

Deliverable 1.1: Report on national ACTRIS consortia

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1. ACTRIS National Consortia and the role of National Contact Persons

This deliverable describes the current ACTRIS National Consortia and provides insights e.g., on the role of the national consortia, how the consortia have been formed and how the ministries have been included in ACTRIS – a key step in the process towards a country joining ACTRIS ERIC. This deliverable can also be used as a basis for creating the roadmap and instructions for new countries that are interested in joining ACTRIS.

There are currently 22 countries involved in the ACTRIS activities via the ACTRIS IMP project. At the moment, 19 of these countries have state-level political support for ACTRIS in place. 17 out of the 19 countries will be ACTRIS ERIC members/permanent observers when ACTRIS ERIC is established (expected in spring 2023), and two of them are in the process of joining ACTRIS ERIC. Table 1 and Figure 1 list the countries currently involved in the ACTRIS activities and their current level of involvement.

All countries participating in the implementation of ACTRIS have a considerable national community working on ACTRIS, with several research performing organizations (RPOs) and National Facilities (NFs) contributing to the ACTRIS operations in their country. Therefore, it is important that the ACTRIS NFs and RPOs at the national level are well-organized. A national ACTRIS consortium is a group of RPOs in a country that have declared their interest towards ACTRIS. As such, they should have a formal collaboration agreement among them and an agreed governance/management structure. The national ACTRIS community consists of ACTRIS Central Facility leaders and unit heads in the country, NF PIs, technicians, system engineers, programmers, researchers etc., and a national ACTRIS coordinator who coordinates ACTRIS activities nationally, brings the community together, talks to the government and participates in ACTRIS meetings together with their colleagues. The national ACTRIS community should also nominate a national ACTRIS contact person (NCP) to ensure the proper dissemination and information flow from the European ACTRIS activities to the national science communities and the relevant national stakeholders. The national ACTRIS coordinator and NCP are often the same person, but they can also be different persons depending on the national ACTRIS organization. ACTRIS interim Head Office, and later ACTRIS Head Office, will communicate via national ACTRIS contact persons regarding matters of interest of the national communities. National consortia are involved in the ACTRIS governance in several ways throughout the ACTRIS lifecycle. The NCP who is in charge of representing the national ACTRIS contribution towards the RI should be closely related to the General Assembly (GA) representative of the respective country (they could act as an expert supporting the representative in the GA). The NCP should also be active in the ACTRIS NF Technical and Scientific (T&S) Forum. The NCPs will have joint meetings together with the ACTRIS Head Office on topical issues twice a year. So far there has been two NCP meetings organized (Jan 2022, Nov 2022) and an extraordinary NCP meeting in Feb 2023 to discuss the revision of the EU Ambient Air Quality Directive. In addition to this NCPs have a key role in participating ACTRIS NF Technical and Scientific Forum meetings together with the ACTRIS NF PIs and the rest of the ACTRIS community. NF T&S Forum meetings are organized regularly (previous ones: May 2022, October 2022). The (Interim) ACTRIS Head Office is responsible for the active communication to all national ACTRIS consortia, including the potential new ones. It should be noted that within ACTRIS IMP, there are specific

communications actions carried out in WP10 targeting specifically national consortia (*D10.1 Updated plan for communication within ACTRIS* and *MS10.4 Analysis of the best practises to engage ACTRIS user groups*).

Table 1. 22 countries currently involved in ACTRIS and their level of involvement as of this date. Countries having state-level support in place also have RPO-level support for ACTRIS and have RPO(s) involved in ACTRIS IMP.

