily what they need and access the service that meets their requirements.

The information on the services includes:

1. a description of each service,
2. how the services can be requested, and what kind of information the user would need to provide to allow a correct organization of the service provision if any (e.g., characteristics of instruments like size, weight, power supply, etc.),
3. the estimated duration of the selection procedure (if any),
4. the estimated duration of the provision,
5. the available logistic and support services.

[3] At the time of writing, the ACTRIS Catalogue includes those services offered via TNA to users in the frame of the EU-funded projects ACTRIS IMP and ATMO-ACCESS.

Based on the maturity of the service, the related information in the Catalogue also includes, where available, clear indications of the duties and responsibilities of the users for using the facility's resources.

Future developments and updates of the Catalogue will feature increased descriptions of the services detailing:

- costs and fees (if any),
- standard average level of service[4] the users can reasonably expect from the facility they have access to.

The Catalogue of Services is updated periodically during the operation phase to follow developments in the ACTRIS services. Roles and responsibilities associated with the management and update of the Catalogue of Services are detailed in Annex 2[5].

1.10 ACTRIS PASS

ACTRIS PASS is the web tool for access management which is studied, designed and implemented to organize SAMU's central management of the physical, remote and hybrid access for the entire RI. The PASS helps to automatize as much as possible the workflows established for the management of access.
The platform facilitates, standardizes and automatizes as much as possible the management of access provision with the control of each step of the access process:

- Application submission
- Requests management with requests transferred to:
  - identified SAMU/HO personnel for the pre-screening for eligibility
  - Identified CF/NF personnel for the pre-screening for technical feasibility check
  - Identified experts for peer review, technical review, negotiation in case of market-driven access
- Automatic notifications of task assignments and reminders
- Communication to all relevant actors about the results of the selection
- Monitoring/reporting

1.11 Science and User Access Forum

The ACTRIS Science and User Access Forum is the place organized by SAMU to host exchanges between users and ACTRIS on the use of services, seamlessly blending both virtual and physical dimensions. The Forum is a *physical* and *digital* platform where users can express their needs, expectations and feedback regarding access to ACTRIS services. The Forum is meant to be a major communication channel between users and SAMU, providing an organized framework for information and exchange, helping to gain hints on future research needs that will drive the development of the ACTRIS services and activities. It is conceived to

[4] Average levels of availability, functionality, performance, operation or other attributes of the services provided.
[5] Annex 2 is an excerpt of IMP Deliverable 6.2: Report on the ACTRIS User support system (see References), where the roles and updates were first described.

keep the users at the forefront of the RI activities by maximizing the level of user engagement, the use of ACTRIS services and the users' satisfaction.

The virtual platform of the ACTRIS Science and User Access Forum is implemented as dedicated web pages on the ACTRIS website (accessible at https://www.actris.eu/science-and-user-access-forum), whose functionalities will be continuously expanded in the future to provide

the full range of capabilities that could help and streamline the relationship with users and simplify SAMU activities. The web-based platform is a complementary tool to the other systems for managing user access to ACTRIS services and is managed by the SAMU, to provide a fully integrated and centralized experience for users allowing them to access the services, express their needs and feedback, be connected with the right information about data, tools, resources, dedicated events, opportunities and challenges, research ideas, new discoveries and any other topic of interest.

The main users' requirements considered for the implementation of the virtual platform of the Science and User Forum are:

- Get information on how to access and use the infrastructure (service catalogue, access programs, call for access, etc.)
- Gain access to guidelines, training materials, data and models
- Gain insights on current and future developments
- Provide feedback on the ACTRIS experience, success stories, etc.
- Communicate ideas and specific technical needs or challenges

Based on that, the main features considered for the implementation of the virtual Science and User Access Forum are:

- Access knowledgebase: an online resource library established as a dedicated directory of selected static content that would be beneficial to the users: HowTo tutorials and FAQs related to access to ACTRIS services; use cases reports, success stories, publications; etc.
- Features for access-related message threads, thematic channels, etc.
- Forms and surveys specifically built for collecting users' needs, requirements, feedback, user stories, etc.
- Email lists, and news, to inform and highlight ACTRIS services, opportunities, current and future development, etc.
- Events like webinars, training events, topic-specific workshops, consultations, service review meetings, etc. to illustrate ACTRIS services and opportunities, review and plan strategic development, establish relationships, etc.

Along with the virtual dimension that ensures continuous and accessible interaction, fostering a sense of community beyond geographical boundaries, the Forum can also have a physical dimension with the organization of in-person meetings for consultations, discussion of feedback, topic-specific workshops, etc., that further enhance the Forum's effectiveness, providing a unique opportunity for face-to-face discussions in plenary sessions.

During these physical gatherings, users and providers convene to address critical issues, exchange ideas, and strategize for the future. The combination of virtual connectivity and physical meetings creates a robust and versatile Forum that accommodates the diverse preferences and needs of the user community, facilitating meaningful engagement and collective reflection.

7 Access process

Access to services provided by the ACTRIS Facilities is facilitated by the establishment of the accurate, up-to-date and searchable online Catalogue of Services, which provides all relevant information about the services.

Services open for physical, remote and hybrid access can be requested:

- anytime by placing a service request through ACTRIS Catalogue of Service to the access management platform (ACTRIS PASS);
- in response to a rolling call with no fixed end date to the call;
- in response to a specific dedicated call for access, launched to promote specific research that is of interest to the scientific community to tackle particular scientific or societal challenges (for example calls for research into health, safety or environmental emergencies) or linked to a dedicated experimental campaign or intercomparison exercise organized by the ACTRIS facility concerned.

The ACTRIS process for physical, remote and hybrid access is harmonized and uniformly implemented for all facilities and installations providing services to external users.

It is a multi-stage process that includes as main phases:

1) Access opportunities/call advertising
2) User application
3) Eligibility check
4) Feasibility check
5) Independent merit evaluation
6) Access provision
7) Post-access duties

The evaluation of access requests shall be completed within about 4-6 weeks of submission provided that no complex integrations or clarifications are requested by experts for the assessment.

The following figure provides a tentative timeline for the completion of 3 stages of the access process.

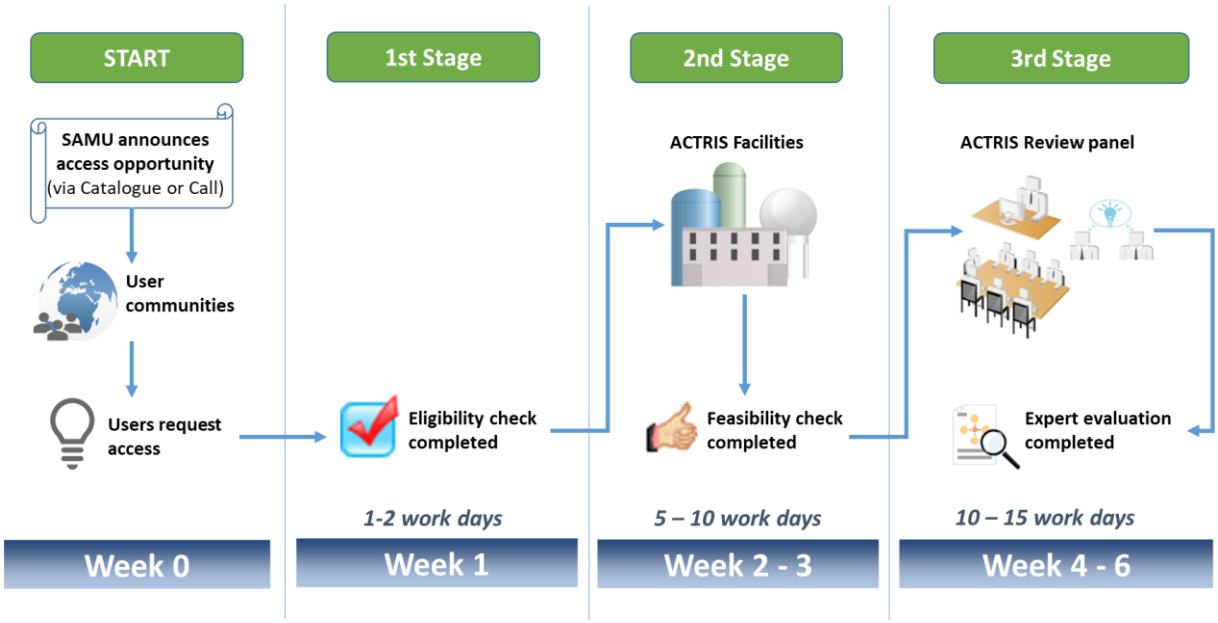

Figure 6 - Access request and award process timeline

The sections that follow briefly describe each step of the access process while detailed workflows, explanations and instructions for the SAMU staff and all actors involved are included in Annex 3.

1.12 Access opportunities/Call advertising

Opportunities to access services described in the ACTRIS Catalogue of Services, as well as possible Transnational Access (TA) calls or dedicated calls promoting particular access opportunities to support researchers tackling particular science or societal challenges, are widely advertised to reach all possible interested users.

Calls, guidelines and templates for applicants are published on the website and the ACTRIS Science and User Access Forum. Communication is done in close cooperation with DEVU (Development and Relations Unit of the ACTRIS HO) and using all possible different channels that are useful to guarantee the maximum possible reaching of users:

- ACTRIS website
- Announcements on ACTRIS stakeholders' and partners' websites
- social media,
- newsletters,
- announcements at scientific conferences, workshops and meetings,
- flyers, brochures, user fora, mailing lists, etc.

1.13 User request

To be selected for access, users need to submit specific requests, in writing, providing details of the intended work as well as the user group components. All requests are submitted via the ACTRIS PASS.

Applications shall stick to the rules, guidelines and forms provided in the relevant call for access/service description in the Catalogue of Services, or the terms of reference of the different calls for access.

The access request document pack is produced by the SAMU/HO, which is entrusted with the elaboration of all the relevant documents the users need to know, abide by and follow to apply for access to ACTRIS. The access document pack management is done in cooperation with the relevant Facility and the other HO Units (see dedicated workflow in Annex 3).

Requests for services that are open for physical, remote and hybrid access are handled following a "one-stop-shopping" procedure, meaning that the user mostly has one interface (the SAMU/HO) to refer to for anything related to access till the actual service provision.
Direct interactions between users and providers on technical/ scientific issues that may be needed during request preparation take place before and up to the submission – to help users understand the possibility that is offered to them and present a suitable access proposal – and after selection – to prepare for access and take full advantage of it.

1.14 Eligibility check

The eligibility check is ensured by the SAMU. In case of access funded by EU projects the eligibility conditions set out for the TA in the relevant EU programme regulations apply, regarding, for instance, user affiliation and dissemination of results[6].

Additional eligibility criteria can be introduced to complement/substitute the EU funding program's criteria, based on the specific requirements of the actionable funding source, and the objectives of the access calls/opportunity opening.

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

Proposals and applicants shall remain eligible during the evaluation process as well as throughout the actual provision of the granted TA/access.

[6] Affiliation: applications from user groups with a majority of *users working outside EU* are eligible, though limits may be applied as TA 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. Another critical criterion is 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 organizations, an ERIC, the EC Joint Research Centre,) but it seems to be less relevant to ACTRIS after the ERIC establishment.

1.15 Feasibility check

The feasibility check aims to ascertain/confirm that the access requests can be dealt with successfully by the service provider at the relevant ACTRIS Facility, 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 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 access opportunity dissemination.

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 SAMU Team. During feasibility, the user can be asked, if needed, to amend the submitted proposal or submit a revised one.

1.16 Independent merit evaluation

The merit review and selection phase opens only for access proposals whose feasibility is confirmed by the service provider. Each proposal is evaluated by an *ad-hoc panel* composed maximum of *three experts* from the *Panel of Access Reviewers* (see Annex 5), identified based on their knowledge in the scientific or technical field that is the subject of the application to be reviewed. A *Rapporteur* can be chosen[7] among the three to draw up a summary of the individual assessments.

Reviewers perform the individual evaluation of assigned proposals remotely, assessing the main elements (proposed activity and user group) against the general criteria presented in section 7.5.2[8] and detailed in the Access General Evaluation Guidelines (Annex 4), giving marks and completing synthetic individual assessment reports.

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

The SAMU prepares the final list of access proposals recommended for selection by reviewers.

1.1.8 Main principles for evaluation

The evaluation of requests to access ACTRIS services shall be based on the following principles:

- **Equality and non-discrimination**
- **Transparency**: users and all ACTRIS stakeholders are duly informed of the access selection process and the relevant selection criteria, as well as of the available capabilities at the concerned facility.

[7] By the SAMU at the moment of establishing the ad-hoc panel and based on the independence criterion.
[8] Further specific criteria can be introduced to meet the particular objectives and types of access opportunities available.

After the selection process, users receive a complete report of the results, which informs about the strengths and weaknesses of their applications.

