Annual report of ACTRIS Central Facility

Central Facility: Data Centre

Report of year: 2024

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Section 1: Summary of the Central Facility

General description of the Central Facility and its role in ACTRIS

The ACTRIS Data Centre (DC) is responsible for handling the ACTRIS data from observational or exploratory National Facilities complying with the procedures established within ACTRIS.

The mission of ACTRIS DC is to compile, archive and provide access to well-documented and traceable ACTRIS measurement data and data products, including digital tools for data quality control, analysis, visualisation, and research. As a tool for science, the highest priorities for the ACTRIS DC are to maintain and increase the availability of ACTRIS data and data products relevant to climate and air quality research for all interested users.

The overall goal of the ACTRIS Data Centre (DC) is to provide scientists and other user groups with free and open access to all ACTRIS data, complemented with access to innovative and mature data products, together with tools for quality assurance (QA), data analysis and research. ACTRIS data and products should be findable, accessible, interoperable and reusable (FAIR), and the data centre works towards fulfilling the FAIR principles: https://force11.org/info/the-fair-data-principles/.

Detailed documentation of the ACTRIS data management life cycle and planned data collected, processed and/or generated can be found in the ACTRIS Data Management Plan (DMP): https://github.com/actris/data-management-plan/blob/master/DMP/ACTRIS-DMP.md.

Summary of the implementation status of the Central Facility

The ACTRIS Data Centre (DC) is ready, providing operational activities serving the national facilities and providing access to data. Implementation and operational activities were conducted in parallel with the operational activities. During 2024, the data centre employed more than 26 full-time equivalent positions, with more than 35 persons involved in either implementation or operational activities. The new ACTRIS Data Portal (https://data.actris.eu) provides access to all ACTRIS data and legacy data from all DC units, in addition to data products, tools, services, and complementary data from other frameworks. All the ACTRIS DC units are operational with a few tasks in the pipeline for implementation, ending in 2025.

For the In Situ DC unit, provenance documentation and access to non-real-time level 0 and 1 data remain to be completed. Improved interoperability with TCs is in progress, including the implementation of machine-readable documentation of TC's, instrument identification, and documentation of QA/QC, with this work relying on progress at the TC level. For the ARES unit, some work remains before completion into operational mode, with all tasks in the final stage, including the provenance of documentation, making campaign services more operational, and implementing Level 3b data. For the CLU unit, adherence to provenance and vocabulary is still being worked on, and documentation of CLU services requires finalization. Full interoperability with the CCRES cloud profiling units is being developed, with new services requested by the TC Units as they finalize their workflows. Level 3 services also need further development. For the GRES unit, finalizing tests of the data workflow with NFs and CREGARS is ongoing, while support tools for national facilities are under progress, and documentation needs to be upgraded. For the ASC unit, some adaptations are in progress to ensure compatibility with the general scheme of ACTRIS DC data, DVAS portal, and ASC unit.

Highlights of the Central Facility during the reporting period

The new ACTRIS Data Portal was released in September 2024 for all users, providing access to ACTRIS data and legacy data from all DC units, along with other data products, tools, services, and complementary data from other frameworks. Over the first three months, the portal recorded approximately 2,500 visits. The core operational activity for the DC units is to maintain the data flow. To illustrate the broad operational efforts, a summary of the data provided by ACTRIS NFs in the labelling process is as follows. The In-Situ unit curated all incoming in situ data, handling 172 data submissions with time series from 27 initially labelled ACTRIS NFs in 2023, covering 91 variables. The number of instruments delivering data in real-time increased from 23 in December 2023 to 38 in December 2024. The ARES unit curated all incoming data, introducing new data

products related to the combined use of lidar and photometers. In 2024, data from 25 different stations were curated, and centralized processing was performed for 35 sites. A total of 475,629 files were added to the ARES database, with NRT data processed for 21 sites. Of all the data available for 2024, 72.73% was uploaded in NRT. A test dataset for aerosol layering, typing (high and low resolution) and ELDAmwl was released to CAMS in November 2024. The CLU unit curated all incoming cloud profiling data, with 15 stations providing a full complement of observations for at least part of 2024. Throughout the year, 115,328 files were added or reprocessed, increasing to 451,630 when including model files. RRT processing capability, enabling data processing in under three hours, was introduced for 14 sites in 2024. GRES curated FTIR, UVVIS, and Lidar data from six different stations in 2023 through centralized processing. Atmospheric simulation chamber data was provided by prospective exploratory platforms to the ASC unit. In 2023, 46 new data products from simulation chambers were curated through centralized processing.

Section 2: Central Facility Units

General description of each Unit and its role in the Central Facility

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Unit 1 name

ARES

Hosting RPOs and countries

Consiglio Nazionale delle Ricerche (CNR), Italy. Contribution: Le Centre National de la Recherche Scientifique (CNRS)

Role of the Unit within the Central Facility

The ARES data centre unit provides data curation and data processing services for aerosol remote sensing data coming from lidar and photometer observations. This includes centralised processing, traceability, harmonization and data versioning, quality control, data archiving in EARLINET DB, data provision and documentation. The unit allows for RRT and NRT data provisioning and offers support and training activities. Furthermore, level 3 data production for climatological analysis and the delivery of new data products are offered.

Implementation status of the Unit at the end of the concerned year

The unit is fully operational, and by the end of 2024, nearly all planned features for the operational phase are ready. The NF-CARS-ARES workflow was fully designed and functional in 2024. Some optimization and automation are planned, pending TC-side actions, but the process is working.
Since December 18, 2024, combined aerosol lidar-photometer data have been available via the ARES database API. Test datasets for multiwavelength, aerosol layering, and aerosol typing products have been provided to CAMS for feedback before full integration into the operational workflow by 2025. The final implementation of workflow optimization and additional products is underway.
Data curation services are operational, and combined lidar-photometer data products are accessible via the ARES REST API as experimental products, with further optimization needed. PIDs and landing pages are linked to ARES optical properties products, while DOI assignment for annual datasets is operational. PIDs and landing pages for other products are in progress.
In 2024, a direct link with CLU was established for quick and advanced use of forecast models in aerosol retrieval.

Deviation from the plan of the respective year

No relevant deviation was observed. Some implementations were slightly delayed because of delays in the related projects funding the implementation (mainly related to EarthCARE).

Personnel resources used for implementation activities during the concerned year in PMs

3,90

Unit 2 name

ASC

Hosting RPOs and countries

Le Centre National de la Recherche Scientifique (CNRS), France. Contribution: Université Paris-Est Créteil (UPEC), France

Role of the Unit within the Central Facility

The ASC data centre unit provides data curation service for data obtained from experiments in atmospheric simulation chambers (ACTRIS exploratory platforms). This includes tools for harmonised data and metadata submission, inclusion of data and metadata in the database, traceability, harmonisation and data versioning, quality control, archiving, documentation and data provision. The ASC unit is structured in three pillars. The Database of Atmospheric Simulation Chamber Studies (DASCS) provides access to experimental data (level 2 data), typically a time series of measured parameters during an experiment in a simulation chamber. The Library of Analytical Resources (LAR) provides quantitative analytical resources that include infrared spectra and mass spectra of molecules and derivatives (level 3 data). The Library of Advanced Data Products (LADP) provides different types of mature data products (level 3 data): rate constants of reactions, quantum yields and photolysis frequencies of trace gas compounds, secondary organic aerosol (SOA) yields, mass extinction/absorption/scattering coefficients and complex refractive index of aerosols, growth factors of aerosols and modelling tools.
Data curation service for atmospheric simulation chamber data includes the standardised process for data submission, quality control, inclusion of data in the AERIS database, search metadata creation and provision and archiving.

Implementation status of the Unit at the end of the concerned year

The unit is operational. Some adaptations are in progress to ensure compatibility with the general scheme of ACTRIS DC Data, the DVAS portal, and the ASC DC unit. These will evolve in 2025, resulting in all ACTRIS data provided by ASC being available in the ACTRIS data portal.

Deviation from the plan of the respective year

Implementation costs for 2024 are higher than the budgeted costs due to tasks moved from 2023 to 2024.

Personnel resources used for implementation activities during the concerned year in PMs
4,00

Unit 3 name
CLU

Hosting RPOs and countries
Finnish Meteorological Institute (FMI), Finland

Role of the Unit within the Central Facility

The CLU data centre unit provides data curation and data processing service of cloud remote sensing data. This includes centralised processing, traceability, harmonisation and data versioning, quality control, data provision and archiving, and documentation. The activity enables RRT and NRT data compilation and delivery, and participation in training. Furthermore, data product generation of level 3 data for forecast and climate model evaluation, climatological analysis and new products is offered.

Implementation status of the Unit at the end of the concerned year

The unit is operational, and the main tasks of CLU are now operational, including provenance and DOI publishing activities. Monitoring of data provision is automated and accessible for reporting via API. CLU continues to develop instrument and geophysical product QA/QC procedures together with CCRES, with the implementation of relevant procedures transferred from CCRES to CLU for operation as they become mature.

Deviation from the plan of the respective year

No significant deviations from the plan

Personnel resources used for implementation activities during the concerned year in PMs
0,00

Unit 4 name
DVAS

Hosting RPOs and countries

NILU, Norway. Contribution: Le Centre National de la Recherche Scientifique (CNRS), Consiglio Nazionale delle Ricerche (CNR), Finnish Meteorological Institute (FMI), Barcelona Supercomputing Centre (BSC)

Role of the Unit within the Central Facility

ACTRIS Data Discovery, Virtual Access and Services unit (DVAS) is responsible for organising access to measurement data from the topic data centre units, and documentation of procedures as support to observational and exploratory NFs. The DVAS unit provides the ACTRIS web interface for data download, services and digital tools as well as performing data production of Level 3 data, and synergy data products.
The ACTRIS DVAS web interface is called "The ACTRIS Data Centre" and includes a searchable metadata catalogue as well as other services. The main activities are Discovery and access to ACTRIS data and data products, an overview of digital tools provided by the topical centres and the data centre units, documentation, software and tools for data production. Visualisation of ACTRIS data products. Data production of Level 3 data using synergistic and integrated data. The data centre also offers a bridge to external databases and sources.

