

# SENSOR DRIVEN SOLUTIONS

## IOT BASED MAINTENANCE

Cleverly uses technologies such as sensors to provide you the ability to offer cutting edge technologies and a more responsive maintenance solution to your clients.



# WORK SMARTER

AUTOMATION  
ALERTS & NOTIFICATIONS  
REMOTE MONITORING

Good

Temp	Humidity	CO <sub>2</sub>	Chemicals
72	57	1077	187
	%	ppm	

## SAMPLE USE CASE

Levels of CO<sub>2</sub> or airborne pathogens can be used to activate HVAC equipment or send a works order for filter changes.

## PRODUCTIVITY

Poor air quality is linked to levels of cognition and has been shown to reduce productivity levels up to 15%.

# AIR QUALITY

Air quality can be monitored in the following ways:

## CO<sub>2</sub> LEVELS

Linked to both speed and quality of work, carbon dioxide levels are critical to monitor

## VOC LEVELS

Volatile organic compounds are linked to neagtive health effects in both short & long term

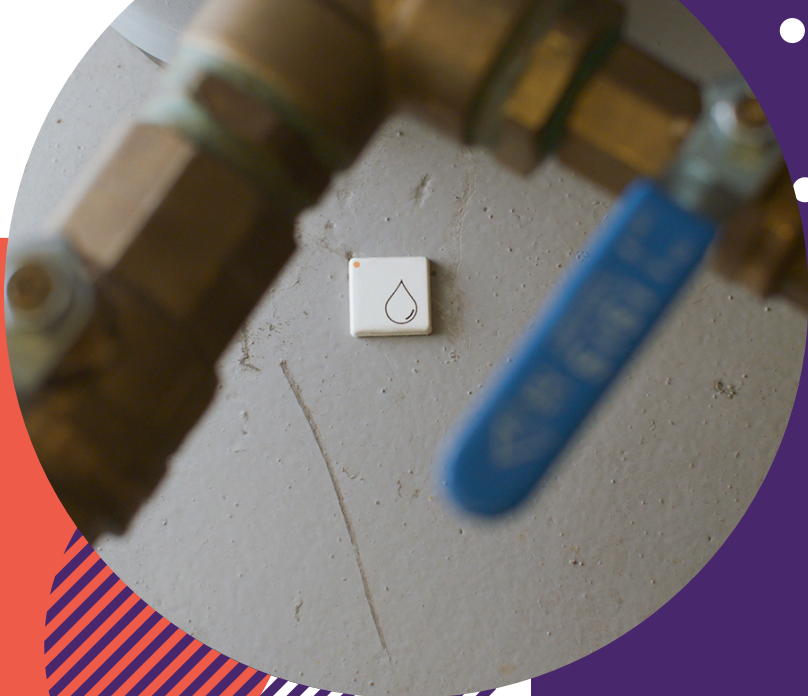
## HUMIDITY

Monitor humidity to ensure risk of outcomes such as mold remains low.



# FREQUENCY

Water leaks are one of the most common issues in property maintenance and facilities management, causing billions of pounds of damage every year.



## SAMPLE USE CASE

Moisture detectors can be installed in sensitive areas such as plant rooms or production environments to alert the relevant parties to the presence of liquid.

# LEAK DETECTION

Leak detectors typically come in the following forms:

## FLOOD SENSORS

Alerts or work orders are sent when the sensor comes into direct contact with water.

## FLOW METERS

Abnormal deviations in flow rates, pressure or vibration are used to detect water leakage.

## ACOUSTIC SENSORS

Highly sensitive, these can be used to alert leakage based on the sound profile even of seepage.



# PREVENTION

Water monitoring allows you to act before situations arise ensuring occupiers and residents remain unaffected by water issues.



## SAMPLE USE CASE

Flow rate sensors are placed on incoming mains pipes to advise when flow rates fall below a specified level. The mains issue is rectified and in the interim tank-stored water is used. This avoids water outages.

# WATER MONITORING

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## IMPACTS

Improper refrigeration or equipment failures costs billions of pounds every year in food wastage, and has both human and environmental impacts.



## SAMPLE USE CASE

Temperature monitoring can be used to ensure that valuable resources such as food, wine, medicines and more are stored in optimal environmental conditions.

# TEMPERATURE MONITORING

Temperature monitoring can be used to ensure the following:

## FOOD INTEGRITY

Register if temperatures are in the range of 5 - 60 degrees where bacteria can quickly grow

## DATA INTEGRITY

Remove the errors and irregularity associated with human record-keeping.

## OVERALL CONDITIONS

Many temperature sensors also collect humidity levels to ensure these are within acceptable range





## PRIVACY

Most sensors anonymise the data at the product level ensuring that privacy of residents and workers is maintained at all times. No identification is possible, nor are images captured or stored.



## SAMPLE USE CASE

Using occupancy sensors, we provide a smart cleaning solution whereby works orders are sent to on site cleaners when a desk or meeting room has been occupied to ensure they are kept in a sanitary state for the next user.

# OCCUPANCY SENSORS

Occupancy sensors can be used to capture the following information:

## COUNT

Record the number of people in a location

## PROXIMITY

Occupancy sensors can provide information related to proximity to ensure correct distances are maintained



# PREMISES INTEGRITY

Door, window and contact sensors can avoid issues resulting from unintended access opportunities.



## SAMPLE USE CASE

Where openings such as cold room storage doors have been in an open state for more than 5 minutes, alerts can be sent to operatives to ensure that appropriate temperatures are maintained for contents.



# SECURITY STATUS

Contact or closure sensors can be used to capture the following information:

## STATE

Whether a door or window is open and closed, and the time for which it has been in that state

## COUNT

How many times doors have been opened or closed is also recorded to aid resource provision e.g. cleaning toilets



## REMOTE ACCESS

Legionella monitoring has required human intervention to ensure that adequate temperatures water flows are reached.



## SAMPLE USE CASE

Using sensors, managers can be advised when hot water storage is below 60 degrees, and cold water is above 20 degrees. Flow rates can be recorded to ensure adequate system flushing.

# LEGIONELLA MONITORING

Monitoring allows for the following advantages:

## MANUAL TESTING

Companies can save as much as 80% versus the costs of manual testing.

## DATA INTEGRITY

Removing the need for manual record keeping removes or reduces liability and allocates only the required resources for compliance



# PLUG & PLAY

Cleverly is a sensor agnostic maintenance provider. We are happy to use your existing sensor infrastructure or recommend a partner where required.

Cleverly has existing integrations with the following solutions providers:



**W:** [www.cleverly.works](http://www.cleverly.works)  
**E:** [contact@cleverly.works](mailto:contact@cleverly.works)

