



# Edge AI + IoT

*Security & Elderly Care*

 matter

Fall Detector

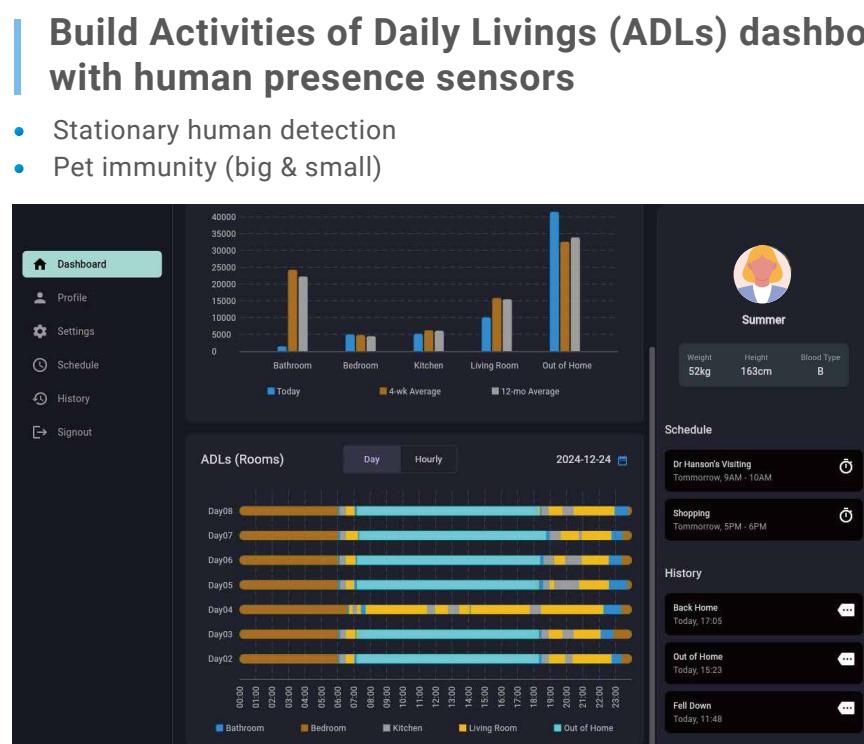
