

Deliverable D1.1: ACTRIS Governance and management structure

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ACTRIS Governance and management structure

1. Introduction

The purpose of this document is to describe the governance and management structures of ACTRIS research infrastructure for ensuring an optimal and smooth transition from the project structure to the research infrastructure including its own legal entity.

1.1 Purpose of the lifecycle phases in ACTRIS

ACTRIS lifecycle phases, as adopted by ESFRI, are shown in the Figure 1. The phases are not in consecutive order but overlap, which is often the case for distributed environmental research infrastructures. The current Preparation Phase (2016-2019) ends with the end of the Preparatory Phase Project (PPP) in 2019. During the Preparation Phase of ACTRIS, the governance, legal, financial and administrative elements of ACTRIS are finalised and the planning of the technical work is finalised. The construction of the ACTRIS Central Facilities, and the upgrade and construction of the National Facilities are coordinated and facilitated. The decisions on site locations and service portfolio will be defined in the Preparation Phase. Other goals for the Preparation Phase are to analyse the socio-economic impact of ACTRIS, link ACTRIS with European and international components of Earth observation and Earth system science, develop the long-term ACTRIS strategy, and develop the service policies and RI access requirements.

The construction of ACTRIS has already started years ago, i.e. long before 2019, by building the stations as part of the European projects. These stations have provided data to the ACTRIS Data Portal for many years and a number of them contributed to the TNA programs of the different infrastructure projects.

The construction of ACTRIS (during the Implementation Phase) of the formal consolidated ACTRIS RI under one umbrella will start in 2019, when the Central Facilities are located and concepts for National Facilities concluded, and will last until 2024. The purpose of the Implementation Phase is to make major financial investments in order to construct physically the facilities and to test services that are not in place yet. During implementation ACTRIS establishes a Service Access Management Unit to provide coordinated and easy access to RI services for users.

The Operation Phase is planned to start around 2025 with several preceding years of pre-operation that will include testing and provision of services. Decommissioning is not shown in these diagrams. Any further upgrading, evolution, merging with other structures or decommissioning of the RI will be decided by the General Assembly of the ACTRIS legal entity, and procedures defined in the internal rules of the RI.

ACTRIS Lifecycle Phases

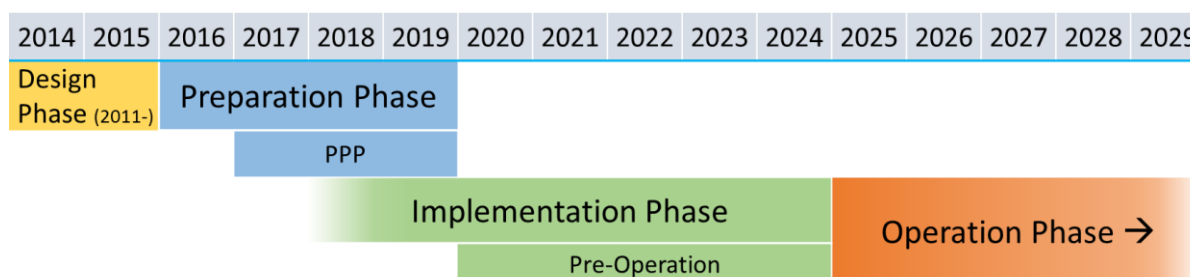


Figure 1. ACTRIS lifecycle phases: Design Phase 2011-2015; Preparation Phase 2016-2019 (including PPP 2017-2019; Implementation Phase 2019-2024 (including Pre-Operative phase 2020-2024); Operation Phase 2025 onwards).

These lifecycle phases are supported and coordinated by governance structures related to frameworks of the Preparatory Phase Project, interim Transition structure and the ACTRIS legal entity as shown in Figure 2, which concentrates on the years 2017-2026 and illustrates the periods for governance of 1) PPP, 2) interim Transition and 3) the ACTRIS legal entity. It is worth mentioning that some governance bodies for the Transition period will be already established during and with the support of the PPP.

During the lifecycle the governance and management structures evolves, and the establishment of the governing bodies is dependent on the decisions and selections made during the previous phase. The governance plan is written keeping the ERIC legal tool as the most probable legal framework and assuming an independent legal personality to be established during the Implementation Phase. The description of governance structure will be updated in 2019 when the legal entity model and RI structures for the Operation Phase are better known.

ACTRIS 2017-2026; governance frameworks

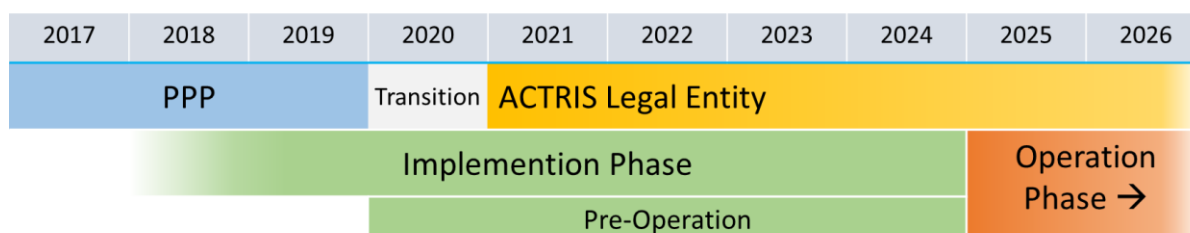


Figure 2. Frameworks of governance under PPP, Transition structure, and ACTRIS legal entity, each supporting the relevant phases (Preparation, Implementation, Operation).

Below, the main tasks of governance in each period are shortly described below. The document is structured so that the main governance elements (decision-making power, executive power, internal

support bodies and external advisory bodies) are described for each of these three periods of governance.

Decision-making body means a body that has the highest decision-making power related to the organization: its financial aspects, policies, strategies and activities. In ACTRIS there are three decision-making bodies exercising this power for PPP and the RI in different phases: the General Assembly of the Preparatory Phase Project (dealing with the project issues and not discussed in this document), Interim ACTRIS Council before the establishment of the legal entity, and the General Assembly of the legal entity. The decision-making body can establish committees to support its work, such as a financial committee.

The decisions are executed by the Coordinator of the PPP and by the (interim) Director General respectively (or Board of Directors, see below) in the Transition and Operation Phase. The Director General (or Board of Directors) is elected by the highest decision-making body. The executive body is also vested with the legal representativeness of the organization, if legal status exists.

In large and complex research infrastructure organizations the executive body has various committees to support its operative work. These internal support bodies can reflect the structure of the RI and help to streamline the execution of the tasks.

External advisory boards are finally needed to secure the stakeholder engagement, quality, impact, and to give advice on core topics related to the RI, its science and operations.

Governance bodies have a time-relation to the setting-up of the operational ACTRIS units and the Central Facilities, therefore the bodies will be functioning at different times. Several bodies go through a succession from their form during the Preparatory and Implementation Phases towards Operational Phase, when the legal entity has more formal requirements regarding their establishment and functions. Table 1 summarizes the proposed internal and external bodies of the ACTRIS with the indication of the time period they are functioning.

Table 1. . Appointment year and lifetime of internal and external ACTRIS bodies during the ACTRIS lifecycle phases. As can be seen several interim bodies will evolve into planned operative internal and external bodies.

