

### Milestone 9.4: Draft ACTRIS Innovation offer portfolio

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## Introduction

This document is prepared in the context of the ACTRIS IMP project, in particular, in the Work Package 9 that deals with positioning of ACTRIS in the European innovation ecosystem with the main aim to increase the interest of the private sector towards ACTRIS as an innovation platform and to promote actions for an effective technology and knowledge transfer.

The objective of this document is to present a proposal for the ACTRIS innovation portfolio, a consistent, integrated and accessible repository collecting and displaying the distinctive ACTRIS offer of customized services and opportunities for innovation provided to the private sector as well as the support services for an effective, two-way technology transfer.

A provisional outline of the ACTRIS innovation portfolio is reported in Chapter 2. The description of the innovation portfolio, the expected content and a tentative index of the document that will be released at the end of ACTRIS IMP with the deliverable D9.4 are reported. The current list of innovation services and/or services targeted to the private sector that are provided by ACTRIS at the time of drafting this document is reported in chapter 3. This is an initial list still open to improvements and inclusion of the new services that are now planned or under implementation. Further work and the methodological approach to follow towards the realization of the ACTRIS innovation portfolio is illustrated in chapter 4. General remarks and considerations on the process to manage and upgrade the innovation portfolio are reported in the last chapter.

## The ACTRIS innovation portfolio

The ACTRIS innovation portfolio is a strategic tool to organize the distinctive ACTRIS offer of services and opportunities for innovation and knowledge transfer provided to the private sector.

In particular, the services included in the portfolio will feed the section of the ACTRIS Catalogue of Services dedicated to the innovative services or services targeted to the users from the private sector. Information on these services will be fed and maintained in the catalogue by National Facilities (NFs) and Central Facilities (CFs) through their necessary input.

This list will be complemented by all those services that are the result of the more extensive work performed in ACTRIS, in particular at the Head Office to make the ACTRIS innovation brand known, consolidated and attractive for the private sector and to promote relations and partnerships with local innovation intermediaries (Development and Relations Unit); and to promote and effectively access the innovative services (Service and Access Management Unit).

## 1.1 Provisional index of the document

A tentative index of the document is proposed here to give a direction and focus the developments and work to realize the ACTRIS innovation portfolio. It will be finalized with deliverable D9.4 to give the structure of ACTRIS innovation portfolio.

1. Executive summary .....
2. The ACTRIS innovation portfolio.....
  - 2.1. Scope and validity.....
  - 2.2. Management and upgrade process.....
3. Services offered by Topical Centres.....
4. Services offered by Data Centre.....
5. Services offered by National Facilities.....
6. Services offered by the Head Office.....
7. General remarks.....

## The current offer of innovation services

ACTRIS is currently in the implementation phase of its life-cycle. The facilities are now following their plans to implement the planned activities and make their services operational for the users; in the same way, Service and Access Management Unit (SAMU) is implementing the Catalogue of Services.

Therefore, the process of feeding the portfolio with the innovation offer is taking shape now, starting from the current version of the [ACTRIS Catalogue of Services](#) and from the relevant ACTRIS offer available as TNA in [ATMO-ACCESS](#)<sup>1</sup> and the facilities participating as provider of TNA pilots in [ACTRIS IMP](#).

The current list of services for innovation targeted to the users from private sectors are reported here in the following: it is an initial and provisional list that will be improved and complemented as soon as other relevant services will become operational and will feed the concerned sections of the innovation portfolio.

Facility type	FACILITY	LOCATION	SERVICE NAME	TYPE OF ACCESS
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Calibration of NFs cloud remote sensing specific instruments	Physical, Remote
Central Facility	CAIS - CCC	Finland	Measurement guidelines development @ Cluster Calibration Center (CCC)	Physical, Remote
Sim. Chamber	EUPHORE	Spain	Access to the EUPHORE Atmospheric Simulation Chamber	Physical, Remote
Central Facility	CIS - ECCINT	Austria	Ambient cloud in situ intercomparison	Physical, Remote

<sup>1</sup> ATMO-ACCESS Integrating Activity under grant agreement No 101008004.

