

## The ICOS Atmospheric Network and Atmospheric Thematic Center (ATC)

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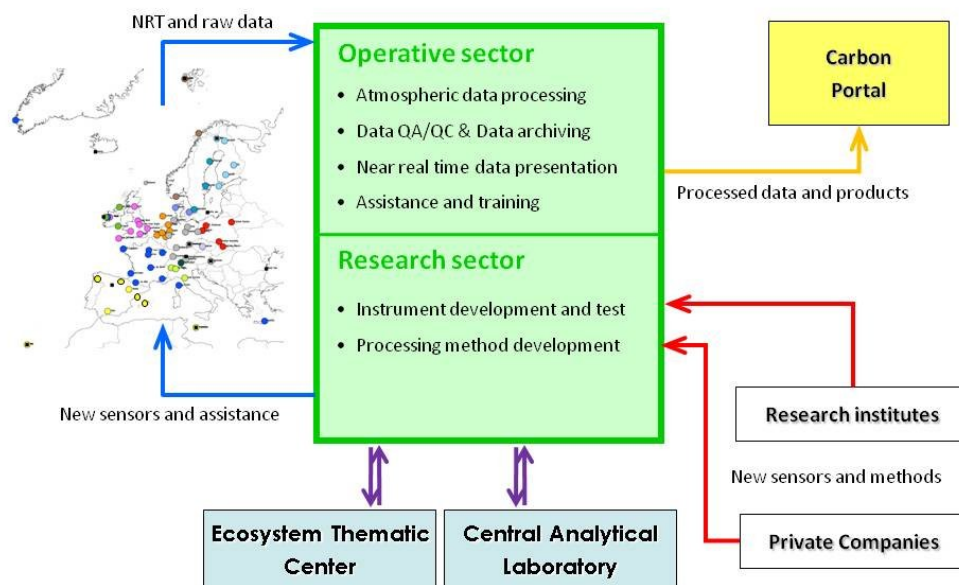
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Integrated Carbon Observation System (ICOS) is a European Research Infrastructure ([www.icos-infrastructure.eu](http://www.icos-infrastructure.eu)) dedicated to understanding the greenhouse balance of the European continent and of adjacent regions. It integrates terrestrial, atmospheric and oceanic observations at various sites into a single, coherent, highly precise dataset. The need of an ATC operating at the European level in ICOS is justified by the distributed nature of this infrastructure. A central facility is needed to ensure that all the data are processed with the same algorithms and properly archived for the long term, that the atmospheric stations can receive permanent support for optimal operation during their lifetime, and that new sensors can be smoothly deployed in the network in the future. The ATC will also be responsible to link the ICOS atmospheric data collection program with other central facilities, in the framework of European and international monitoring networks.

A demonstration (Demo) experiment has been set up during the second semester of 2011 to demonstrate the feasibility of the ICOS infrastructure and its capability to manage properly a network of standardized instruments, with a centralized data processing performed in near real time. For that purpose, the Demo will rely on a small network made of four stations and central facilities (ATC, Ecosystem Thematic Center (ETC) and Central Analytical Laboratory (CAL)). The presentation will detail the tasks of the ICOS-ATC, and the preliminary results obtained during the Demo Experiment.



**Figure 1.** Schematic view of the main tasks of the ICOS-ATC.