- **Confidentiality**:
    - access proposals are recorded and treated as confidential information by the ACTRIS staff in accordance with applicable national legislation, and conforming to the requirements of EU regulation 2016/679 General data Protection Regulation (GDPR), which took effect on 25.5.2018 as well as applicable national legislation
    - names and identities of the evaluators are not disclosed unless legislation otherwise requires.
- **Impartiality**: for all access modes, the selection is based on pre-defined, objective criteria, avoiding any bias and prejudice to the maximum extent possible.
- **Merit and relevance**: the selection is merit-based and considers the scientific, technical and innovation potential of access proposals as well as possible market developments and impacts on the economy. In case of access requests that present aspects of excellence, technical relevance, innovation and impact on the market, or different combinations of these aspects, a mixed selection panel will be set up with all the necessary skills and expertise to carry out the mixed, multi-criteria selection.
- **Fairness and geographical balance:**
    - in the distribution of access requests among facilities that provide the same services. In case of requests regarding services provided by different facilities, the SAMU in cooperation with the other HO units (in particular the OPU - Operations management unit) will distribute the accesses trying to ensure as much as possible geographical balance
    - in the distribution of access among users coming from ACTRIS countries and users from new regions/countries
- **Right of reply:** during the selection process, SAMU shall ensure that users/applicants have the opportunity to reply to possible questions or concerns that may be raised by experts, establishing a right to reply before the final assessment.

1.1.9 Evaluation criteria

The peer review of the access requests considers specific criteria according to the relevant mode of evaluation (access mode) and follows the general guidelines for evaluating and selecting proposals of access to ACTRIS Facilities[9].

The assessment of excellence-driven, technical need-driven, training need-driven and market-driven access requests considers criteria grouped in main blocks, as reported in the following table:

Criteria blocks for	Criteria blocks for	Criteria blocks for	Criteria blocks for

[9] Access General Evaluation Guidelines (Annex 4).

Excellence-driven access	Market-driven access	Technical need-driven access	Training need-driven access
Scientific and technical value	Scientific/technical value and Innovation	Scientific relevance	Scientific / learning objectives and motivation
Novelty and originality	Quality and efficiency of the implementation	Technical need	Qualification of the applicant
Quality and efficiency of the implementation			

Table 1 - Criteria blocks for different access modes

Detailed descriptions of the evaluation and selection process, the actors involved and the specific criteria, related meaning and available scores can be found in the Access General Evaluation Guidelines.

1.17 Access provision

1.1.10 Role and responsibility of access providers

Access providers are responsible for providing to users services and support within the relevant scope of work, breadth of knowledge, and state-of-the-art as described in the ACTRIS Catalogue of Services.

ACTRIS providers need to coordinate user needs with the Facility's existing plans and programs, and work with the user to perform the required activities following the user demands. Providers shall implement the user vision in the scientific work as much as possible, but also offer recommendations and options based on their knowledge and experience, suggesting changes where needed.

Service delivery should be outcome-based and functional. The provider shall be flexible enough to modify the activities and supports to reflect the changing user strategies, needs, or requirements. X-disciplinary approach in service provision is to be pursued, supporting the exchange of competencies among the different Facility's teams and bringing in service delivery expertise by individuals from other disciplines/research groups.

Clear communication needs to be in place to make users fully aware of the terms of the service provision, including among others:

- Accessibility: availability of a service to users, including locations, hours of operations, language, convenience and options for obtaining service.
- Confidentiality: how confidential information is to be treated and related guarantees for users
- Privacy policy outlining the use of personal data
- Specific terms of use of the facility and the equipment

Finally, providers are encouraged to aim for specific Standard of service (SoS) and Quality of service (QoS) goals, starting from the domain-specific measurable and exposed properties associated with the services (SoS), which provide the reference for the baseline delivery of services. Both the standard and quality levels

can form the basis for preparing, in the future, the development and implementation of suitable agreements (like for instance the Service Level Agreements – SLAs) against which users will be able to assess the services provided to them.

1.1.11 On-site support

The access includes the logistical, technological and scientific support and the specific training that is needed for users to access the facility. The support to users includes assistance by SAMU in all stages of the process and on-site support at the facility by access providers:

- Support for administrative and logistic issues including customs, shipping and transport of instrumentation, specific permissions, instrument and/or storage space, arrangements of travel and accommodation;
- Scientific and technical support for project planning, preparation, set-up and disassembly, instrument handling and operation;
- Training on the use of the facility;
- Scientific expertise;
- Any other necessary information related to on-site needs, data handling and archiving.

1.1.12 Role and responsibility of users

Before accessing the facility, users are requested to sign a User Access Acknowledgement Statement to accept the access terms. Users are responsible for complying with applicable law and safety regulations, which comprise, e.g., national and local regulations, procedures and specific measures of the hosting organizations related to access to facilities or parts of a facility, the use of equipment, required protection, safety regulations, adequate training, health and risks, insurance requirements, and any other terms of use of and access to the ACTRIS facility concerned.

It is the responsibility of the access providers to inform the users of the facility-specific terms of use.

Users are responsible for their own insurances. The hosting institutions have the right to request that certain insurances are taken and also to request proof for that. It is the responsibility of the access providers to inform the users on any specific requirements regarding insurances prior to the access provision.

Users are encouraged to submit the data resulting from physical, remote and hybrid access following the procedure for access data submission that is detailed together with the ACTRIS DC. The data will be archived and made available through the ACTRIS DC in accordance with the ACTRIS DMP and the ACTRIS data policy immediately or after an agreed period of time, according to FAIR principles.

Private users can ask for confidentiality and be excused from the obligation to provide data from access.

Proper citation and acknowledgement of the service received by the ACTRIS facilities should be made in the peer-reviewed publications based on the results of the access, including the contribution of persons working at the ACTRIS facilities involved in the access provision.

1.18 Post-access duties

Following the conclusion of the access, the user and the provider must fulfil specific post-access duties to consent to sufficient access reporting and monitoring:

The facility provider needs to prepare and sign:

- a Confirmation of Access, certifying the quantity of access provided to the user
- an attestation of the completed activity; for example, for technical and/or training services, the attestation can take the form of specific calibration documents or training certificates, or similar certificates confirming the service provided.

The providers are also requested, annually, to submit a feedback questionnaire to provide their evaluations, comments and views on the access provision and process.

The user needs to submit:

- succinct activity report describing the work done at the facility and possible developments (mainly for research and innovation services),
- a User feedback questionnaire to evaluate and recommend improvements to ACTRIS services and the access process,
- information on access results (scientific publications and data).

The collection and processing of user/provider feedback is crucial for access and service provision monitoring and evaluation, as well as for the continuous development and enforcement of the user strategy. The specific workflow illustrating all the activities required to collect the feedback of users and service providers, to analyse comments and opinions received to take solid action to enhance the access process or the service and its provision is described in Annex 3. This process is the key basis for the continuous improvement of ACTRIS services.

1.19 Special access

In recognition of the diverse needs and contexts of the ACTRIS user community, SAMU has designed specific, tailored procedures to streamline the access process in particular cases where, depending on the type of user or the contingent situation, it is possible to handle access requests with a more efficient and expedited process.

Special access procedures are dedicated to private sector users, public authorities, international networks and stakeholders, ensuring a tailored approach to meet their distinctive requirements and fostering accessibility and collaboration within these specific user categories.

Special access possibilities are presented and described on the ACTRIS Website, which provides for easy reaching of the relevant access route to set the process in motion.

1.1.13 Private access

Users from the private sector can request access at any time throughout the year by applying to the dedicated special programme established on PASS, which provides for a submission and evaluation process adapted to meet their specific requirements as much and quickly as possible.

The streamlined process for granting physical, remote and hybrid access to users from the private sector includes:

- **Simplified application form** focused on key project details, objectives, and the resources required.
- **Eligibility screening only when required by the exploitable funding** to cover the service provision and not in case of access paid by the private user.
- **Expedite feasibility assessment** conducted by the facility provider to ensure that the requested resources (equipment, knowledgebase, specialized staff, time, etc.) are available and compatible with the user's project.
- **Accelerated Review** within the market-driven access mode (see section 7.5.1), tailored for efficiency, with emphasis on the project's relevance to foster innovation, potential positive impacts, its technical feasibility and relevance to the facility. A dedicated review committee expedites the process, ensuring timely feedback and decision-making.
- **Quick Notification**: private sector users receive prompt notification of the outcome, including details on approved access, any necessary conditions including fees where the case, and the timeline for the proposed visit.
- **Rapid Scheduling**: once approved, scheduling and coordination for the physical access visit are expedited to accommodate the user's timeline.
- **Ongoing Support**: throughout the access period, a dedicated support team made up of facility staff and including suitable HO staff (from SAMU, DEVU, EMU - ERIC Management Unit, OPU units where relevant) remains available to address any issues, assist, and ensure smooth collaboration.

This streamlined process is designed to efficiently accommodate the unique needs of private sector users while maintaining the necessary checks to ensure the compatibility of their projects with the RI and facility's resources and objectives.

Special emphasis is also placed on the careful consideration and management of the unique concerns and rights associated with private entities, providing for the implementation of confidentiality agreements to protect sensitive information, ensuring that project activities remain undisclosed in scientific publications, thereby safeguarding their proprietary interests.

1.1.14 Fast-track access

In case of exceptional situations and unexpected circumstances (such as environmental extreme events) requiring quick reaction, researchers may need to conduct essential experiments, measurements, or analyses to contribute effectively to addressing severe events. For these cases, a fast-track process is in place to ensure an agile and reactive approach, enabling scientists to swiftly access necessary facilities, ultimately contributing to effective crisis response, scientific advancements, and societal well-being.

The ACTRIS fast-track process includes the following:

- **Emergency request**: users submit an emergency inquiry to SAMU specifying the nature of the exceptional event, the urgency, the specific facilities required and the activities to be carried out.

- **Immediate consultation**: a rapid consultation is initiated within the RI Committee to assess the urgency and potential impact of the proposed access. Providers of the concerned facilities are consulted to enable assessment of the access feasibility to ascertain that the requested resources can be made available promptly and are suitable for addressing the exceptional event.
- **Accelerated Evaluation**: a dedicated review committee established within the RI Committee and equipped to react promptly evaluates the application and provides expedited feedback. The evaluation focuses on the urgency of the situation, the relevance of the project to addressing the exceptional event, and the potential positive impact.
- **Immediate Notification**: users receive immediate notification of the outcome, detailing the approved access, any conditions and the expedited timeline for the proposed access.
- **Rapid Coordination**: upon approval, scheduling and coordination for the physical access visit and/or the remote work are accelerated to meet the urgent requirements of the exceptional event.

1.1.15 Access of international observation networks

ACTRIS contributes to several international observation networks, such as AERONET, NDACC, EMEP, GAW, EARLINET, CLOUDNET, e-Profile, and others. ACTRIS Central Facilities are closely linked to these and work in close cooperation to align QA/QC procedures, tools and standard practices.

A straightforward process is planned for granting these international networks access to CF services, ensuring a tailored and efficient approach for network members, promoting seamless collaboration while adhering to the specific terms outlined in agreements to be concluded with each network following the general principles for serving international networks approved by the ACTRIS General Assembly.

Agreements clearly outline and set down the terms, conditions and specific details of the collaboration with the international observation networks, including the scope of access and the extent of the cost waiver for the services accessed. In line with these, the process for providing access to users of international networks may include the following steps:

- **General request submission**: the international network periodically submits a general request detailing the set of services required for its identified members. This request covers an agreed timeframe, typically spanning a year or two.
- **Agreement compliance check**: the submitted request undergoes a compliance check to ensure alignment with the terms outlined in the agreement. Acceptance follows automatically upon successful compliance verification
- **User registration via PASS**: established to facilitate network members in accessing the services. Registration is a more straightforward procedure that collects basic information from member users for administrative, record-keeping, and communication purposes. Members can register as per their needs throughout the agreed timeframe.
- **Feasibility check and Scheduling**: when a network member registers for service access, the access feasibility is confirmed by the provider to ensure the availability of resources. Once feasibility is confirmed, scheduling at the facility is arranged based on the facility availability and the member's requested timeframe.
- **Access Period**: Network members gain access to the specified services during their scheduled time slots. The access period is flexible, allowing members to utilize services as per their research requirements within the agreed timeframe.

- **Ongoing monitoring**: conducted to track the services provided to network members. This includes regular assessments of resource utilization, user feedback, and adherence to the terms of the MOU. Periodic reports are generated and presented to the General Assembly (GA) to provide insights into the services utilized, overall resource allocation, and any adjustments needed to enhance collaboration.

8 Monitoring of access

The monitoring activities carried out by SAMU will corroborate the **user-driven approach** of ACTRIS, providing the ACTRIS Facilities and governing bodies with helpful information to consent an evaluation of the ACTRIS services from the perspective of those who effectively make use of them.
Performance data on the quantity and quality of ACTRIS service provision, expressed as KPIs, will be reported on an annual basis, allowing to identify areas of enhancement so to consent the ACTRIS Facilities and governance bodies to consider/plan actions to improve service provision, develop further services and advance the user strategy.

