



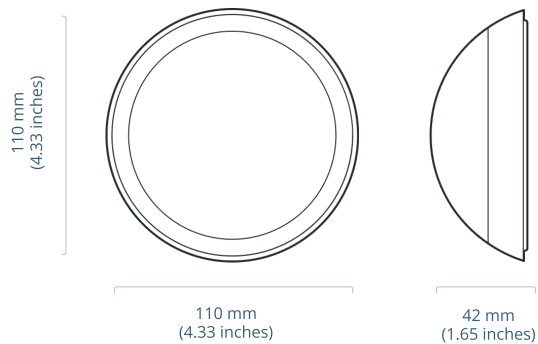
DISRUPTIVE  
TECHNOLOGIES



Product Datasheet

# Wireless Motion Sensor

# Overview



## Description

The Wireless Motion Sensor detects if people are present in a room. If a person walks into the field of view of the sensor, a message is wirelessly transmitted to the cloud through a Cloud Connector.

Cloud Connectors relay data from wireless sensors to the cloud via cellular or ethernet connectivity. From the cloud, the data can be integrated into other services using REST APIs and webhooks or viewed directly in Studio (web application).

## Applications

- Room occupancy monitoring
- Meeting room utilization monitoring

## Specifications

### Sensor

Detection Range	X
Sensor Output	Detected / Not-Detected
Technology	Passive Infrared

### Battery Specification

Battery Type	2x 1.5V AA (Lithium)
Battery Life	Up to 15 Years
Replaceable	Yes

### Radio & Communication

Communication Protocol	SecureDataShot™
Radio Frequency	868 MHz / 915 MHz
Radio Range	Up to 160 m / 524 ft indoors

### Mechanical Properties

Sensor Size	19x19x2.5mm / 4.3x4.3x1.6 in
Weight	123 grams / 4.34 oz
IP Rating	IP20
Mounting Method	Screws

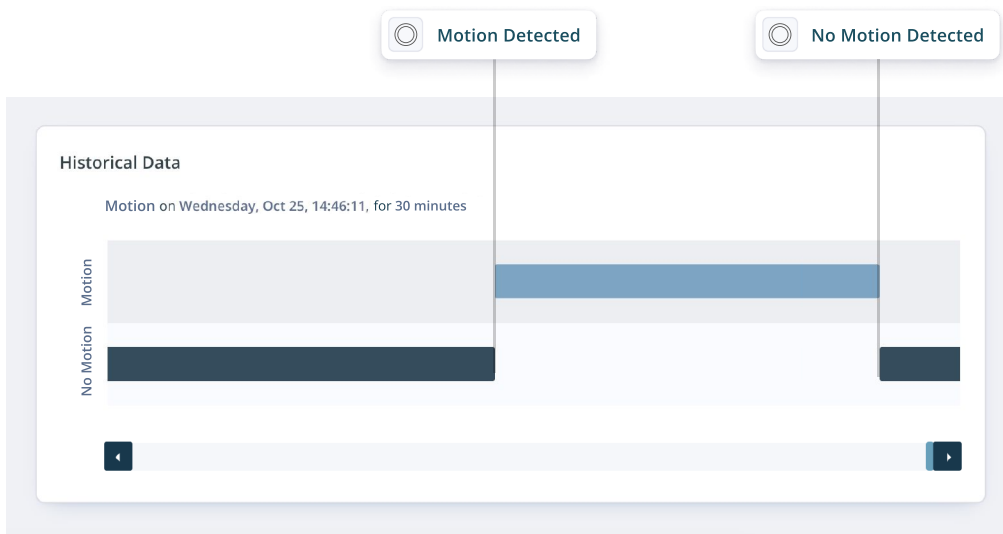
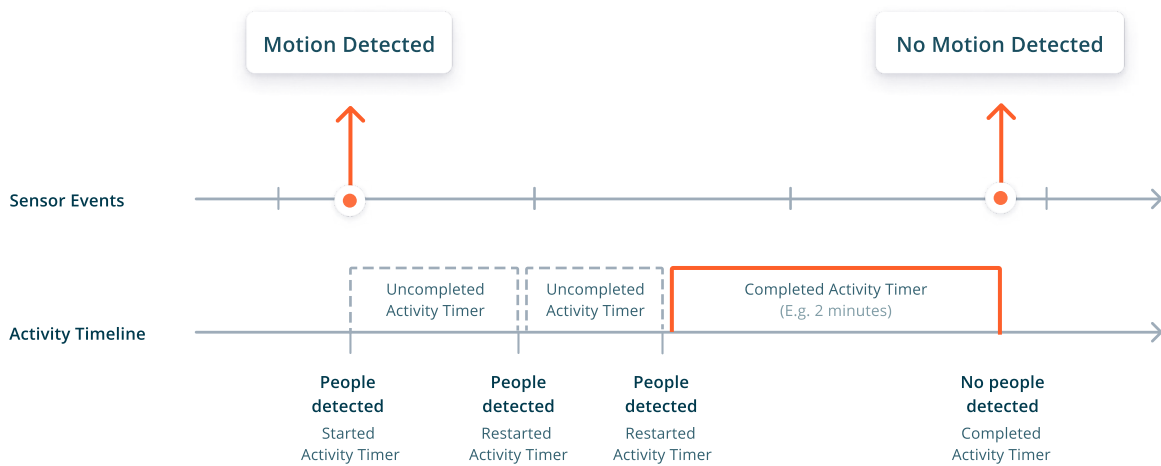
Product Name	Product Number	Region	Order Code
Wireless Motion Sensor EU	102517	Europe	102414
Wireless Motion Sensor US	102518	North America	102439