Implementation status of the Unit at the end of the concerned year

The Unit is fully operational. The ACTRIS data portal was released in September 2024. The development has been conducted as an incremental process with feedback and involvement of the ACTRIS DC Expert Team, ACTRIS DC management board, and data users. The unit worked on further optimising and developing the ACTRIS DVAS database and API for data ingestion and access, as well as improving and expanding the ACTRIS vocabulary. Large efforts were made for the harmonisation of facility metadata across all DC units, involving the Head Office in the process making sure it aligns with the plan of the NF labelling system. BSC has implemented mapping of ACTRIS data, metadata and flag standards so that these can be accessed within the model evaluation tool. More than 140 2D variables from the catalag now available. After the release of the portal in September 2024, it experienced issues with performance due to periodically increased and intensified use of the application. Work is ongoing on fixing these issues and implementing load balancing of the service to scale and perform well under high-intensity use. Currently more than 50 services are added to the new portal, including support, training material and tools for campaigns. Within DVAS, the new interface for monitoring data provision and usage is being implemented to improve accessibility for users, including principal investigators of the NFs. This is in place for CLU as a pilot unit. The work will continue in 2025. BSC has implemented automatic downloading and formatting of data from the ACTRIS API, when running the model evaluation tool (Providentia) configuration file. Formatting includes temporally averaging data onto standard time bases. Furthermore, BSC are in progress with completing and putting in production model metadata publishing on the ACTRIS portal. This is under testing, it will be up and running operationally in 2025.

Deviation from the plan of the respective year

No deviations from the plan except for small delays in Activity 10, linked to small delays in the topic unit implementation activities and head office evolution of routines. Temporal deviation in DVAS-CNR activities due to the alignment with EarthCARE mission. Implementation costs for 2024 are higher than the budgeted costs due to tasks moved from 2023 to 2024.

Personnel resources used for implementation activities during the concerned year in PMs
39,00

Unit 6 name
GRES

Hosting RPOs and countries
Le Centre National de la Recherche Scientifique (CNRS), France

Role of the Unit within the Central Facility

The GRES data centre unit provides data curation service for reactive trace gases remote sensing data. This includes standardised processes for metadata and data submission, traceability, data versioning, quality control, inclusion of data in the database, data provision and archiving, and documentation. In addition, it offers the production of level 3 for climatological analysis and added value products (quick looks, links to EVDC-ESA Atmospheric Validation Data Centre). All data is stored in the GRES database which is hosted by the French data centre for atmospheric data AERIS.

Implementation status of the Unit at the end of the concerned year

The unit is operational. The link with the DVAS catalogue is in progress and also finalisation and tests of the data workflow with NFs and CREGARS are ongoing, and improved support tools for national facilities are under progress. Documentation will be upgraded in 2025.

Deviation from the plan of the respective year

No major deviations from the expected plan.

Personnel resources used for implementation activities during the concerned year in PMs
6,20

Unit 7 name
In-Situ

Hosting RPOs and countries
NILU, Norway

Role of the Unit within the Central Facility

The In-Situ data centre unit provides data curation service for aerosol, cloud, and trace gas in situ data, as well as archiving of this data using the EBAS database. This comprises tools for harmonized data submission and metadata templates, inclusion of data and metadata in the database, documenting (meta)data traceability and provenance, harmonization and data versioning, quality control, archiving, documentation, data identification, and data provision. Training and online tools for QA/QC are offered. The activity enables RRT and NRT data collection, compilation, and delivery, and provides tutorial activities. Furthermore, support for centralized data processing, harmonization, and data product generation, for both level 2 and level 3 are offered.

Implementation status of the Unit at the end of the concerned year

The unit is fully operational. Data archive and curation services are operational. The implementation of the improved data real-time data production workflow tool and data access has been started and will be completed in 2025. Data curation tasks suitable for automation have been selected and added to the implementation pipeline for the next period. In 2024, the implementation of data identification (DOI) at DC In Situ has been finished. This includes the design and content of landing pages, link to actual data resources by machine interface, and publication of data in DataCite, all in several granularities for different use cases. Implementation of provenance documentation has been planned. All ACTRIS In Situ data products are available through interfaces for machines, enabling the production of level 3 data products by external providers. Production of combined data products (higher level data products) e.g. equivalent black carbon data product has been extended and will be finalised in 2025.

Deviation from the plan of the respective year

Delay in Activity 9 due to lacking implementations in associated TCs. Implementation costs for 2024 are higher than the budgeted costs due to tasks moved from 2023 to 2024.

Personnel resources used for implementation activities during the concerned year in PMs
35,00

Section 3: Activities
Central Facility activities

Activity 1: Data archive services

Readiness status of the Central Facility for performing the activity

Data archive service is operational for all units.
● In-Situ: Data archive services at DC In-Situ are fully operational. Link for populating DVAS catalogue portal established. Maintenance of RRT data reporting streams established and ongoing.
● ARES: Data archive services at ARES are fully operational. Link to DVAS catalogue portal established for optical products (others to be implemented). All the products are available through machine interfaces.
● CLU: Data archive service operational as is link for populating DVAS catalogue.
● GRES: Operational and ready for data from National Facilities. Complete link with DVAS catalogue in progress, partly established
● ASC: Operational and ready for data from National Facilities. All the products are available through machine interfaces. Complete link with DVAS catalogue in progress, partly established

Realized actions during the concerned year

All units maintain onsite and off-site backup done every day.
The actions of the activity are summarised for the involved DC units:
●DVAS - CNR: System ready for the archive service.
●In-Situ: Implementation of data production workflow upgrade ongoing.
●ARES: Data transfer and processing workflow run operationally.
●CLU: Updates and upgrades to data transfer and processing workflow performed.
●GRES: Data archive service runs operationally.
●ASC: Data base updated operationally by daily backup.

Realized outcomes of the activity

The outcomes of the activity are specific for each DC unit:
●   DVAS – CNR Archiving and backup system are up and running
●   In-Situ: Operational Archive system where all surface in situ data submitted by prospective ACTRIS NFs have been archived using the legacy workflow,
●   ARES: Archiving and backup systems are up and running with an uptime of 99.5%.
●   CLU: Real-Real-Time functionality (production within 3 hours of measurement) including QA/QC are operational for most cloud profiling stations
●   GRES: All received data have been archived in the GRES database.
●   ASC: All provided data have been archived in the ASC database

Challenges faced during the reporting period and their effect on the outcomes

Nothing to report.

Personnel resources for the operational activity in PMs

11,45

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Archived / submitted data	1	95 %	95 %	<95%: Achieved for all units curating data from NF in the labelling phase (Not applicable (NA) for ASC and GRES no NF accepted for initial labelling)
Backup service failure	1	5 %	1 %	<1 %: Both local and secondary backup for all units curating data from NF in the labelling phase (NA for ASC and GRES, no NF accepted for initial labelling)

Activity 2: Data curation, production and tools for national facilities

Readiness status of the Central Facility for performing the activity

All the units are ready and operationally working for their respective NF data curation. In particular, the production of standard products is fully operational for all units, both for NRT and fully quality checked data. Some products are available as experimental data and/or not yet available.

Realized actions during the concerned year

No labelled ACTRIS NFs are currently available for any units but maintaining the data flow from facilities that have been contributing to ACTRIS over the last few years, and that are now in the labelling process, or preparing for labelling in the next few years are essential. There has been high activity on operational curation of data received from National Facilities in the labelling phase.

The actions of the activity are summarised for the involved DC units:
●In-Situ: Curated all incoming surface in situ data by prospective ACTRIS In Situ NFs, i.e. documented by issue tracker and submitted through web-based data submission interface providing immediate feedback on syntax and semantic checks. Increased number of instruments with established real-time data reporting streams. Mapping of data curation tasks for prospective automation.
●ARES: no NFs are fully labelled for this unit. Anyhow there are 12 stations that passed Step1a during 2024. For those stations, 279188 files have been added or reprocessed on the ARES DB in 2024. Overall, disregarding the status of the NF/stations, ARES curated data from 25 different stations and centralised processing was performed for 35 sites in 2024. NRT data provision was recorded for 21 stations in 2024.
●CLU: No fully labelled NFs for this unit. For 2024, 8 stations have passed Step1a (3 during 2024). In total 415328 product files (451630 including model data) were created or re-processed in 2024
●GRES: During 2024, FTIR, UVVIS and Lidar data from 7 different stations were curated through centralized processing that corresponds to a volume of 2 GB of data.
●ASC: During 2024, 41 new data products from simulation chambers were curated through a centralized processing.

Realized outcomes of the activity

The outcomes of the activity are specific for each DC unit:

●In-Situ: In total, 172 data submissions from 27 initially labelled ACTRIS NFs were curated in 2024. The number of files is approximately a factor of 3 larger due to traceable data reporting. The number of instruments delivering data in real-time was increased from 23 (December 2023) to 38 (December 2024).

●ARES: all data incoming from aerosol remote sensing sites were curated. A total number of 483503 files (for 25 different sites, of which 98.68% were uploaded automatically), including low- and high-resolution pre-processed data, level 1 and level 2 optical products, and lidar+photometer combined data were added to the ARES database in 2024. NRT data (≤72h) was produced for 21 sites, and 72.71% of the data was uploaded in NRT.