Monitoring activities mainly consist of:

a) the collection of the **access metrics**[10], with the measurement, in particular, of the indicators and KPIs on the users (e.g., number of users, names, origin, affiliation), on the quantity and quality of access provided, type of services requested, selection procedures and results (including information on the impact of scientific outcomes acknowledging the use of the ACTRIS Facilities (publications, patents, etc.)
b) the collection of the user and provider feedback: specific channels and feedback components (for instance emails, online reviews and surveys, etc.) are set up to collect needs, remarks, comments and suggestions as a way to go beyond analytics, engage directly and continuously with users and providers, measure and improve their satisfaction. User feedback is systematically collected after each access, serving as a post-access duty for users. Provider feedback, on the other hand, is systematically collected annually and occasionally recorded upon receipt of any comments from the providers.
c) the Feedback processing: feedback received is organized in like categories, and reports and recommendations are prepared and transferred to other HO units and to CF and NFs to serve as input for a continuous improvement of access and services, ongoing management process and quality assurance.
d) the production of customized Access KPIs & Service Provision Activity reports: data on indicators and KPIs and feedback from users collected over specific periods is analysed, organized and reported using also visual representations of the data that help extracting valuable information at a glance and identifying potential strengths, weaknesses, trends, and possible areas for improvement.

[10] See Access Metrics in Annex 6

1.20 KPIs

A set of Key Performance Indicators (KPIs) is selected among the metrics[11] to be collected to assess the performance of service provision and improve the access process in order to ensure efficiency and effectiveness towards the users.
KPIs are indicated in the table below.

Key Performance Indicator	Value type	Definition
ACTRIS Service Catalogue traffic	quantitative	Measure of the visibility of services and of the Catalogue visibility
Number of services available to users	quantitative	Measure of RI service capacity
Number of service requests/services requested by users	quantitative	Measure of user demand
Number of users	quantitative	Measure of service to users
Number of users from private sector (business and industry)	quantitative	Measure of attractiveness for the private sector
Average duration of access process, in days (from date of user request to acceptance by SAMU)	quantitative	Measure of the timeliness and effectiveness of the access process
Average scores received from the user feedback	quantitative	Measure of user satisfaction
Quality of access process	qualitative	Measure of user satisfaction of access process: not satisfied (1), slightly satisfied (2), moderately satisfied (3), very satisfied (4), extremely satisfied (5)
Quality of the Facility services accessed	qualitative	Measure of user satisfaction of access process: not satisfied (1), slightly satisfied (2), moderately satisfied (3), very satisfied (4), extremely satisfied (5)

Table 2 - Access Management KPIs

[11] ibidem

9 References

REF 1. ACTRIS ERIC Statutes

REF 2. ACTRIS Access and Service Policy

REF 3. ACTRIS Data Policy

REF 4. 2nd Draft of the ACTRIS Management Plan (ACTRIS IMP Milestone 6.5)

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ANNEX 1: User Strategy development and user needs analysis

The development of the ACTRIS user strategy is a complex task entrusted to and coordinated by the SAMU because of its direct, close and special relation with the users.
The user strategy is a living strategy, and it is elaborated as result of a cyclic process meant to find a proper combination and composition of a RI's building blocks, which are:

- Current and future user needs, which have to be analysed as a prelude to a proper service-oriented design and enhancement
- Current and future ACTRIS technical capabilities

Considering the ACTRIS mission, the evolving user needs have to be matched with the evolving capabilities.

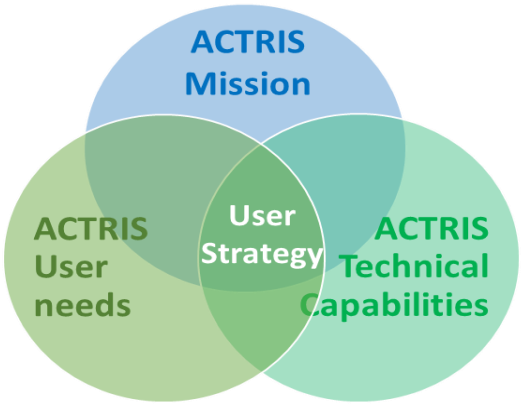

Figure 1.1 - ACTRIS User Strategy environment

The user strategy is the provision of a scientific benefit in terms of services, assistance, knowledge and support, which ACTRIS can offer to users, in response to their needs, based on the technical capabilities of the CF and NF and in line with the overall ACTRIS mission.
The user strategy is a complex strategy made up of different components that have overall cohesion and consistency:

1. Service development strategy: Services are developed in response to user needs, as resulting from the user requirements analysis. Services should be attractive to and benefit a broad user community, also beyond the environmental domain enabling cross-sectoral research.
2. User engagement strategy: Establish a close relation between ACTRIS, its facilities and the users and shape, feed and maintain ongoing interactions between ACTRIS and the users, working co-operatively with the users so that they have a real influence over the services that are relevant for their research. It's about earning trust of users and retain them.
3. User experience strategy: Ensure that the overall user experience of ACTRIS (services, interactions, support, whatever) is positive, satisfactory, without pain points. It's about how to fulfil the users' goals and needs through ACTRIS work and task flows, while at the same fulfilling ACTRIS requirements and strategies.
4. User acquisition strategy: Deals with effectiveness in providing information and promoting the services, with the selection and adoption of the most suitable approach, messages and means to get new users to know ACTRIS services and decide to use them for their excellent science. The

communication effort is aimed at raising the ACTRIS services profile to users and will serve different purposes for different audiences, including national stakeholders, funders, other RIs, etc.

The first step in the user strategy development is getting to know the users and their needs, to broaden the current understanding of the ACTRIS users, their background, expectations and research needs as a prelude to a proper user strategy and service-oriented design. The second step is matching the user demand and the technical capabilities of the CF and NF. This matching happens within a specific area, which is defined by the ACTRIS mission.

ACTRIS Vision

ACTRIS is the fundamental European Research Infrastructure for short-lived atmospheric constituents increasing the excellence in Earth system observation and research, and providing information and knowledge for developing sustainable solutions to societal needs.

ACTRIS Mission

ACTRIS shall establish, operate, and develop a pan-European distributed research infrastructure for short-lived atmospheric constituents. ACTRIS shall provide effective access for a wide user community to its resources and services, in order to facilitate high-quality Earth system research.

User needs analysis

Knowledge about the user needs is a cornerstone of the overall user strategy development, which is based on a clear identification of the actual and potential user groups, their research interests, their demands and needs that evolve over time. A thorough inventory and subsequent analysis of the needs of the ACTRIS key user groups has to provide a clear roadmap for future service development and user-friendly organization of the access to services.

The periodic analysis of the user needs is a crucial activity to ensure that the development of the services and access provision system builds on a sound and up-to-date knowledge of the ACTRIS users, their background, expectations and research requirements. This will guarantee that access to ACTRIS services continues to answer user needs over the RI's lifespan thus contributing to the long-term sustainability of ACTRIS.

The user needs will be periodically investigated and analysed in a process that involves the following steps:

1. Identification of (new) user groups and uses of the need analysis
2. Description of the current service provision environment
3. Collect and identify needs through:
    - ACTRIS Science and User Access Forum
    - Surveys
        - Key user testimonials
        - User satisfaction (constantly monitored through feedback collected after access provision, see section 7.7 and specific workflow for feedback collection in Annex 3)
        - Training survey

- Group Procedures
  - Focus groups
  - Community meetings

4. Evaluate possible solutions to needs ascertained
   - Information gathered from service providers on their capability
   - State of the art of technology and science
   - For each possible solution identified analysis of:
     - Costs
     - Impact
     - Feasibility
5. Assess the importance of the needs, to establish priority based also on results at step 4
6. Report on the results and recommendations for action (communicated to ACTRIS ERIC governing bodies and decisions makers, users, and other audiences that may be relevant)

SAMU gives impulse and coordinates the entire user needs analysis process. The ACTRIS CF and NF interested in offering physical, remote or hybrid access, as well as the broader ACTRIS community, will be involved in the user needs analysis process with the support of the relevant ACTRIS HO Units (OPU, DEVU), especially in steps from 4 on, to discuss and agree on criteria and modalities of matching user needs and current ACTRIS technical capabilities.

ANNEX 2 – Management and updates of the ACTRIS Catalogue of Services

Clear roles and responsibilities required for effective service catalogue management are identified to ensure that the ACTRIS Catalogue always reflects and efficiently presents the ACTRIS offer of services, containing updated and accurate information on all services, operational or being prepared to be run operationally.

The following are identified and synthesized in Figure 2.1:

I. Strategic, uppermost roles:
   1. ACTRIS General Assembly, which ultimately decides on the ACTRIS user and service strategy also based on scientific opportunity and considering the resources (also financial) involved in the provision of services
   2. ACTRIS Director General, who oversees all the research infrastructure activities and ensures that the scientific and strategic development of ACTRIS meets the expectations on socio-economic impact, technology development and innovation
   3. ACTRIS RI Committee, which gives advice and recommendations on the alignment of the services to the ACTRIS overall strategy

II. Operational roles:
   4. SAMU, whose role is mainly operational but also strategic, since:
      a) as user strategy manager:
         - conducts user research to discover user needs
         - solicits and collects user feedback (see section the description on how and where feedback is processed) ensuring it is channelled to the right people to provide input for RI providers, RI Committee and ultimately the General Assembly (GA) for service development;
         - studies the user/provider experience of access to identify the pain points to be eased/removed to improve the access process
      b) as catalogue manager is solely responsible for:
         - maintaining the catalogue functionalities
         - managing the demand for catalogue changes
         - fostering stakeholder discussions

   5. Service Providers, who:
         - Provide clear and complete information on services in the Catalogue, based on the Catalogue format
         - Notify SAMU the need for possible updates, following updates/upgrades of the services
         - Together with SAMU identify the target key users to engage
         - Together with SAMU design the overall user experience including the right tags and labels for the services

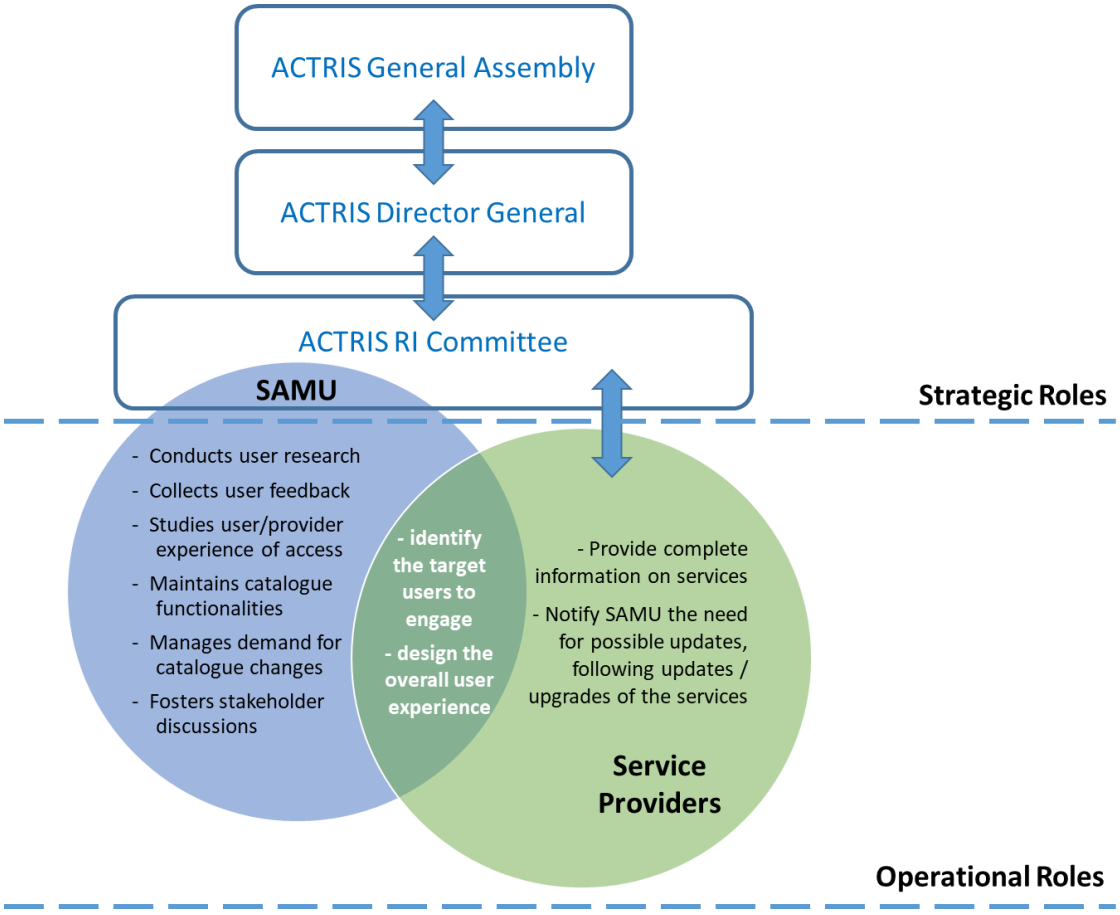

Figure 2.1 - Roles associated with the ACTRIS Catalogue of Services

Updates

The Catalogue of Services will be updated during the operation phase to follow developments in the ACTRIS services and keep up with evolving user needs. Updates can happen:

1) anytime, upon provider's request, in case of updates to the services already listed in the Catalogue and which have no impact on the cost of the service or represent a significant change in the content of the service provision,
2) following a special procedure, in case of new services to be included in the Catalogue upon the provider's initiative or as a result of the development process initiated by user feedback/request received and processed or new needs resulting from the periodic user need analysis.