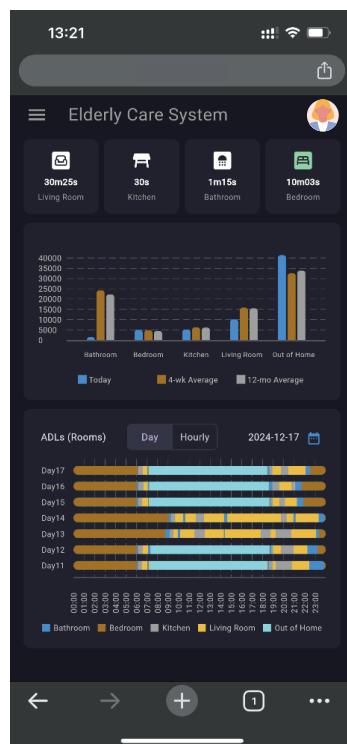
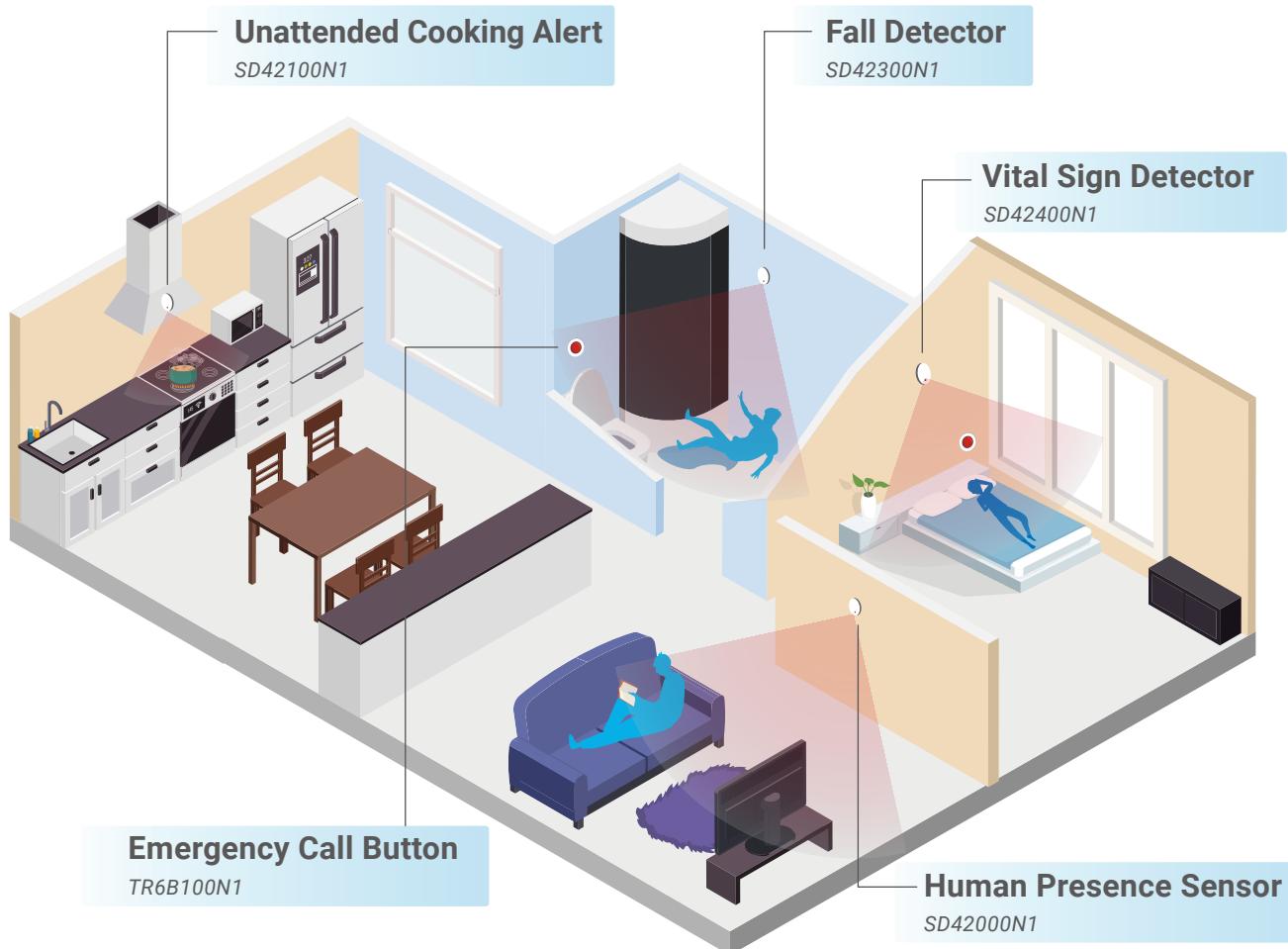