# How it works

## Default Operation

The Wireless Motion Sensor uses Passive Infrared Sensor (PIR) technology to detect the presence of people in a room by measuring changes in infrared light intensity coming from people moving into the sensor's field-of-view. When the sensor detects presence, it will send a **MOTION\_DETECTED** event to the cloud and start a pre-set Activity Timer. If the sensor continues to detect the presence of people before the Activity Timer expires, the timer will restart. When the Activity Timer expires, the sensor will send a **NO\_MOTION\_DETECTED** event to the cloud.

Independent of occupancy events, the sensor will periodically transmit Network Status Events to the cloud containing connectivity information, so that the system can know that the sensor is online and functional.





# Technical Specification

## Operating & Storage Conditions

**Operating Conditions**                      **Temperature:** 0 to 50°C (32 to 122°F)                      **Humidity:** 0 to 90% RH (non condensing)

**Storage Conditions**                      Cool and dry, near normal room temperature.

## Battery Specification

**Battery**                                      2x 1.5V AA (Lithium or Alkaline)

**Lifetime**                                      15 years with sensor unit placed in room temperature if original batteries are used.  
  
The battery life is limited by the shelf life of AA batteries. Heartbeat Interval and Activity Timer has little impact on the battery life.

## Wireless Communication

**Radio Protocol**                              SecureDataShot™

**Radio Frequency**                              **EU:** 868 MHz ISM band                              **US:** 915 MHz ISM band

**Radio Range<sup>1</sup>**                              The wireless range is dependent on the gateway the sensor is communicating with.

Product	Indoor		Free Space	
Cloud Connector (1st Gen)	100 m	328 ft	2 km	6500 ft
Cloud Connector (2nd Gen)	160 m	524 ft	4 km	13100 ft

Estimates are based on standard ITU-R P.1238 (indoor) and ITU-R P.525 (free-space).