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Central Facility	CARS-CNRS ASP (AERONET)	France	Calibration of field photometers @ Center for Aerosol Remote Sensing CARS	Physical, Remote
Sim. Chamber	CIS - CCIce / AIDA Chamber	Germany	Calibration of ice nucleating particle (INP) instruments	Physical, Remote
Central Facility	DATA CENTRE		Centralized aerosol remote sensing processing	Remote
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Cloud Remote Sensing calibration methods	Virtual
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Cloud Remote Sensing Instrument performance test	Physical, Remote
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Cloud Remote Sensing quality control of NFs' processed data	Virtual
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Cloud Remote Sensing Standard Operating Procedures	Remote, Virtual
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Cloud Remote Sensing standard procedures for quality assurance of processed data	Virtual
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Cloud Remote Sensing tools for quality control of the measurement	Virtual
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Cloud Remote Sensing training of staff and instrument operator	Physical, Remote
Central Facility	CAIS - WCCAP, PACC	Germany, Czech Republic	Consultancy and knowledge transfer	Physical, Remote, Virtual
Central Facility	CAIS - EMC2	Italy	Consultancy and knowledge transfer @ EMC2	Physical, Remote
Central Facility	CAIS - OGTAC-CC	Germany, Italy	Consultancy and knowledge transfer @ OGTAC-CC+ERLAP	Physical, Virtual

Central Facility	CAIS ACMCC	- France	Consultancy and knowledge transfer related to online aerosol chemical speciation	Physical, Remote, Virtual
Central Facility	CCRES	France, Germany, Netherlands, Finland, United Kingdom	Consultancy for cloud remote sensing operations	Physical, Remote
Central Facility	CAIS OGTAC-CC	- Germany, Italy	Guidelines for aerosol chemical analyses	Virtual
Central Facility	CAIS - EMC2	Italy	Guidelines for aerosol chemical analyses	Virtual
Central Facility	CAIS - CCC	Finland	Instrument-specific calibration @ Cluster Calibration Center (CCC)	Physical
Central Facility	CAIS WCCAP, PACC	- Germany, Czech Republic	Instrument-specific calibration at TC	Physical, Remote
Central Facility	CAIS ACMCC	- France	Instrument-specific calibration at TC related to online aerosol chemical speciation	Physical, Remote
Central Facility	CIS - CCIce / AIDA Chamber	Germany	Intercomparison of ice nucleating particle (INP) instruments	Physical
Central Facility	CAIS OGTAC-CC	- Germany, Italy	Laboratory inter-comparisons (measurements of organic tracers and carbonaceous constituents in aerosols)	Remote, Virtual
Central Facility	CAIS - EMC2	Italy	Laboratory inter-comparisons @ EMC2	Remote, Virtual
Central Facility	CAIS WCCAP, PACC	- Germany, Czech Republic	Measurement and data tools	Virtual
Central Facility	CiGAS	Germany, Finland, France, Switzerland	Measurement and data procedures and tools for reactive trace gases	Virtual
Central Facility	CiGAS	Germany, Finland, France, Switzerland	Measurement and data quality monitoring for reactive trace gases	Physical
Central Facility	CAIS ACMCC	- France	Measurement and data tools related to online aerosol chemical speciation	Virtual
Central Facility	CAIS WCCAP, PACC	- Germany, Czech Republic	Measurement guidelines @ ECAC WCCAP	Virtual

Central Facility	CAIS ACMCC	- France	Measurement guidelines related to online aerosol chemical speciation	Virtual
Central Facility	CAIS - EMC2	Italy	Methodology and technical development @ EMC2	Physical, Remote
Central Facility	CAIS OGTAC-CC	- Germany, Italy	Methodology and technical development @ OGTAC-CC+ERLAP	Physical, Virtual
Central Facility	CAIS - PACC	Czech Republic	Methodology and technical development related to aerosol physical properties @ PACC	Virtual
Central Facility	CAIS ACMCC	- France	Methodology and technical development related to online aerosol chemical speciation	Virtual
Central Facility	CiGAS	Germany, Finland, France, Switzerland	New scientific and technological developments for reactive trace gases measurements	Virtual
Central Facility	CAIS - EMC2	Italy	Performance Evaluation: aerosol chemical analyses @ EMC2	Physical, Remote, Virtual
Central Facility	CAIS OGTAC-CC	- Germany, Italy	Performance Evaluation: aerosol chemical analyses @ OGTAC-CC+ERLAP	Physical, Remote, Virtual
Central Facility	CAIS WCCAP, PACC	- Germany, Czech Republic	QA/QC	Physical, Remote, Virtual
Central Facility	CAIS OGTAC-CC	- Germany, Italy	QA/QC (measurements of organic tracers and carbonaceous constituents in aerosols)	Virtual
Central Facility	CAIS ACMCC	- France	QA/QC related to online aerosol chemical speciation	Physical, Remote, Virtual
Central Facility	CAIS - EMC2	Italy	Quality Assurance (QA) / Quality Control (QC) @ EMC2	Remote, Virtual
Central Facility	CAIS WCCAP, PACC	- Germany, Czech Republic	Site performance test with reference instrument	Physical
Central Facility	CiGAS	Germany, Finland, France, Switzerland	Thematic training courses and consultancy regarding reactive trace gases	Physical, Remote, Virtual
Central Facility	CAIS WCCAP, PACC	- Germany, Czech Republic	Training of operators and scientists	Physical, Remote