Phases		Preparation Phase			Implementation Phase							Operation Phase	
		ACTRIS PPP			Transition	Legal entity							
Year		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Decision body	Interim ACTRIS Council												
	General Assembly (GA) of the legal entity												
Internal body of GA	Financial Committee												
Body responsible for implementation	PPP Coordinator												
	Interim Director General /Interim Board of Directors												
	Director General /Board of Directors												
Internal RI bodies supporting implementation	ACTRIS PPP Executive Board												
	Interim RI Committee												
	RI Committee												
	National Facilities Assembly												
	Ethical working group												
External advisory bodies	Ethical Board												
	Interim Scientific and Implementation Advisory Board												
	Science and Innovation Advisory Board												
Open platforms	Science and User Forum												

1.2 Governance framework for ACTRIS lifecycle phases

Governance framework of ACTRIS varied during the lifecycle. ACTRIS will use three different governance frameworks for its lifecycle phases; Preparatory Phase Project; Transition Phase and Legal Entity Phase.

Preparatory Phase Project 2017-2019

Preparatory Phase Project coordinates and oversees the implementation of ACTRIS research infrastructure (including establishment of the organizational and operational framework and setting up the common long-term strategy and liaisons with the relevant initiatives and programmes). During the PPP all the needed preparatory work for setting up the legal entity and service provision are done. PPP is responsible for managing the establishment of the interim bodies for Transition in preparation for the ACTRIS legal entity. At this stage, two legal forms are used to bring together countries and the research institutions responsible for the technical and scientific implementation of the ACTRIS research infrastructure. These legal forms are: 1) the EC-funded consortium agreement of the ACTRIS Preparatory

Phase Project for the key partners and research institutions implementing the ACTRIS research infrastructure and 2) the Letter of Intent–procedure for establishing the Interim ACTRIS Council for countries. Preparatory Phase set up a business plan provides constitutional documents for legal entity, and a vision for the RI also in the context of the landscape of existing RI at European and global level, and secured funding safeguarding the financial sustainability for the implementation and extending for the operation. The activities during this phase are coordinated and managed by the PPP Coordination Office. The main tasks of the PPP are to:

- deliver all Preparatory Phase documents and deliverables,
- establish and support the supraprojectual governance bodies (interim bodies), and
- make detailed plan for the rest of the Implementation Phase.

Interim structure for Transition during 2020

The interim structure and governance bodies help to carry over the transition year 2020 when the PPP will be ended, but while we assume that the legal entity is not yet in place. Transition will be governed by the interim bodies and managed by the coordination office, which is the same as during the PPP. They will manage the implementation and pre-operative activities during that year. The main tasks are to:

- oversee the implementation during that year,
- initiate pre-operations, and
- ensure the successful process for setting up the ACTRIS legal entity.

ACTRIS legal entity starting from 2021

Planned to start from 2021, ACTRIS legal entity and its governance bodies, as negotiated and decided during the preceding phases, will be in force. An ERIC as the most probable legal framework (to be confirmed in the second IAC meeting in 2017) will have an impact on the governance structure because it imposes some requirements of the governance bodies. It is reflected in the planning of the governance structure. The legal entity of ACTRIS shall include the following bodies: the General Assembly, Science and Innovation Advisory Board, Ethical Advisory Board, Financial Committee, and the Director General /or Board of Directors supported by the ACTRIS Research Infrastructure Committee, and National Facilities Assembly. Also the engagement with the user community will continue in the form of Science and User Forum.

The physical structure and components of the ACTRIS as an operative RI will also affect the eventual governance model. ACTRIS is planned to consist of National Facilities and Central Facilities. The Central Facilities are the key operative entities of the RI in charge of the quality assurance and quality control of the ACTRIS measurements and data. The Central Facilities include also Data Centre and the Head Office. ACTRIS National Facilities are observational and exploratory platforms producing ACTRIS data and offering physical access for users. These components will be included in the ACTRIS governance. The Head Office manages the legal entity and provides solid management to support functions of the Operative Phase bodies mentioned above.

The main tasks of the legal entity are to:

- govern the ACTRIS legal entity and its tasks
- oversee and make decisions regarding the pre-operations in 2021-2024,

- oversee and make decisions during 2021-2024 on the Implementation Phase and finish the constructions of the RI, and
- govern (coordinate and integrate) the ACTRIS RI Operation Phase starting in 2025

See Appendix 1 for proposed organigrams of three governance frameworks of ACTRIS.

2. Decision-making bodies

2.1 Preparatory Phase Project 2017-2019

ACTRIS PPP General Assembly is the highest decision-making body for the Preparatory Phase Project itself and is not discussed further in this paper as the PPP GA is handling the standard EC-funded project matters.

Interim ACTRIS Council

The highest decision-making body for ACTRIS in the preparation and the following Transition Phases is the Interim ACTRIS Council (IAC). IAC consists of country representatives nominated by the organization that has the mandate to act on the behalf of the country. Usually this is a ministry but in some countries this power can be delegated to the institutes. IAC is responsible for negotiating and approving the legal model, governance structure, statutes and all other necessary constitutional documents, the financial plan and internal financial rules, data policy, access policy, and staff policy for the ACTRIS research infrastructure. IAC may establish working groups and committees to facilitate the work on the above mentioned documents. The Interim ACTRIS Council was set-up in February 2017 and it has adopted its own Rules of Procedures in its first meeting. The Rules of Procedures for the IAC are provided in Appendix 2.

Initially, the countries that had provided financial support commitment for ACTRIS were invited to form the IAC. Other countries can enter as members of the Interim ACTRIS Council by signing the Letter of Intent. By May 2017, 12 countries had signed the Letter of Intent and become members of the IAC. The process for entering the IAC will be open until the legal entity is established. Countries interested can inquire the Letter of Intent template from the ACTRIS PPP Coordination Office. All European Member States and Associated Countries are invited to sign the Letter of Intent to become members and to nominate their delegates to the IAC. Countries interested to follow the implementation of ACTRIS without being members can participate in the IAC activities as observers without voting rights.

2.2 Transition Phase 2020

During the transition the IAC continues to be the highest decision-making body securing the stakeholder commitments and making strategic decisions that set the scene for the ACTRIS RI and its legal entity.

During the transition period the IAC starts preparing the recruitment of the Director General / Board of Directors for the legal entity.

2.3 ACTRIS legal entity 2021 onwards

General Assembly

As soon as the legal entity enters into force, likely as ERIC, its General Assembly (consisting of the representatives of the members of the legal entity, i.e. countries or international organizations) replaces the IAC as the highest decision-making body. The General Assembly is composed of country representatives of the members and observers of ACTRIS as defined in the ERIC regulation. The General Assembly is responsible for the overall direction and supervision of ACTRIS. It decides on the strategic orientation of the RI, budget of the ACTRIS legal entity, and structure and termination of ACTRIS RI. The function of the General Assembly will be described in the constitutional documents of the ACTRIS legal entity. ACTRIS General Assembly adopts its own Rules of Procedures.

Financial Committee

The Financial Committee is currently proposed to be established as an internal subgroup of the General Assembly. This plan can be changed when the business plan of ACTRIS becomes ready, depending if it is considered necessary to appoint an external Financial Committee (for example to evaluate in-kind contributions). Its responsibilities are to support the ACTRIS General Assembly and the Director General /Board of Directors on matters related with the management and preparation of the Financial Plan of ACTRIS, its expenditure and accounts, and its future financial planning. In addition, the Financial Committee will provide advice on other financial matters related with the management and administration of ACTRIS research infrastructure. ACTRIS General Assembly appoints the members of the Financial Committee.