## Certification & Compliance

**Certification**                              **EU:** CE, UKCA, WEEE                              **US/Canada:** FCC, ISED  
**IC:** 25087-102518                              **FCC ID:** 2ATFX-102518

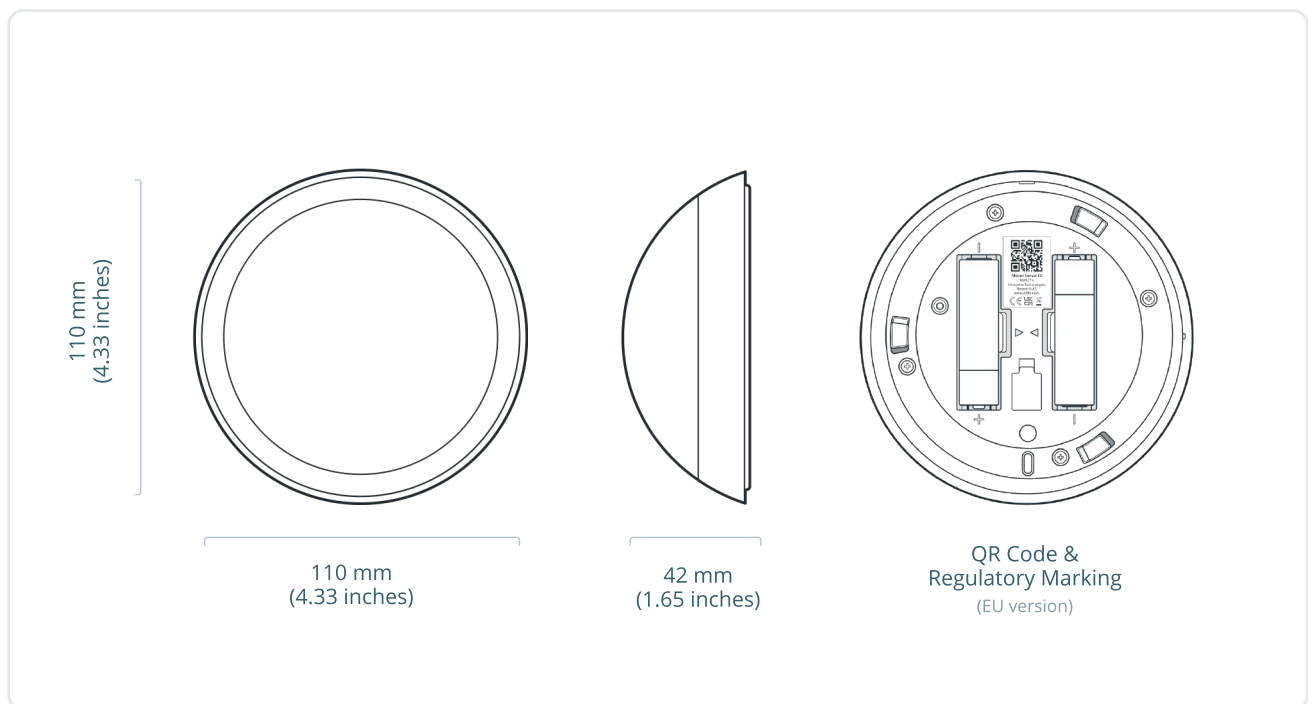
# Mechanical Properties

**Size** 110 x 42 mm / 4.33 x 1.65 inches

**Weight** 123 grams (4.34 oz)

**Material** Polycarbonate (PC)

**Mounting method** Screws



## Product Variants

**EU Version**

**Product number:** 102517

**Region:** Europe

**US Version**

**Product number:** 102518

**Region:** North America

# Installation Guidelines

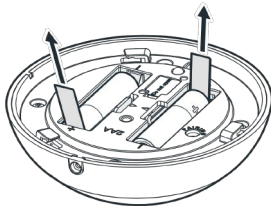
## Placement

Designed to be mounted in the ceiling. For maximum detection zone, place in the middle of the room.

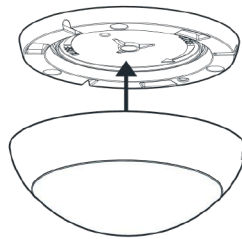
## Installation Height

See “Technical Specification” to understand how height affects the diameter of the detection zone.

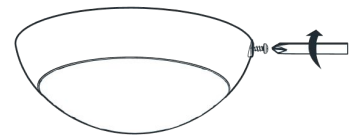
## Installation Process



Remove the bracket by rotating it counter clockwise and remove the battery tabs to activate the sensor.

