

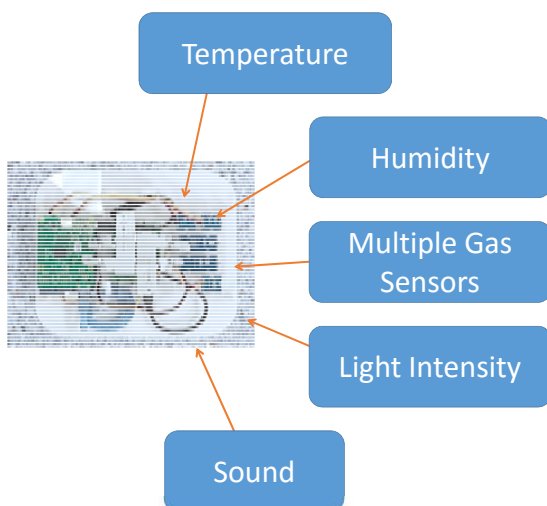
EDGE ANALYTICS (EA) HUB (E2S2 SP-2 Project)

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We have created the **Edge Analytics (EA) Hub** which **places analytics capabilities close to sensors** and **enables real-time distributed sensor information processing** directly on the device, which leads to **more timely and accurate models for event detection, prediction and control**. This can be viewed as an embodiment of **smart sensing**.

Signal processing, statistical modelling and machine learning operations can execute locally and process the sensor data streams even when a continuous connection to the Internet does not exist.

Several EA Hubs can function collaboratively with other EA Hubs to achieve pervasive and comprehensive monitoring, coverage and surveillance.



This distributed data processing framework leverages both **edge and cloud computing** capabilities.

As it has connectivity to the cloud, more computationally intensive tasks such as complex model training and evaluation, deep learning etc. can run on the cloud, and intervention actions can be pushed back to EA Hubs and actuators.

The EA Hubs have been augmented with indoor environment sensors, a system management application that can handle remote software upgrades, sensor management and data visualization.

23 units of EA Hubs + sensors have been deployed at IDMI, I-Cube, NUS, and additional deployments are planned in Shanghai and elsewhere. There is also a fully wireless version of the EA Hub.

