LITTLE BIG FUTURES

INTERNET OF THINGS STUDENT FACTSHEET

The sensor layer

Sensors detect changes in the 'physical' world, then output analogue or digital data. This data is usually in a continuous stream.

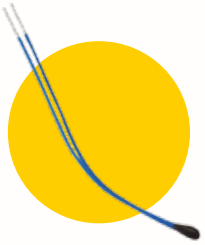
Sensors have an operating range, specifying the maximum and minimum levels for reliable sensing. The relationship of the output signal to the measured property is its sensitivity and the smallest change that can be detected is its resolution.

Sensors might be deployed in small or large numbers, possibly over a wide area. They must be connected to a processing device to handle the data and make it useful. Examples of sensors include:

- infrared
- accelerometers
- electro-chemical
- GPS

This layer might also include radio frequency identification (RFID) and barcode tags. Devices in this layer will have very limited data storage capacity – perhaps none at all.

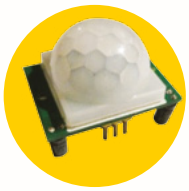
Further examples:



Temperature sensor (heat-sensitive resistor) – analogue (negative temperature coefficient)

Explosive gas sensor – analogue voltage output

Heat sensor with in-built wireless networking (Zigbee)



Motion Detector (Passive IR) – digital (3V output)