Country	Current involvement
Austria	state-level support (Committed to ACTRIS ERIC)
Belgium	state-level support (Committed to ACTRIS ERIC)
Bulgaria	state-level support (Committed to ACTRIS ERIC)
Cyprus	state-level support (Committed to ACTRIS ERIC)
Czech Republic	state-level support (Committed to ACTRIS ERIC)
Denmark	state-level support (Committed to ACTRIS ERIC)
Estonia	RPO-level support (ACTRIS IMP)
Finland	state-level support (Committed to host ACTRIS ERIC)
France	state-level support (Committed to ACTRIS ERIC)
Germany	state-level support (Committed to ACTRIS ERIC)
Greece	state-level support (in the process of joining in ACTRIS ERIC)
Ireland	RPO-level support (ACTRIS IMP)
Italy	state-level support (Committed to ACTRIS ERIC)
Netherlands	state-level support (Committed to ACTRIS ERIC)
Norway	state-level support (Committed to ACTRIS ERIC)
Poland	state-level support (Committed to ACTRIS ERIC)
Portugal	RPO-level support (ACTRIS IMP)
Romania	state-level support (Committed to ACTRIS ERIC)
Spain	state-level support (Committed to ACTRIS ERIC)
Sweden	state-level support (Committed to ACTRIS ERIC)
Switzerland	state-level support (Committed to ACTRIS ERIC)
United Kingdom	state-level support (in the process of joining in ACTRIS ERIC)

