Sensing device deployment planning: high level design

To establish a smart sensing network, a deployment planning process is required to establish where to locate devices, how to mount and install them, and how to secure approvals. The planning of a smart sensor network can be approached in two stages: high-level design, and detailed design.

What is high-level deployment planning and design?

A high-level design process involves the investigation of a general location (or locations) and the practical deployment options for device deployment that it contains. It is important to have the high-level design completed before you finalise the detailed design.

High-level deployment planning and design should only begin *after* a clear data use case and business case have been established for your project. High-level design should be undertaken in parallel with technology procurement decision-making, because the context in which devices are deployed will heavily influence the technologies that you choose to procure.

HIGH-LEVEL DESIGN

- General deployment locations
- General mounting infrastructure
- Power supply strategy
- General mounting solution(s)
- Access and permission planning.

DETAILED DESIGN

- Planning detailed deployment options
- Documenting detailed deployment options for approval
- Securing approvals
- Labelling devices.

The high-level design process

The high-level design process involves the investigation of a general location (or locations), and consideration of the practical options for device deployment in those locations. This process* should consider all the factors described here:

Assessing the suitability of general deployment locations

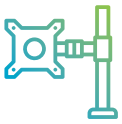
Aim: Identify one or more areas of interest on a map where you plan to deploy sensing devices. It is not necessary to specify precise locations at this time.

General mounting infrastructure

Aim: Identify one or more general kinds of mounting infrastructure within a general deployment location.

Power supply strategy

Aim: Develop a high-level plan for power supply at each general location. This need not be specific to individual mounting assets at this time.



General mounting solution(s)

Aim: Identify general mounting solutions that are appropriate for attaching chosen sensing devices to the mounting infrastructure options. Make a plan for their delivery, in line with project schedule and budget.

Access and permission planning

Aim: Identify access requirements for prospective deployment locations and mounting infrastructure options, and seek to minimise the complexity and cost of access where possible (through informed design choices).

Further reading

For detailed guidance on the key steps in high-level deployment planning for a sensing device network refer to the OPENAIR Best Practice Guide chapter on *Sensing device deployment planning: high-level design*. The OPENAIR Best Practice Guide chapter *Sensing device deployment planning: detailed design* can be used to guide more detailed planning.

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**

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* These considerations are interdependent. The suitability of a general deployment location is determined, in part, by the presence of appropriate mounting infrastructure. The suitability of mounting infrastructure is, in turn, determined by its support for power supply, device mounting solutions, and general accessibility.

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