Human Presence  
Sensor



Unattended Cooking  
Alert

# Activities of Daily Livings (ADLs) Sensors



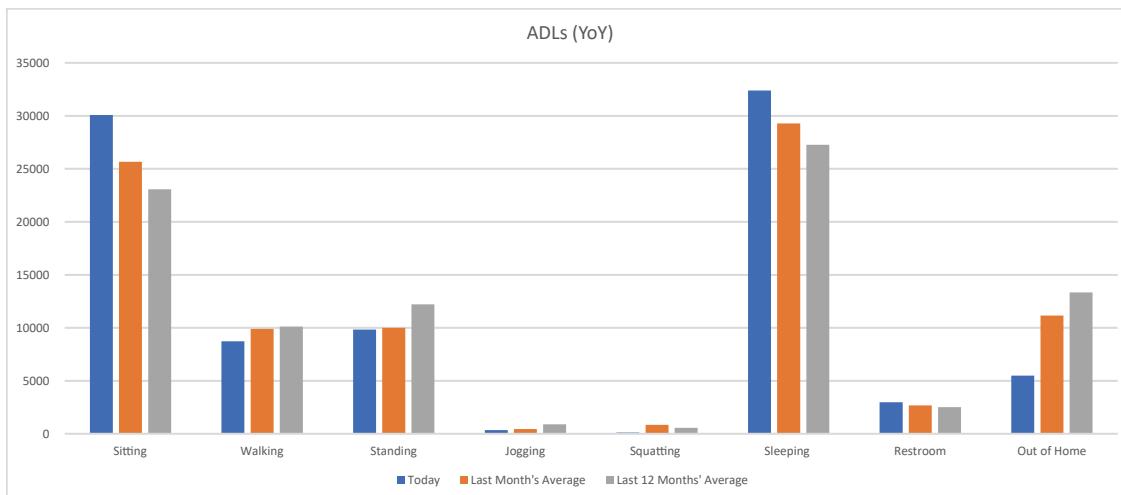
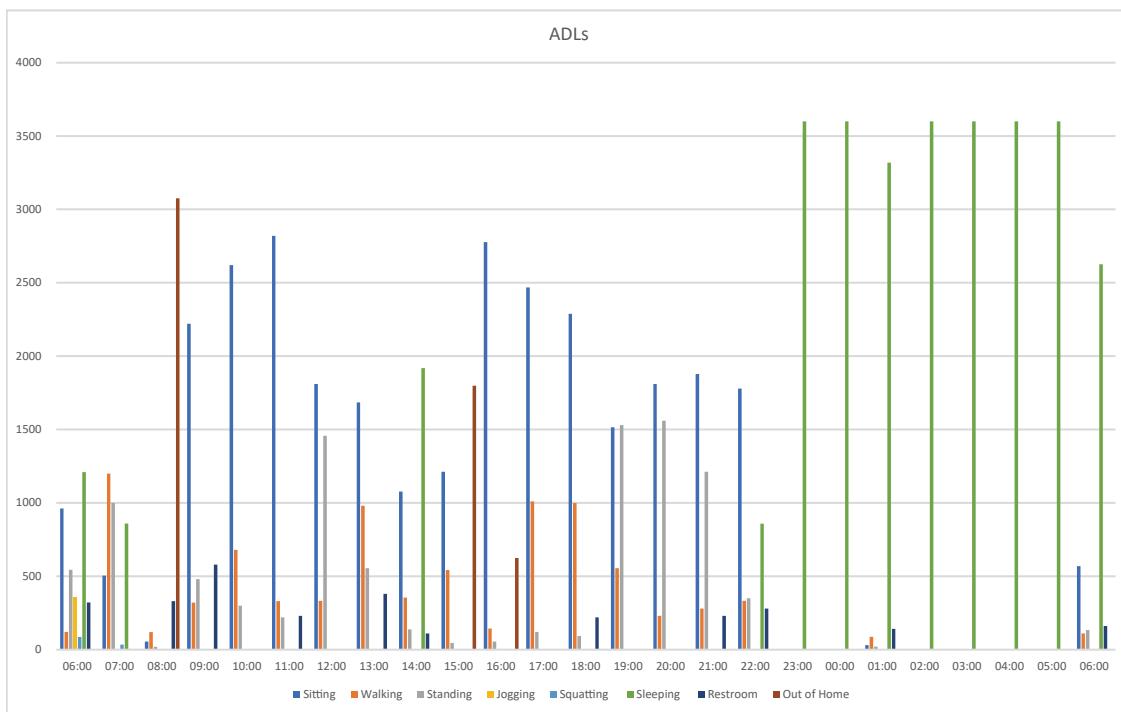
## Build Activities of Daily Livings (ADLs) dashboards with human presence sensors

- Stationary human detection
- Pet immunity (big & small)

## Build Activities of Daily Livings (ADLs) dashboards with posture recognition sensors

Install Posture Recognition Sensors in every room and notice changes in your behavior.

With multiple sensors deployed, users can view daily posture durations, compare them with previous activity records, and understand the changes in the proportion of different postures in their daily life.