ANNEX 3: ACCESS WORKFLOWS

A. Access documents preparation and management

Relevant rules, instructions and directions that the users need to know, abide by, follow to apply for and get access to ACTRIS are included in the official access documentation, which comprises among others:

- Guidelines for users/applicants
- Templates for requests/applications
- Terms of access
- Annual rolling call or dedicated calls (if any)
- Statement of Compliance with (relevant TCs) access requirements
- Terms Of Reference (TORs) for reviewers, as well as assessment tools
- TORs for user and access provider responsibilities and obligations,
- .....

The management of the Access Documents Management process (**ADM 1.0**) includes the activities required to prepare drafts, revise documents in force, receive needed input and feedback by relevant interested parties, issue and enforce the texts.

All key access actors are involved in the process of drafting, editing, reviewing and approving access documents, and participate collaboratively by completing different tasks according to their role:

a) the SAMU
b) the legal experts in the EMU of the HO
c) the CF/NF providers
d) the RI Committee

Details for this process can be seen in the figure and table that follow.

The ADM 1.0 workflow is illustrated in **Figure A.1**.

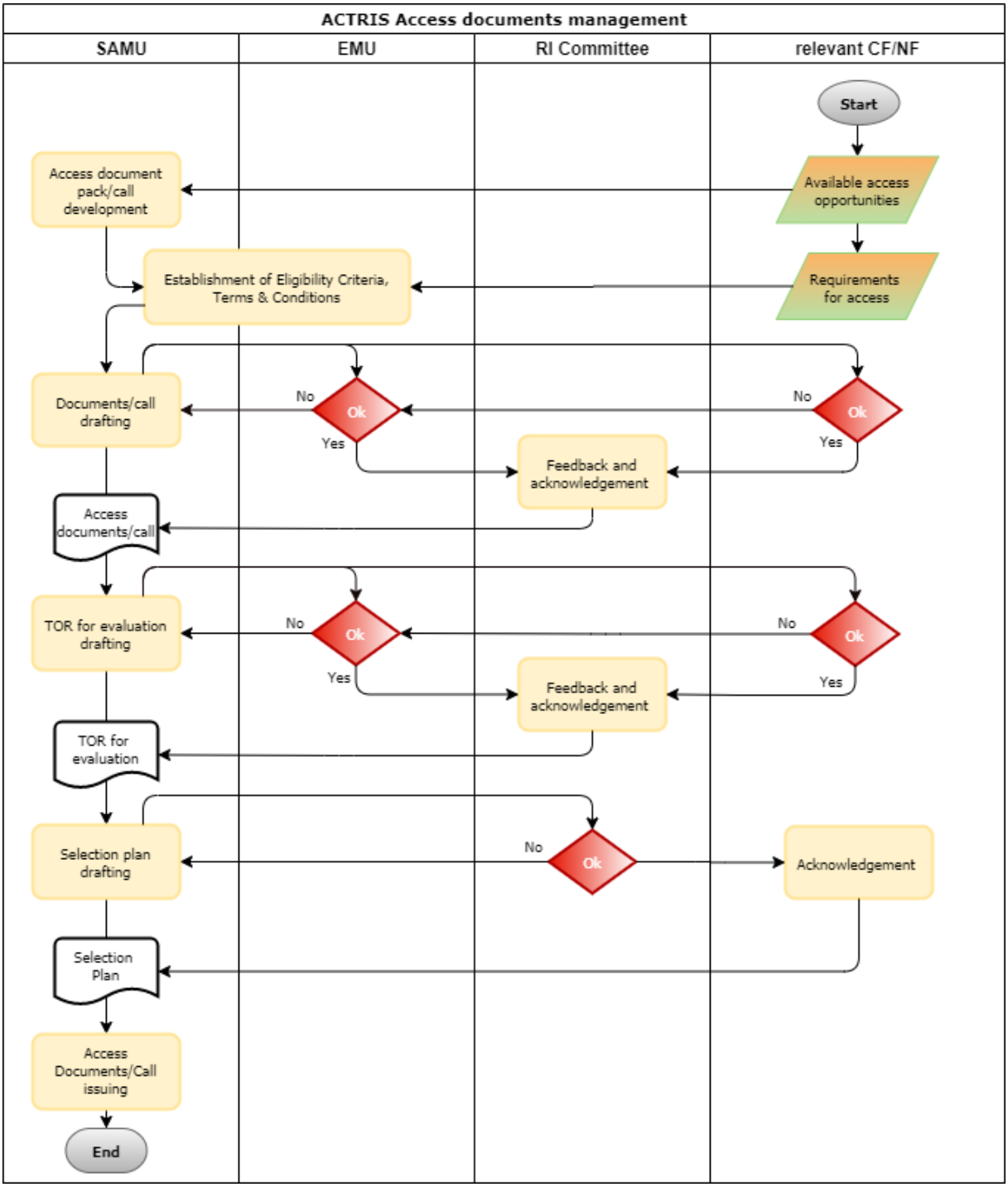

Figure A.1 - ACTRIS Access Documents Management – ADM workflow

ADM 1.0 process is explained in **Table 1**.

Activity ID	Type: Input (I) Task (T), Decision (D)	Description	Role
ADM - I 1.1	(I) Available access opportunities	Input to start the process is provided by the service provider that notifies the availability of (new) services open to physical/remote/hybrid access.	Relevant CF/NF providing services
ADM – T 1.1	(T) Access document pack/call development	Based on the input received, the development of relevant documents related to the access opportunity available starts. Interested/concerned actors are notified and involved.	SAMU
ADM - I 1.2	(I) Requirements for access	Input for a proper establishment of access rules and instructions comes from the service providers that notify their particular requirements.	Relevant CF/NF providing services
ADM - T 1.2	(T) Establishment of eligibility criteria/Terms & Conditions	Specific eligibility criteria as well as particular rules, terms of access and conditions to be met are defined in cooperation with relevant actors.	1) SAMU and OPU (task) 2) Relevant CF/NF providing services (input)
ADM - T 1.3	(T) Access documents/ Call drafting	Drafts of all relevant documents needed for accessing the service are prepared (requirements, guidelines for users, templates, etc.).	SAMU
ADM –D 1.1	(D) Is it OK?	Initially, it has to be determined whether the drafts for the access documents/call need revision or can be approved. If yes, documents are notified to the RI Committee. If no, the drafts go back for review and amendments.	1) Relevant CF/NF providing services approve, then 2) EMU legal experts give green light from the legal point of view
ADM – T 1.4	(T) Feedback and acknowledgement	Access documents that received the green lights from the service providers and the legal experts in EMU are notified to the RI Committee to receive feedback and approval before finalization and release.	RI Committee

ADM - T 1.5	(T) TOR for evaluation drafting	Terms of reference for the evaluation are prepared. In case of specific calls, TORs are prepared while the call is open and are finalized before the call formal closure. TORs serve to brief experts on the evaluation processes and procedures (including selection and award criteria) and on the terms of their work (e.g. confidentiality, impartiality, conflicts of interest, etc.).	SAMU
ADM - D 1.2	(D) Is it OK?	Determination on whether the drafted TORs needs revision or can be approved. If yes, TORs are notified to the RI Committee. If no, the draft goes back for review and amendments.	1) Relevant CF/NF providing services approve, then 2) EMU legal experts give green light from the legal point of view
ADM - T 1.6	(T) Feedback and acknowledgement	TORs that received the green lights from the service providers and the legal experts in EMU are notified to the RI Committee to receive feedback and approval before finalization and release.	RI Committee
ADM - T 1.7	(T) Selection plan drafting	A complete plan to guide the selection, establishing and attributing tasks, setting related deadlines to complete selection is drafted. In case of specific calls, the selection plan is prepared while the call is open and finalized before its closure.	SAMU
ADM - D 1.3	(D) Is it OK?	Determination on whether the drafted selection plan needs revision or can be approved. If yes, the plan is notified to the service providers. If no, the draft goes back for review and amendments.	RI Committee
ADM - T 1.8	(T) Acknowledgement	Relevant service providers acknowledge the plan and the timelines established.	Relevant CF/NF providing services
ADM - T	(T) Access	Access documents/calls are finalized,	SAMU

1.9	Documents/Call issuing	released, and issued.	

Table 1 - ACTRIS Access Documents Management – ADM

B. Access Requests/applications Receiving

The Access Request/application Receiving process (**ARR 1.0**) starts when, after proper advertising of access opportunities/calls, a user connects to SAMU and uses the ACTRIS PASS to request additional information/support for accessing a particular service or just to log an appropriate Service Request.

A Service Request submitted by the user can be:

- a request for an existing service item in the ACTRIS Catalogue of Services, or
- an access proposal following a dedicated (standard or rolling) call for access launched by SAMU and the HO
- a request for a new, tailored service (the workflow and sub-process description for this particular case is included in C).

The process includes all activities to inform and support users till the request is received and logged or, in case of calls, until the possible call is closed and the requests are submitted by the given deadline.

Direct interactions between users and service providers on technical/ scientific issues happen in this stage of the access process, with the supervision of SAMU, to help the user understand the service and the possibilities that are offered to him and consequently present a suitable request/application.

Main actors involved in the ARR 1.0 process, with different roles depending on the specific task, are:

a) the SAMU
b) the DEVU/HO
c) the user
d) the relevant ACTRIS NF or CF providing the relevant service

Details for this process can be seen in the figure and table that follow.

The **ARR 1.0** workflow is illustrated in **Figure B.1**

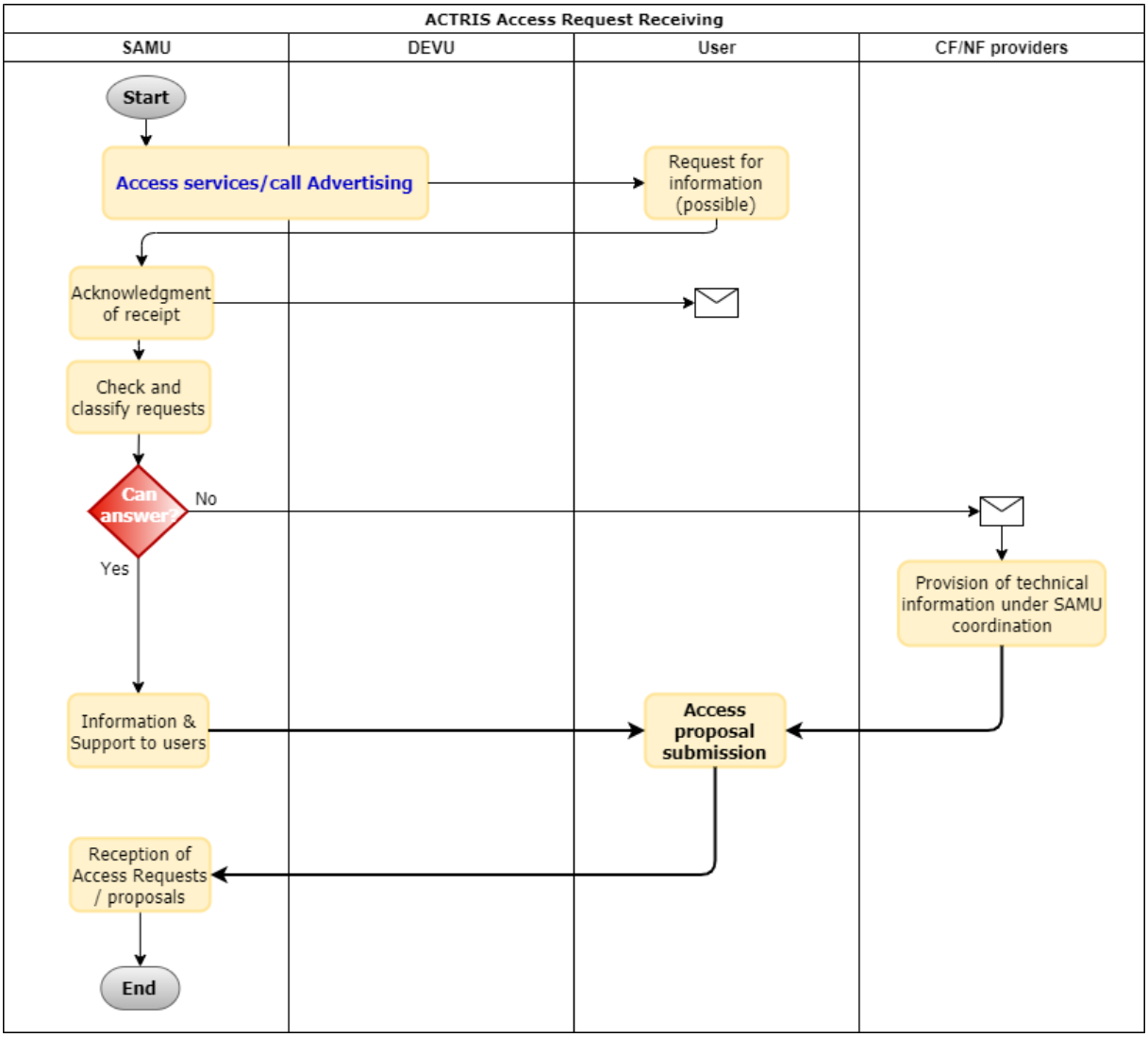

Figure B.1 - ACTRIS Access Requests Receiving – ARR workflow

The ARR 1.0 process is described in **Table 2**.

