Sharing air quality data

With the advent of the Internet of Things (IoT) and smart cities in the last decade, local governments now have access to relatively low-cost technologies that connect small sensing devices with data users.

Devices can now transmit air quality measurements wirelessly, every few minutes. This has fundamentally altered the way environmental sensing is approached at a local level, and opens the door to a wide range of new data-driven use cases.

Many of these new use cases require sharing the project data within organisations, or with external users. These users may include universities, commercial partners, government agencies, and the general public. This creates a new set of challenges for data custodians.

An air quality monitoring project will generate a lot of data, and it is vital that this data is shared safely, securely, and in a way that is 'fit-for-purpose' for data users.

Why is it important to know about data sharing?

Any local government that is beginning to collect air quality data or indeed any smart city related data should approach data sharing in an informed and considered way.

In the broader smart city context, data sets created for one purpose may be used in future for other purposes that reach far beyond the initial identified group of data users. *Open data* is one example of data that can be used for a wide range of purposes, and with full visibility for all users. In this case, it is important that data users understand that the data is being shared, its quality, and other characteristics, so they can determine if it is fit for their purposes.

WHAT CAN YOU DO TO ENSURE SAFE DATA SHARING?

Use the following checklist to ensure you are adequately prepared to share your air quality data in a way that is fit-for-purpose, effective, and addresses potential risks.

- ✓ Ensure your organisation is ready
- ✓ Create data policy
- ✓ Acquire the data
- ✓ Determine what data to share
- ✓ Maintain a data set inventory
- ✓ Assess data sets
- ✓ Share your data
- ✓ Provide training and support
- ✓ Periodic reviews.

What do you need to know about data sharing?

To understand the practicalities of data sharing in the context of smart low-cost air quality monitoring, it is important to understand two key concepts:

The data lifecycle — Like physical assets, data has a life cycle, and there are costs associated with each stage of its life cycle. Local government assets (such as vehicles) follow a procurement process, servicing regime, and ultimately a disposal process. Data has a similar life cycle.

Data sharing risks — In the context of government data, the data sharing risk of most concern is personal privacy risk. This is the risk that, by sharing data, some private information about individuals may be disclosed. Although air quality monitoring data generally presents no privacy concerns, it may be possible to combine it with other data sets in a way that increases the risk of identifying individuals.

Associated OPENAIR resources

See the OPENAIR Best Practice Guide chapter *Sharing air quality data* for detailed information on how to share air quality data, including how to decide what data to share, and how to ensure that data is shared appropriately and effectively. The Best Practice Guide chapter *Data policy for local government air quality monitoring* explores how local government data policy can support the effective, responsible and strategic management, and sharing of data associated with air quality monitoring.

FIND OUT MORE AND ACCESS OPENAIR RESOURCES

This factsheet is part of a suite of resources designed to support local government action on air quality through the use of smart low-cost sensing technologies. It is the first Australian project of its kind. Check the project website for resources and updates on post project collaborations: **www.openair.org.au**