Regarding the sites that have passed Step 1a, a total number of 279188 files (for the 12 initially accepted sites, of which 99.89% were uploaded automatically). NRT data was produced for all these sites, and 95.34% of the data was uploaded in NRT.

●CLU: NFs sending data in real-time from new instrument types and versions, followed by curation by CLU using tools provided by TCs

●GRES: During 2024, FTIR, UV-VIS and Lidar data from 7 different stations were curated through centralized processing that corresponds to a volume of 2 GB of data.

●ASC: During 2024, 41 new data products from simulation chambers were curated through centralized processing.

Challenges faced during the reporting period and their effect on the outcomes

DVAS: Nothing to report
In-Situ: Onboarding of NFs into aerosol in situ real-time network delayed due to limitations in CAIS-ECAC.
ARES: Nothing to report
CLU: Nothing to report
GRES: Nothing to report
ASC: Nothing to report

Personnel resources for the operational activity in PMs

61,76

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Uptime for data curation	2	95 %	99 %	Achieved for all units curating data from NF in the labelling phase (NA for ASC and GRES no NF accepted for initial labelling)
Provision of NRT data sets	2	95 %	95 %	Achieved for all units providing NRT data in the labelling phase (NA for ASC and GRES no NF accepted for initial labelling)
Provision of QC data sets	2	95 %	99 %	Achieved for all units curating data from NF in the labelling phase (NA for ASC and GRES no NF accepted for initial labelling)
Provision of level 3 data sets	2	95 %	100 %	Achieved for all units curating data from NF in the labelling phase (NA for ASC and GRES no NF accepted for initial labelling)

Activity 3: Campaign services

Readiness status of the Central Facility for performing the activity

DVAS: Access to basic tools is operational with services providing tools for campaigns data curation and archive of campaign data on request. This is available from the service page of the ACTRIS data portal: ACTRIS Data Portal. All tools and services for campaigns are operational and available for the users. This concerns the data curation services for homeless data and campaign data through the In-Situ, ARES, and CLU units, as well as the DVAS unit for making the services available. The campaign service is made available through the new DVAS portal launched September 2024. The campaign services aren't applicable to the GRES and ASC units.

Realized actions during the concerned year

All concerned DC units, DVAS, In-Situ, ARES, and CLU, provided the campaign support required, also organised through the ATMO-ACCESS project, including non-ACTRIS sites.

Realized outcomes of the activity

The outcomes of the activity are specific for the DC units:
●DVAS: Complementary data available for users of ACTRIS DC. 9 Data curation services for homeless data across the DC available through ATMO-ACCESS homeless data portal and 59 requests for FLEXPART modelling products.
●In-Situ: In total, 140 identified datasets of surface in situ data were curated through this pathway in 2024.
●ARES: in total, 15845 files corresponding to simulated/real EarthCARE overpasses were curated in 2024 for 19 different stations. Of those, 3755 files were for 5 non-ACTRIS sites, and 12090 for ACTRIS sites. Specifically, for the EarthCARE validation rehearsal campaign, 8 measurements were collected out of the 32 simulated overpasses (25%), resulting in 79 files (20 ACTRIS, 59 non-ACTRIS) for 4 stations (1 ACTRIS, 3 non-ACTRIS). For the real EarthCARE overpasses, data for 299 measurements was curated (898 overpasses, 33.3% coverage), resulting in 11700 files (12070 ACTRIS, 3696 non-ACTRIS) for 18 stations (14 ACTRIS, 4 non-ACTRIS).
●CLU: Campaign service functional and provided to 4 stations through ATMO-ACCESS and RI-URBANS
●GRES: Not applicable
●ASC: Not applicable

Challenges faced during the reporting period and their effect on the outcomes

Nothing to report

Personnel resources for the operational activity in PMs
12,75

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Provided services for campaigns	3	99 %	100 %	All requests have received support. In-Situ: What is the reference number and unit, i.e. what is "approved services"? 2023: 125 files handled. 2024: 140 datasets curated. ARES: all campaign service was request for ATMO ACCESS EarthCARE validation campaign and this was provided for all the ACTRIS and not-ACTRIS (2) sites CLU: Campaign service provided for: ATMO-ACCESS Satellite Cal/Val activity, which also included non-ACTRIS stations; continued support for Eriswil campaign; support for ATMO-ACCESS TNA campaign in Chennai.

Activity 4: Data attribution and traceability

Readiness status of the Central Facility for performing the activity

DVAS: The first solution of collection DOI service is operational.
In-Situ: Operational, data identification by DOI in several granularities serving various use cases operational since 2024.
ARES: PID and DOI service operational.
CLU: PID and DOI service operational.
GRES: PID service operational. No more DOI service provided by GRES.
ASC: DOI service is operational.

Realized actions during the concerned year

The actions of the activity are summarised for the involved DC units:
●In-Situ: Data traceability was realised using the hierarchy of data levels established for ACTRIS in situ data. Implementation of data identification by DOI finished in 2024.
●ARES: PIDs are operationally assigned to aerosol profile data. DOI are assigned to level 3 and annual datasets.
●CLU: PID and DOI service operational
●GRES: PID assigned to all GRES data.
●ASC: DOI are automatically assigned at every data submission.
●DVAS - Overlooking landing pages on DC unit level and maintain DOI coining for higher level/collection data products

Realized outcomes of the activity

●   In-Situ: In 2024, 1093 version DOIs were coined for in situ data, covering 812 submissions for ACTRIS in situ and associated networks.

- ARES: 80393PIDs and 179 DOIs have been assigned to ARES data in 2024.
- CLU: 451630 PIDs assigned to CLU products and 314 DOIs being minted for users for datasets (including arbitrary collections)
- GRES: In 2024, 2090 PIDs have been assigned to GRES data.
- ASC: In 2024, 1088 DOIs have been minted for data products issued from simulation chambers.

Challenges faced during the reporting period and their effect on the outcomes

Nothing to report

Personnel resources for the operational activity in PMs

16,18

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Documentation system uptime	4	95 %	95 %	>95%: Documentation to be available at website of unit levels and through the DVAS portal (only DC dependent portals). KPI/Unit of measure will be revised.
Provided PIDs	4	95 %	100 %	Not applicable for ASC and DVAS
Provided DOIs	4	95 %	98 %	>98%: Not applicable for GRES

Activity 5: Support and training

Readiness status of the Central Facility for performing the activity

DVAS: Documentation and tutorials in place in the new portal
In-Situ: DC In Situ uses community events for teaching and workshops on data reporting and use, but offers also e-learning resources. Routine workshops jointly with CAIS-ECAC, CiGAS.
ARES: Ready, with routine workshops jointly with CARS.
CLU: Ready, with routine workshops jointly with CCRES.
GRES: Ready on request.
ASC: Ready on request.

Realized actions during the concerned year

All DC units are continuously providing support by human interaction, and keep their support and training documentation updated, also in collaboration with their connected TCs. DVAS has a supporting role in these efforts, and material is collected in the new portal.

Realized outcomes of the activity

The outcomes of the activity are specific for each DC unit:

●DVAS - informing on access to material across the DC units, and provide and maintain access to support across DC units, Documentation on portal, and tutorials on use of portals and functionalities are available.
●In-Situ: In total, DC In Situ delivered teaching sessions or workshops on data reporting or use to ACTRIS internal, but also external communities, on 16 occasions in 2024. In addition, the e-learning resources generated over 660 views.
●ARES: 2 CARS-ARES webinars with NFs specifically addressing ARES topics (March 2024 – QCs on ARES data and December2024 – station by station discussion). The material is available on an ARS cloud shared place. ARES was also involved in training events, resulting also in production of some videos for e-learning about SCC use and ARES DB. The material will be publicly available in 2025.
●CLU: Support and training given in joint CCRES-CLU workshops twice a year
●GRES: Support on TC requests
●ASC: Support on TC requests.

Challenges faced during the reporting period and their effect on the outcomes

Nothing to report

Personnel resources for the operational activity in PMs
9,20

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Activities performed	5	95 %	95 %	What is the planned number? In situ in 2024: 16 events ARES: 4 events: webinar in March, an event (3 days) in December, a training event in November at CNRIMAA, CARS-ARES workshop during the ACTRIS week CLU: Participation in whole DC, and CLU-CCRES joint workshops and tutorials DVAS: Tutorials and training sessions at meetings.

Activity 6: Find and access data

Readiness status of the Central Facility for performing the activity

DVAS: The new ACTRIS data portal is operational with an interface for access to ACTRIS data, legacy data, data products, services and digital tools. The new portal is ready to provide all ACTRIS data and data services to users. All DC units have data are findable in the ACTRIS REST API (DVAS catalogue) for Machine-to-machine access and ACTRIS data portal.
In-Situ: Data discovery and access operational through all interfaces.
ARES: Data discovery and access operational through all interfaces.
CLU: Data discovery and access operational through all interfaces.
GRES: Data discovery and access to all data products issued via operational interfaces. Completion of meta data provision of all data to ACTRIS REST API is in progress.
ASC: Data discovery and access to all data products issued from simulation data chambers via operational interfaces. Completion of meta data provision of all data to ACTRIS REST API is in progress.