3. Executive power

3.1 Preparatory Phase Project 2017-2019

The ACTRIS PPP Coordinator and the PPP Executive Board have the executive power for the Preparatory Phase Project itself and as they are standard bodies of the EC-funded project more than ACTRIS governance bodies, these bodies are not discussed further in this paper.

Interim Director or Interim Board of Directors

The Interim Director shall carry out the day-to-day management of the implementation of ACTRIS and represent the ACTRIS research infrastructure until the Director General is recruited for the legal entity. The Interim Director is responsible for the implementation of the decisions of the Interim ACTRIS Council in those matters not directly concerning the ACTRIS PPP. Process and selection criteria for recruiting the Interim Director will be decided in the IAC. The Interim Director will be selected in the year 2019 when the legal entity model and the hosting country/hosting countries of the ACTRIS Head Office have been decided and the constitutional documents are ready for setting-up the ACTRIS legal entity. The Interim

Director shall replace the ACTRIS Preparatory Phase Project coordinator as the lead representative of the ACTRIS research infrastructure.

Due the complexity and the size of the ACTRIS research infrastructure, Interim ACTRIS Council may appoint Interim Board of Directors as the body responsible for implementation of the decisions. The Interim Board of Directors consists of the Interim Directors of the Head Office (Scientific Director and Managing Director). Similarly, the Interim Board of Directors shall carry out the day-to-day management of the implementation of ACTRIS and represent the ACTRIS research infrastructure before the Board of Directors for the legal entity is recruited. The Interim Board of Directors is responsible for the implementation of the decisions of the Interim ACTRIS Council in those matters not directly concerning the project. Process and selection criteria for recruiting the Interim Directors for the ACTRIS Head Office will be decided in the IAC. The Interim Directors who form the Interim Board of Directors will be selected 2019 when the legal entity model and the hosting country/hosting countries of the ACTRIS Head Office have been decided and the constitutional documents are ready for setting-up the ACTRIS legal entity. The Interim Board of Directors shall replace the ACTRIS Preparatory Phase Project coordinator as the lead representative of the ACTRIS research infrastructure.

[It will be explored during the PPP if scientific RI management and legal entity/administrative management are shared among two or more persons in the ACTRIS legal entity to ensure sufficient collective expertise to operate the RI successfully. IAC will make a decision on this. There are four ERICs in Europe among 14 who have a Board of Directors as an executive body. These are DARIAH, CLARIN, EATRIS and Lifewatch ERICs.]

3.2 Transition Phase 2020

When the PPP is finished, the Interim Director / Interim Board of Directors shall be holding the executive power and leading the construction of the RI and establishment of the legal entity during the transition. The term of this body should be flexible to ensure that there will be no gap between transition and establishment of the legal entity. The term of the Interim Director / Interim Board of Directors will end upon recruitment of the Director General / Board of Directors for the legal entity.

3.3 ACTRIS legal entity 2021 onwards

Director General or Board of Directors

The Director General of ACTRIS legal entity shall be appointed by the ACTRIS General Assembly according to the procedure adopted by it. The Director General is employed by, and is the legal representative of, ACTRIS legal entity. The Director General shall carry out the day-to-day management of ACTRIS legal entity and is responsible for the implementation of the decisions made by the General Assembly, including annual working plan and yearly budget, as well as overseeing and coordinating ACTRIS legal entity activities. The Director General shall represent ACTRIS legal entity in any litigation. The term for the Director General is for five years (to be decided) and the ACTRIS General Assembly may renew the term. The Director General shall be located at the statutory seat of ACTRIS legal entity and is responsible for managing ACTRIS Head Office staff and activities in accordance with the ACTRIS legal entity budget and the internal financial regulations to be adopted by the General Assembly. The Director General has the right to establish committees to advise him/her. If the Director General is unable to perform his/her work, he/she will be substituted according to the procedure defined in the policy

documents. The Director General is also in charge of leading the ACTRIS from Implementation to Operation Phase.

Similarly, The General Assembly may appoint a Board of Directors as the body responsible for implementation of the decisions. The Directors of the Board are employed by the ACTRIS legal entity and the Board of Directors is the legal representative of the ACTRIS legal entity. The Board of Directors consist of Scientific and Managing Directors and the Board shall carry out the day-to-day management of the ACTRIS legal entity as described above for the Director General. The Managing Director is responsible for managing ACTRIS Head Office staff and activities in accordance with the ACTRIS legal entity budget and the internal financial regulations to be adopted by the General Assembly. The Scientific Director(s) are responsible for leading the scientific and technological operations and development of ACTRIS. The Board of Directors has the right to establish committees to advise the Board. If the Directors are unable to perform their work in their areas of responsibility, there will be a policy defining the procedure for substitution.

4. Internal support

4.1 Preparatory Phase Project 2017-2019

PPP Executive Board

PPP Executive Board will prepare all the matters related to setting up the organisational and operational framework before the Interim Research Infrastructure Committee has been established. PPP Executive Board is responsible of the PPP management and implementation of the tasks described in the project Grant Agreement, namely the preparation and submission of the PPP deliverables.

Interim Research Infrastructure Committee (Interim RI Com)

The Interim Research Infrastructure Committee (Interim RI Com) is an expert body to support the ACTRIS PPP Coordinator (later Interim Director / Interim Board of Directors) in matters related to implementing the operations of the ACTRIS, service development and service provision. Eventually, the Interim RI Com consists of representative(s) from each ACTRIS Central Facility and up to [three] representatives of the National Facilities Assembly (see below). The National Facilities Assembly representatives depend on the definition of the National Facilities and need to ensure the coverage of the relevant expertise. The Interim RI Com can be initially established when locations of the Central Facilities are confirmed, i.e. in late 2018.

The Interim RI Com contributes to drawing up proposals for the IAC; establishing working plans to ensure consistence, coherence and sustainability of the ACTRIS research infrastructure services; informing the ACTRIS PPP Coordinator (later Interim Director / Interim Board of Directors) about the progress of the ACTRIS Central Facilities and of the National Facilities and; contributing to writing technical documents deemed necessary for planning and implementing RI towards Operation Phase.

The composition of the Interim RI Com is approved by the IAC at the proposal of the PPP Coordinator. The Interim RI Com will adopt its own rules of procedure.

The Interim RI Com will discuss about the practical implementation and operative issues of the RI with the Interim Director General/ Interim Board of Directors.

Draft Terms of Reference for the Interim RI Com are provided in the Appendix 3.

ACTRIS National Facilities Assembly

Representatives from the ACTRIS National Facilities (observational and exploratory platforms) form the ACTRIS National Facilities Assembly, which is the forum for all the ACTRIS National Facility Principle Investigators (PI) and ACTRIS National Facility scientists and technicians to interact with each other and with the ACTRIS Central Facilities, and exchange experiences. The Assembly is a highly technical and operative platform to develop the RI and ensure the connection of the scientific expertise and technological development. National Facilities Assembly selects [three] representatives and their substitutes from among the participants to be appointed to be members of the Interim RI Com. The ACTRIS National Facilities Assembly elects a chair and a vice-chair among station owners/Pis to be in charge of the organisation and preparations of the National Facilities Assembly meetings. National Facilities Assembly will adopt its own rules of procedure. The ACTRIS National Facilities Assembly shall meet at least once per year to discuss all relevant technical and operational issues. ACTRIS Central Facility representatives are invited to participate as guests and discuss the topical issues. The ACTRIS National Facilities Assembly is convened by the chair. The Head Office gives support to direct meeting costs. At the first time the Assembly could be convened by the PPP Coordinator and organised for the first time in 2018 during the annual PPP meeting. The ACTRIS National Facilities Assembly can establish specific ad hoc working groups if necessary for specific issues/topics for a specific time.

