



The Community of Practice for Air Quality Systems (COMPASS) Open-Source Data Management System

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Air pollution concentration data collected by low-cost sensors and other types of monitors requires a Data Management System (DMS) for data collection and storage, quality assurance, and analysis. Currently, organizations that measure air pollution must either purchase a proprietary system or develop a custom DMS, which can lead to duplication of effort, runaway costs, systems that are not built-for-purpose, and constrained data sharing. Organizations with fewer financial resources and/or less technical capacity are particularly challenged. The Community of Practice for Air Quality Systems (COMPASS) Open Data Management System project is creating a collaboratively developed, open-source DMS to address these challenges.

The COMPASS project convenes core stakeholders representing different geographies and constituencies to develop an open-source DMS that meets the needs of organizations that collect air data or aim to do so. Core functions related to data ingestion, aggregation, harmonisation, storage, quality control, validation, and data sharing have been identified through extensive global stakeholder engagement, and a prototype DMS is now being piloted.

This presentation will describe the collaborative process underway to develop and launch, by the end of 2026, a sustainable open-source DMS for practitioners and managers who need to efficiently manage the air pollution measurements they collect.