Realized actions during the concerned year

A new ACTRIS data portal was released in September 2024. To prepare for this, large efforts have been made over the last years with respect to improvement of FAIRness, with harmonisation and convergence across the DC and the units see Myhre et al, 2023. The development of the DVAS portal was conducted during 2024, focusing on functionality and harmonization of the data and metadata provided by the different DC units. The development was conducted as an incremental process with feedback and involvement of the ACTRIS DC Expert Team and ACTRIS DC management and feedback from users. In addition to the front-end development of the portal, a lot of the work was further optimising and developing the ACTRIS DVAS database and API for data ingestion and access, as well as improving and expanding the ACTRIS vocabulary. Selected milestones on the detailed work of the implementation and timeline of upgrades within DVAS to meet the requirement for the new ACTRIS data portal is summarised here:
● Facility harmonization (e.g. names and locations) between DC units (March 2024).
● Implemented monitoring of use of the new portal.
● DVAS statistical dashboard for user statistics and metrics first version (May 2024).
● DVAS catalogue of services (September 2024).
● Release of new ACTRIS data portal beta version for testing within the ACTRIS community (September 2024).
● All DC units provide metadata to the DVAS catalogue operationally making them findable in the new portal (October 2024).
● Implement ACTRIS Virtual Research Environment - VRE : Release (October 2024).
● Library for DVAS data access in ATMO-ACCESS (December 2024)
● Implementation of trajectory and footprint analysis services through and link to the ACTRIS NFs (December 2024)
● The interface for metadata exchange between the unit database, data repository and the DVAS portal has been established following ACTRIS' internal specifications. Data discovery and access services were kept up and running more than 95% of the time.

Realized outcomes of the activity

Data from 739 facilities are available from the portal, and 323 403 files can be accessed from the portal, or through machine-to-machine access from all the DC topic units. Furthermore, access to more than 50 services and digital tools is available. In the period 1 September 2024- 31 December 2024, there were 2297 visitors to the portal, and from 67 countries. USA, Norway, Italy, Germany, and France were the most visited countries.

Challenges faced during the reporting period and their effect on the outcomes

DVAS: After the release of the portal in September 2024, the DVAS portal and catalogue have experienced issues with performance due to periodically intensified use of the application. A lot of the work at the end of the year and at the beginning of 2025 has been on fixing these issues and also implementing load balancing of the service in order to scale and perform well under high-intensity use.

Personnel resources for the operational activity in PMs

15,80

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Data access uptime	6	95 %	98 %	All tools to be considered here: portals, THREDDS, API etc.

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
ACTRIS datasets downloaded	6		100,0	Yes: Mean downloaded datasets in the previous 5 years, All methods (API, portal etc) included here. Total Download 2024: Unit No. Of Datasets downloaded In situ 7523 ARES 5153 CLU 12597 ASC 149 GRES 46 Total ACTRIS DC 25468
Number of different users	6		100,0	Yes: Mean number of different users in the previous 5 years, All methods included here. Total #users visiting the portal since release September : 2297 from the release 4th September 2024-end 2024, Unit Number of users visiting unit portals in 2024 In situ 88940 ARES 179 CLU 1670 ASC 9982 GRES 46
DOIs for level 3 data sets	6	95 %	95 %	Yes: Ratio between the provided DOIs with respect to planned DOIs (end of year plans)

Activity 7: Data curation, production and tool service for integrated data

Readiness status of the Central Facility for performing the activity

This is ready, alongside the ACTRIS data curation. Unit wise summary is as follows:
DVAS: Not applicable
In-Situ: DC In Situ data is accessible through the WMO Information System (WIS) and the GEOSS data portal.
ARES: Nothing to report.
CLU: Links to multiple NWP centres established.
GRES: Not applicable
ASC: Data curation services for L3 data are operational.

Realized actions during the concerned year

Maintaining the operation of the data access platform and links for external networks and for complementary products. Management of several requests for curation of non-NF stations and campaigns data received through ATMO ACCESS project. For DC In Situ, a combined product providing equivalent black carbon data was implemented. For ASC, maintaining data curation services for L3 data.

Realized outcomes of the activity

Data from EMEP, EARLINET, CLOUDNET, and GAW-DCs are now identified in ACTRIS DC and populate operationally the DC metadata catalogue. Higher level data (level 3) of simulation chambers are also now continuously accessible. Data from these frameworks are available in the new ACTRIS data portal. For ASC, 583 L3 data files have been curated through the ASC unit.

Challenges faced during the reporting period and their effect on the outcomes

Nothing to report

Personnel resources for the operational activity in PMs

17,05

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Integrated tools uptime	7	95 %	98 %	
DOIs collected	7	95 %	100 %	no requests

Activity 8: User community support and services

Readiness status of the Central Facility for performing the activity

This is a continuous and operational service. The data centre is ready and offering support to user communities.
DVAS: Ready and offering support to user community.
In-Situ: Data curation, access, and discovery services for data from associated networks are fully operational.
ARES: Ready and offering support to the user community.
CLU: Ready and offering support to user community, including implementation of experimental products created by the community.
GRES: Ready and offering support to user community.
ASC: Ready and offering support to user community.

Realized actions during the concerned year

Ongoing collaboration with ENVRI partners in the ENVRIhub-NEXT project to establish a prototype common hub of services with potential for integration into EOSC. Collaboration with US partners at NOAA, NASA, and ARM to work towards FAIR convergence in data management and common standards in quality assurance and quality control is ongoing and intensified in CARGO-ACT project.
Participation in the ongoing Satellite Cal/Val TNA activities within the ATMO-ACCESS project.
Coordination with all ACTRIS communities to provide support for the data provision of the different units of the Data Centre.

Realized outcomes of the activity

DVAS (updated 2025): Keep the ACTRIS API (machine-to-machine access) operational for all external users,

maintain interoperability and link to other RIs and initiatives and provide support to regional and global networks and related initiatives (e.g. GAW, EMEP, GALION) on ACTRIS FAIR data principles.

For the aerosol and reactive gases networks in WMO Global Atmosphere Watch, DC In Situ curated 506 and 275 data submissions, respectively, in 2024. For aerosol, most of these submissions were traceable, which means the number of files handled was roughly a factor of 3 of the number of aerosol submissions. DC In Situ continued to provide operational access to in situ real-time data to CAMS.

CLU and ARES delivered the requested data and support for ESA and EUMETSAT within the ongoing Satellite Cal/Val TNA activity within the ATMO-ACCESS project.

GRES: Visualization services for all trace gas data products provided to users

ASC: Several meetings were organized with ASC data managers to help them integrate new experiences through the ASC provider interface (3 during 2024).

Challenges faced during the reporting period and their effect on the outcomes

Nothing to report

Personnel resources for the operational activity in PMs

14,20

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Number of users for training	8		567,0	Users attending training events and courses from various DC units are different. KPI/Unit of measure will be revised.

Activity 9: Workflow with other Central Facilities

Readiness status of the Central Facility for performing the activity

Where applicable, all DC units continuously operate with their respective topical centres (i.e. ARES with CARS; CLU with CCRES; GRES with CREGARS, In Situ with CAIR-ECAC, CiGAS and CIS) in joint workflows, maintaining and updating tools for data production and QA/QC, SOP definition, issue tracking, and NF support and training. Links between ARES and CLU for data processing, and from DC units to HO, are also operative.

In-Situ: Collaboration between DC In Situ and all in situ TCs is established and ongoing. Other technical interoperability (instrument identification, data QC tools for NFs, traceable offline data production) is pending implementation on the TC side.

CLU: Implemented housekeeping data pipeline to CCRES for instrument monitoring.

GRES: Cooperation with CREGARS on joint workflows and tools for data production QA/QC tools. Implementation of NRT data workflow.

ASC and DVAS: not applicable.

Realized actions during the concerned year

ARES, CLU and In-Situ administered labelling together with their respective TCs. ARES, CLU, GRES and In-

Situ workflows tested and developed in close collaboration with their respective TCs. QA/QC workflow operated for all the 2024 data submitted to the ARES DB. CLU implemented an instrument housekeeping data pipeline to CCRES enabling real-time instrument monitoring for CCRES and NFs. DC In Situ representatives attend collaboration meetings with the in situ TCs CAIS-ECAC, CiGas, and CIS approximately once per month. Collaboration in data QC is achieved by common issue tracker within In Situ. Implementation planning for technical interoperability is ongoing by regular meetings.

Within DVAS unit there is machine-to-machine access to information from the ACTRIS labelling API at HO to have information on status of ACTRIS NFs and labelling of instruments for the population of the ACTRIS metadata catalogue in DVAS. This will be further operationalized.

Realized outcomes of the activity

The outcomes of the activity are specific for each DC unit:
●In-Situ: Workflow resulted in curated ACTRIS In Situ data, both real-time and fully quality assured, as well as conclusions on labelling prospective ACTRIS In Situ NFs. In total, 19 in situ NFs received their initial acceptance in 2024, of which 18 were aerosol in situ and 1 was reactive trace gas in situ.
●ARES: 12 NFs passed Step 1a in 2024. The operational workflow with CLU allowed the NRT provision of data using forecast model atmospheric density profiles for all the sites.
●CLU: 3 NFs passed Labelling Step 1a in 2024. Improved instrument monitoring workflow.
●GRES: Implementation of the NRT data workflow ongoing with CREGARS.
●ASC: Not applicable.
●DVAS: Status of NFs made available in the ACTRIS Data portal, visible as initial accepted NFs.

Challenges faced during the reporting period and their effect on the outcomes

In-Situ: Delays in implementing technical interoperability between DC In Situ and in situ TCs. Technical interoperability (instrument identification, data QC tools for NFs, traceable offline data production) is pending on implementations on TC side.

Personnel resources for the operational activity in PMs

10,10

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Meetings with TC teams and HO	9	6,0	80,0	6 DC - HO, 9 RI comm, 5 CF leader , ca 50 meetings between DC unit and TC unit where off 44 between In-Situ unit and in situ TCs.

Activity 10: Management of the Data Centre and the units

Readiness status of the Central Facility for performing the activity

The data centre is ready and operational. The data centre employs ca 26 full-time equivalent positions, and about 35 persons are involved in both implementation and operational activities. These numbers are based on the annual financial reporting and a self-assessment.