Activity ID	Type: Input (I) Task (T), Decision (D)	Description	Role
ARR - T 1.1	(T) Access services/call advertising	Opportunities to access services of the ACTRIS CF/NFs are promoted widely using all suitable communication channels to reach all possible interested users to the greatest extent	DEVU, SAMU
ARR - T 1.2	(T) Request for information	Browsing in the Catalogue of Services, or following the publication and advertising of a call, users may file a request for	User

		specific information regarding the access opportunity or the call practicalities	
ARR - T 1.3	Acknowledgement of receipt	Upon reception of a request from a user SAMU sends the user an email confirming receipt of the request (automatically via PASS, using a template email)	SAMU
ARR - T 1.4	Check and classification of requests for info	Requests coming from users are received, sorted, filtered and analysed for further processing	SAMU
ARR - D 1.1	(D) Can answer directly?	Determination on whether the information can be provided directly or not as additional steps are needed. If yes, ARR – T 1.5 follows and the information is provided directly. If no, ARR – T 1.6 follows and the request is transferred for proper processing	SAMU
ARR - T 1.5	Information and support to users	Users are provided with the needed information on details of the access process, templates, guidelines, etc.	SAMU
ARR - T 1.6	Provision of technical information	When a request for information concerns technical aspects and cannot be answered directly, it is transferred to service providers for fulfilment. All exchanges between users and service providers are supervised and coordinated by SAMU	1) service providers fulfil the information request 2) SAMU supervises and coordinates
ARR - T 1.7	Access request/ proposal submission	Upon receiving the needed additional information on the access opportunities, the users place a formal request for access via the ACTRIS PASS. The submission of the access request/ proposal by the user ends the ARR 1.0 process and opens the ARP 1.0 process in case no previous exchanges happen before the submission.	User

Table 2 - ACTRIS Access Request Receiving – ARR

C. Tailored services request management

Requests to access tailored services can be placed by users to SAMU or can come through the DEVU of the HO, for example in case of a specific request from a Copernicus service or an international network, organization, stakeholder.

In both cases SAMU receives the requests, makes an initial appraisal of it and involves the OPU to decide how to better deal with the request and which Facility/ies to involve.

The identified Facilities assess the request for feasibility and start to study how to meet the user need and how to tailor a service on demand. Especially in case of private users, but not only, the financial and legal implications are analysed by the EMU and this could lead to negotiations with users on possible fees and IPR issues.

The approval of the new, tailored service project leads to the development and testing of the service, then its provision. In some cases, it could also result in a possible update[12] of the Catalogue of Services with the inclusion of the new service.

The process of managing requests for tailored services (TSR 1.0) involves several actors, with different roles depending on the specific task:

a) the user
b) the SAMU
c) the DEVU
d) the OPU
e) the relevant ACTRIS NF or CF providing the service
f) the RI Committee
g) the EMU financial and legal experts

The complete workflow and interactions involved in the management of requests for tailored services are described in **Figure C.1**.

[12] This update can happen in between the scheduled, regular updates of the Catalogue of Services.

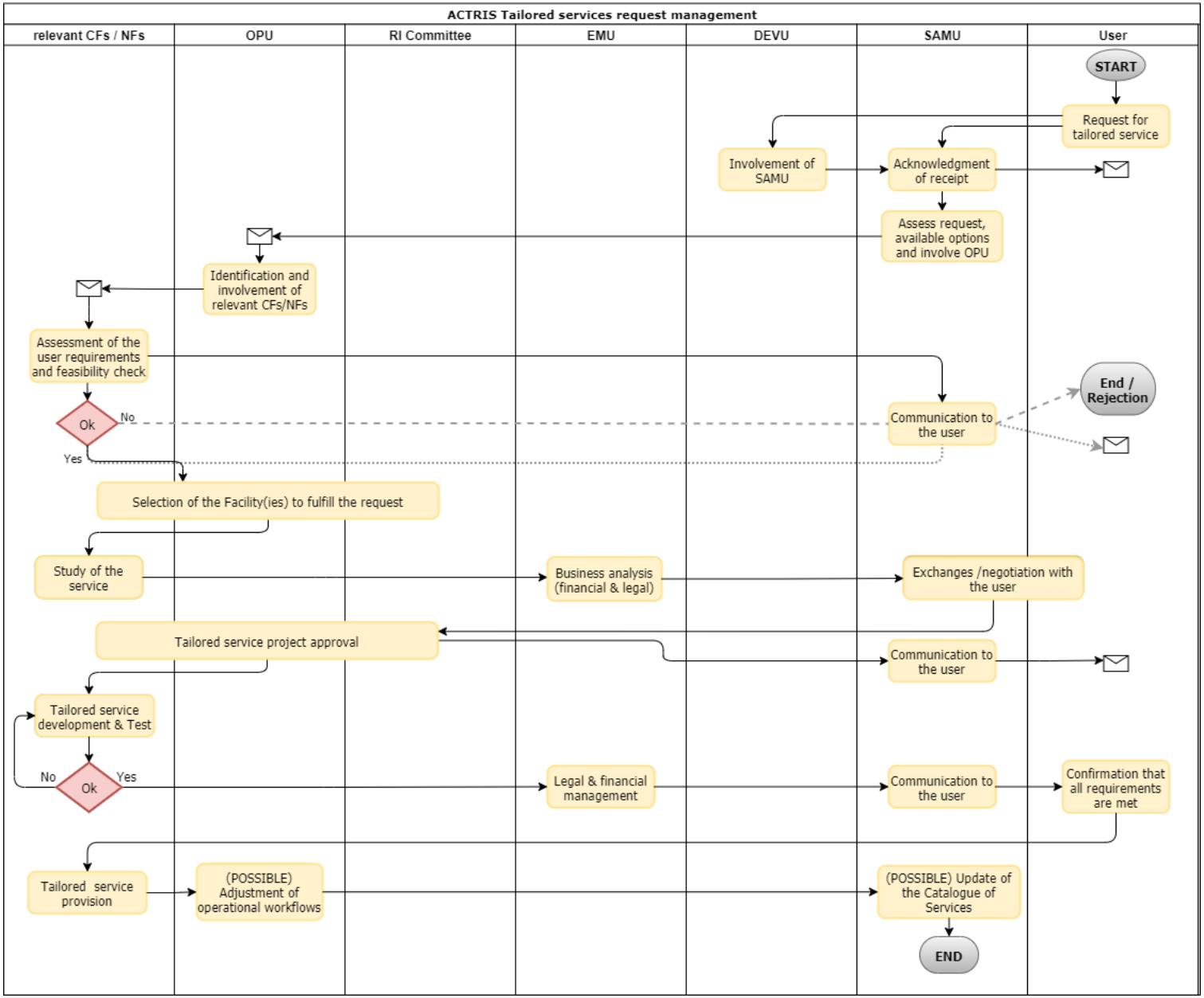
ACTRIS Tailored services request management
relevant CFs / NFs
OPU
RI Committee
EMU
DEVU
SAMU
User
START
Request for tailored service
Involvement of SAMU
Acknowledgment of receipt
Assess request, available options and involve OPU
Identification and involvement of relevant CFs/NFs
Assessment of the user requirements and feasibility check
Ok
No
Yes
Communication to the user
End / Rejection
Selection of the Facility(ies) to fulfill the request
Study of the service
Business analysis (financial & legal)
Exchanges /negotiation with the user
Tailored service project approval
Communication to the user
Tailored service development & Test
No
Ok
Yes
Legal & financial management
Communication to the user
Confirmation that all requirements are met
Tailored service provision
(POSSIBLE) Adjustment of operational workflows
(POSSIBLE) Update of the Catalogue of Services
END

Figure C.1 – ACTRIS Tailored Services Request management – TSR workflow

The TSR 1.0 process is described in **Table 3**

Activity ID	Type: Input (I) Task (T), Decision (D)	Description	Role
TSR - T 1.1	(T) Request for tailored service	To satisfy a particular scientific or technical need that cannot be met by available ACTRIS services in their current configuration, users can submit requests for tailored services to SAMU or, in case of an international network or organization, to the DEVU.	User
TSR - T 1.2	(T) Involvement of SAMU	When the request is received by the DEVU, SAMU is informed and involved.	DEVU
TSR - T 1.3	(T) Acknowledgment of receipt	Upon reception of a request for tailored services, SAMU sends the user an email confirming receipt (also automatically via PASS, using a template email)	SAMU
TSR - T 1.4	(T) Assessment of the request and possible options	The request is received by SAMU, registered and assessed. Possible options for dealing with the request are considered. OPU unit is involved.	SAMU
TSR - T 1.5	(T) Identification and involvement of relevant CFs/NFs	OPU cooperates in the identification and involvement of the CFs/NFs that can, in case, design and provide the tailored service.	OPU
TSR - T 1.6	(T) Assessment of the user requirements and feasibility check	The identified CFs/NFs analyze the request and assess its scientific and technical feasibility based on the available knowledge, competences and resources.	Relevant CFs/NFs
TSR - D 1.1	(D) Is it feasible?	Determination on whether the service can be tailored and provided. If no, the request is rejected. If yes, the request follows proper processing.	Relevant CFs/NFs
TSR - T 1.7	(T) Communication to the user	Communication is done to the user to inform whether: - that his request for tailored service cannot be satisfied given the current	SAMU

		capabilities/availabilities; or - that the request can be worked out, with details and possible timing of the customization.	
TSR - T 1.8	(T) Selection of the facility(ies) to fulfill the request	In case different facilities found it feasible to provide the tailored service, the OPU and the concerned facilities make a joint decision (involving in case the RI Committee) on which is the most suitable.	OPU RI Committee
TSR - T 1.9	(T) Study of the service	The CF/NF chosen to fulfil the request studies solutions to design and provide a service tailored to the specific user needs.	Relevant CF/NF
TSR - T 1.10	(T) Business analysis (financial and legal)	A financial and legal analysis is carried out in parallel to evaluate possible financial and legal implications of tailoring a service to particular user needs.	EMU (legal and financial experts)
TSR - T 1.11	(T) Exchanges and negotiation with the user	Results of the study of the tailored service and the business analysis are communicated to the user. Exchanges and negotiations regarding terms of provision start.	SAMU
TSR – T 1.12	(T) Tailored service project approval	Once all the terms of the tailored service provision (including possible dedicated operation support needed for the new service) are clear to all involved parties and agreed, the project can be approved.	RI Committee EMU OPU Relevant CF/NF
TSR – T 1.13	(T) Communication to the user	Communication is done to the user to inform that the tailored service project is approved and it is about to start.	SAMU
TSR – T 1.14	(T) Tailored service development and test	The tailored service is developed following design and the project. In case operational support from a TC is needed, it is provided. The new, tailored service is preliminarily tested to assess its effectiveness.	Relevant CF/NF
TSR – D 1.2	(D) Are results of the test positive?	Determination on whether the tailored service is effective and can be provided. If no, further development and	Relevant CF/NF

		adjustment work is needed If yes, TSR – T 1.15 follows for proper processing.	
TSR – T 1.15	(T) Legal and financial management	Possible legal and financial issues, if any, are managed	EMU financial and legal experts
TSR – T 1.16	(T) Communication to the user	Communication is done to the user to inform that the tailored service has been tested and can be provided at the agreed terms.	SAMU
TSR – T 1.17	(T) Confirmation that all requirements are met	The user confirms that the tailored service is expected to fulfil his needs	User
TSR – T 1.18	(T) Tailored service provision	The studied and tailored service is actually provided to the user that requested	Relevant CF/NF
TSR – T 1.19	Possible (T) Adjustment of operational workflows	In case, and if needed, operational workflows are adjusted to accommodate the new tailored service	OPU
TSR – T 1.20	Possible (T) Update of the Catalogue of Service	In case, the new, tailored service can be included in the service portfolio of ACTRIS and become available for all users	SAMU

Table 3 - ACTRIS Tailored Service Request management - TSR

D. Access Requests/applications Processing

The workflow for the user Access Requests/applications Processing (**ARP 1.0**) includes the activities required to record and organize the access proposals received, check proposals for eligibility and feasibility, carry out selection based on the relevant access mode. Should more details and clarifications be needed, the user is contacted to complete the information for the access proposal, before its final approval or rejection.

Main actors involved in the process, with different roles depending on the specific task, are:

a) the user
b) the SAMU
c) the EMU
d) the OPU
e) the relevant ACTRIS NF or CF providing the requested service
f) the Evaluation Panel

Details for this process can be seen in the figure and table that follow.

Figure D.1 illustrates the complete ARP 1.0 workflow, from the eligibility check through the feasibility check, to the establishment of the suitable selection panel, the coordination of the panel's works and the finalization of selection.

