



# The HK Construction Industry Council protects student wellbeing with an IoT-enabled indoor air quality monitoring solution connected to the Thinxtra 0G Network

## The Challenge

Hong Kong's Construction Industry Council (CIC) needed a reliable solution to assure student safety at its construction training campus by managing ventilation and temperature levels.

## The Solution

CIC selected IoTTree to develop a solution to remotely monitor indoor air quality levels using sensors to detect temperature, humidity, total volatile organic compounds (TVOC), and fine particulate matter (PM2.5) levels. The sensors alert building managers to act when unsafe levels are reached via the Thinxtra 0G Network.

## The Results

IoTTree's IoT-enabled indoor air quality monitoring solution helps the CIC assure student wellbeing and comfort with:

- always-on monitoring
- an alert system to address issues quickly
- maintaining optimal indoor climate conditions

### 0G Network Operator



**Thinxtra**, The IoT Telco, is the exclusive Sigfox 0G Network Operator for Australia, New Zealand, Hong Kong, and Macau and the sole distributor of Soracom cellular IoT services.

[www.thinxtra.com](http://www.thinxtra.com)

### Solution Partner



**IoTTree** is a Hong Kong-based IT company that specializes in integrated Smart City IoT solutions and services that redefine how businesses operate.

[www.iotree.hk](http://www.iotree.hk)

### Customer



**Hong Kong's Construction Industry Council (CIC)** strives for industry education, unity and excellence by serving as a communication channel for the Government and training members of the construction industry.

[www.cic.hk](http://www.cic.hk)

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Hong Kong's Construction Industry Council (CIC) supports construction in Hong Kong (HK) by providing a communication channel to share the industry's needs and aspirations with the Government and give the Government a way to solicit industry advice.

## The challenge of optimizing indoor air quality at CIC's training campus

The HK CIC runs a dedicated construction training campus in Sheung Shui. On-site, students perform hands-on construction training activities, which exposes them to risks such as inhalation of toxins and fumes. To assure student safety and wellbeing, the CIC needed a cost-effective, reliable indoor air quality monitoring solution to optimise ventilation, and manage humidity and temperature levels in its learning environments.

Conventional indoor air quality monitoring solutions required base stations and hard-wired access to power, which complicated installation, added to the cost, and made scaling difficult. Additionally, standard network connectivity proved unreliable across the campus environments, which includes hard-to-reach underground locations.

## IoT transforms indoor air quality management with the IoT

The HK CIC selected IoT as the solution provider to deploy an innovative indoor air quality monitoring solution to improve environmental conditions at its Sheung Shui campus. IoT included AirWit IoT sensors in the solution, specifically designed by Connected Finland to monitor air quality conditions unique to indoor environments.

At Sheung Shui, IoT-enabled sensors remotely monitor indoor temperature, humidity, total volatile organic compounds (TVOC), and fine particulate matter (PM2.5) levels. Each sensor runs independently with power from a long-life battery and requires no maintenance. The solution also operates without needing connectivity to the campus's IT infrastructure.

Following installation, IoT connected the devices to the Thinxtra 0G Network, powered by Sigfox. The 0G Network is a long-range, low-power network that provides low-cost connectivity across 90 percent of Hong Kong. Connectivity is easy and instant with a brief configuration.

When the sensors detect unacceptable air quality levels, the solution alerts the building management team via the Thinxtra 0G Network to take action to increase ventilation.

## The IoT improves on-campus wellbeing, safety and comfort for teachers and students

IoT's IoT-enabled indoor air quality monitoring solution, connected with the Thinxtra 0G Network, lets the HK CIC assure the wellbeing and comfort of students and teachers by providing:

- reliable, always-on, remote monitoring and management of the temperature, humidity, TVOC, and PM2.5 levels in the campus
- the ability to steadily maintain optimal indoor climate conditions
- a rapid alert system to address issues as fast as possible
- independence from manual on-site monitoring procedures



*Thinxtra's 0G Network, powered by Sigfox, covers over 90 percent of Hong Kong. Partnering with Thinxtra lets us meet specific customer requirements with reliable, low-cost, long-range, wireless connectivity for a wide range of indoor and outdoor use cases.*

*Dino Wong, Sales Manager, IoT*