Central Facility	CAIS - ACMCC	France	Training of operators and scientists related to online aerosol chemical speciation	Physical, Remote
Central Facility	CAIS - CCC	Finland	Training of operators and scientists @ Cluster Calibration Center (CCC)	Physical, Remote
Central Facility	CAIS - EMC2	Italy	Training of operators and scientists @ EMC2	Physical
Central Facility	CAIS - OGTAC-CC	Germany, Italy	Training of operators and scientists @ OGTAC-CC+ERLAP	Physical
Observational Platform	AGORA	Spain, Granada	Support to private innovation	Physical
Observational Platform	CESAR	Lopik, the Netherlands	In-situ, column integrated, vertical profiling and spatial atmospheric observations	Physical, remote
Observational Platform	Melpitz	Germany, Melpitz	Aerosol physico-chemical properties (ground and vertical)	Physical, remote
Simulation Chamber	ACD-C / LACIS-T	Germany, Leipzig, at tropos 51.35°n, 12.43°e, 120 m a.s.l.	Newly developed instrumentation testing, (inter)calibrations and intercomparisons	Physical
Simulation Chamber	ACD-C / LACIS-T	Germany, Leipzig, at tropos 51.35°n, 12.43°e, 120 m a.s.l.	Support for instrument (innovation) development	Physical
Simulation Chamber	ACD-C / LACIS-T	Germany, Leipzig, at tropos 51.35°n, 12.43°e, 120 m a.s.l.	Testing of (new) instrumentation, and instrument intercomparisons under turbulent conditions	Physical
Simulation Chamber	ChAMBRé	Inf, Italy, Genoa	Bioaerosol characterization	Physical, remote
Simulation Chamber	ChAMBRé	Inf, Italy, Genoa	Testing and characterization of bioaerosol monitors/sensors	Physical, remote
Simulation Chamber	ChAMBRé	Inf, Italy, Genoa	Measurement of aerosol optical properties	Physical, remote
Simulation Chamber	ChAMBRé	Inf, Italy, Genoa	Testing of samplers and gas/aerosol monitors	Physical, remote
Simulation Chamber	ChAMBRé	Inf, Italy, Genoa	Design, organization and execution of custom experiments	Physical, remote
Simulation Chamber	PACS-C2	Villigen, Switzerland	Newly developed instrumentation testing and intercomparisons at PACS-C2	Physical



Simulation Chamber	QUAREC	Wuppertal, Germany	Testing of instruments for measuring air quality	Physical (preferred) and remote
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## Methodology to realize the ACTRIS innovation portfolio

Specific actions are planned in ACTRIS IMP and will be concerted between WP9 and the relevant WPs to realize the ACTRIS innovation portfolio.

The most effective actions to maximize the engagement of private sector in ACTRIS and enhancing the impact of ACTRIS on innovation are elaborated in the innovation strategy plans (**WP3**) and translated by WP9 in a set of actions and recommendations to stimulate technology development actions across ACTRIS and collect the necessary input from CFs and NFs.

In the end, innovation services will arise from the ACTRIS facilities' continuous effort and commitment undertaken to fill the gaps and introduce innovative concepts, define new methodologies, test new instruments and algorithms, implement new products/process, etc. In particular, during the IMP project this work will be done by the CFs in **WP4** (*Task 4.4 Testing the functionalities of the Central Facilities*) and by NFs in **WP5** (*Task 5.4 Upgrading operating strategies and technology development at the National Facilities*) by NFs. Flagship actions through TNA pilots in ACTRIS IMP and ATMO-ACCESS are also intended to demonstrate the potential of joint collaborations with the private sector.

With operational ACTRIS and the ERIC in place and fully functional, this work of the ACTRIS facilities will continue spurred by the complex of user analysis, user feedback and the resulting overall user strategy inspired and driven by the ACTRIS Head Office. All the information about the services targeted to private sector users or, more in general, classified as services to foster the innovation, shall be provided by the concerned CFs and NFs to be included and maintained in the ACTRIS Catalogue of Services.

A first version of the Catalogue of Services has been already released and included a list of services provided under the ACTRIS current projects targeted to the innovation (see previous chapter). To ensure maximum use and access and to improve the visibility and discoverability of all the relevant services, updates of the Catalogue of Services are planned ahead of the conclusion of the ACTRIS IMP starting from the beginning of 2022 with the aim to:

- include new services currently being provided through TNAs
- update and complete missing information of the existing services

Therefore, the CFs and NFs will be required to provide also the relevant information that could distinguish the innovation services they could provide and make them easily and quickly accessible to the users from the private sector. WP4 and WP5 shall monitor and coordinate this substantial measure to collect the relevant information of the services in a coherent and homogeneous way, encouraging the facilities' operators to provide information and feed the catalogue.