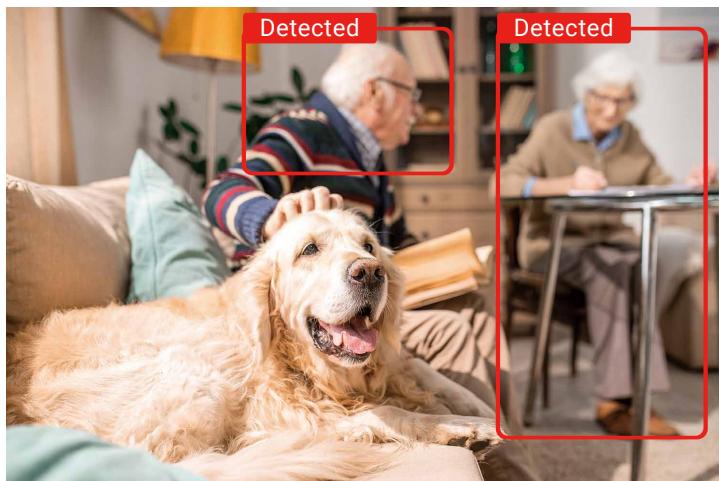
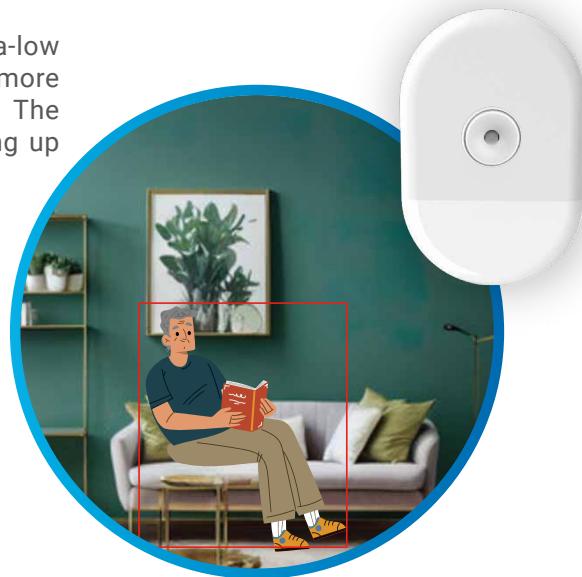


# Human Presence Sensor SD42000N1

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The SD42000N1 Human Presence Sensor is designed for ultra-low fault alert applications. With the improved AI ISP, users can more accurately detect whether a room is occupied or vacant. The SD42000N1 can provide home activities for the elderly, making up for the lack of home activity data in the healthy aging plan.

- Edge AI (no image output)
- Low false alarm rate (< 3%)
- Stationary human detection
- Pet immunity (big & small)
- Fast response
  - Detected human presence < 1S
  - Detected no human presence < 3S



## Stationary Person Detection

Utilizes advanced edge computing AI to identify stationary individuals.

## Pet False Alarm Prevention

Intelligent machine learning algorithms mitigate false alarms caused by pets like cats and dogs.

Human Presence Sensor	SD42000N1	PIR	mmWave 24GHz	mmWave 60GHz	Thermopile	Bolometer
High Accuracy	✓	✗	✗	✓	✗	✓
Low False Alarm Rate	✓	✗	✗	✗	✗	✗
Stationary Human Detection	✓	✗	✗	✗	✗	✓
Pet Friendly	✓	✗	✗	✓	✗	✓
Response Time (presence)	✓	✓	✓	✓	✓	✓
Response Time (no presence)	✓	✗	✓	✓	✗	✗
Low Cost	✗	✓	✓	✗	✗	✗
Larger Detection Ranges	✗	✓	✗	✗	✗	✓

# Unattended Cooking Alert

SD42100N1

## Edge AI + IoT Security & Elderly Care

The U.S. Fire Administration has reported in the past that approximately half of all home fires start in the kitchen. The #1 reason is unattended cooking.

The SD42100N1 is the solution for FIR Array, collaborate with human presence sensor SD42000N1 to perform the edge AI's detection and Stove temperature monitoring. The SD421 supports Wi-Fi or Matter communication protocols and can connect to an application platform, allowing users to receive information remotely.