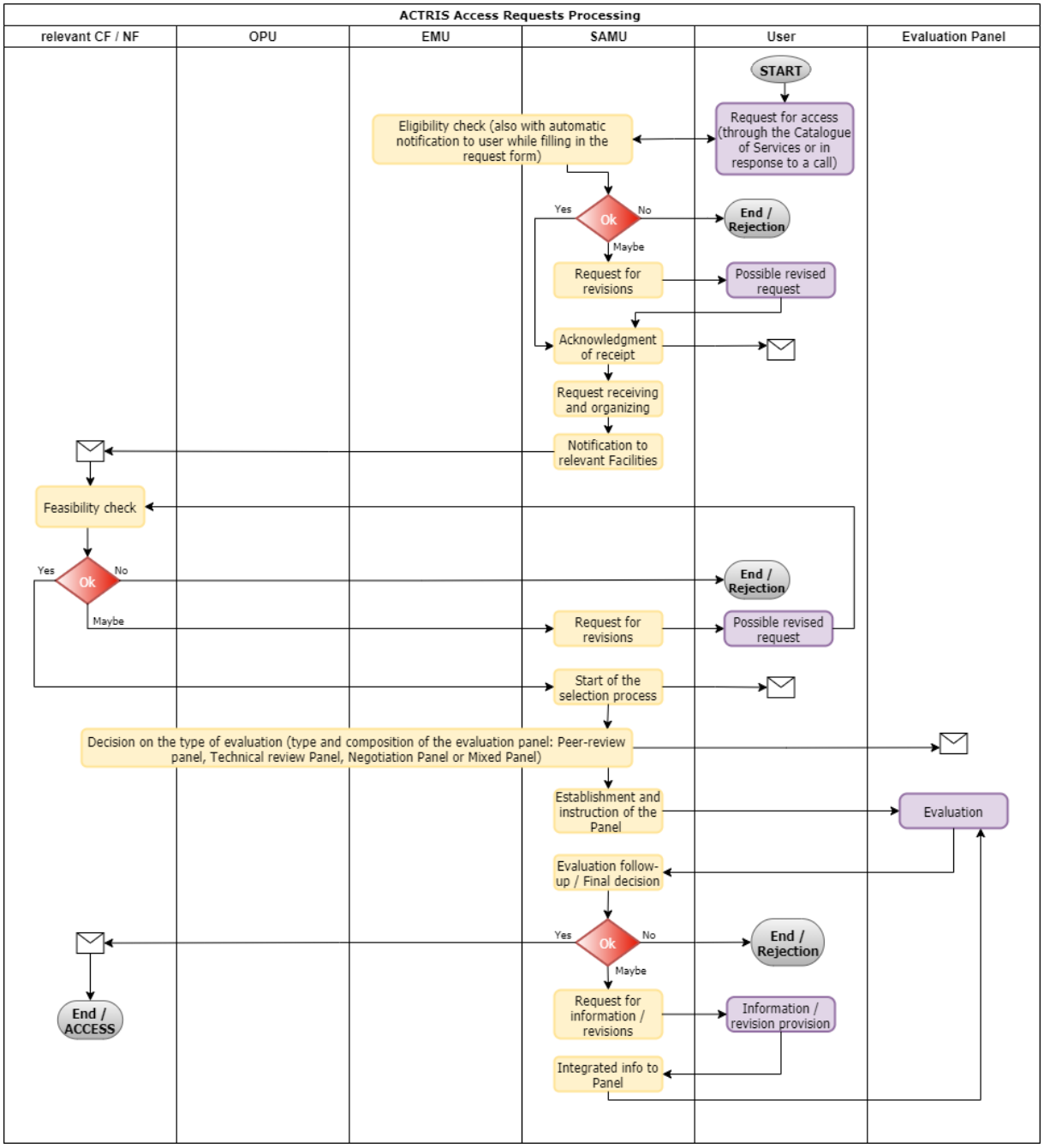

Figure D.1 - Access Requests Processing – ARP workflow

The ARP 1.0 process is described in **Table 4**.

Activity ID	Type: Input (I) Task (T), Decision (D)	Description	Role
ARP - T 1.1	(T) Request for	The process starts when a user formally places an access request/proposal through the	User

(ARR - T 1.7)	access	Catalogue of Services or in response to a call and within its deadline. Proposals come in via the PASS online platform for access management.	
ARP - T 1.2	(T) Eligibility check	The access request/proposal is automatically checked via the PASS to ascertain that it meets the conditions set in the relevant access documentation, which includes, in case of EU funded TNAs, the relevant EU rules and regulations on TNAs. Users are notified in real time while compiling the request form. If yes, the request/proposal is correctly placed in the system and ARP - T 1.5 follows. If no, the request/proposal is rejected and communication is done to the user If the proposal can be reviewed to be eligible, ARP - T 1.3 follows and SAMU contacts the users.	SAMU EMU financial and legal experts
ARP - T 1.3	(T) Request for revisions (possible)	If revisions are needed to make the proposal eligible, users are given details and asked to provide what needed by a fixed deadline.	SAMU
ARP - T 1.4	(T) Revised request (possible)	The users revise the request to make it eligible and send it to SAMU again within the assigned deadline.	Users
ARP - T 1.5	(T) Acknowledgment of receipt	Upon reception of an eligible request from a user, SAMU sends the user an email confirming receipt (automatically via PASS, using a template email)	SAMU
ARP - T 1.6	(T) Request receiving and organizing	All requests received are properly recorded, with all relevant information registered so that a full historical record is maintained, then grouped by topic.	SAMU
ARP - T 1.7	(T) Notification to relevant Facilities	Facilities providing the requested services are notified the requests, the start of the feasibility phase of review, and are assigned a deadline to complete the task.	SAMU
ARP - T 1.8	(T) Feasibility check	The access request/proposal is checked to ascertain its scientific, technical and logistical feasibility and if it fits (for the proposed timing and requirements) in the relevant provider's	Relevant CF/NF provider

		availability, schedule and plans. If yes, ARP - T 1.11 follows and the proposal transits to selection If no, the proposal is rejected and communication is done to the user. If the proposal can be reviewed to be feasible, ARP – T 1.9 follows and SAMU contacts the users to request the revisions.	
ARP - T 1.9	Request for revisions (possible)	If revisions are needed to make the proposal feasible, users are given details and asked to provide what needed by a fixed deadline.	SAMU
ARP - T 1.10	Revised request (possible)	The users revise the request to make it feasible and send it to SAMU again within the assigned deadline.	User
ARP - T 1.11	(T) Start of the selection procedure	Feasible access requests/proposals are organized and users are notified the start of the selection. Details on the steps of the process and its expected timing are also provided to users.	SAMU
ARP - T 1.12	(T) Determination of the type of evaluation	SAMU determines the type of evaluation (excellence-driven, technical/training need-driven, market-driven, mixed) based on the type of service requested and the user. The decision influences the composition of the evaluation panel and the criteria to be adopted. Access requests concerning both excellent research, technical merit and market considerations are adequately dealt with, and are subject to a mixed, multi-criteria selection by mixed selection panels with the necessary expertise. Possible experts identified for the evaluation are contacted to ascertain their availability to perform the evaluation.	SAMU
ARP - T 1.13	(T) Establishment and instruction of the review panel	The decided selection panel is convened and briefed on: ● the evaluation procedures (including selection modes and award criteria) ● the timing and terms of their work (e.g.	SAMU

		confidentiality, impartiality, conflicts of interest, completing and approving reports, etc.) ● the possibility and scope for recommending improvements to access requests/proposals, with the consequent opportunity to evaluate their potential, should certain changes be made.	
ARP - T 1.14	Evaluation	Access requests/proposals are evaluated according to the defined criteria and access modes (scientific excellence criteria, technical need-driven and training need-driven criteria, market-driven aspects or a suitable mix of them). Access requests/proposals are assigned to expert evaluators based on their topic and the expertise required for a proper evaluation. The experts work individually first and make the first assessment, giving personal scores for each criterion. A Rapporteur is chosen to provide a review summary with final recommendations about acceptance of the access request. Where needed, a panel of experts meets remotely as selection panel and reaches an agreement on the ranks and comments for all proposals. Experts eventually ask SAMU to request additional information from users.	Selection panel
ARP - T 1.15	Evaluation follow up	Outcomes of the evaluation are communicated to the concerned CF/NF provider and the users. If results are positive, then the access is granted and provided at the arranged time, or following new arrangements between the users and the provider, under SAMU supervision and coordination. If results could be positive but further adjustments are needed, ARP – T 1.16 follows and SAMU contacts the users. If results are negative, then the request/proposal is rejected, the users are notified of the rejection and provided with an	SAMU

		evaluation report for due information including reviewers' comments.	
ARP - T 1.16	Request for information / revisions	If additional information or revisions are requested by the experts, users are given details and asked to provide what needed by a fixed deadline.	SAMU
ARP - T 1.17	Information / revision provision	Upon specific request, users provide SAMU with the additional information or revisions needed for a positive conclusion of the selection.	User
ARP - T 1.18	Transmission of additional information / revisions	Additional information or revisions required to complete the assessment are transferred to the panel for proper evaluation and follow-up as per ARP - T 1.14 till final evaluation and end of the process with access granted or rejected.	SAMU

Table 4 - ACTRIS Access Request Processing - ARP

E. User feedback collection and processing

The user feedback collection and processing process (**UFP 1.0**) includes the activities required to collect the feedback of users and service providers, to analyse comments and opinions received in order to take solid action to enhance the access process or the service and its provision. The process is the key basis for the continuous improvement of ACTRIS services.

Main actors involved, with different roles depending on the specific task, are:

a) the SAMU
b) the User/ACTRIS community
c) the EMU
d) the OPU
e) the DEVU
f) the relevant ACTRIS CF providing the service
g) the relevant ACTRIS NF
h) the RI Committee

Details for this process can be seen in the figure and table that follow.

The UFP 1.0 workflow is illustrated in **Figure E.1** below.

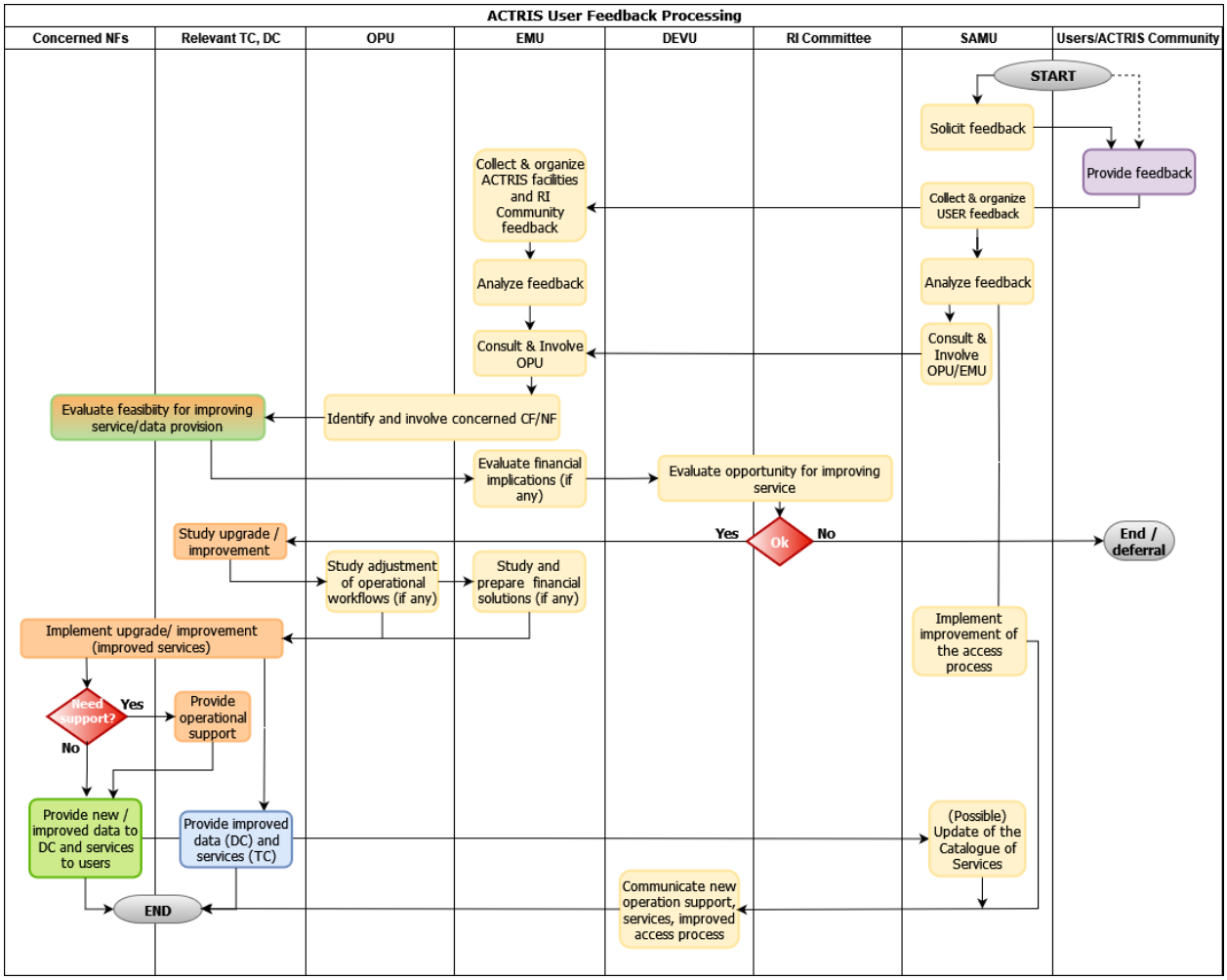

Figure E.1 - User Feedback Processing – UFP workflow

The UFP 1.0 process is explained in **Table 5**.

