

PUBLIC-PRIVATE PARTNERSHIP IN ACTRIS: A WIN-WIN ECOSYSTEM



The ACTRIS World Calibration Center for Aerosol Physical Properties in Leipzig, Germany operated by TROPOS

ACTRIS (*Aerosol, Clouds and Trace gases Research Infrastructure*) is the pan-European ESFRI initiative that consolidates strategies amongst European partners for observation of aerosols, clouds, and trace gases. The infrastructure is unique to provide the 4D-variability of clouds and of the physical, optical and chemical properties of short-lived atmospheric species, in particular those involved in climate forcing. ACTRIS operates large multi-instrument observing platforms, together with centers of expertise offering instrument-specific services and tools, comprising training sessions, calibration facilities and data evaluation procedures.

Clearly, observation technologies and methodologies, including hardware and software, in-situ or remote methods, are fundamental building blocks of ACTRIS. ACTRIS, through its partnership brings together a very strong technological expertise (micro- and nano-electronics, nanotechnologies, photonics, advanced materials, etc..) applied to the field of instrumentation for aerosol, cloud and trace gases. In fact, very advanced technologies have been developed within the consortium for the specific atmospheric applications and it is naturally that many companies, in particular from the instrument manufacturing industry, have become associated members of ACTRIS.

For the manufacturing industry, ACTRIS is first an identified partner for assessing performances of sensors (precision, accuracy, detection thresholds, resolution, etc.) for atmospheric applications. Centers of expertise are regularly testing capacity of commercial instruments to be used for Earth observation purposes and are suggesting technical modification or upgrade to better respond to user needs. This is well illustrated by the fact that a fair number of commercial instruments now available on the market were tested and improved (hardware and software) at the ACTRIS facilities. For a few instruments, ACTRIS compatibility is even used as a first-quality label by sales departments.

ACTRIS has played a very crucial role for the purpose of establishing new metrological norms in relation with industry and users. Because ACTRIS is an identified player in the field of atmospheric measurements, many partners are actively participating to normalization initiatives of the European Center for normalization. It is clear that several adopted CEN procedures are directly originating from ACTRIS recommended procedures. The strong engagement of ACTRIS with several national metrology institutes for developing standard procedures for atmospheric measurement technique has created a win-win ecosystem favouring partnership with the private sector.

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