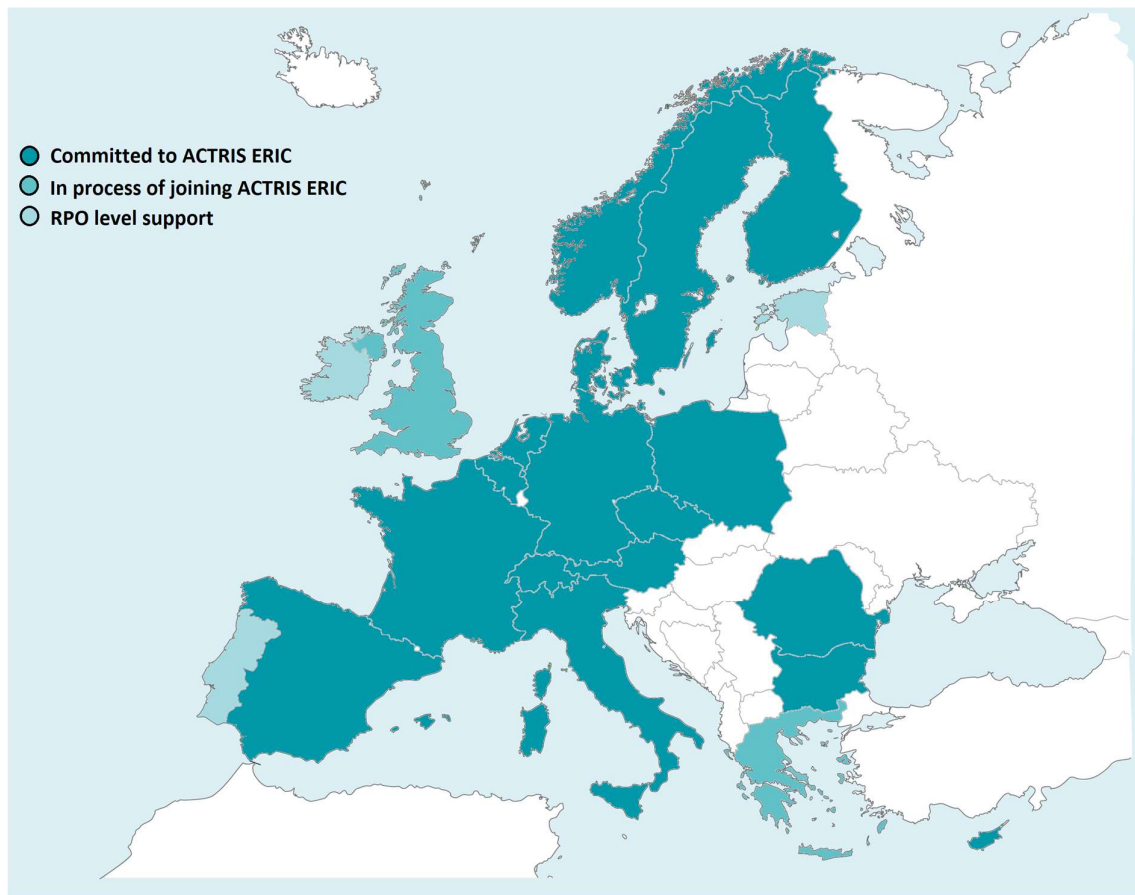


Figure 1. Level of official commitment in ACTRIS IMP countries.

As part of ACTRIS IMP WP1 work and material for this deliverable, a questionnaire was sent to ACTRIS NCPs to collect information on the national ACTRIS consortia. Questions on the national consortium composition and formation as well as the national roadmap status and related financing, and involvement of ministries were asked. The questionnaire was filled by all the 22 ACTRIS NCPs in Nov 2022 - Jan 2023. Chapter 4 provides detailed information on the National Consortia: National Contact Persons, involved RPOs, ACTRIS ERIC status and involvement of ACTRIS in the national RI roadmaps. Other chapters focus on giving overview of the National Consortia. In addition to the questionnaire input received, the information gathered in the first official ACTRIS NCP meeting on the national consortia status, held in January 2022, is used for this deliverable.

2. Scale of the National Consortia in ACTRIS

The current ACTRIS National Consortia of 22 countries consist of 143 RPOs (see Chapter 4 for the list of all the RPOs). In 16 of these countries, ACTRIS is on the national research infrastructure (RI) roadmap. Four of the countries do not have a national RI roadmap at the moment and two countries do not have ACTRIS on the national roadmap yet.

ACTRIS is a large RI with substantial financial volume. For many ACTRIS countries the national RI roadmap status provides opportunities to receive specific RI funding either directly or via competitive projects. Based on the questionnaire answers, an estimate for national ACTRIS funding via the national roadmap for implementation and development of the infrastructure is in total on the order of 200 M€ during the last decade. This is an order of magnitude more than 35 M€ received from the European Commission (EC) in frameworks Horizon-2020 and Horizon Europe for the ACTRIS-related projects (incl. ACTRIS-2, EUROCHAMP-2020, ACTRIS PPP, ACTRIS IMP, ATMO-ACCESS, RI-URBANS). It should be highlighted that, in addition to the funding received via roadmap-related projects and via other projects, the hosting RPOs are providing significant financial support for the implementation and operation of their ACTRIS National Facilities and, if relevant, their Central Facility Units. Based on earlier estimates obtained during ACTRIS preparatory phase, the total investment by the participating countries for upgrading existing sites or building new ones is around 600 M€ and for implementing ACTRIS Central Facilities it is around 100 M€.

3. Experience gained in creating the current consortia

The questionnaire sent to the ACTRIS NCPs included questions about the information and experiences on the formalization of the national consortia and the process of involving ministries in ACTRIS. This section includes the synthesis of the received answers. The information received from the NCPs on the ACTRIS national consortia in the NCP meeting held in January 2022 has also been included here.

Typically, the RPOs involved in the ACTRIS national consortia have had joint ACTRIS-related research activities and collaboration for a long time prior to officially establishing the ACTRIS national consortium (e.g., within pre-existing networks and EU projects such as Cloudnet, EARLINET, EUSAAR, EUROCHAMP, and/or national and regional projects). 17 countries have formalized their ACTRIS consortium (consortium- or collaboration agreement, Letter of Intent (LoI), Memorandum of Understanding (MoU) or Joint Research Unit (JRU)), and 3 are currently preparing the formalization. For the remaining two countries, the formalization process has not been initiated so far. The national consortia are having regular national meetings and often joint national RI-based projects enhancing the collaboration and active interaction as well as investments and further developments of the RI. For many countries, the formalization process has been quite straightforward due to the pre-existing collaboration, e.g., within joint projects. However, especially in the case of high number of RPOs, the process can also be arduous and take several years. As an example, the formalization of the national consortia is hindered in Ireland due to lack of national RI process and in Estonia due to lack of national funding.