Activity ID	Type: Input (I) Task (T), Decision (ID)	Description	Role
UFP - T 1.1	(T) Feedback solicitation	The process starts with feedback solicited from users as well as from CF/NF providers, to get complete information needed to ascertain whether the service fulfils the user expectations and needs, and its provision is smooth and painless. Feedback is also requested on the overall process to get the access.	SAMU
UFP - T	(T) Feedback	Opinions, comments, suggestions and remarks on the access (both the services	Users

1.2	provision	and the process) are provided upon solicitation or spontaneously via online satisfaction survey, other tools in the online platform or via email.	CF/NF providers
UFP - T 1.3	(T) User feedback collection and organization	Feedback received from users is properly recorded, with all relevant information registered so that a full historical record is maintained, then organized by category of user, access topic and feedback theme (service issues, access experience issues, support issues, etc.).	SAMU
UFP - T 1.4	(T) ACTRIS facilities and RI community feedback collection and organization	Feedback received from the ACTRIS Community is properly recorded, with all relevant information registered so that a full historical record is maintained, then organized.	EMU
UFP - T 1.5	(T) User feedback analysis	Main points / issues / appreciations / criticism are derived from each piece of user feedback, listed and ranked by relevance and urgency (feedback coding). If the feedback regards the access process (request submission, evaluation steps, tools/PASS), UFP - T 1.16 follows and SAMU takes care of following up on the feedback. In other cases, UFP – T 1.7 follows and relevant actors are involved to ensure proper follow-up.	SAMU
UFP - T 1.6	(T) ACTRIS facilities and RI community feedback analysis	Main points / issues / appreciations / criticism are derived from each piece of received feedback, listed and ranked by relevance and urgency (feedback coding).	EMU
UFP - T 1.7	(T) Consult and involve OPU and EMU	Based on the content and code of the user feedback, OPU and EMU units of the HO are consulted and involved for proper processing.	SAMU
UFP - T 1.8	(T) Consult and involve OPU	Based on the content and code of the ACTRIS community feedback, the OPU is consulted and involved for proper processing.	EMU
UFP - T	(T) Identify and	The CF/NFs concerned by the feedback are	OPU

1.9	involve concerned CF/NF	identified and involved to study possible solutions.	EMU
UFP - T 1.10	Evaluate feasibility for improving service / data provision	The CF/NF acknowledges the feedback concerning the content/quality of services provided and/or the service provision at the facility. The facility considers how to possibly follow-up, evaluating the feasibility of different options to improve the service provision considering their technical and financial viability.	CF/NF providers
UFP - T 1.11	(T) Evaluate financial implications	Possible financial implications of reviewing/improving a service to follow up the feedback are analysed.	EMU (financial experts)
UFP - T 1.12	Evaluate opportunity for improving service	Based on considerations regarding feasibility, financial implications and future strategic developments, the convenience of introducing an improvement is evaluated. If yes, UFP – T 1.13 follows and feedback is followed up. If no, opportunity to follow up is discarded or deferred, for the moment.	DEVU RI Committee
UFP - T 1.13	(T) Study upgrade / improvement	Needed improvements are studied and designed. Complete analysis of what they require to be implemented is carried out, also in terms of possible operational support needed.	CF/NF providers
UFP - T 1.14	(T) Study adjustment of operational workflows (if any)	In case, and if needed, operational workflows are adjusted to accommodate the operations for the improved services.	OPU, SAMU (for the access process)
UFP – T 1.15	(T) Study and prepare financial solutions	In case, and if needed, solutions to manage the financial implications of the service improvement are studied and implemented.	EMU
UFP - T 1.16	(T) Implement upgrade/ improvements	Where the feedback concerns the access process, SAMU studies and implements all possible solutions to improve the process and/or upgrade the tools in use.	SAMU
UFP - T 1.17	(T) Implement upgrade/ improvements	Facilities take actions to improve the content/quality of services and/or the provisioning process.	Relevant NF, TC, DC

UFP – D 1.1	(D) Need support?	Determination whether the concerned NF needs operational support to implement improvement of the data/services provision. If yes, UFP – T 1.18 follows. If no, UFP – T 1.8 follows.	Relevant NF
UFP - T 1.18	Provide operational support to NF for upgrade	Where needed, the relevant TC provides operational support to the NF concerned by the service upgrade/improvement.	Relevant TC, DC
UFP - T 1.19	Provide improved data to DC and service to users	Concerned NF implements the changes and starts provision of improved data to DC and services to users.	Relevant NF
UFP - T 1.20	Provide improved data (DC) and services to users (TCs)	Upon reception of the new, improved data, from the concerned NF, the DC starts provision of these data. After implementation, the TCs start providing the upgraded service/new service.	Relevant TC, DC
UFP - T 1.21	(T) Possible update of the Catalogue of Service	Where deemed convenient, an update of the Catalogue of Services is made to include improvements in the services or new services that result from the improvement.	SAMU
UFP – T 1.22	(T) Communicate new operation support / service	Improvements of services and operation support is communicated to users and all possible interested parties	DEVU

Table 5 - ACTRIS User Feedback Processing – UFP

Access General Evaluation Guidelines

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1. Introduction

This document provides the general guidelines for evaluating and selecting proposals of access to ACTRIS Facilities. The guidelines were prepared by the Service and Access Management Unit (SAMU) of the Aerosol, Clouds and Trace Gases Research Infrastructure (ACTRIS), drawing from activities, documents and experiences of TNA calls management in the projects ACTRIS is involved in, and adapting the content to fit ACTRIS general access scheme.

The document describes the selection process, inputs and outputs, the general criteria, and the responsibilities of the people participating in the process. It is especially meant to guide experts of the Panel of Access Reviewers in performing the fair merit review of user access proposals and to provide complete and transparent information to applicants on the selection process.

2. Access Evaluation Process

Successful user access 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 SAMU. In case of access funded by EU projects the eligibility conditions set out for the Transnational Access (TA) in the relevant EU programme regulations apply, regarding, for instance, user affiliation and dissemination of results[13].

Additional eligibility criteria can be introduced to complement/substitute the EU funding program's criteria, based on the specific requirements of the actionable funding source, and the objectives of the access calls/opportunity opening.

If revisions are needed to make the proposal eligible, the user group leader is given details and asked to provide what is 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/access.

[13] 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. Other critical criteria is 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 organizations, an ERIC, the EC Joint Research Centre,) but it seems to be no longer relevant to ACTRIS after the ERIC establishment.

2.2 Feasibility check

The feasibility check aims to ascertain/confirm that the access requests can be dealt with successfully by the service provider at the relevant ACTRIS Facility, 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 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 access opportunity dissemination.

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 SAMU 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 access selection

The merit review and selection phase opens only for access proposals whose feasibility is confirmed by the service provider. Each proposal is evaluated by an ad-hoc panel composed maximum of three experts from the Panel of Access Reviewers (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 can be chosen[14] among the three to draw up a summary of the individual assessments.

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[15], giving marks and completing synthetic individual assessment reports.

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 consensus meeting is directly arranged within the ad-hoc panel, if necessary.

Finally, recommendations for selection are notified to the SAMU.

The SAMU prepares the final list of access proposals recommended for selection by reviewers, applying, where needed, the agreed priorities following principles set in section 4.5. Depending on the number and complexity of access requests and available funding, a consensus meeting may be necessary for the final selection of proposals, organized by SAMU and involving relevant ACTRIS representatives.

[14] By the SAMU at the moment of establishing the ad-hoc panel (see next section **Error! R eference source not found.**) and based on the independence criterion.

[15] Further specific criteria can be introduced to meet the particular objectives and types of the access opportunities available.

3. Roles and responsibilities

3.1 Panel of Access Reviewers

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

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

Composition, members profile, appointment, mandate and tasks of the panel members are described in detail in the Panel Terms of Reference. The board 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 Panel members serve in their personal and technical capacities and do not represent their employer, institution or any other entity.

2. The Panel members perform the assigned reviews in a confidential, impartial, fair, and equitable way.

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 access proposal assigned.

4. The Panel members must disclose to the SAMU 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. Panel members must not communicate and discuss the assigned access proposal with any other Panel member except those in the same ad-hoc panel established for review of the said proposal.

6. Unless foreseen by the procedure, the Panel members reviewing an access 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 Panel 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 Panel members must not disclose the results of the evaluation outcome.

3.2 Service providers

Service providers are responsible for the feasibility check of the access proposals that concern their Facility/installation, having to confirm the scientific, technical and logistical viability of the access 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 access 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 access 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 SAMU.

3.3 Service and Access Management Unit - SAMU

The Service and Access Management Unit of the ACTRIS Head Office is the main interface between all key actors involved in the evaluation of access proposals (users, service providers, Panel of Access Reviewers members).
SAMU is responsible for organizing, coordinating and supervising the entire process, in particular for:

- Receiving all applications and performing the preliminary eligibility check
- Liaising with service 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
- Receiving the individual and summary evaluation reports, and the list of recommended access proposals
- Notifying users of any request from the reviewers as well as the final decision on the TNA to the selected users and relevant providers.

4. General merit review criteria

The general criteria for selecting users to any ACTRIS facilities stem from the EU Charter of access to research infrastructures, possible contractual and legal obligations under the Grant Agreement of project funding access, and acknowledge the different purposes of access. For this reason, the evaluation criteria vary according to the main characteristic of the requested access, considering:

- 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 0, 0 and 0 describe the evaluation criteria for each of the above categories of access. For each category, specific sets of evaluation criteria reflect the main evaluation issues that reviewers have to consider when examining the access proposals that fall under the category.

Each set of criteria has its own specified range of scores available for evaluating the criteria based on the level of achievement or performance demonstrated. That entails that different sections of the evaluation are 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.

4.1 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 3 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	0-10

	concepts. Potential of the research project to go beyond the state of the art and open new scientific, technological or scholarly horizons.	
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
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.	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
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 3 - Evaluation criteria for excellence-driven access

4.2 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 2 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 work 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 *4* - Evaluation criteria for market-driven access

4.3 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 3 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 5 - Evaluation criteria for technical need-driven access

4.4 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 6 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 the knowledge and expertise gained regularly? What 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 6 - Evaluation criteria for training need-driven access

4.5 Prioritization criteria

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

#	Prioritization criteria	Excellence-driven	Technical need-driven	Market-driven
1	Collaboration and access to new Users, considering in particular: a. users working in countries where no equivalent research infrastructure exists b. users from new/relevant regions or less-favored regions	X	X	X

	c. users from non-academic / non-atmospheric domains.			
2	Gender balance	X	X	X
3	Novel or unconventional access approaches	X	X	X
4	X-disciplinarity	X		
5	Involvement of students / young scientists	X	X	
6	Potential for seeding links with industry and innovation	X		
7	Likelihood of developing a new successful technology/product with market potential			X

Table 7 - Prioritization criteria

Establishment of the ACTRIS Panel of Access Reviewers and related Terms Of Reference (ToR)

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1. Introduction

This document describes the activities for establishing the Panel of Access Reviewers for the Aerosol, Clouds and Trace Gases Research Infrastructure (ACTRIS) and provides the general Terms of Reference of the Panel.

The document was prepared by the Service and Access Management Unit (SAMU) of the ACTRIS Head Office, drawing from activities and documents the SAMU took care of to form the Access Evaluation Panel for the review of the TransNational Access (TNA) proposals within the ATMO-ACCESS project[16].

Building from experience gained and adapting the materials used within the ATMO-ACCESS project to fit the general ACTRIS access scheme, this document describes all steps in setting up the Panel, starting from the identification of suitable reviewers, invitation to join the Panel, to the nomination of members.

Complete and basic terms of the Panel members' engagement as reviewers for the access requests to access the ACTRIS Facilities are also defined and provided.

2. Establishment of the ACTRIS Panel of Access Reviewers

The review of access proposals from users is entrusted to members of a Panel of Access Reviewers. The Panel is a large pool of experts having diverse expertise and experience in the relevant fields from which evaluators are drawn to serve on review panels for the single proposals.

The SAMU coordinates the process for establishing the Panel with the support of other units of the ACTRIS Head Office, in particular, the Development and Relations Unit (DEVU) for what concerns the communication, and the Eric Management Unit (EMU) for the possible legal aspects.
The main steps in the process for forming the Panel of Access Reviewers are:

1. **Sketching of the access reviewer profile**: A description of the ideal reviewer (see section 2.1) answers the need to ensure clarity around what expertise, competence and background ACTRIS is seeking from reviewers as required for a proper evaluation and selection of the proposal of access to ACTRIS facilities.

2. **Defining the Panel's Terms of Reference**: a specific Terms of Reference (ToR) for the Panel of Access Reviewers need to detail the reviewer task, roles, responsibilities and also incentives/rewards for reviewers (see section 3). ToR serves to inform candidate/invited experts of the effort required of them and the terms of work (e.g., confidentiality, impartiality, conflicts of interest, etc.).

3. **Outreach and identification of suitable experts**: this phase, described in detail in section 2.2, is crucial to ensure widest possible membership of the Panel.

4. **Invitation to join the Panel**: suitable experts identified need to be contacted and officially invited to join the Panel, accepting the ToRs and all Panel membership conditions.

[16] 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.