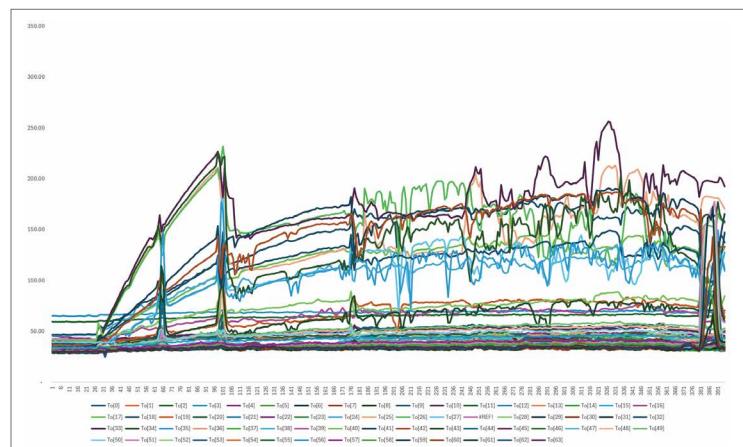
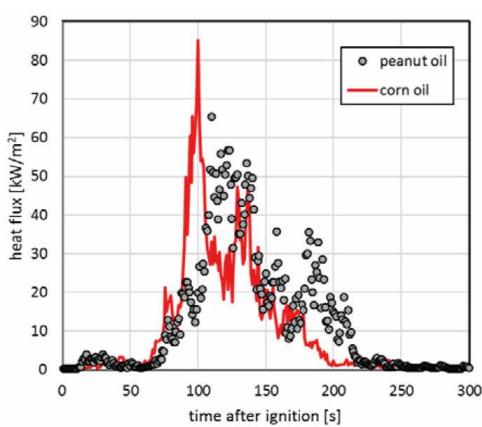
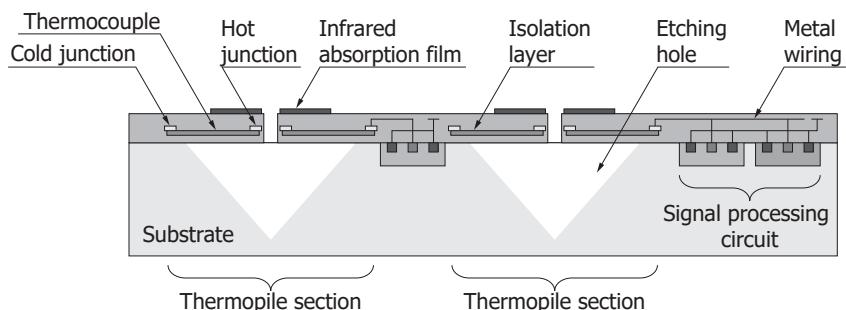
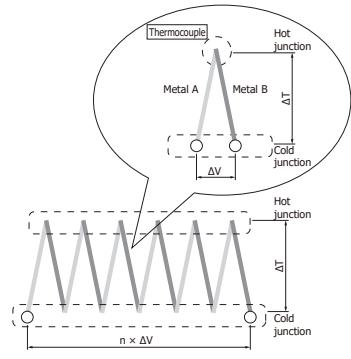
- When the SD421 detects a temperature of 250°C, it emits a warning sound (1K Hz) continuously for 15 seconds.
- When the SD421 detects a temperature of 320°C, it emits an alarm sound (3.25K Hz) that cannot be stopped (it must be unplugged to terminate the alarm).



## Application Diagram

Installation location :

- Installation under cooker hood (Recommended)
- Wall mounting (Option)



(a) HF#2

# Fall Detector SD42300N1

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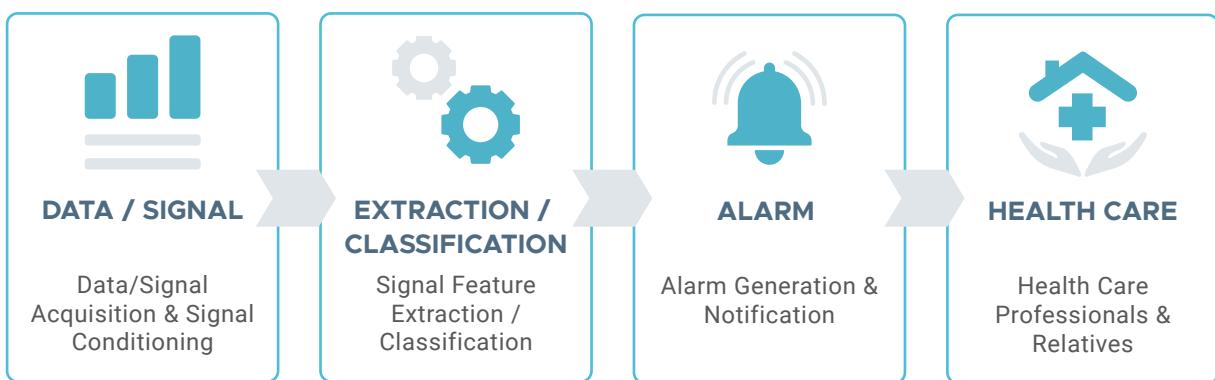
## Edge AI Solution