Realized actions during the concerned year

The management of the ACTRIS DC is established with DC Management Board (MB) meeting monthly (11 times in 2024), and DC expert team meeting monthly, 2 days ahead of the DC MB (11 times in 2024). DC representatives from the units are represented in both DC management board and expert team, as well as management boards of associated TCs, and ad hoc working groups. The DC leader is represented in RI committee meetings, CF leaders meeting and regular meetings between DC leader and Head Office. There were 6 meetings between DC leader and HO, 9 RI committee meetings and 5 CF leader meetings in 2024.
The DC unit representatives participate in the monthly meetings of both DC expert team and management board (for the Head of Units). Furthermore, all units monitor operations of DC units, as well as the implementation of the DC. This includes iterating legal and reporting documents with DC leader and HO. Furthermore, each DC unit has their internal meetings as well for the management of the unit with regular meetings.
The DC leader organises the development of the implementation and operational work plans with contributions from the Head of Units. The DC leaders also coordinate the reporting to HO, and this includes iterating legal and reporting documents with HO and contributing to the preparation of the ACTRIS General Assemblies. Furthermore, in 2024, the work with the ACTRIS -ERIC agreements were central, as well as the work with the DC consortium agreement.
Another important action is the annual meeting with the DC team, which was a 2 days' workshop in Lille in 2024 with ca 25 participants. Also, other meetings are organised, as joint sessions and meetings during ACTRIS week.

Realized outcomes of the activity

Well functional data centre with close collaboration and efficient information flow utilising the complementary expertise available in the data centre.

Challenges faced during the reporting period and their effect on the outcomes

In-Situ: Slight delay in implementing API serving statistics on data curation and access.

Personnel resources for the operational activity in PMs
16,00

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Number of Data Centre Management Board meetings	10	10,0	11,0	
Number of Data Expert Team meetings	10	10,0	9,0	
Number of DC workshops	10	2,0	2,0	

Section 4: Participation in projects
Realized participation in ACTRIS related projects

Project 1 acronym
ATMO-ACCESS

Project 1 name
Access to atmospheric research facilities

Project 1 funder
European Commission under the Horizon 2020 – Research and Innovation Framework Programme

Project 1 start year
2021

Project 1 end year
2025

Contribution to project 1

The DC is involved in WP5 and leading WP10 that are coordinated and managed through CNRS and NILU. DVAS-NILU has developed the ATMO-ACCESS Homeless Data Portal which gives virtual access to data curation tools for homeless data and the portal was launched late 2022 and made publicly available in 2023. This portal will be adapted and used for the campaign service within ACTRIS. For the portal the DC In-situ, ARES and CLU units will manage the data curation requests and assignments facilitated. In 2023 - 2024 NILU is responsible for trajectory and footprint analysis services through atmo-access.eu, and link to the ACTRIS NFs. ARES and CLU are providing VA in the frame of stakeholder pilot accesses with ESA and EUMETSAT.

Project 2 acronym
RI-URBANS

Project 2 name
Research Infrastructures Services Reinforcing Air Quality Monitoring Capacities in European Urban & Industrial Areas

Project 2 funder
European Commission under the Horizon 2020 - Research & Innovation Program

Project 2 start year
2021

Project 2 end year
2025

Contribution to project 2

The DC is involved in WP1, WP4 and WP5. The goal of RI-URBANs is to develop an air quality monitoring system that complements those that are currently available. Identifying and measuring the changes in air pollutants will allow European health administrations and agencies to effectively mitigate the impact of poor air quality on human health. The main task for ACTRIS DC is to ensure harmonized data curation with urban sites,

when possible. The DC were involved in the update of the RI-URBANS DMP, tools and support to pilot cities, NRT data provision in operation and UOB means of verification dataflow established to ACTRIS DC.

Project 3 acronym
CAMS 21a, b step 2 contracts

Project 3 name
Copernicus Atmosphere Monitoring Services

Project 3 funder
European Commission

Project 3 start year
2023

Project 3 end year
2026

Contribution to project 3

Improvement of the quality of RRT and NRT data and links to CAMS. Upscaling the number of instruments providing real-time data to CAMS. Including trace gas in situ instruments in real-time data production. Improving the use of aerosol profiling data in modelling activities. ARES is supporting the ECMWF and CAMS in the ingestion and use of the aerosol lidar profiles from ACTRIS.

Project 4 acronym
CARGO-ACT

Project 4 name
Cooperation and AgReements enhancing Global interOperability for Aerosol, Cloud and Trace gas research infrastructures

Project 4 funder
EU Horizon Europe programme

Project 4 start year
2024

Project 4 end year
2027

Contribution to project 4

The project started on 1st March 2024. Project on collaboration between ACTRIS and its US American counterparts for all ACTRIS branches. The collaboration will concern data interoperability by convergence in data FAIRness, operating procedures and quality control, together with coordinating sustainability, access and governance.

Project 5 acronym
ENVRI-HUB NEXT

Project 5 name

ENVironmental Research Infrastructures delivering an open access Hub and NEXT-level interdisciplinary research framework providing services for advancing science and society

Project 5 funder

European Union's Horizon Europe research and innovation programme

Project 5 start year
2024

Project 5 end year
2027

Contribution to project 5

The project started on 1st February 2024. The project aims to create a robust conceptual and technical framework that will empower the ENVRI Science Cluster to provide interdisciplinary services that enable cross-RI exploitation of data, guided by the science-based framework of ECVs. A service Hub of the European ENVironmental Research Infrastructure domain, targeted towards EOSC, is being established. ACTRIS DC is leading WP11/12 (CNR) on supporting RIs in the implementation of all the fundamental enabling services necessary for a seamless user experience, for unlocking the integration among scientific environmental domains and for allowing in practice easy access and discovery on ENVRIs data and digital products: 1) use of harmonized and standard metadata schemas and services (CNR lead), 2) use of cross-domain vocabularies compatible with the I-ADOPT framework (NILU lead), 3) setup of an Authentication and Authorisation Infrastructure system, and others.

Project 6 acronym
POLARIN

Project 6 name
Polar Research Infrastructure Network

Project 6 funder
European Union

Project 6 start year
2024

Project 6 end year
2028

Contribution to project 6

POLARIN is an international network of polar research infrastructures and their services, aiming at addressing the scientific challenges of the polar regions. The network includes a wide array of complementary and interdisciplinary top-level research infrastructures: Arctic and Antarctic research stations, research vessels and icebreakers operating at both poles, observatories, data infrastructures and ice and sediment core repositories. POLARIN will provide integrated, challenge-driven, and combined access to these infrastructures to facilitate interdisciplinary research on complex processes.

Project 7 acronym
IRISCC

Project 7 name
Integrated Research Infrastructure Services for Climate Change Risks

Project 7 funder
European Union

Project 7 start year
2024

Project 7 end year
2028

Contribution to project 7

The project started on 1st April 2024. IRISCC will provide scientific and knowledge services to foster cutting-edge research and evidence-based policymaking to improve Europe's resilience to climate change. IRISCC ensures a "one-stop-shop" for various user communities on climate change risk-related RI services by setting up a dedicated Catalogue of services and related access management system both for granting transnational (onsite and remote) and offering virtual access. ACTRIS DC leads the pilot case on forest fires and the work package on VA access to services.

Project 8 acronym
ACTRIS-Norway

Project 8 name
Norwegian node of ACTRIS

Project 8 funder
Norwegian Research Council

Project 8 start year
2022

Project 8 end year
2026

Contribution to project 8

This a large Norwegian project. This is an e-infrastructure project with financial support for the ACTRIS Data Centre organization and implementation of new and improved tools, services and systems. The project is led by NILU and is financed through the Norwegian Research Council. The project will fund the implementation of ACTRIS DC in the first 5 years in Norway, and the ACTRIS membership fees.

Project 9 acronym
ITINERIS

Project 9 name
Italian Integrated Environmental Research Infrastructures System

Project 9 funder

EU - Next Generation EU PNRR- Mission 4 "Education and Research" - Component 2: "From research to business" - Investment 3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures"

Project 9 start year
2022

Project 9 end year
2025

Contribution to project 9

A huge Italian project building the Italian Hub of Research Infrastructures in the environmental scientific domain for the observation and study of environmental processes in the atmosphere, marine domain, terrestrial biosphere, and geosphere, providing access to data and services and supporting the Country to address current and expected environmental challenges. The project is coordinated by CNR-IMAA and supports the infrastructural upgrade of the ACTRIS ARES DC.

Project 10 acronym
EUMETSAT FRM4AER

Project 10 name
Scientific Service for Fiducial Reference Measurements for Copernicus Aerosol Product Cal/Val Activities

Project 10 funder
European Union

Project 10 start year
2023

Project 10 end year
2028

Contribution to project 10

Contract for linking the ACTRIS aerosol lidar and photometer data to the FRM database of EUMETSAT. The contract ended in 2024 and aimed at the definition of potential new products of interest for EUMETSAT like Aerosol Layer Height (ALH). Further contract is expected for 2025.

Annual report of ACTRIS Central Facility

Central Facility: Head Office

Report of year: 2024

Last edited: 2025-05-06 14:30 by niku.kivekas@actris.eu

Status: Approved

Section 1: Summary of the Central Facility

General description of the Central Facility and its role in ACTRIS

The ACTRIS ERIC Head Office (HO) is the central hub of ACTRIS, coordinating the RI operations and supporting the other seven Central Facilities in delivering the services crucial for generating and disseminating knowledge, boosting technological development, creating specialized expertise and employment for the benefit of the society. The HO coordinates and promotes the provision of ACTRIS services, involving activities such as increasing awareness of available services, improving access, ensuring quality, and fostering diversity in service offerings. The goal is to ensure that services are effectively delivered and meet the intended objectives. Importantly, Additionally, the HO ensures the strategic development and long-term sustainability of ACTRIS as a whole RI.