One of the challenges that was brought up by the NCPs regarding national RI funding is the competition of funding with other environmental RIs. In some countries this issue has been overcome by having joint funding applications with other RIs. For example, in Netherlands the recent RI funding is jointly for ACTRIS and ICOS and in Finland jointly for ACTRIS, ICOS, eLTER and AnaEE.

Regarding ministry involvement, for many countries this has been directly connected to the national RI roadmap decisions. The ministries have been able to be actively and formally involved in ACTRIS only after acceptance of ACTRIS to the national RI roadmap. Also, the guarantee of long-term commitment of the RPOs has been essential in getting the ministries involved. The participation of several ministries in the same country can bring administrative challenges and challenges regarding the ownership of ACTRIS. It has also happened that the ministry has been easy to get involved in ACTRIS (political support exists), but there have been and continue to be challenges regarding the financial commitments. In some countries there are also issues in securing the membership contribution payments. This is the case e.g., in Cyprus where the RPOs shall co-fund the membership contribution. In addition, in UK enough institutions/stakeholders need to be identified to share the membership contribution which is for UK a quite high cost compared to the size of the community willing to participate. The consecutive reforming of the ministries can also make it difficult to properly engage the ministries and can slow-down or even hinder the process of committing to ACTRIS ERIC. Overall, the regular and persistent interactions from the RPO side to the ministries (meetings, e-mail exchanges, documents, letters) have been a key to ensure the involvement and the needed commitments.

4. Information on the National Consortia

In this Chapter, more detailed information collected from the National Consortia as part of the questionnaire is provided (see Table 2).

Table 2. Information of the ACTRIS National Consortia (as of February 2023).

Country	National Contact Person (NCP)	RPOs involved	In ACTRIS ERIC (yes/no/in process)	On the national RI Roadmap (yes/no/no roadmap)
Austria	Jochen Wagner (MUI)	9 RPOs (7 formally and 2 informally): University of Natural Resources and Life Sciences; Zentralanstalt für Meteorologie und Geodynamik (ZAMG), Sonnblick; LuftBlick Earth Observation Technologies; TU Wien; Medical University Innsbruck (MUI);	yes	no roadmap

		University Innsbruck; University of Vienna; University of Graz (Observatory Kanzelhöhe); MA 22, Vienna - Municipality Environmental protection		
Belgium	Martine De Mazière (BIRA-IASB)	5 RPOs (4 formally and 1 informally): 2 Federal research Institutes: Royal Belgian Institute for Space Aeronomy (BIRA-IASB) and Royal Meteorological Institute of Belgium; 1 Walloon university: University of Liège; 1 public service of Wallonia: ISSeP = Institut Scientifique de Service Public; Flemish research Institute	yes	yes
Bulgaria	Nina Nikolova (INRNE-BAS)	2 RPOs: Institute for Nuclear Research and Nuclear Energy of the Bulgarian Academy of Sciences (INRNE-BAS); Institute of Electronics of the Bulgarian Academy of Sciences (IE-BAS)	yes	yes
Cyprus	Jean Sciare (Cyl)	2 RPOs: The Cyprus Institute (Cyl); Cyprus University of Technology (CUT)	yes	yes
Czech Republic	Jakub Ondracek (ICPF-CAS)	5 RPOs: Czech Hydrometeorological Institute; Institute of Chemical Process Fundamentals, Czech Academy of Sciences (ICPF-CAS); Global Change Research Institute, Czech Academy of Sciences; RECETOX, Masaryk University; Institute of Atmospheric Physics, Czech Academy of Sciences	yes	yes
(The kingdom of) Denmark	Henrik Skov (AU)	6 RPOs (3 formally and 3 informally): Aarhus University (AU); University of Copenhagen; Danish Technological University; Force Technologies; Danish Technological Institute, The National Research Center for working environment.	yes	yes
Estonia	Steffen M. Noe (EMU)	2 RPOs: Estonian University of Life Sciences (EMU); University of Tartu (UT)	no	no