AI Models + EdgeAI SOC + IoT

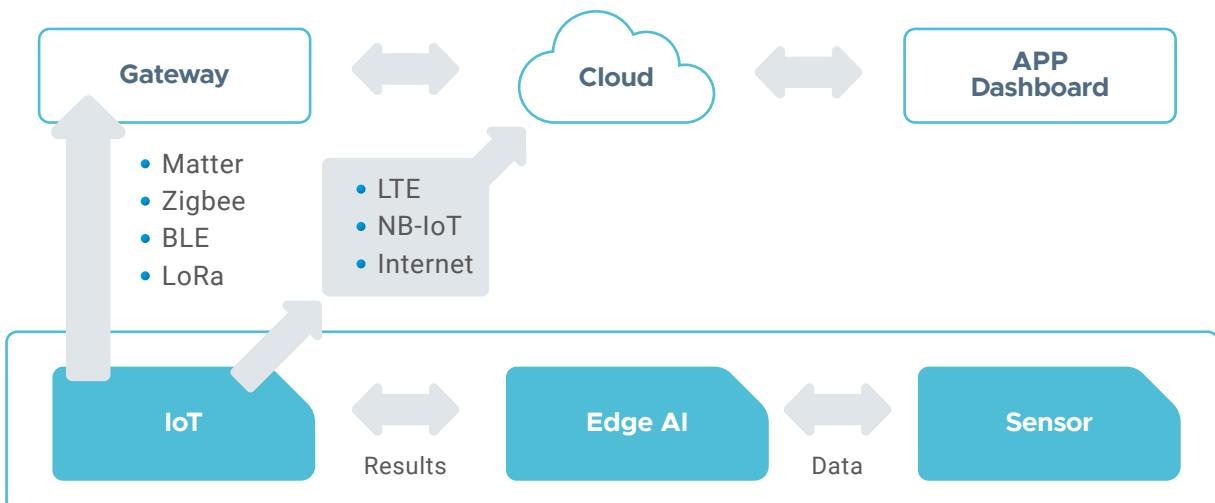
- TinyML AI Training Models
- Edge AI SOC w/Embedded OS
- High Accuracy Rate
- Low False Alarm Rate
- IoT Communication Capabilities : Connect to an application platform to provide customized features based on user needs



Edge AI + IoT

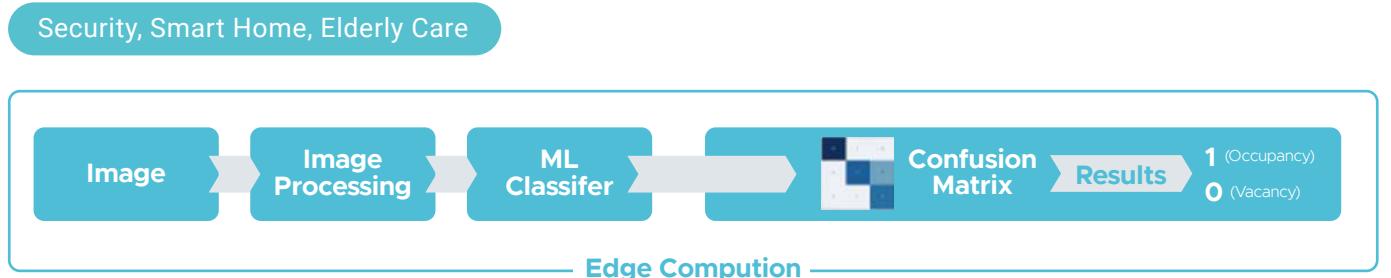
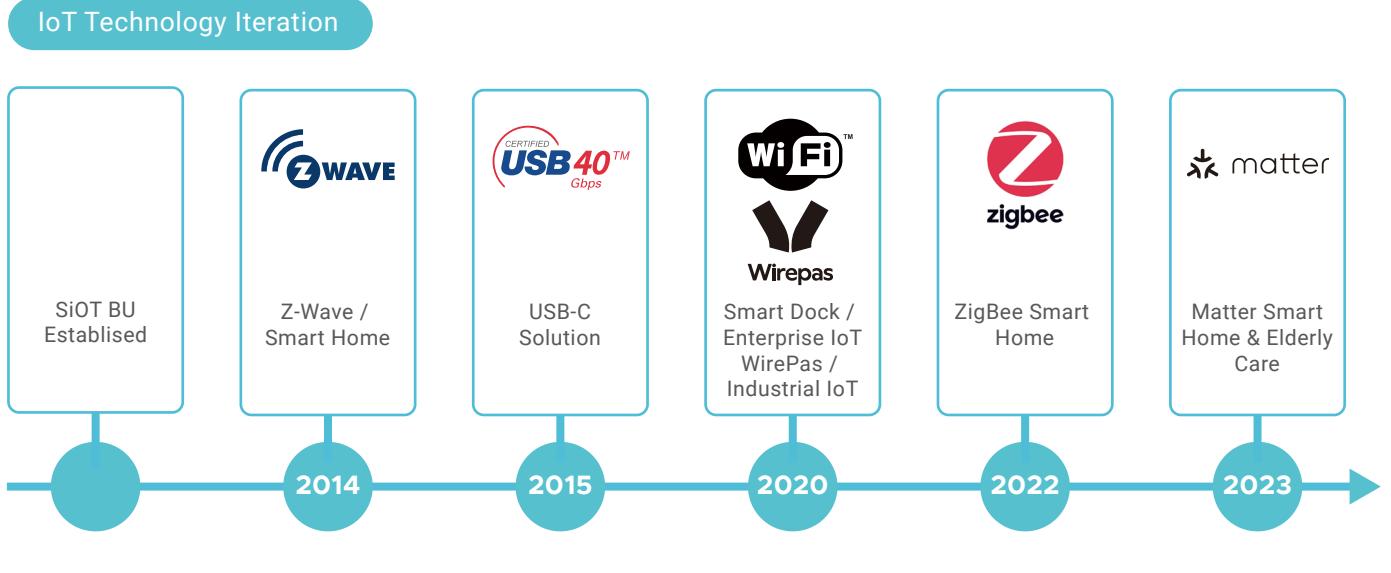