The Director General (DG) serves as the leader of ACTRIS and legal representative of ACTRIS ERIC, overseeing all aspects of ACTRIS. The DG is responsible for implementing the decisions made by the General Assembly (GA) and ensuring that ACTRIS's scientific and strategic development aligns with the expectations related to socio-economic impact, technology development, and innovation.

Summary of the implementation status of the Central Facility

No implementation.

Highlights of the Central Facility during the reporting period

The most important achievements of the reporting period are that the HO finalized the process of selecting the DG for ACTRIS ERIC. The decision by the General Assembly was made in the 3rd General Assembly meeting during which the employment agreement was signed by the newly elected DG and the Chair of the GA. In addition, ACTRIS organized the first ACTRIS Science Conference 2024 which was held in France.

Other highlight of the reporting period is that the CF annual planning and reporting tool was developed and taken into use within 2025 annual planning. Moreover, the renewed ACTRIS visual identity was successfully rolled out across all communication channels and materials. ACTRIS was selected to be featured in the AGU TV movie series 2024, increasing its visibility within the global scientific community. The ACTRIS video reached over 9k views in four months.

HO was part of writing a reference paper for Bulletin of the American Meteorological Society (BAMS). It has been viewed more the 20 000 times and downloaded more than 4000 times.

Finally. ACTRIS ERIC successfully joined as a beneficiary in 5 HE projects and the ITINERIS access project funded by Italy.

Section 2: Central Facility Units
General description of each Unit and its role in the Central Facility

Unit 1 name
HO FINLAND

Hosting RPOs and countries
HO Finland

Role of the Unit within the Central Facility

The ERIC Management Unit (EMU) is responsible for the administration of ACTRIS ERIC, giving managerial, financial and legal support for the ACTRIS implementation and operation.

The Research Infrastructure Operations Unit (OPU) is responsible for coordination of operations and integration of the RI. It supports ACTRIS workflows and the integration of the different activities between the ACTRIS facilities (NF and CF), to guarantee a coherent operational system.

The Development and Relations Unit (DEVU) is responsible for elevating and sustaining ACTRIS's strategic growth, managing internal and external communication, supporting and facilitating liaisons and strategic partnerships.

Implementation status of the Unit at the end of the concerned year

N/A

Deviation from the plan of the respective year

N/A

Personnel resources used for implementation activities during the concerned year in PMs

Unit 2 name
HO ITALY

Hosting RPOs and countries
CNR

Role of the Unit within the Central Facility

The Service and Access Management Unit (SAMU) is the single-entry point for all user physical and remote access to ACTRIS facilities. SAMU is the support structure dedicated to facilitating, managing, and optimizing access according to the ACTRIS user strategy and policy.

The implementation of SAMU proceeds as planned to reach full operational capacity in 2025, with fully

developed User engagement and support system. The access and tailored services management are implemented and tested starting from 2023 and are fully completed in 2024. The personnel are already in place, employed by CNR, and their work will be provided to ACTRIC ERIC as in-kind contribution when the ERIC is officially established.

Implementation status of the Unit at the end of the concerned year

SAMU is fully implemented and there were no implementation activities in 2024.

Deviation from the plan of the respective year

The implementation proceeded faster than planned, the User support and the access management systems and related activities are already in place.

Personnel resources used for implementation activities during the concerned year in PMs

Section 3: Activities
Central Facility activities

Activity 1: Leadership and management of HO

Readiness status of the Central Facility for performing the activity

Fully operational

Realized actions during the concerned year

The HO continued the work on the establishment of the financial and managerial processes. One physical meeting and regular meetings including the Finnish and Italian Units of the HO were organized. The 2023 ACTRIS ERIC and CF annual reporting as well as the 2025 ACTRIS ERIC and CF annual planning were concluded. Financial strategy work towards 2026 and beyond was continued and a Cost Analysis for the years 2026-2027 was completed by the Central Facilities.

The HO facilitated and supported the Selection Committee on the recruitment process of the ACTRIS ERIC Director General that was successfully concluded in June 2024. The Scientific Advisor was selected in November 2024 to start the work in 2025.

Finally, ACTRIS ERIC staff satisfaction survey was organized and launched together with the occupational health services provider of ACTRIS ERIC HO. The analysis of the results was discussed in early 2025.

Realized outcomes of the activity

The annual plan 2025, annual report 2023 and Cost Analysis for the years 2026-2027 were finalized as planned and presented and approved by the GA.

The HO finalized the process of selecting the DG for ACTRIS ERIC. The decision by the General Assembly was made in the 3rd General Assembly meeting during which the employment agreement was signed by the newly elected DG and the Chair of the GA.

Challenges faced during the reporting period and their effect on the outcomes

The process regarding ACTRIS ERIC permanent office premises and relocation of the staff was not concluded yet, and HO-FI continued to work in temporary spaces.

Personnel resources for the operational activity in PMs
17,00

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
ACTRIS ERIC staff satisfaction	1	1,0	1,0	arranged annually, first survey was arranged in December 2024
Staff members recruited	1	3,0	3,0	The number includes the DG, a trainee and 1 person recruited to support OPU and EU projects

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Entire HO management meetings	1	17,0	7,0	Virtual meetings were organized less than planned (6) and one in-person meetings organized

Activity 2: Access and tailored service management

Readiness status of the Central Facility for performing the activity

Fully operational

Realized actions during the concerned year

The SAMU-HO launched and managed a specific pilot call for testing an ACCESS funding scheme based on national funds, using the specific Italian funded project ITINERIS as test case . The activities realized included several consolidated SAMU activities but also a great effort in designing and governing new relevant processes for such a funding scheme.

SAMU activities related to the call management were for instance, the preparation of the application package, the Call text and advertisement (newsletters, announcement trough mailing list distribution, presentation at the ACTRIS Week, live youtube, social media campaign ...), the access eligibility check with customised forms to fit the pilot's requirements, the coordination of the feasibility check by the providers including their specific acknowledgement of the access provision terms under the pilot, the coordination of the evaluation panels for merit review, as well as the overall access process monitoring.

Several additional activities were put in place, and are still ongoing, in order to fit the specificity of a national co-funded access programme, such as all the measures to adopt to ensure alignment with the GDPR regulation, a Service Level Agreement template to be signed with each involved provider, setting up the HO internal operational and financial process and templates for managing such a programme.

Realized outcomes of the activity

A main outcome of this activity for 2024 is to have a National Co-funded Access scheme tested to possibly become a core component of the future permanent ACTRIS Access programme based on mixed funding sources.

The ACTRIS PASS continuously tested and upgraded to guarantee the efficient and central coordination of the entire access process, also in the case of national co-funded access programme.

Users/Providers are engaged in the constant improvement of the ACTRIS services based on their views and suggestions. The updated Access Management Plan provides for an overall optimization of the access process and workflows that results in an improved and enhanced User/Provider experience of access to services.

Access metrics and process feedback, both from the users and the service providers, and update the Access Management Plan were collected and also reported to the GA.

Great collaboration between HO units were established.

Challenges faced during the reporting period and their effect on the outcomes

The specific requirements of the pilot call for testing an ACCESS funding scheme based on national funds are challenging and totally new for ACTRIS but the outcomes were not negatively influenced.

Personnel resources for the operational activity in PMs
20,00

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Service catalogue traffic	2	250,0	966,0	
Services available	2	150,0	170,0	
Services requested	2	100,0	152,0	
Users from private sector	2	10,0	50,0	
Duration of access process	2	8,0	8,0	weeks
Average score from user feedback	2	3,0	4,2	
Quality of access process	2	3,0	4,0	

Activity 3: Users engagement and support

Readiness status of the Central Facility for performing the activity

Fully operational

Realized actions during the concerned year

The SAMU acted as an interface and liaison between users, CFs and NFs, and ACTRIS bodies, facilitating exchanges, interactions and cooperation among them to ensure a smooth and efficient access of users to ACTRIS services and resources. The SAMU/HO supported the ACTRIS providers in further breaking down their offer into services and in properly describing each service in a user friendly and fully informative way. As a result, 20 new services were identified and will be included into the ACTRIS Catalogue of Services. The HO designed an update of the web page dedicated to the Access and the user helpdesk for physical and remote access. The helpdesk function successfully supported more than 100 Italian users and European ACTRIS providers engage in the pilot ACTRIS-ITINERIS call.

Realized outcomes of the activity

As a result proper and well-arranged tools and documentation to support users to ACCESS was provided, as well as the Central Facilities and National Facilities providers were available online fostering the users' awareness of the service opportunities, gained valuable insights on users' experience, needs and expectations regarding the access to ACTRIS services. In addition, related to the ACTRIS user helpdesk, any user inquires related to access managed by SAMU is dealt with rapid information provision (access knowledge-base), problem-solving, day-to-day support to users willing or admitted to physical and remote access to ACTRIS.

Challenges faced during the reporting period and their effect on the outcomes

Personnel resources for the operational activity in PMs

12,60

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
S&U access forum traffic	3	250,0	124,0	
Fraction of user helpdesk requests solved	3	100 %	100 %	

Activity 4: ERIC management

Readiness status of the Central Facility for performing the activity

Fully operational

Realized actions during the concerned year

The HO arranged two General Assembly (GA) meetings. In the meetings, the GA approved the annual plans and reports of ACTRIS ERIC and the CFs. In addition, GA approved the HR strategy, Access management plan, Data management plan. Regarding the advisory bodies of the GA, the GA approved the updated Terms of Reference of Scientific and Innovation Advisory Board and elected new members for the Ethical Advisory Board and for the Financial Committee to start the work in 2025.