Finland	Tuukka Petäjä (UHEL)	4 RPOs: University of Helsinki (UHEL); Finnish Meteorological Institute (FMI); University of Eastern Finland (UEF); Tampere University (TAU).	yes	yes
France	Stéphane Sauvage (IMT)	21 RPOs: Centre National de Recherche Scientifique (CNRS); Centre National d'Etudes Spatiales (CNES); Commissariat à l'Energie Atomique et aux Énergies Alternatives (CEA); Institut de Recherche pour le Développement (IRD); Institut Paul-Emile-Victor (IPEV); Institut Mines-Télécom Nord Europe (IMT); Institut National de l'Environnement Industriel et des Risques (INERIS); Météo France (MF); Aix-Marseille Université (AMU); École des Ponts ParisTech (ENPC); Ecole Polytechnique (EP); Université Clermont Auvergne (UCA); Université Grenoble-Alpes (UGA); Université Lille - Sciences et Technologies (ULille); Université Paris-Est Créteil (UPEC); Université Paris Cité (UPCité); Université de Toulouse III Paul Sabatier (UT3); Université de la Réunion (UR); Université Versailles St. Quentin (UVSQ); Université d'Orléans (UO); Sorbonne Université (SU).	yes	yes
Germany	Ulla Wandering (TROPOS)	11 RPOs: Leibniz-Institut für Troposphärenforschung (TROPOS, coordinating institute); Karlsruher Institut für Technologie (KIT); Forschungszentrum Jülich (FZJ); Alfred-Wegener-Institut, Helmholtz-Zentrum für Polar- und Meeresforschung (AWI); Ludwig-Maximilians-Universität München (LMU);	yes	yes

		<p>Universität Bremen (UBre);</p> <p>Universität zu Köln (UoC);</p> <p>Bergische Universität Wuppertal (BUW);</p> <p>Goethe-Universität Frankfurt am Main (GUF);</p> <p>Deutscher Wetterdienst (DWD);</p> <p>Umweltbundesamt (UBA).</p>		
Greece	Nikos Mihalopoulos (NOA)	<p>6 RPOs:</p> <p>National Observatory of Athens (NOA);</p> <p>National Center for Scientific Research Demokritos (NCSR-Demokritos);</p> <p>University of Crete (UoC);</p> <p>Foundation for Research and Technology (FORTH);</p> <p>National Technical University of Athens (NTUA);</p> <p>Aristotle University of Thessaloniki (AUTH).</p>	in process	yes
Ireland	John Wenger (UCC)	<p>2 RPOs:</p> <p>University College Cork (UCC);</p> <p>University of Galway (UoG).</p>	no	no roadmap
Italy	Lucia Mona (CNR)	<p>7 RPOs:</p> <p>Consiglio Nazionale delle Ricerche (National Research Council of Italy) CNR;</p> <p>Agenzia Nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile (Italian National Agency for New Technologies, Energy and Sustainable Economic Development) ENEA;</p> <p>Università degli Studi di Napoli "Federico II" (University of Napoli "Federico II") UniNA;</p> <p>Università degli Studi dell'Aquila (University of L'Aquila) UniAQ;</p> <p>Università del Salento (University of Salento) UniSal;</p> <p>Università degli Studi di Urbino (University of Urbino) UniUrb;</p> <p>Istituto Nazionale di Fisica Nucleare (National Institute for Nuclear Physics) INFN.</p>	yes	yes
Netherlands	Arnoud Apituley (KNMI)	<p>9 RPOs (8 formally and 1 associate member):</p> <p>Royal Netherlands Meteorological Institute (KNMI);</p> <p>Technical University Delft (TUD);</p> <p>TNO;</p> <p>Utrecht University (UU);</p> <p>Wageningen University and Research (WUR);</p> <p>University Amsterdam (VU);</p>	yes	yes