5. **Panel members' appointment**: the invited experts who have accepted to become members of the Panel of Access Reviewers will be officially nominated by the ACTRIS General Assembly.

2.1. Sketching the Access reviewer profile

A suitable experts profile describes the knowledge, expertise and competencies required to perform the role of reviewers for user proposals to access an ACTRIS Facility. It is a crucial to have:

a. For ACTRIS, because it gives SAMU a much better chance of attracting, and subsequently enrolling, talented professionals to guarantee selection of access based on expert and impartial evaluation.
b. For potential reviewers, because it clearly and concisely enables them to realize what is required of experts for the role, as well as the type of person ACTRIS is hoping to engage.

The first step to find the right expert is to know exactly what to look for, that is, the required expertise, professional and personal skills a reviewer needs to have. To this end, SAMU turned to ACTRIS facilities and access providers to indicate/confirm the background, expertise and experience needed/desired for reviewers of access proposals to their facility/services. Once determined, these specifics were used by SAMU to outline the following reviewer profile and the questions to ask in the volunteer candidate application form reported in Annex 1.

Collectively, the Panel of Access Reviewers members shall have strong scientific and technical expertise in diverse areas including, but not limited to:

- Aerosol remote sensing
- Aerosol in situ measurement
- Cloud remote sensing
- Cloud in situ measurement
- Reactive Trace Gases remote sensing
- Reactive Trace Gases in situ measurement
- Aerosol-cloud interaction
- Boundary layer processes
- Long-range transport
- Precipitation formation
- Atmospheric dynamics, multiphase processes
- Ocean-atmosphere interaction
- Radiative balance/climate/models
- Life/ health/ environment
- Instrument/ prototypes

Experts shall have knowledge of the latest scientific progress, including new developments/technologies in the atmospheric domain, and a deep understanding of the key open issues in addressing global challenges in science, industry, and society.

Sound analytical, interpersonal, and language skills to contribute effectively to review panels complete the Panel member profile.

2.2. Outreach and identification of suitable experts

Building a list of suitable experts mainly started with drawing from reviewers listed on expert databases already developed in past and current projects (ACTRIS-2, EUROCHAMP-2020, ACTRIS IMP, ATMO-ACCESS), supplemented by suggestions of possible candidates from access providers and from the ACTRIS RI Committee.

Starting from that, building in particular on the availability and the explicit consent to be considered for reviews in the ACTRIS ordinary operations and other future projects received from experts, SAMU prepared a database of initial experts.

To involve a large number of experts with the necessary experience and technical capacity, SAMU will keep an open call for volunteer experts[17] to be widely disseminated to collect volunteer candidates so to increase the list of experts. The call shall allow for periodic replenishment of the Panel, necessary to guarantee adequate capacity to carry out the access assessment in a due time frame.

The text prepared for the call and the application form for candidate Panel of Reviewers members are reported in Annex 1.

SAMU will also periodically invite access providers to suggest experts to propose for the Panel[18], encouraging, in particular, recommendations of experts coming from institutions, organizations, or countries different from the provider's own institution/organization.

2.3. Invitation to join the Panel

Suitable experts identified from past/current projects, proposed by the community or volunteer are contacted by SAMU and invited to confirm their willingness to be included in the Panel, registering their details in the database of prospective Panel of Access Reviewers in line with the ACTRIS data policy, privacy policy and GDPR rules.

Reviewers need to acknowledge the ToR and the need to follow the ACTRIS guidelines for the access Evaluation.

3. Terms of Reference for the Panel of Access Reviewers

3.1. Role, purpose and scope

The ACTRIS Panel of Access Reviewers is a large, impartial pool of experts with broad expertise in atmospheric research. The Panel is the consolidated source of reviewers, who are periodically drawn to serve on review panels for individual access proposals based on their expertise.

[17] Like that issued for the ATMO-ACCESS project: https://www.atmo-access.eu/call-for-volunteer-experts-for-the-access-evaluation-panel-aep/

[18] Following the example of the EU Commission's call for organizations to recommend experts for the Horizon 2020 research and innovation program.

The purpose of the Panel of Access Reviewers is to guarantee that the access proposals submitted by users are selected based on an expert, sound, fair, and transparent assessment.

The scope of the panels' evaluation encompasses the proposal research focus, scientific merit, technical soundness and potential for impact, as well as the background and suitability of the user group. Experts will only evaluate proposals that are in line with their personal expertise and which do not cause any conflict of interest with respect to the users or research facility concerned or specific national interests.

The details of access proposal evaluation process and the main criteria are described in the ACTRIS General Access Evaluation Guidelines that are provided to members of the Panel. Further, specific criteria and workflows could be introduced to meet the particular objectives and types of the calls, allowing for testing and implementing the new access methods developed within the project.

3.2. Appointment and term

The invited or volunteer experts who have accepted to become members of the Panel of Access Reviewers are officially nominated by the ACTRIS General Assembly.

Panel members are appointed for 5 years, starting from the date of their nomination. The term is renewable indefinitely, based on the reviewer's will and availability to be confirmed officially in writing.

A member of the Panel of Access Reviewers may withdraw from the Panel at any time upon written notification to the SAMU. In cases of resignation, SAMU evaluates if and how to proceed to replacement.

The Panel members act in an honorary capacity. They receive recognition and acknowledgement of their efforts in the form of a Certificate of contribution to the ACTRIS Peer Review.

3.3. Mandate

The Panel of Access Reviewers mandate is to assess access proposals submitted by users and make recommendations on proposals that should benefit from access to ACTRIS Facilities.

The Panel mandate includes the tasks identified in section 3.3.1.

3.3.1 Tasks of the experts

Panel members serve on ad-hoc review panels established by the SAMU Team for evaluating individual access proposals based on the required diverse knowledge and experience in the relevant fields.

Ad-hoc panels shall be composed of a maximum of three experts who perform individual reviews of the access proposals.

Upon receiving a request to serve in an ad-hoc review panel, the expert shall report any conflict of interest or, in case, any temporary unavailability to take part in the review of the specific individual access proposal assigned.

One of the three members of the ad-hoc panel established by the access Team can be requested to act as *Rapporteur* summarizing the individual assessments performed by the others.

Individual review of the proposals consists of:

- Reading and examining the proposal, and evaluating its main elements (the research project and the applicant user group) against the general criteria[19] and weights detailed in the ACTRIS Access Evaluation Guidelines, as well as specific criteria introduced to meet the particular objectives and types of access opportunities/calls.
- Assigning scores for each criterion.
- Providing brief explanatory comments sustaining the score given. Short explanations and comments are included in a final, synthetic individual evaluation report.

Once the individual review is concluded, the *Rapporteur* draws up a summary report of the individual assessments and formulates recommendations for the selection. Only where needed, if the Rapporteur deems it necessary to produce recommendations, a remote consensus meeting may be arranged between the experts in the ad-hoc panel.

3.3.2 Effort required

The SAMU Team seeks to guarantee an appropriate balance of the workload for each expert, ensuring that reviewers are invited to evaluate a fair and reasonable amount of proposals per year.

The effort required for reviewing the individual access proposals can be roughly estimated, in general, in 1 working day (exceptionally 2), based on the complexity of the request. Access proposals are typically short and concise, depending on the call requirements.

Experts in the ad-hoc panels typically have 15 days to conclude the individual reviews and release the recommendations for selection, provided that no additional integrations or clarifications for the assessment are required. In case of need (e.g., if the requested access is not urgent and is scheduled at later stage), additional time can be allowed to the expert, on request, to complete the review in a reasonably more extended term.

Where explanations and integrations are needed, the panel members shall inform the SAMU, which will interact with the user accordingly and adjust the timeline, where needed.

3.4. Working approach and methods

A flexible working approach is adopted for the Panel of Access Reviewers with experts having complete control over where, when, and the hours they work at individual reviewing the assigned proposals, provided that they can keep the schedule envisaged at the time of the assignment.

Remote working is the rule as it is considered most suited to fulfil the tasks.

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[19] Review criteria cover, among others, the *scientific excellence* (scientific and technical value, originality and innovation, relevance and impact of the project, dissemination plan, etc.); the *relevance of the technical need* to be satisfied with the service to increase quality of measurements and performance of the instrument, (for instance, maintenance, calibration, QA); *market-driven aspects*, especially when access involves users from the private sector (for instance, innovation potential of access proposals, market developments and impacts on the economy).

Reviewer work is eased thanks to the ACTRIS PASS, the online platform for managing the access process. In particular, the use of PASS allows Panel experts to:

Be involved only when necessary;
Undergo an easy procedure to be granted access to the applications and online evaluation forms;
Enjoy easy, user-friendly filling in of online evaluation forms;
Be thoroughly informed and updated on the access process and the terms of the selection;
Carry out the evaluation according to established terms and timelines;
Reach easily to SAMU and other evaluators.

SAMU takes all possible measures to ensure sufficient flexibility of the working methods in order to manage the review of access projects in a dynamic manner.

The expert cannot delegate the work to another person or be replaced by another person.

3.4.1 Code of Conduct

The Panel of Access Reviewers members serve in their personal and technical capacities and do not represent their employer, institution or any other entity.

The Panel members perform the assigned reviews in a confidential, impartial, fair, and equitable way. They also agree to disclose to the SAMU Team any interest, affiliation, or different factor that may create an actual or perceived conflict of interest in assessing a specific proposal.

Panel members must have no conflict of interest with applicants for access to an ACTRIS facility or communicate and discuss the assigned access proposal with any other Panel member except those in the same ad-hoc panel established for review of the said proposal.

Unless foreseen by the procedure, the Panel members reviewing an access 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.

The Panel experts serving on a review panel 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.

They must not disclose the results of the evaluation outcome.

ANNEX 6 - ACTRIS Access Metrics

#	Indicator	Value type	Definition
1	ACTRIS Service Catalogue traffic	quantitative	Measure of the visibility of services and of the Catalogue visibility
2	ACTRIS Science and User Forum Traffic	quantitative	Measure of forum's visibility and attractiveness
3	Number of user helpdesk requests	quantitative	Measure of user interest
4	Number of user helpdesk requests solved	quantitative	Measure of capacity for supporting users
5	Number of services available to users	quantitative	Measure of RI service capacity
6	Number of services requested by users	quantitative	Measure of user demand
7	Number of services provided to users	quantitative	Measure of operational capacity for access provision, user selection, successful completion of the service provision
8	Number of requested services by type (research/innovation, technical, training)	quantitative	Measure of the interest and attractiveness of the different types of services
9	Number of provided services by type (research/innovation, technical, training)	quantitative	Measure of the operational capacity for providing different types of services, user selection, successful completion of the service provision
10	Number of services by access type (physical, remote, hybrid access) requested by users via SAMU	quantitative	Measure of user demand on specific service access via hands-on access, remote, or hybrid access
11	Number of services by access type (physical, remote, hybrid access) provided to users via SAMU	quantitative	Measure of operational capacity for different types of access provision, user selection, successful completion of the service provision
12	Number of users	quantitative	Measure of capacity for stimulating user interest
13	Percentage of gender representation	quantitative	Measure of inclusiveness, diversity, and engagement across different genders
14	Number of users per nationality	quantitative	Measure of the origin of users per country

15	Number of users per country of affiliation	quantitative	Measure of the origin of users per country
16	Number of services provided per country	quantitative	Measure of the use of the services per country
17	Percentage of users originating in ACTRIS member or observer countries	quantitative	Measure of the user base within the RI perimeter
18	Percentage of users originating in European countries	quantitative	Measure of the user base within Europe
19	Percentage of users originating in countries outside Europe	quantitative	Measure of the user base worldwide and the capacity for international collaboration
20	Number of users per scientific field	quantitative	Measure of the capacity for attracting users from other domains
21	Number of users from academic and public research organisations	quantitative	Measure of users from academic and public research organisations
22	Number of users from the public sector	quantitative	Measure of users from the public sector
23	Number of users from the private sector (business and industry)	quantitative	Measure of attractiveness for the private sector
24	Type of private sector use	qualitative	Measure of diversity for using the services by the private sector
25	Percentage of new users	quantitative	Measure of attracting new users
26	Percentage of recurrent users	quantitative	Measure of reliability of service provision
27	Percentage of experienced users	quantitative	Measure of user experience level
28	Percentage of young users (students, early career scientists, ...)	quantitative	Measure of training capacity
29	Average duration of access process, in days (from date of user request to acceptance by SAMU)	quantitative	Measure of the timeliness and effectiveness of the access process
30	Access proposals' average scores/ratings after expert evaluation	quantitative	Measure of the quality of the access request received
31	Average scores received from the user feedback	quantitative	Measure of user satisfaction
32	Quality of access process	qualitative	Measure of user satisfaction of access process: not satisfied (1), slightly

			satisfied (2), moderately satisfied (3), very satisfied (4), extremely satisfied (5)
33	Quality of the Facility services accessed	qualitative	Measure of user satisfaction of access process: not satisfied (1), slightly satisfied (2), moderately satisfied (3), very satisfied (4), extremely satisfied (5)
34	Number of peer-reviewed papers resulting from the use of services	quantitative	Measure of production of knowledge due to ACTRIS services
35	Number of patents	quantitative	Measure of innovation capacity
36	Number of technology transfer activities (public-private)	quantitative	Measure of innovation capacity