Ethical working group

During 2018, the PPP will establish an interim and internal working group to prepare for the ethical issues of the ACTRIS Research Infrastructure. The group consists of the PPP nominated members to work on delivering the ethical guidelines for the organization in December 2018. National representatives will be asked for feedback. This group will be tasked to prepare the Terms of Reference for the external Ethical Advisory Board (see section 5) of the legal entity (possibly ACTRIS ERIC) and help to draft the ethical guideline. The ethical working group helps the PPP Coordinator to organize the process of selecting the operative Ethical Advisory Board. The group can ask for external consultation if needed. The working group is led by PPP Work Package 2 and is organized within the Preparatory Phase Project.

4.2 Transition Phase 2020

During the transition the Interim RI Com continues to support the Interim Director / Interim Board of Directors in the matters listed above. ACTRIS National Facilities Assembly and Ethical Working Group will continue.

4.3 ACTRIS legal entity 2021 onwards

ACTRIS Research Infrastructure Committee (RI Com)

[This committee will be a formal body of the legal entity. The General Assembly shall establish it and nominate finally the representatives from the list proposed by Director General / Board of Directors. In the Transition Phase the process for nomination is more flexible and the Director General/Board of Directors nominates needed representatives from the foreseen CFs and National Facilities Assembly representatives to work with]

During this phase under the ACTRIS legal entity and by the end of the implementation around 2024, the Interim RI Com will change from interim body to a permanent body - ACTRIS Research Infrastructure Committee (RI Com) - appointed by the ACTRIS General Assembly. The composition of the RI Com will be updated to include representatives from all Central Facilities and elected representatives of the ACTRIS National Facilities Assembly. The Director General or Board of Directors shall propose an ACTRIS Research Infrastructure Committee. The RI Com includes [one- two] representative from each ACTRIS Central Facility and members from the National ACTRIS PI Assembly. The Director General / Board of Directors shall consult the RI Com for matters related to the ACTRIS research infrastructure operations to ensure consistency, coherence and sustainability of the operations of the research infrastructure. The RI Com shall be convened by the Director General / Board of Directors at least twice a year.

ACTRIS National Facilities Assembly

The ACTRIS National Facilities Assembly continues in its role to maintain the knowhow of the state of the art methodology among the site PIs and to provide, through the RI Com, proposals how to improve operations and develop the RI.

5. External advisory bodies

5.1 Preparatory Phase Project 2017-2019

Interim Scientific and Implementation Advisory Board

The Interim ACTRIS Council shall establish an independent, external, Interim Scientific and Implementation Advisory Board (Interim SIAB) to support the Interim ACTRIS Council and the ACTRIS Preparatory Phase Project in their implementation work. The Interim SIAB is an advisory body and gives recommendations and guidance for ACTRIS activities by reporting to the IAC. The ACTRIS executives (see section 3) have the possibility to respond to the recommendations and discuss with the Interim SIAB beforehand. The Interim SIAB consists of [seven] internationally recognized external experts in the field of atmospheric sciences, members from the main user communities, and experts in setting-up and managing large-scale research infrastructures or facilities. The Interim SIAB should cover relevant scientific fields of ACTRIS as described in the science case of the ESFRI proposal. The Interim SIAB shall comment on the overall technical plans and directions with the objective to achieve the goals of ACTRIS. It will follow the implementation and setting-up of the ACTRIS legal entity, supply feedback and make recommendations for further developing ACTRIS research infrastructure services and management.

The Interim SIAB shall meet at least once a year during the Implementation Phase and give its report annually to the Interim ACTRIS Council. The ACTRIS PPP Coordination Office and later the ACTRIS Head Office will provide the Interim SIAB with the material for its work according to the agreed work plan and requests from the IAC.

The appointment process of the Interim SIAB will start in 2017 so that the body can start its work in 2018.

The description of the Interim SIAB selection procedure and criteria for the expertise is provided in the Appendix 4. The draft Interim SIAB Terms of Reference can be found in Appendix 5.

5.2 Transition Phase 2020

The Interim SIAB will continue functioning through this phase.

5.3 ACTRIS legal entity 2021 onwards

The General Assembly will decide how it wants to organize the external advisors for the legal entity. Since the implementation continues until around 2025, there is need for external advice on issues related to implementation and construction. The plan is that when the implementation is completed, the emphasis of the Interim Scientific and Implementation Advisory Board changes slightly towards future and it becomes the Science and Innovation Advisory Board (SIAB).

Science and Innovation Advisory Board (SIAB)

The Science and Innovation Advisory Board is an independent body established by the ACTRIS General Assembly (GA) to support the GA in its decision-making. The SIAB will evolve from the Interim SIAB so that the emphasis will be more on advising on topics related to science and innovation instead of science and management. The Director General/Board of Directors has possibility to respond to the recommendations and discuss with the SIAB beforehand.

The SIAB includes internationally recognised external experts in the field of atmospheric sciences and in the innovation and market-oriented communities. The SIAB shall monitor the scientific and operative quality of the ACTRIS research infrastructure; give feedback and make recommendations to develop ACTRIS research infrastructure activities; and meet and give its recommendations annually to the General Assembly.

[The exact focus of this advisory board will be decided by the General Assembly. How much it involves advising on management remains to be discussed, as well as how this body is related to evaluation and quality assurance system of the RI].

Ethical Advisory Board

The ACTRIS General Assembly shall establish an independent external Ethical Advisory Board to give feedback and make recommendations to develop ethical aspects of the ACTRIS activities. The Ethical Advisory Board tackles issues such as research ethics, data integrity, code of conduct, conflict of interest, equality, representation. The Ethical Advisory Board shall meet and give its recommendations to the General Assembly when needed. The membership and the terms of reference of the Ethical Advisory Board shall be decided by the General Assembly.

6. Open platforms

Science and User Forum

It is important that from the first phases of ACTRIS has a close dialogue with ACTRIS user communities, namely with a wide community of scientists, public and private sector users, and industry users (both upstream and downstream service and technology providers). To ensure the wide consultation and communication with the user communities, ACTRIS will establish during the PPP an open platform – the Science and User Forum. The Science and User Forum will have both virtual and physical activities. More precisely, ACTRIS will set up a virtual platform and a web based tool, with the ACTRIS web site as the main entry point, to interact with the various user communities. In addition, every second year ACTRIS will organise an ACTRIS science and user event (e.g. an ACTRIS science conference) to bring together the ACTRIS service providers and the users to discuss about the science and technology development and future needs and directions. The Science and User Forum will remain active during the Operation Phase.

7. National ACTRIS consortia

All countries participating in the implementation of ACTRIS have considerable community working on ACTRIS and several research performing organisations and National Facilities contributing to the ACTRIS operations in their country. Therefore, it is important that the ACTRIS National Facilities and research performing organisations at the national level are well organised.

A national ACTRIS consortium is a group of research performing organisations in a country that have declared their interest towards ACTRIS. They should have a formal collaboration agreement among them, and a clear governance/management structure, and they should nominate a national ACTRIS contact person for the relation with the European ACTRIS.

National Facility means a national network of stations and platforms. This community consist of site PIs, technicians, system engineers, researchers etc., and national ACTRIS coordinator. She/he brings the community together, talks to the government and participates in ACTRIS meetings together with his/her colleagues. In some cases, national ACTRIS coordinator and national ACTRIS contact person can be different persons. However, ACTRIS PPP Coordination Office and later Head Office will communicate via ACTRIS contact person.