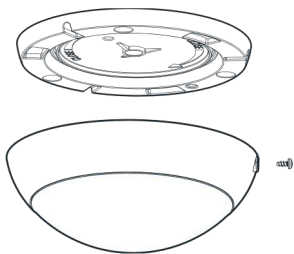


Mount the bracket to the ceiling using screws. Lock the sensor in place by turning it clockwise.

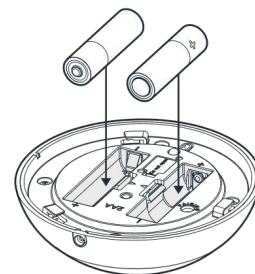


Fasten the safety screw using a philips screw driver.

## Battery Replacement



Remove the safety screw and turn the sensor counter-clockwise to remove it from the mounting bracket.



Replace the batteries with two new AA type batteries. Pay attention to the polarity.

# Ordering Information

## Europe

Product No.	Name	Order Code	Region	Quantity
102517	Wireless Motion Sensor EU	102414	Europe	1

## North America

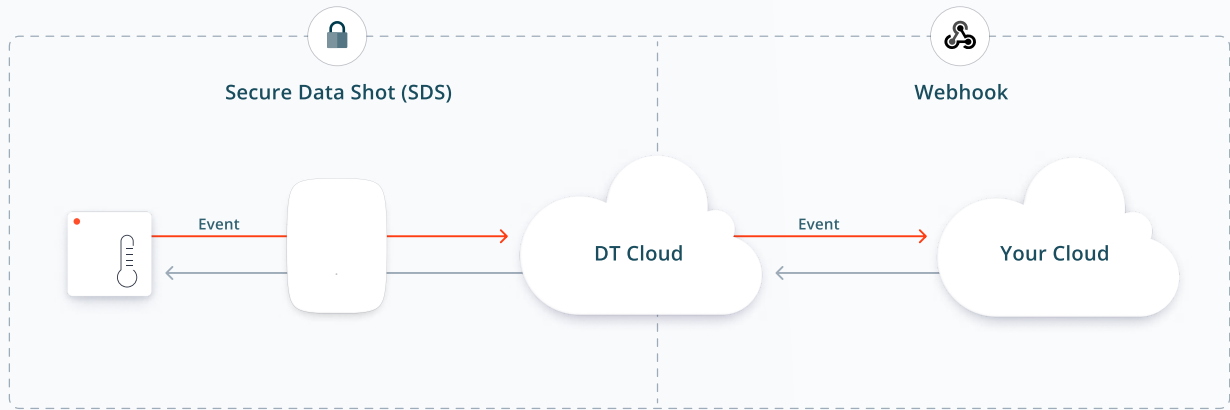
Product No.	Name	Order Code	Region	Quantity
102518	Wireless Motion Sensor US	102439	North America	1

## Sensor Subscription (mandatory)

Name	1 Year	3 Year	5 Year
Sensor Subscription - Motion	800016	800017	800018



# Solution Overview



## Wireless Sensors

Wireless sensors instantly connect and send data to the cloud via SecureDataShot™

## Cloud Connectors

Cloud Connectors automatically connect and relay data to the cloud service

## Cloud Service

No servers, databases, or on-prem clients to manage - simply just install sensors and integrate the data into your own service.

## Why use a cloud based sensor solution?

### Zero-touch Connectivity

No pairing needed. Sensors automatically communicate through all Cloud Connectors which results in a quick and easy installation process.

### 24/7 Monitoring

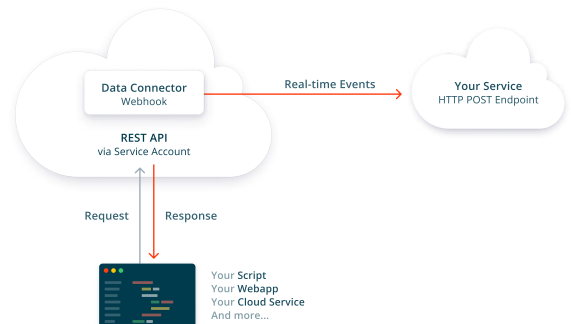
All Disruptive system components are instrumented and monitored 24 hours per day, 7 days per week. Anomalies trigger alarms and notifies our response team.