Works on Multiple Ecosystems



# IoT Capabilities & Smart Home Products

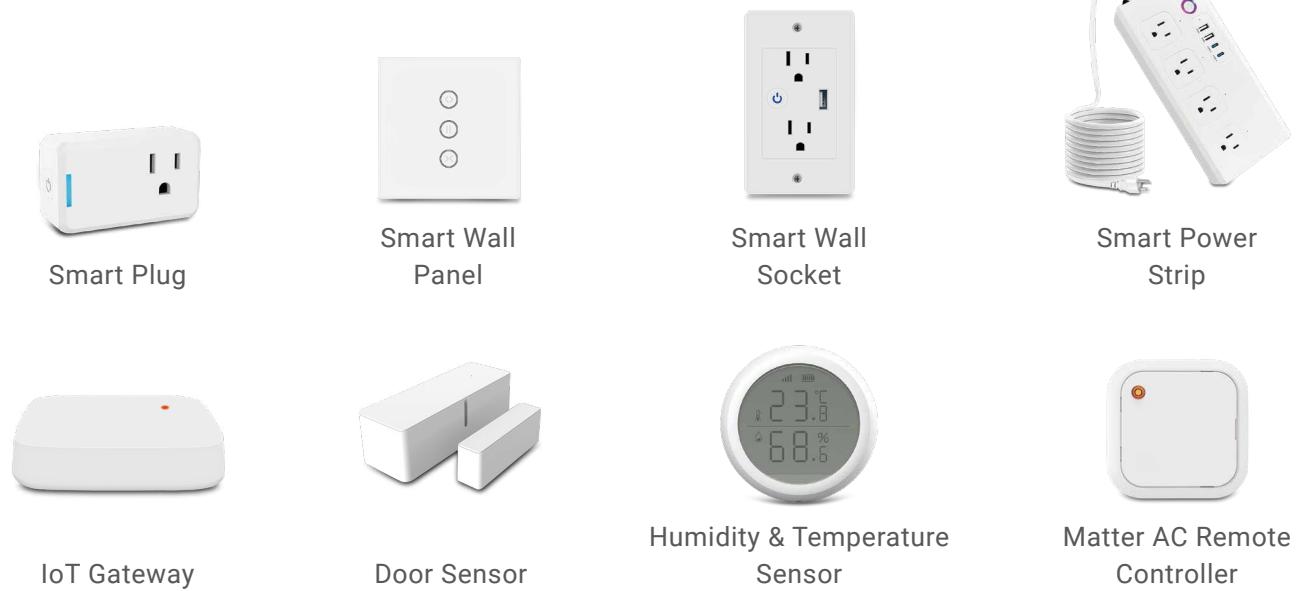
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## IoT Capabilities

- Matter
- Thread
- Wi-Fi
- Zigbee
- RS-485/ Modbus
- Dry/Wet Contacts

## Smart Home Devices





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