National consortia are involved in the ACTRIS governance in several ways throughout the ACTRIS lifecycle. The national ACTRIS coordinator who is in charge of representing the national ACTRIS contribution (considering the diversity and complexity) towards the RI should be closely related to the respective IAC/GA member (he/she could act as expert supporting the representative in the GA). The national ACTRIS coordinator should also be active in the ACTRIS National Facilities Assembly. The (Interim) RI Committee will have joint meetings together with the national coordinators on topical issues

twice a year. The ACTRIS PPP Coordination Office, later the Head Office, is responsible for the active communication to the national ACTRIS consortia, including the potential new ones.

8. Internal governance of ACTRIS Central Facilities

The ACTRIS Central Facilities (CFs) are European level components of the ACTRIS research infrastructure and they provide important services both for the ACTRIS National Facilities and for external users of the ACTRIS. The ACTRIS Central Facilities can be composed of one or several nodes hosted by different research performing organisations (RPOs) and often hosted by more than one country. If the CFs are not within the ACTRIS legal entity, the nodes will form one operational Central Facility by linking to each other with a consortium agreement. The consortium agreement describes the task sharing, service provision, governance, resources and management of the Central Facility nodes. In order to function optimal, the Central Facilities will establish well-defined internal governance consisting of at least a Central Facility Director and Heads of the Units (units usually corresponding to the node structure). Together the Director and the Heads of the Units form a Management Board of the Central Facility. As the Central Facilities are European level components of ACTRIS, their reporting and management lines to the ACTRIS legal entity will be clearly defined and known. However, the legal link of the Central Facility to the ACTRIS legal entity is not yet (May 2017) known as the legal entity model of ACTRIS is not yet definitely decided. The relation of CFs to the ACTRIS legal entity needs to be defined later in the Implementation Phase (approx. in 2018).

In the governance viewpoint the CF representatives are included in the Interim RI Committee and later in the RI Committee. Each CF should work actively and closely with the National Facilities and therefore the CF representatives should follow and collaborate with the ACTRIS National Facilities Assembly.

9. Decision-making levels

The decision-making pyramids below in Figure 3 (for Preparation Phase and Transition) and Figure 4 (for the legal entity) represent the types of decisions that are made on different levels in the organization. The figures show that the IAC and GA are deciding on aims, structures and approving the plans that are prepared on the project and operative level on these strategic issues. IAC and GA also approve all nominations for central governance bodies, such as Director General, RI Committee, and advisory bodies.

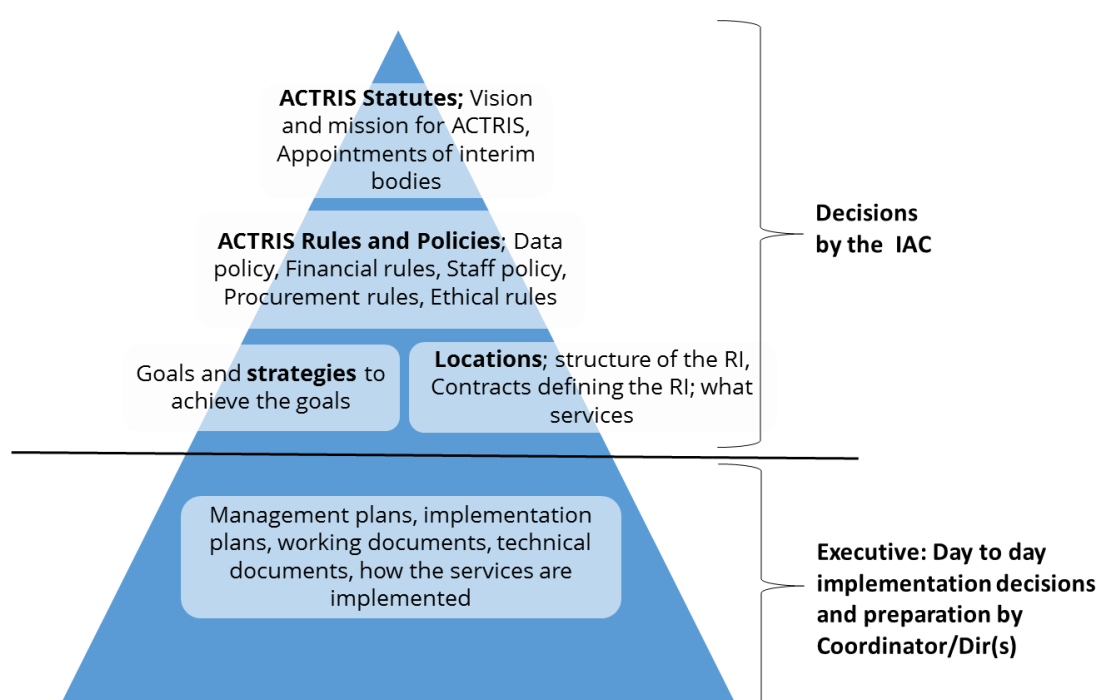


Figure 3. Decision pyramid for Preparation Phase and Transition.