		University of Groningen (RUG); National Institute of Public Health and the Environment (RIVM); Technical University Twente.		
Norway	Tove Svendby (NILU)	3 RPOs: Norwegian Institute for Air Research (NILU); Norwegian Meteorological Institute (METNO); Center for International Climate Research (CICERO).	yes	yes
Poland	Aleksander Pietruczuk (IGF-PAS), Iwona Stachlewska (UW)	8 RPOs: Institute of Geophysics Polish Academy of Sciences (IGF-PAS); Institute of Environmental Engineering (IEE-PAS); Institute of Meteorology and Water Management (IMGW-NRI); University of Warsaw (UW); University of Life Sciences in Poznań (PULS); University of Silesia (UŚ); University of Wrocław (UWR); Warsaw University of Technology (PW).	yes	yes
Portugal	Daniele Bortoli (UE)	6 RPOs: University of Evora (UE); University of Azores (UAZ); University of Beira Interior (UBI); University of Aveiro (UA); University of Porto (UP); Portuguese Institute for Sea and Atmosphere (IPMA).	no	no
Romania	Doina Nicole (INOE)	5 RPOs: National Institute of Research and Development for Optoelectronics (INOE); "Babes-Bolyai" University of Cluj-Napoca (UBB); "Al. I. Cuza" University of Iasi (UAIC); "Dunarea de Jos" University of Galati (UGal); National Institute of Aerospace Research "ELIE CARAFOLI".	yes	yes
Spain	Adolfo Comerón (UPC)	11 RPOs: Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC, Spanish Research Council); Agencia Estatal de Meteorología (AEMET, Spanish Meteorological Agency); Barcelona Supercomputer Center – Centro Nacional de Supercomputación (BSC);	yes	no roadmap

		<p>Instituto Interuniversitario de Investigación del Sistema Tierra en Andalucía – Universidad de Granada (IISTA-UGR);</p> <p>Centro de Inverstigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT);</p> <p>Fundación de la Comunitat Valenciana Centro de Estudios Ambientales del Mediterráneo (CEAM);</p> <p>Instituto Nacional de Técnica Aeroespacial (INTA);</p> <p>Universidad de Valladolid (UVA);</p> <p>Universidad Miguel Hernández (UMH);</p> <p>Universitat de València (UV);</p> <p>Universitat Politècnica de Catalunya (UPC).</p>		
Sweden	Erik Swietlicki (LU)	<p>6 RPOs:</p> <p>Lund University (LU);</p> <p>Stockholm University;</p> <p>Swedish University of Agricultural Sciences;</p> <p>Uppsala University;</p> <p>University of Gothenburg;</p> <p>Swedish Meteorological and Hydrological Institute (SMHI).</p>	yes	yes
Switzerland	Martin Gysel-Beer (PSI), Stefan Reimann (Empa)	<p>6 RPOs:</p> <p>Paul Scherrer Institute (PSI);</p> <p>Empa;</p> <p>ETH Zurich;</p> <p>University of Berne;</p> <p>PMOD/WRC;</p> <p>MeteoSwiss.</p>	yes	yes
United Kingdom	Geraint Vaughan (NCAS)	<p>7 RPOs:</p> <p>BEIS (Dept for Business, Energy and Industrial Strategy);</p> <p>DEFRA (Department of Energy, Food and Rural Affairs);</p> <p>NERC (Natural Environment Research Council);</p> <p>Environment Agency;</p> <p>NCAS (National Centre for Atmospheric Science);</p> <p>CEH (Centre for Ecology and Hydrology);</p> <p>Met Office.</p>	in process	no roadmap