### Easy to Scale

Cloud Connectors support thousands of sensors and the cloud service automatically scales for users with increasing number of sensors.

### Centralized Management

No servers, databases, or on-prem clients to manage. A modern cloud platform enables secure access on any device from anywhere in the world.

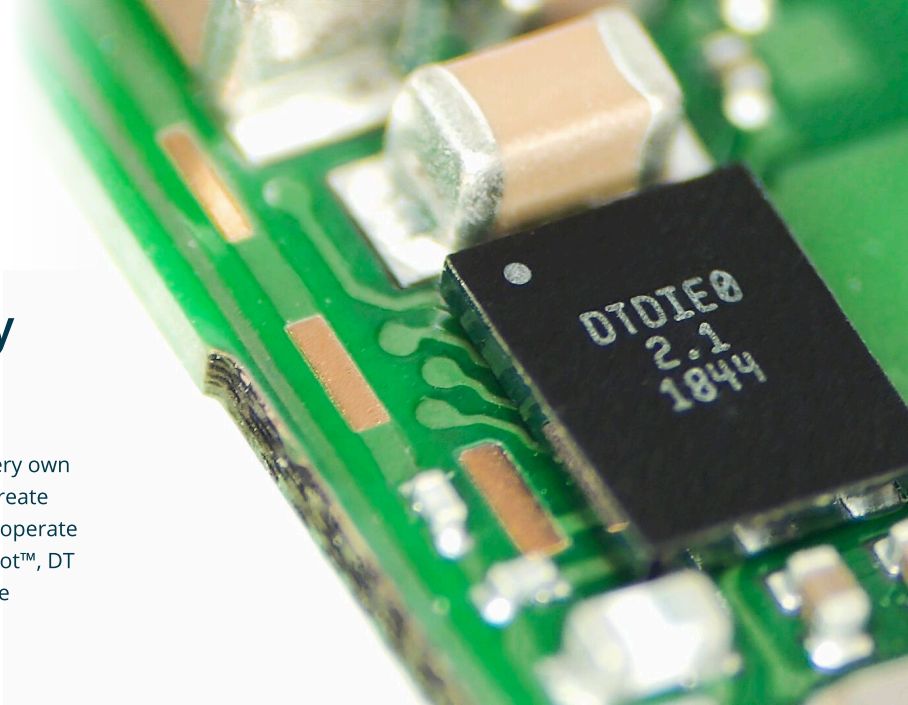


### REST API & Webhooks

Easily integrate the sensor data into your own, or a third-party service, using our REST API or webhooks.

# Take advantage of industry leading battery life with DT Silicon

DT Wireless Sensors are powered by DT Silicon - our very own proprietary chip technology that makes it possible to create sensors that use an order of magnitude less energy to operate than other wireless sensors. Paired with SecureDataShot™, DT sensors have superior battery life while maintaining the highest level of security and ease-of-use.



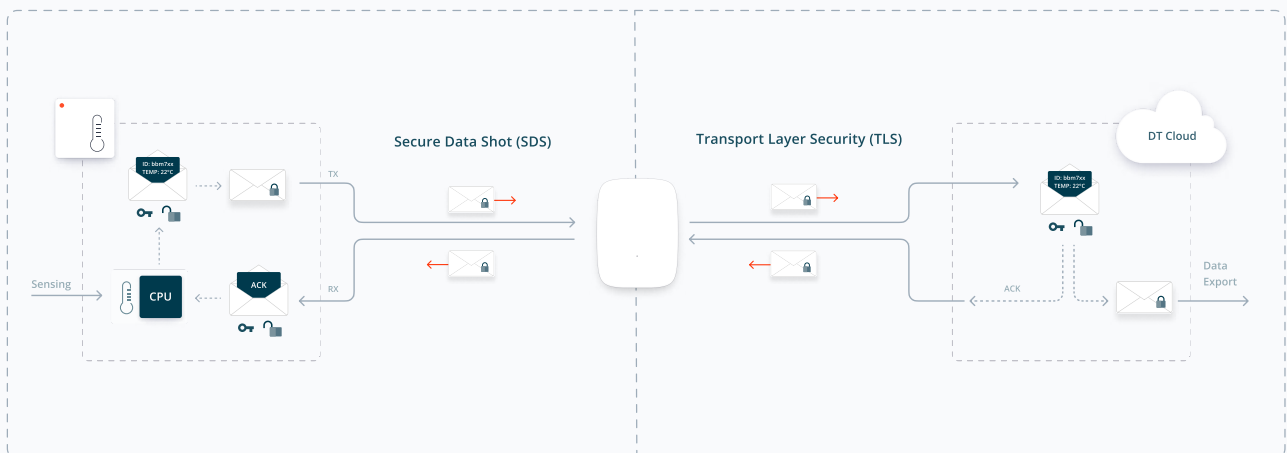
- Enables tiny sensors with long battery life
- Tailor made for the SecureDataShot™ protocol

