el·watch

Monitoring clean rooms

A clean room is required in several production industries. For instance to keep food production safe and free of bacteria, or for production where presence of dust or dirt will damage the end product. Clean room are established by creating over pressure in the clean room. With this over pressure, air from other areas cannot enter and contaminate the clean room. If a clean room is contaminated, products in production needs to be thrown away, and a thorough cleaning is necessary before production can be restarted. In some industries, such as dairy production, government inspectors will demand documentation that the clean room has not been contaminated at any time.

Challenge
- Systems that provide the over pressure can fail, as any other system. It can be difficult to detect this by operators in the facility since the over pressure used to keep a clean room clean are at very low pressure levels normally not detectable by humans.
- Manual measurements of over pressure can be performed at regular intervals, but if there is an issue in-between these manual measurements, production that needs to be thrown away will happen until the issue is detected.
- A log of over pressure on a piece can easily get lost and can be manipulated by employees.

Solution
- An IoT differential pressure sensor will monitor the over pressure continuously. As soon as over pressure decreases, an alert can be sent to operators that can fix the issue in development before the clean room is contaminated.

- An electronic log of differential pressure measurements will document that the clean room has not been contaminated at any time.

What you get
- A Neuron Differential Pressure sensor measures pressure difference between the two inputs at regular intervals. The inputs can be connected to the included silicon tubes to measure the pressure difference between two areas.
- One input is measuring the air pressure in the clean room with regards to the air pressure in a surrounding non-clean room. A silicon tube is normally used to connect one of the rooms to the IoT-sensor.
- An electronic log of all measurements over the last 12 months will be kept in the Neuron Cloud.
- Alerts when over pressure is changing or if it is no longer present can be sent to operators or management on e-mail, SMS or through push warnings on a mobile phone.

Products in use
- Neuron Differential Pressure