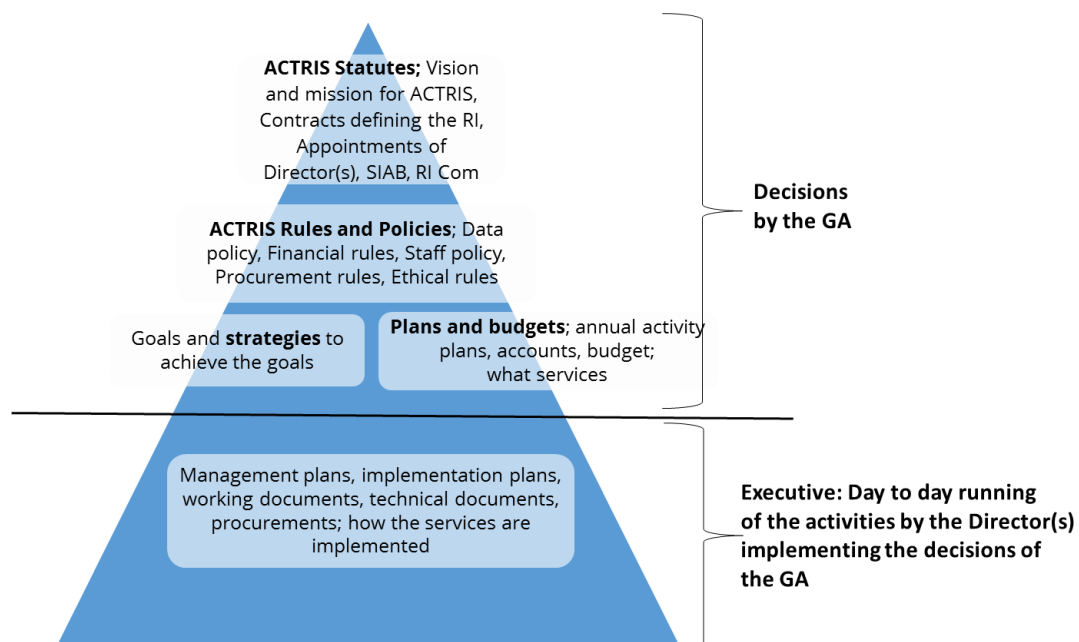
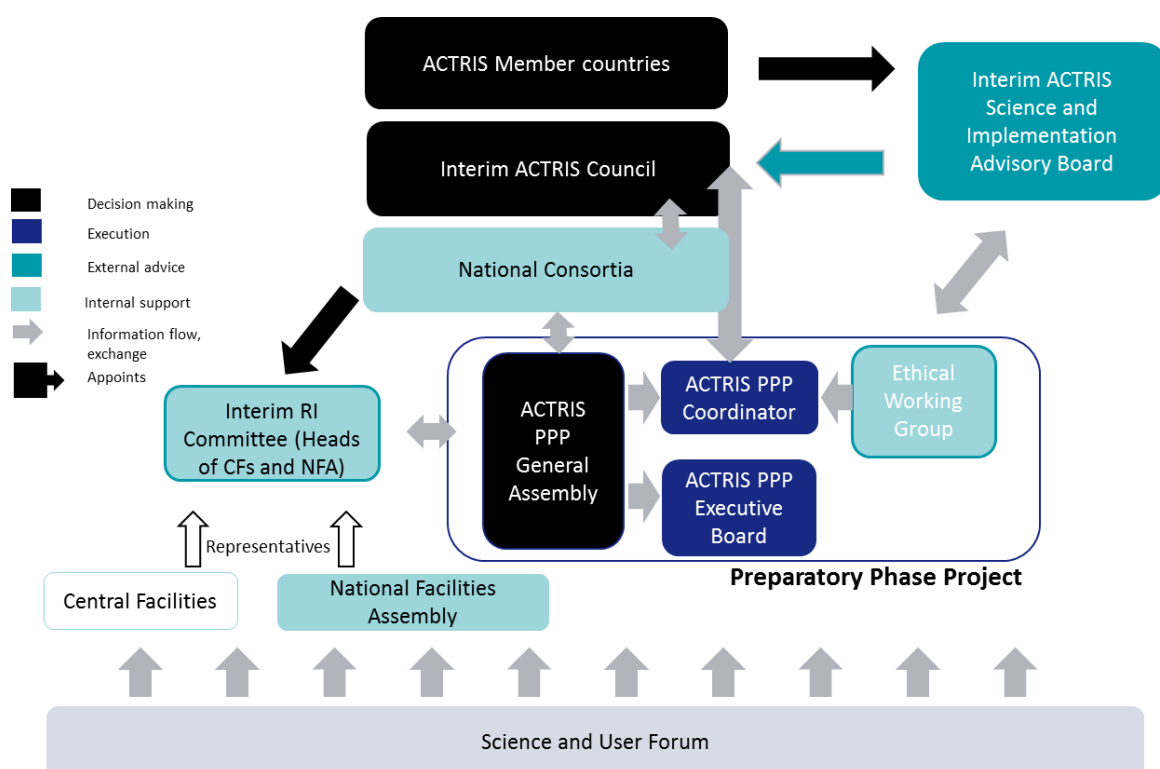


Figure 4. Decision pyramid for legal entity phase.

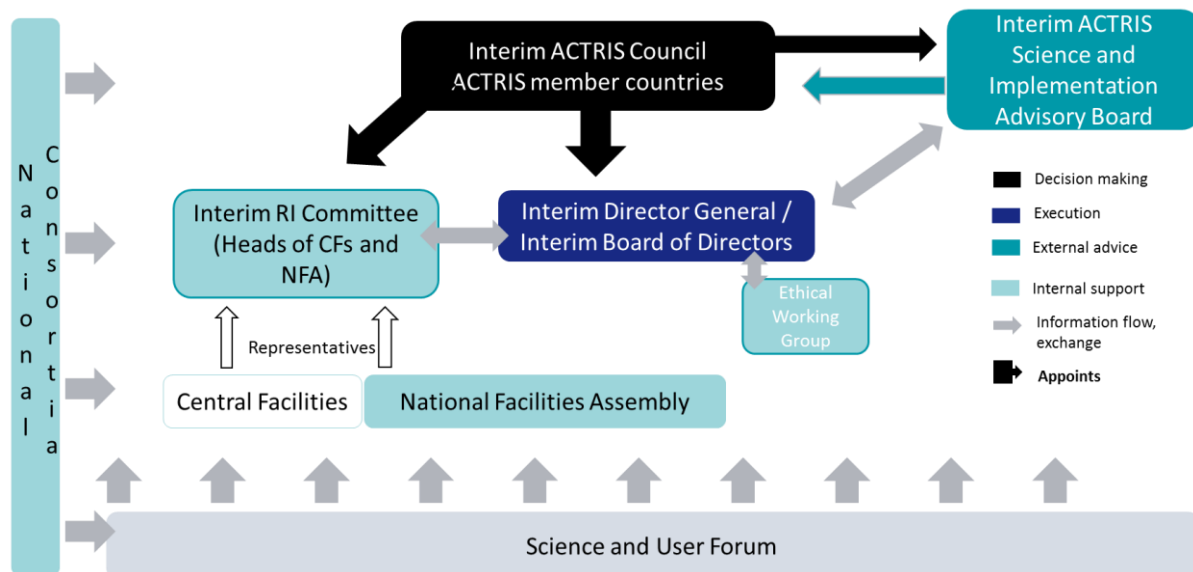
Appendixes

Appendix 1. Organigrams of the three governance frameworks

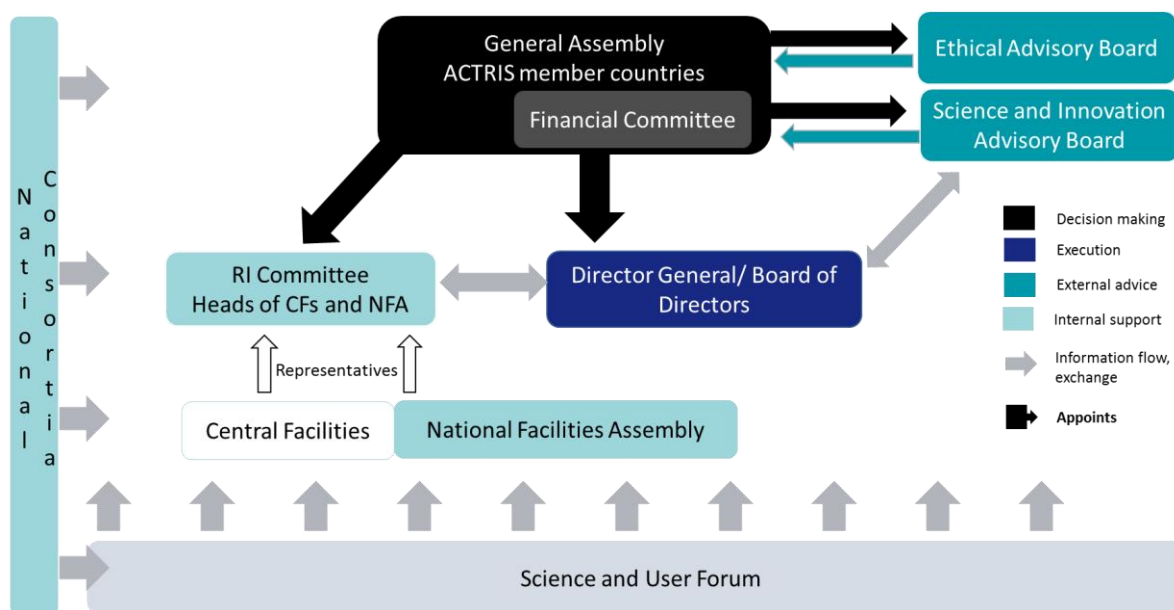
ACTRIS governance framework: vision for end of year 2019.