## Secure by default with SecureDataShot™

SecureDataShot™ creates a secure communication channel between the sensor and the cloud instead of between the sensor and the gateway. This reduces the potential for a manipulator-in-the-middle attack by exploiting vulnerabilities in the security architecture of gateways.

The purpose of the keys is to allow sensors to communicate securely with the cloud. In addition to the keys assigned during manufacturing, the sensor and cloud also hold a unique SecureDataShot™ session key.

- Cloud Connectors can forward data to and from sensors but cannot decrypt the sensor data.
- During manufacturing, each sensor is assigned a unique **256 bit asymmetric encryption key**, generated by a tamper-proof 140-2 Level 3 certified hardware security module.
- The public part of the asymmetric key is exchanged with Disruptive Technologies cloud via encrypted channels.
- Sensor data is encrypted using symmetric AES-128 encryption/decryption in CCM-mode.
- Disruptive Cloud Connectors are provisioned with Transport Layer Security (TLS) certificates to establish a secure connection between the Cloud Connector and the cloud.



# Fleetmanagement & Data Insights with Studio



## Device Overview

Sort devices into projects for easy access and get an overview over data, health status and radio coverage

## Flexible Dashboards

Get a quick overview of sensors and compare data with easy-to-use drag-and-drop dashboard cards

## Access Control

Create role-based user accounts for people and services that need access to sensor data

## Notifications

Set up simple rules for sensors and receive automatic sensor triggered notifications

## Data Forwarding & API Integrations made simple

### Data Connectors / Webhooks

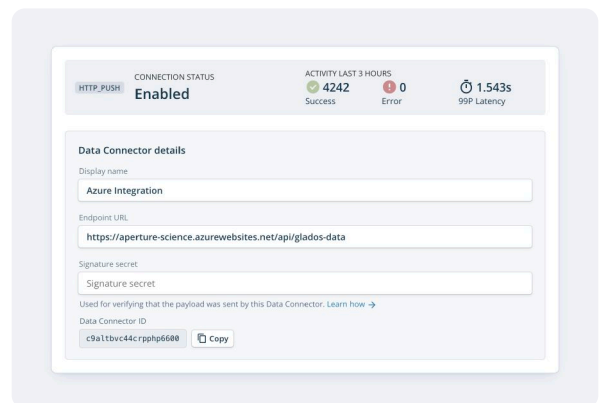
Easily configure secure webhooks to forward the data to your own service.

### Service Accounts

Create and manage role-based service accounts to let your own cloud service authenticate with the REST API.