The collection of the needed information will be carried out through the template specifically set for this purpose.

field class	field label	field type	Required / Optional	allowed nr. of values
1 - BASIC INFORMATION	Project	from taxonomy	R	N
1 - BASIC INFORMATION	Provider type - level1	from taxonomy	R	1
1 - BASIC INFORMATION	Provider type - level2	from taxonomy	R	1
1 - BASIC INFORMATION	Provider name	from taxonomy	R	1
1 - BASIC INFORMATION	Title	text	R	1
2 - CLASSIFICATION INFORMATION	Research area	from taxonomy	R	N
2 - CLASSIFICATION INFORMATION	Research sub-area	from taxonomy	R	N
2 - CLASSIFICATION INFORMATION	Service type	from taxonomy	R	N
2 - CLASSIFICATION INFORMATION	Target users	from taxonomy	R	N
2 - CLASSIFICATION INFORMATION	Access type	from taxonomy	R	N
2 - CLASSIFICATION INFORMATION	Keywords	meta tags	O	3
2 - CLASSIFICATION INFORMATION	Environment	from taxonomy	O	N
2 - CLASSIFICATION INFORMATION	Atmosphere type	from taxonomy	O	N
3 - MARKETING INFORMATION	Output for the user	text	O	1
3 - MARKETING INFORMATION	Provider Logo	image	O	1
3 - MARKETING INFORMATION	Summary description	text	R	1
3 - MARKETING INFORMATION	Description	text	R	1
3 - MARKETING INFORMATION	Support	text	O	1

3 - MARKETING INFORMATION	Training	text	O	1
3 - MARKETING INFORMATION	Website	url	O	1
4 - ACCESS INFORMATION	Country(ies)	from taxonomy	O	N
4 - ACCESS INFORMATION	Availability period	from taxonomy	R	N
4 - ACCESS INFORMATION	Access request	Yes/No	R	1
4 - ACCESS INFORMATION	Access page	url	R	1
4 - ACCESS INFORMATION	Estimated duration	integer	O	1
5 - MATURITY INFORMATION	TRL	from taxonomy	R	1
5 - MATURITY INFORMATION	Lifecycle status	from taxonomy	O	1
6 - MANAGEMENT INFORMATION	Media url	url	O	N
6 - MANAGEMENT INFORMATION	Media attachment	files	O	N
6 - MANAGEMENT INFORMATION	Terms Of Use	files	O	1
6 - MANAGEMENT INFORMATION	Service level	files	O	1
6 - MANAGEMENT INFORMATION	Pricing model	from taxonomy	O	N
7 - CONTACT INFORMATION	Contact first name	text	R	1
7 - CONTACT INFORMATION	Contact last name	text	R	1
7 - CONTACT INFORMATION	Contact email	email	R	1
7 - CONTACT INFORMATION	Contact phone	text	O	1

WP9 will follow the process of updating the innovation section of the catalogue, pushing to get proper and accurate descriptions of the innovation services and making sure that they are successfully included and represented in the catalogue with every update.

At the end of the ACTRIS IMP, the information of innovative services provided by CFs and NFs will be included both in the online catalogue and the relevant section of the ACTRIS innovation portfolio. Continuous collaboration will be maintained with WP10 to evaluate the most suitable formats and means to make the ACTRIS innovation portfolio known, consolidated and attractive for the private sector.

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## Conclusions

The ACTRIS innovation portfolio will evolve during the ACTRIS lifetime as the services for the innovation will mature and need to be adapted to changing conditions. It shall be maintained considering the level of interest and engagement raised in the private sector.

A close cooperation with **WP6** is always deemed necessary to coordinate and target the ongoing process of collection and analysis of the needs and expectations from private sector in the wider context of the ACTRIS user strategy. This work shall also be facilitated through dedicated events and workshops where users from private sector can meet the operators of the ACTRIS facilities and discuss opportunities in the different possible collaborations models (private sector a user of the RI, as a provider for the RI and as a co-creator).

The outcome of the user needs' analysis and the directions given by the user strategy updates shall be translated in a series of recommendations and strategic advises to the facilities, to effectively drive and focus the development of required innovation services, and to the liaison function of the Head Office, to promote relations and bring ACTRIS closer to the private sector.

The innovation portfolio management process will require a continual evaluation of the user needs and development of the services. Further consideration on this systematic process will be made with the deliverable D9.4.

## References

Identification of collaboration models between ACTRIS and the private sector ([ACTRIS IMP Deliverable 9.2](#))

ACTRIS online Catalogue of Services ([ACTRIS IMP Deliverable D6.3](#))

Updated analysis of user needs ([ACTRIS IMP Milestone MS35](#))

Report on the ACTRIS User support system ([ACTRIS IMP Deliverable 6.2](#))

Draft innovation strategy (ACTRIS IMP Deliverable 3.1)