ACTRIS governance framework: Transition year 2020.



ACTRIS governance framework: Legal Entity 2021 onwards



Appendix 2. Interim ACTRIS Council – Rules of Procedure

Section 1: Scope and purpose

- (1) The Interim ACTRIS Council, hereafter referred to as IAC, is established to discuss and approve strategic issues such as legal, governance and financial principles, site selection and location of facilities for implementing the Aerosols, Clouds, and Trace Gases Research Infrastructure (ACTRIS).
- (2) The IAC aims to work actively and constructively in order to set up ACTRIS as a sustainable European research infrastructure.
- (3) The IAC aims to ensure that the views, interests and commitments of participating countries are taken into account before a legal entity for ACTRIS is established. IAC can be considered as the predecessor of the decision-making body of the future legal entity for ACTRIS.
- (4) The role of the IAC is to make decisions for implementing ACTRIS and preparing its legal entity. The IAC is supported in this process by ACTRIS PPP through drafting of documents and facilitating meetings.
- (5) The IAC is responsible for decisions related to the implementation of ACTRIS. It will
 - negotiate and approve the legal model, governance structure and founding documents,
 - approve the financial plan and the draft internal financial rules,
 - approve policy papers provided by the PPP,
 - approve all other necessary founding documents for implementation of ACTRIS,
 - approve the selection procedure and appointment of the Interim Director when needed, and
 - decide on any other issues deemed necessary by the IAC.

It may additionally establish Boards or Committees to give advice and recommendations on the planning and construction of ACTRIS.

Section 2: Membership

- (1) Countries who signed a letter of political support to the ACTRIS ESFRI proposal shall be directly included as members of the IAC.
- (2) Other countries may join as members of the IAC by signing the ACTRIS Letter of Intent.
- (3) Countries may also participate in the IAC as observers by sending a request to the Chairperson of the IAC. Observers have the right to attend IAC meetings without a voting right.
- (4) The IAC approves new members and observers.
- (5) The IAC is open for new members and observers during its entire lifetime.

Section 3: Chairperson

(1) The Chairperson and Vice-Chairperson are elected for a period of two years. They may be re-elected for one successive term.

Section 4: Representatives, advisers and experts

(1) Each member and observer may nominate up to three representatives to the IAC.

(2) Each member and observer shall send the name of its representative(s) to the Chairperson and to the ACTRIS PPP coordination office. The list of representatives shall be maintained and made available by the ACTRIS PPP coordination office.

(3) Each member and observer may be accompanied by up to two advisers.

(4) If those advisers are required to attend each IAC meeting, the member or observer whom they accompany shall send to the Chairperson the names of those advisers to be included into the hereinabove list of representatives.

(5) If a member or observer is occasionally assisted by an adviser, the member or observer shall send the name of their adviser to the Chairperson before the meeting.

(6) An adviser can express his/her opinion during a meeting but shall not, unless decided otherwise by the IAC, attend a closed session of IAC.

(7) The Chairperson may invite experts to attend the IAC meetings.

(8) Each representative, advisor or expert shall respect the confidentiality of the information provided during the meeting, the content of debates and the decisions taken by the IAC.

Section 5: Preparation and adoption of the agenda

- (1) A draft agenda shall be prepared by the Chairperson in collaboration with the PPP Coordinator and later also with the Interim Director and shall be sent to the representatives at least three weeks preceding the IAC meeting.
- (2) Materials to be considered by the IAC shall be sent to the representatives at least two weeks preceding the IAC meeting.
- (3) The draft agenda shall be considered for adoption at the opening of the meeting.
- (4) A member may request a new item to be added to the draft agenda by written notification at least two weeks preceding the IAC meeting, including all the material required.
- (5) During a meeting of the IAC, the members present or represented can request to add a new item on the agenda by simple majority

Section 6: Proxy

- (1) A member may be represented at the meeting by another member with written proxy, duly signed by one of its representatives. This proxy shall be notified to the Chairperson preferably before the meeting or at latest at the meeting.

Section 7: Quorum

- (1) The IAC decisions are not valid unless two-thirds of all members are present or represented.
- (2) If the quorum is not reached, the Chairperson shall convene, if necessary, a new meeting within a reasonable time with the same agenda. This new meeting shall be quorate regardless of the number of members represented, but only if this is expressly stated in the invitation to such a new meeting of the IAC.

Section 8: Voting

- (1) The IAC shall always aim for consensus decisions.
- (2) If voting is required, each member represented shall have one vote. Voting shall normally be by a show of hands. If requested by at least two members, voting shall take place by secret ballot.
- (3) When voting concerns election or nomination, voting shall be by a secret ballot.

- (4) Decisions shall be taken by a simple majority.
- (5) If the votes are equally divided, the IAC shall discuss the matter further and take another vote. If after a second vote, the votes are still equally divided, the item shall be considered rejected.
- (6) If votes concerning the election of the Chairperson or Vice-Chairperson are equally divided, a new voting round is taken until the votes are no longer equally divided.
- (7) Members who abstain from voting are to be considered as not voting and such abstention shall not prevent a decision from being taken with the specified majority. However, abstentions are in all cases to be recorded.

Section 9: Working Groups

- (1) If needed, the IAC may establish working groups and committees to prepare issues for decision.

Section 10: Closed session

- (1) The IAC may decide to hold a meeting or part of a meeting as a closed session. The decisions taken at a closed session shall be announced in open session and reported in the minutes.

Section 11: Conflict of interest

- (1) At the beginning of each meeting, all representatives, advisers and experts shall inform the Chairperson of any conflict of interest with regard to a particular item on the agenda.
- (2) In the event of such a conflict of interest, the person concerned shall, at the request of the Chairperson, withdraw from the meeting whilst the relevant items of the agenda are being discussed.

Section 12: Minutes

- (1) For each meeting, minutes shall be drafted under the Chairperson's responsibility. Decisions taken by the IAC shall be recorded in the minutes. The Chairperson shall send draft minutes to all the members' and observers' representatives within three weeks of the meeting.
- (2) The minutes will be approved by written procedure or in the next meeting.
- (3) No additional point shall be added to the minutes if it has not been raised at the IAC meeting. No member shall modify either its vote or its opinion in the minutes.

- (4) The Chairperson shall send the accepted minutes to all the members and observers.
- (5) To realize these tasks, the Chairperson shall be assisted by the ACTRIS PPP coordination office.

Section 13: Role of ACTRIS PPP coordination office

- (1) The ACTRIS PPP coordination office shall provide secretariat services to the IAC, including preparing for the meetings and during the meetings. The ACTRIS PPP coordination office shall assist the Chairperson, or in his absence the Vice-Chairperson, in the performance of his tasks.
- (2) The ACTRIS PPP coordination office shall receive, compile and distribute the documents of IAC. It shall prepare and circulate the minutes of the meetings, keep documents safely in the ACTRIS PPP coordination office archives, and perform all other work which the IAC may require.

Section 14: Remote meeting

- (1) A meeting may be held remotely if no member objects and if the electronic procedure offers the possibility for representatives to attend the meeting as if they were physically present.
- (2) The electronic procedure shall be explained before the meeting and before a vote.
- (3) In any case, the IAC procedures shall apply.