### Sensor Emulators

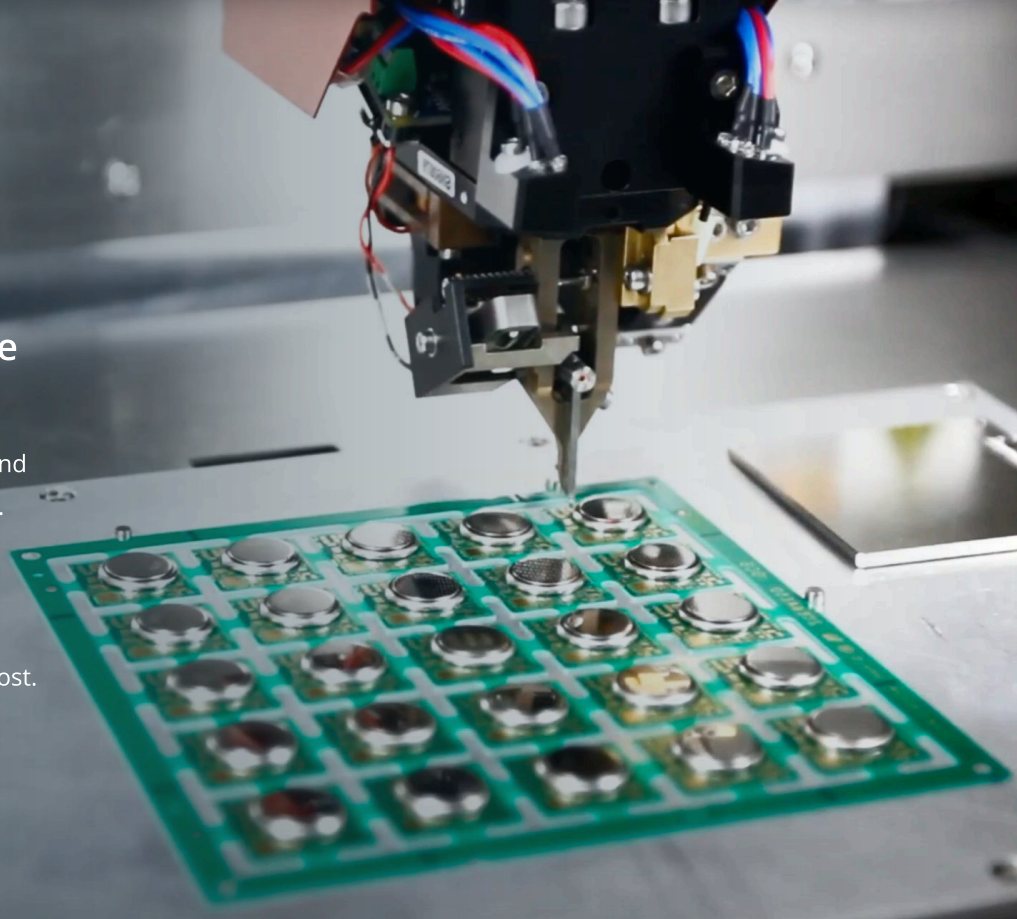
Create emulated sensors to test your API integrations without access to physical hardware.



## Designed in Norway, Manufactured in Europe

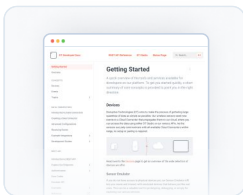
All our Wireless Sensors and Cloud Connectors are designed in Norway and manufactured in Norway or Germany.

We have created a tailor made, high volume manufacturing method that enables our ultra small size and low cost.



## Ready to learn more?

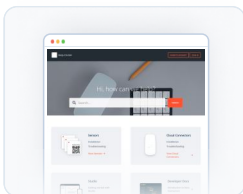
To learn more about DT's wireless sensor solution and how you can benefit from it, visit our website or schedule a demo with a member of our sales team at <https://www.disruptive-technologies.com/contact-us> or contact us directly via email at [sales@disruptive-technologies.com](mailto:sales@disruptive-technologies.com)



### Developer Docs

Browse our developer documentation to find everything you need to know about the system, tutorials, integration guides, and API references.

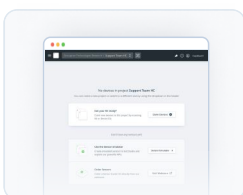
[Learn more](#)



### Support Center

Browse our support center to find details about our products, technology, installation guidelines, and answers to frequently asked questions.

[Learn more](#)



### Sign Up for Studio

Create a Studio account and test our software and API integrations using emulated sensor events.

[Learn more](#)