EMU managed and developed further the financial management and governance of the ERIC. As managing the finances in a highly distributed and a large RI demanded a lot of resources, additional procedures on the collection and outpayments of the Membership Contributions were developed to facilitate the CF operational activities, and approved by the GA. Work with ACTRIS ERIC management plan continued. Several internal processes, tools and guidance (incl. traveling and work from abroad) were put in place and introduced to HO-FI staff. In autumn, a dedicated training on utilizing artificial intelligence was organized for the HO-FI staff.

The HO continued service provider contracts with legal, IT and other services. New service providers were selected to support staff time tracking and travel and cost claims.

EMU worked on engaging key partners for the ERIC. Half of the finalized ACTRIS CF Cooperation Agreements were delivered during 2024. An agreement was made for ACTRIS ERIC maintaining the financial management of access in the ITINERIS-ACTRIS Pilot access program. The process of JRC engagement in ACTRIS was concluded.

Additionally, one staff exchange visit to France CNRS was organized and one visitor from CNRS was hosted by the HO-FI.

Realized outcomes of the activity

The HO organized and managed two GA physical meetings and two written procedures.

ACTRIS ERIC was included as a beneficiary in five EU-funded projects and in ITINERIS-ACTRIS project. ACTRIS ERIC continued to support the CARGO-ACT project, as it is strategically important for ACTRIS in general, but did not join the project as a beneficiary.

Challenges faced during the reporting period and their effect on the outcomes

The work of ACTRIS ERIC Financial Committee and Ethical Advisory Board were not started as there were not enough members appointed by late November 2024. The first meetings of these bodies were targeted to early 2025.

The official process of development discussions will be established in 2025. The work on the ACTRIS ERIC management plan titled "ACTRIS Governance and Management Handbook" will be finalized in 2025.

The first part of the CF outpayments was released in June and the second part delayed to late 2024 as the all the Membership Contributions were not collected in time. As ACTRIS ERIC's VAT-exempt status was granted only in late December, some CF Units were unable to issue invoices for their respective shares. The same issue was faced by one CF Unit as the CF Cooperation Agreement was not signed by all the parties.

The process of delivering the CF Cooperation Agreements faced some delays due to not receiving all signatures or due to not receiving confirmation of the addresses where they should be sent. In January 2025 only one signature of 46 partners was missing from ACTRIS ERIC – CiGas cooperation agreement. Hence the signature process was concluded in 6 of 7 agreements.

Personnel resources for the operational activity in PMs

20,00

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
NF agreements concluded	4	5,0	0,0	No NFs that were in the labelling process received the ACTRIS label by end of 2024
CF agreements concluded	4	7,0	6,0	Concluded CF agreement – agreement either mailed or handed away in person.
Deviation of ACTRIS ERIC budget	4	5 %	18 %	ACTRIS Science Conference, organised in 2024, created more costs and related revenues. Savings were created due to the late start of the ERIC in 2023 and tasks shifted onwards also from 2024.
Membership contribution payments in time	4			A qualitative measure, to be reported verbally. Depends on the payment by the countries

Activity 5: RI management support

Readiness status of the Central Facility for performing the activity

Fully operational.

Realized actions during the concerned year

During 2024, OPU supported the management of ACTRIS as RI, facilitating the work and activities of relevant bodies such as SIAB, RI com, CF leaders, and NF Technical and Scientific Forum meetings. Beyond this, OPU participated in the Management Board meetings of several CFs to enhance communication between the CFs and

HO. ACTRIS HO developed also various tools with external service providers to further enhance the RI management.

The National Facilities labelling process continued through the year for Observational Platforms, and the process for Exploratory Platforms was clarified. Gaps in the process for the NF labelling were analyzed, and readiness to connect the labelling portal to TC and DC databases enhanced. The process for manufacturers for confirming whether their instruments are ACTRIS compliant was developed.

The annual ACTRIS Week was organized in Matera, Italy in November 2024. The HO (together with DC) had dedicated meetings with CARS in 2/2024 and CIS in 9/2024 to specifically discuss practical topics and potential problems and their solutions in the implementation and operations of the respective TC. HO also participated in the DC annual workshop in 6/2024.

The HO procured a planning and reporting tool for gathering the CF annual financial and activity plans and reports. The tool was launched and entered into operational use for the first time in 2025 autumn annual planning.

Realized outcomes of the activity

The management and advisory bodies facilitated by the HO were operational and efficient, with the number of meetings reported in the KPIs. The CF annual planning and reporting tool was developed and taken into use within 2025 annual planning. The HO ensured timely and structured planning and reporting of CFs finances and activities. OPU established good communication between CFs and HO, participating also in several CF management board meetings.

The NF Labelling process continued throughout the year with 30 components initially accepted. Further actions towards filling the identified gaps were taken, including starting a collaboration with an external provider to complete the ACTRIS NF labelling portal focusing on meeting the needs of the entire labelling chain for both observational and exploratory platforms.

The annual ACTRIS Week was organized in Matera, Italy with a record number of 180 onsite participants and connected to workshops of each of the Central Facilities.

Challenges faced during the reporting period and their effect on the outcomes

The development of ICT tools for the CF reporting and labelling interface was slower and more laborious than expected.

Personnel resources for the operational activity in PMs

14,00

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
SIAB meetings organized	5	1,0	1,0	
RI committee meetings organized	5	10,0	10,0	RI Committee convenes monthly except July and August and holds at least 1 in person meeting.
NF T&S meetings organized	5	2,0	1,0	During ACTRIS week
Labelling tools and processes defined and in use	5	Yes	Partly	In use for observational facilities, piloting with exploratory facilities

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
CF and NF activity planning and reporting tools fully online	5	Yes	Yes	Tool will be further improved in 2025
Number of CF leaders meetings	5	5,0	6,0	CF leaders meetings every other Month, except July and August

Activity 6: Communication

Readiness status of the Central Facility for performing the activity

Fully operational

Realized actions during the concerned year

HO engaged the ACTRIS community in several ways. HO engaged key governing bodies, including the General Assembly, Research Infrastructure Committee, and National Contact Persons, to approve the new ACTRIS visual identity and renewed ACTRIS logo. DEVU designed and launched two targeted social media campaigns to enhance ACTRIS visibility and outreach.

HO was fully invested in activities related to the dissemination and promotion of the first ACTRIS Science Conference 2024.

The HO actively monitored developments on platform X (formerly Twitter), including the changing political and regulatory landscape, and adjusted its communication approach accordingly. This included reassessing the platform's relevance and risks in the context of ACTRIS visibility and engagement strategies.

The compiling and designing of the ACTRIS Community Handbook 2025 were curated with input from the national consortia, providing key information for stakeholders.

DEVU developed the communication and dissemination of information on ACTRIS and led the renewal process of the ACTRIS visual identity and ensured the successful implementation of the updated design. A suitable communication management tool to enhance internal and external engagement was researched and identified. DEVU facilitated ACTRIS participation in relevant scientific and policy events, strengthening visibility and engagement within the research community. The website renewal process to ensure improved functionality, design, and alignment with the updated brand identity was started, and the new website is to be published in spring 2025. Finally, DEVU assessed and selected a GDPR-compliant platform for distributing ACTRIS newsletters.

Realized outcomes of the activity

The ACTRIS Stakeholder Handbook was renamed, ACTRIS Community Handbook 2025. Collection of data started in 2024 and the handbook was made available exclusively in digital format on Zenodo in March 2025.

The renewed ACTRIS visual identity was successfully rolled out across all communication channels and materials. ACTRIS Brand Guidelines are publicly available on Zenodo and provide a reference on how to implement the new visual identity of ACTRIS.

The ACTRIS newsletter was published regularly, adhering to the planned schedule.

The evolving situation on platform X was brought to the attention of the RI Committee, triggering a broader discussion on the strategic use of social media within ACTRIS. This dialogue opened the way for exploring alternative or complementary platforms to ensure continued outreach and stakeholder engagement. ACTRIS transitioned its social media presence from X (formerly Twitter) to Bluesky, where efforts are underway to

rebuild engagement, while the X account remains inactive but accessible.

The ACTRIS Science Conference 2024 was actively promoted through a dedicated website, a targeted social media campaign, and a cohesive event brand identity. Two comprehensive final reports were produced to document the outcomes of the ACTRIS Science Conference. An internal report was prepared, capturing the international scale of the event, financial statements, stakeholder engagement, and sustainability-related processes, with a dedicated focus on the region hosting the conference and related public awareness actions. Attendee feedback was also collected and analysed. A public-facing version of the report, excluding financial details, was made available to external audiences.

ACTRIS was selected to be featured in the AGU TV movie series 2024, increasing its visibility within the global scientific community. The ACTRIS video reached over 9k views in four months.

Challenges faced during the reporting period and their effect on the outcomes

The renewal of ACTRIS Visual Identity required much larger resources than planned, hence delaying other activities. The interactions with National Contact Persons for compiling the ACTRIS Community Handbook also progressed at a slower pace than initially anticipated.
The political developments and uncertainty surrounding platform X led to a slowdown of ACTRIS activities on the platform. As a result, the communication team faced challenges in maintaining consistent engagement, contributing to a shortfall in meeting the initially set KPIs for this channel.

Personnel resources for the operational activity in PMs
23,00

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Events promoting ACTRIS	6	5,0	6,0	
Meetings with National Contact Persons	6	2,0	2,0	
ACTRIS newsletters published	6	4,0	4,0	
X (Twitter) campaigns	6	24,0	34,0	Social media platform may not be relevant next year

Activity 7: Liaison and external relations

Readiness status of the Central Facility for performing the activity

Fully operational

Realized actions during the concerned year

HO provided continuous support to DG related to liaisons and external relations.