Section 15: Written procedure

- (1) The IAC may, in exceptional cases, take decisions by a written procedure conducted through electronic means. The written procedure will be launched by the Chairperson.
- (2) The written procedure can be requested by a member or an observer. The request and all relevant material have to be sent to the Chairperson, who passes the material on to the members and observers, and asks for permission to start the written procedure. Two thirds of the members need to agree before a written procedure can be conducted.
- (3) The Chairperson shall transmit material to be decided to the members through electronic means. No additional item shall be added to this material. A decision taken on an additional item shall be considered as null and void.
- (4) The quorum for the written procedure is reached when two thirds of the members have responded. A decision taken through written procedure shall be considered valid if members have responded during the defined period which shall not be less than three weeks.

(5) If less than two-thirds of the members have responded, a written procedure may not be followed, and the relevant item shall be considered, if necessary, by a physical meeting under the procedure hereinabove set out. Members not responding shall be regarded as abstentions.

(6) At the end of the period fixed for decision making the Chairperson shall collect the votes and abstentions of members. The Chairperson shall immediately notify the members and the ACTRIS PPP coordination office of the decision which thereby becomes effective. Decisions made by written procedure shall be declared at the next session of the IAC.

Section 16: Entry into Force and Amendments

(1) These Rules of Procedure shall come into effect on the date of their adoption by the IAC.

(2) Any IAC member or observer may propose amendments to the Rules of Procedure by short justifications. Amendments to the Rules must be agreed by the IAC.

(3) These rules are valid until they are replaced by other rules or until the IAC terminates.

Section 17: Termination

(1) The IAC will terminate when the ACTRIS legal entity is established and its Council has its first meeting.

Helsinki, Finland, 16 February 2017

Appendix 3. Interim RI Committee - Draft Terms of Reference

The objective and term

Interim RI Committee supports the ACTRIS PPP Coordinator in matters related to ACTRIS research infrastructure implementation. During the transition, the Interim RI Committee continues the steering work of the ACTRIS PPP Executive Board and helps the Interim Director in scientific strategic planning, coordination of the implementation of ACTRIS, and enabling and strengthening the communication between the National and Central Facilities, and the Transition Phase governance bodies.

IAC appoints the members for the body, which are nominated by the National Facilities Assembly and the Central Facilities. The process to nominate the Interim RI Committee will start as soon as the location of the Central Facilities is concluded (end of 2018). The body will be supplemented along the RI implementation process. The term will last as long as the General Assembly of the ACTRIS legal entity appoints the RI committee for the legal entity. The General Assembly of the ACTRIS legal entity can change the term.

IAC approves the ToR of the Interim RI Committee. Interim RI Committee defines its own procedures.

Scope of the Interim RI Committee

- Inform and discuss with the Interim Director General/Interim Board of Directors about the implementation of the RI, and help to achieve the operative level in the most efficient way.
- Contribute to drawing up proposals for the IAC in establishing plans related to ACTRIS to ensure consistence, coherence and sustainability of the research infrastructure services.
- Contribute to writing other scientific and technical documents deemed necessary for planning and implementing RI services.

Interim RI Committee composition

The Interim RI Com should include representatives from the RI components. The Interim RI Committee includes in the beginning the PPP Coordinator, later the Interim Director General/Interim Board of Directors, [one- two] representatives from each Central Facility, and [three] from the ACTRIS National Facilities Assembly representing the operative aspects of the National Facilities and not their own national interests. As soon as these representatives are known, they will be included in the body.

The representative of the Central Facility should be the leader of the facility or someone practically involved in the operation and management of that particular facility.

Interim RI Committee is convened by the ACTRIS Preparatory Phase Project Coordinator and during Transition by the Interim Director General/Interim Board of Directors, or if any of the Committee representatives asks for a meeting.

Resources

Interim RI Committee does not have a budget. It will get secretarial support from Finland (convening, meeting space, documenting). Everyone has to pay his or her own travel and accommodation costs for face-to-face meetings.

Appendix 4. Interim Scientific and Implementation Advisory Board - Procedure for nomination of the Interim SIAB

- The PPP Coordinator will ask the Executive Board of the ACTRIS PPP (PPP EB) and national ACTRIS coordinators to suggest candidates according to the criteria in the ToR
- A long list of candidates is compiled in the ACTRIS PPP Coordination Office in summer 2017
- The PPP coordinator discusses the candidates and develops a short list with the PPP EB
- The PPP EB makes a decision proposal for the IAC, including few deputy names
- The IAC decides on the Interim SIAB composition and its Terms of Reference (in October 2017)
- The PPP coordinator contacts the candidates and asks for their availability (the first contact could be made already when the PPP EB has decided on the short list of names to ensure the availability).
- The Interim SIAB is convened for first time by the PPP coordinator in early 2018.

Appendix 5. Interim Scientific and Implementation Advisory Board - Draft Terms of Reference

The objective and term

The objective of the Interim Scientific and Implementation Advisory Board (Interim SIAB) is to advise ACTRIS during the Preparatory and Transition Phase with the objective to achieve the scientific goals of ACTRIS and support it by commenting on the overall science plans and directions. The Interim SIAB is aimed to cover all the relevant fields of expertise regarding ACTRIS as described in the science case of the ESFRI proposal.

The term of the Interim SIAB will end when the General Assembly of the ACTRIS legal entity appoints the Science and Innovation Advisory Board. The Interim SIAB participates to ACTRIS annual meetings/PPP General Assembly meetings during the PPP and gives its recommendations annually to the PPP. The ACTRIS PPP coordination office may invite the Interim SIAB to other specific meetings if seen necessary. Interim SIAB can have web conferences. The Interim SIAB reports annually to the PPP. The ACTRIS PPP coordinator has right to respond to the reports. The reports are presented to the IAC.

The IAC can change the term. When PPP ends, Interim SIAB reports directly to the IAC. The IAC approves the ToR of the Interim SIAB. Interim SIAB defines its own procedures.

Scope

- Give feedback and advice on how best achieve the overall science objectives of ACTRIS commenting on the overall science plans and directions,
- Follow the progress in achieving these goals, and help develop strategies that will advance the development of ACTRIS,
- Promote innovative activities of ACTRIS, this may include scientific approaches to partnerships,
- Assure that the appropriate information about implementation is delivered to track the construction and operation scope, schedule, budget, risk, and contingency.

In addition, the IAC may task Interim SIAB for specific activities. Interim Director can make suggestions to the IAC on the tasks for the Interim SIAB.

Interim SIAB composition

Interim SIAB shall cover all the relevant fields of expertise regarding the ACTRIS RI as described in the science case of the ESFRI application. The Interim SIAB shall include up to [7] members.

Interim SIAB, in its totality, should have:

1. Demonstrated leadership and experience in the following fields:

- A. research and education in atmospheric sciences, climate change or similar,
- B. research and education in atmospheric modeling, climate change modeling or similar,
- C. management of e-infrastructures and data sciences,

- D. societal and policy relevant fields, and
 - E. managing large research infrastructures.
2. Balance between European and outside European representation (at least 2/3 from Europe)
 3. Gender balance
 4. Demonstrated connections to other user communities of the upstream and downstream users/services, to international organisations, and to private sectors

Resources

The direct travel costs (transport fares, accommodation and other proven necessary expenses) and per diems related to ACTRIS annual meetings/General Assembly meetings will be reimbursed for the Interim SIAB by the PPP and later by the legal entity.

Appendix 6. Science and User Forum – Draft Terms of Reference (To be drafted after discussion in the PPP Executive Board on engagement strategy for them.)

Appendix 7. National Facilities Assembly – Draft Terms of Reference (To be drafted in 2018)