

Choosing the air quality monitoring technology partner

There are a wide range of low-cost sensors on the market, and finding the right solution may not be straightforward. Every tool has its own pros and cons and there are many considerations to be factored in before making a decision. The following table summarises the most important criteria that every team should take into account when evaluating a potential air quality monitoring partner.

Criteria	Why does it matter?	Key questions and considerations
Air Quality Measurements	Different sensors offer different pollutant profiles. Accuracy and precision also vary widely among low-cost sensors.	<ul style="list-style-type: none"><input type="checkbox"/> What pollutants do you need to monitor, at what accuracy? Consider R^2, RMSE, and MAE.<input type="checkbox"/> What sampling rate do you need for desired temporal resolution?
Installation	If the sensors are not designed to operate self-sufficiently with flexible siting, installation can become an expensive and time-consuming process. Opt for a solution that reduces complexity.	<ul style="list-style-type: none"><input type="checkbox"/> Will the monitors require access to other infrastructure such as electrical / WiFi?<input type="checkbox"/> How much technical knowledge is required for installation?<input type="checkbox"/> Will monitors require special installation instructions to prevent theft or vandalism?
Operation & Maintenance	OPEX can be expensive with hidden maintenance costs. Choose a solution that is robust and designed to operate with minimal maintenance.	<ul style="list-style-type: none"><input type="checkbox"/> Does the company demonstrate consistent and proven performance across different environments?<input type="checkbox"/> Will the monitors be exposed to extreme weather conditions? Extreme temperature and relative humidity can affect sensor readings.<input type="checkbox"/> How much technical knowledge is required for maintenance?<input type="checkbox"/> Does the company offer a warranty for units with problems?
Data quality, access & connectivity	How seamless and secure is the ability to access data from the monitors? Opt for a solution that allows you to easily access data in order to draw conclusions and take action.	<ul style="list-style-type: none"><input type="checkbox"/> Does the company calibrate its data, or would your team like to conduct its own calibration?<input type="checkbox"/> How will you access data from the network? Does the provider offer a software dashboard, or hardware only?<input type="checkbox"/> Do you need on board data storage?<input type="checkbox"/> What data security does the company offer?
Customer Service	Are you just purchasing a piece of technology, or will you have access to ongoing support?	<ul style="list-style-type: none"><input type="checkbox"/> Does the company have a team dedicated to customer success?<input type="checkbox"/> Is support for project design and implementation included in the price of the solution, or will this cost extra?
Third-party evaluations & references	Any reputable air quality monitoring provider will be able to provide you with third-party verification reports and/or customer references.	<ul style="list-style-type: none"><input type="checkbox"/> Look for validation testing reports from testing centers like AQ-SPEC, Urban Lab, and others.<input type="checkbox"/> Before investing in a technology that will constitute a core part of your monitoring network, make sure to speak with other air quality managers that have used their technology.