HO continued negotiations with key networks such as EMN for Climate and Ocean Observation (EMN COO), EARLINET, AERONET PGN and E-PROFILE. HO maintained an active role in the ENVRI / European RI Community.

HO provided support to the engaging countries in their national process for becoming officially part of ACTRIS ERIC. HO had preliminary discussions with Slovenia on their interest in ACTRIS ERIC, and continued

discussions with Greece, UK, Portugal and Ireland.

HO managed relations and liaisons through events. ACTRIS organized the first ACTRIS Science Conference 2024 which was held in France.

Realized outcomes of the activity

ACTRIS ERIC signed a memorandum of understanding with NDACC and ERIC FORUM.

Communication and promotional efforts supported high visibility of the ACTRIS Science Conference 2024, including the promotion of the exhibition area, which successfully sold out all 15 available spaces. Strategic outreach also led to securing 10 sponsors, which enabled the HO to grant waivers of registration fees for 23 students selected based on the quality of the abstracts.

ACTRIS ERIC was represented in EUROGEO Workshop 2024, organized in Krakow, IAGOS 30th Anniversary Celebration, and ERIC Forum meetings.

ACTRIS ERIC participated in the Belgian presidency conference on Research Infrastructures "Research Infrastructures in a Changing Global, Environmental and Socio-economical Context" and in the Workshop "Fostering the ERICs as strategic assets of the European Research Area", held in Brussels in June 2024. Furthermore, ACTRIS was invited as a speaker and a panelist at the ICRI24, and at the side event on European Environmental Research Infrastructures. In January 2024 the DG participated as an invited speaker for Polar Night event organized by SIOS.

ACTRIS ERIC contributed to the first edition of the ESFRI RI portfolio, published in spring 2024. The portfolio gives thorough information on the ESFRI projects and landmarks.

Challenges faced during the reporting period and their effect on the outcomes

The progress in engaging new countries was slower than expected, hence no new countries joined in ACTRIS ERIC in 2024. The Head Office together with the respective national consortia work continuously together to reach membership status for their countries.

The work towards the MoUs with the key organisations and networks is proceeding somewhat more slowly than expected, as in the process we need to engage all relevant parties within ACTRIS and the networks.

Personnel resources for the operational activity in PMs
7,20

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
New members or observers in ACTRIS ERIC	7	3,0	0,0	
New national consortia	7	3,0	0,0	
Agreements with networks and initiatives	7	3,0	2,0	

Activity 8: Strategic positioning and development support

Readiness status of the Central Facility for performing the activity

Fully operational

Realized actions during the concerned year

The ACTRIS vision statement for the ACTRIS long-term strategy was discussed within the RI Committee and finalized to be sent to the SIAB for comments in the beginning of 2025, providing a clear and unified direction for the research infrastructure.

HO focused on onboarding different ongoing projects in ACTRIS ERIC. As a beneficiary, the HO was better able to contribute to the project work, giving also better visibility for the projects. In addition, the HO started the development of the proposals by the ACTRIS Community to two HE-INFRA calls that will open in May 2025.

The ACTRIS Science Conference 2024 successfully brought together participants from 29 countries, including several from outside the EU, reinforcing ACTRIS's position as a globally connected research infrastructure. The conference achieved high visibility within and beyond the ACTRIS community, showcased key scientific achievements, and fostered meaningful stakeholder engagement. The strong sponsorship support not only underlined interest in ACTRIS from the broader ecosystem but also.

HO was part of writing a reference paper for Bulletin of the American Meteorological Society (BAMS). The purpose of the reference paper was to describe the mission of ACTRIS, its added value to the community of atmospheric scientists, providing services to academia as well as the public and private sectors, and to summarize its main achievements. The publication serves as a reference document for ACTRIS, its users, and the scientific community as a whole. It provides the reader with relevant information and an overview on ACTRIS governance and services, as well as a summary of the main scientific achievements of the last 20 years. The paper concludes with an outlook on the upcoming challenges for ACTRIS and the strategy for its future evolution.

Realized outcomes of the activity

BAMS reference paper was published. It has been viewed more the 20 000 times and downloaded more than 4000 times.

ACTRIS ERIC successfully joined as a beneficiary in 5 HE projects and the ITINERIS project. HO established an internal Innovation working group in the Head Office, to facilitate the development of ACTRIS innovation policy and strategy and create an action plan that gathers all related activities together.

Challenges faced during the reporting period and their effect on the outcomes

The work on the strategy for 2028-2032 is still ongoing and will be finalized in 2025.

Securing sponsorships required significant effort and early engagement, highlighting the need for an even earlier start in future planning cycles. Ensuring inclusivity in participation across geographic and institutional boundaries also remains a continuous challenge, though partially mitigated through sponsor support in this edition.

Personnel resources for the operational activity in PMs
4,00

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Projects with ACTRIS ERIC as partner	8	5,0	6,0	ACTRIS ERIC joined as a beneficiary partner in accepted or ongoing projects
Projects where ACTRIS community is involved	8	1,0	28,0	Number of internationally funded projects participated by ACTRIS CFs
Dedicated events to private sector	8	1,0	1,0	

Activity 9: Monitoring and assessment

Readiness status of the Central Facility for performing the activity

Fully operational

Realized actions during the concerned year

NF performance was followed for labelling step 1a but not yet beyond that at HO level. The work on monitoring the 1b of the labelling process will continue in 2025.

Validation and evaluation process for the CFs and CF Units was further developed, to conclude the adjustment process for CIS and CCRES. The implementation of the delayed units was monitored together with the leaders of the respective CFs.

ACTRIS IMP project, coordinated in FMI, ended in end of 2023, and the project reporting was completed by the HO in spring 2024.

50% of the HO Host Premium Contribution is granted as a project by the Finnish Research Council. 2024 was the last year of the project that started in 2019. In 2024 a new project application was submitted and granted for 2025-2027. The previous project required a financial audit, that was performed in spring 2025.

A risk assessment tool and process were put in place: HO risks were identified, evaluated and also the SAMU was included in the process. The evaluation of the risks will happen twice a year and any alarming risks will be escalated to the General Assembly when needed.

Realized outcomes of the activity

As part of 2023 reporting KPI were tracked, and the work for re-evaluation of the KPIs was started.

Report on synergetic activities with the ICOS ERIC Head Office was delivered to the Research Council of Finland.

Challenges faced during the reporting period and their effect on the outcomes

CF KPIs re-evaluation was started, but the work will continue in 2025. They will be updated in 2025 and finalised in 2027. NF performance following will continue further from step 1a in year 2025.

ESFRI monitoring that assesses the research infrastructures implementation status and scientific performance, is foreseen in 2025.

Personnel resources for the operational activity in PMs

4,00

Table of related KPIs

KPI	Activity	Target (planned) KPI	Achieved KPI	Comments (e.g., long-term target for a KPI if relevant)
Completed ESFRI evaluations / questions / reports	9	1,0	1,0	ESFRI monitoring questionnaire

Section 4: Participation in projects

Realized participation in ACTRIS related projects

Project 1 acronym
ACTRIS IMP

Project 1 name
ACTRIS Implementation Project

Project 1 funder
H2020 INFRADEV-2019-2

Project 1 start year
2020

Project 1 end year
2023

Contribution to project 1

ACTRIS ERIC, together with FMI, finished the ACTRIS IMP Final Reporting, including technical and financial reports. The project ended successfully and received praise from the European Commission and the external reviewers.

Project 2 acronym
ATMO ACCESS

Project 2 name
Sustainable Access to Atmospheric Research Facilities

Project 2 funder
Horizon 2020

Project 2 start year
2021

Project 2 end year
2025

Contribution to project 2

ACTRIS ERIC leads WP1 and contributes to several WP8 tasks and activities.

Project 3 acronym
RI URBANS

Project 3 name

Research Infrastructures Services Reinforcing Air Quality Monitoring Capacities in European Urban &
Industrial AreaS

Project 3 funder
Horizon 2020

Project 3 start year
2021

Project 3 end year
2025

Contribution to project 3

ACTRIS ERIC contributes to several WP7 tasks and activities.

Project 4 acronym
IRISCC

Project 4 name
Integrated Research Infrastructure Services for Climate Change risks

Project 4 funder
Horizon Europe

Project 4 start year
2024

Project 4 end year
2027

Contribution to project 4

ACRTIS ERIC contributed to WP2 for RI landscape analysis, WP4 for creating new inter-RI services, WP7 for
physical and remote access provision (partner CNR), WP10 for coordinating the TNA provision and WP11 for
project coordination and management.

Project 5 acronym
ENVRINNOV

Project 5 name
Environment research infrastructures innovation roadmap

Project 5 funder
Horizon Europe

Project 5 start year
2024

Project 5 end year
2027

Contribution to project 5

ACTRIS ERIC contributes to work packages on common policy and strategic development (WP3, 4 and 5).

Project 6 acronym
POLARIN

Project 6 name
Polar Research Infrastructure Network

Project 6 funder
Horizon Europe

Project 6 start year
2024

Project 6 end year
undefined

Contribution to project 6

ACTRIS ERIC had a minor role, representing ACTRIS as a research infrastructure in the project.

Project 7 acronym
ITINERIS

Project 7 name
Italian Integrated Environmental Research Infrastructures System

Project 7 funder
EU – Next Generation EU PNRR- Mission 4 "Education and Research" – Component 2: "From research to business" – Investment 3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures".

Project 7 start year
2022

Project 7 end year
2025

Contribution to project 7

Handling all the access management of the project through the PASS platform