Global and custom calibration approaches for Clarity's Node-S air quality measurements.

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For air quality monitoring in Africa and around the world, where sparse regulatory networks and challenging infrastructure often affect data collection, remote air quality sensors are an affordable ultimatum.

Clarity Movement provides advanced, IoT-enabled air quality monitoring solutions that combine precision sensing with global connectivity. The Clarity Node-S, integrates solar power, cellular communication, and weatherproof design to deliver reliable air quality data.

Two calibration systems are available: global pre-calibration and custom collocation calibration. The global calibration, applied at the factory using an extensive dataset of millions of measurements, provides consistent baseline performance across $PM_{2.5}$ and NO_2 monitoring meanwhile, custom collocation calibration fine-tunes sensor output can further correct for local conditions, improving measurement precision ($R^2 > 0.9$ in optimal settings) by accounting for regional temperature, humidity, and pollution profiles.

Their ability to maintain accurate, MCERTS-certified performance in remote and variable environments makes them ideal for expanding measurement coverage across urban and rural areas alike. By combining flexible calibration and autonomous operation, Clarity's system supports more equitable access to reliable air quality data, advancing public health and environmental research across the world.

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