



For a Private Network

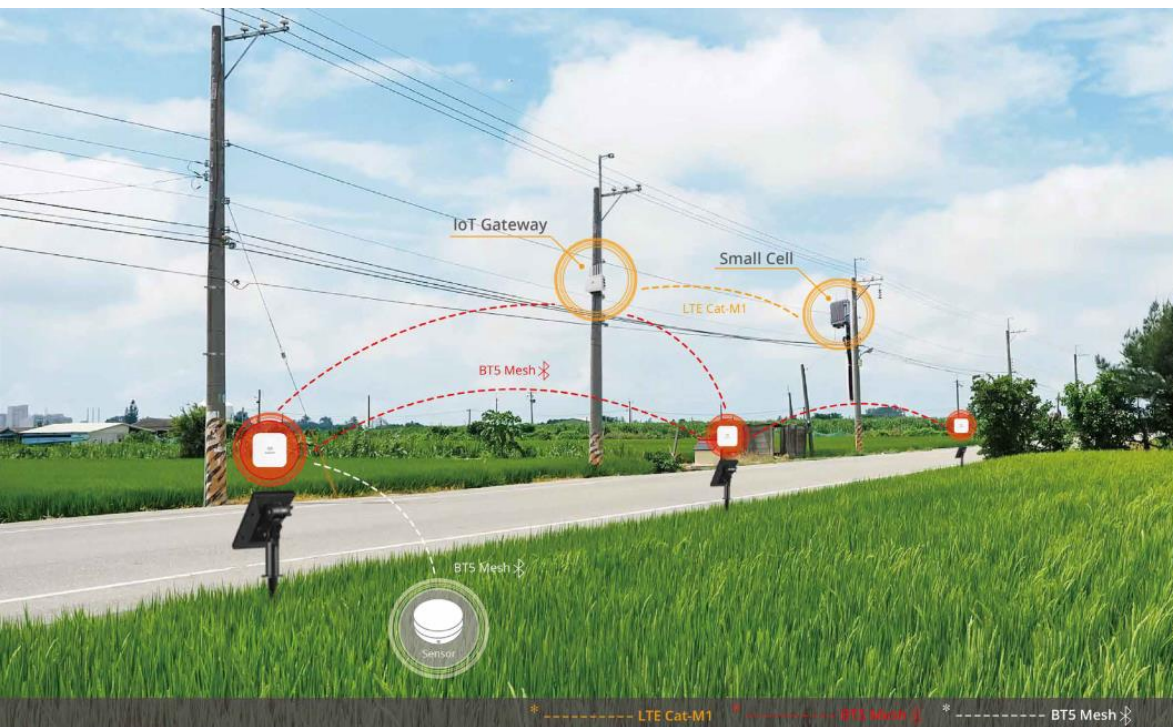
## Civil IoT Network Solution

### Benefits

In general, the major barrier for deploying Internet of Things (IoT) fields is insufficient network coverage. If unlicensed ISM bands are used in fields, the wireless signal is always interfered and the data packet is easily lost, while if a commercial mobile network is deployed, its macro base stations are too expensive and the operation costs high.

Askey Civil IoT Network Solution is cost-effective and highly capable of coverage extension, and uses licensed bands to secure data transmission, specifically designed for IoT applications.

This solution is designed and developed by Askey under commission from Taiwan's National Science and Technology Council. It has been deployed in river-bank areas, flood-prone areas, farms and greenhouses, commercial seaports and other places, which are parts of national civil IoT fields owned by Taiwan government.



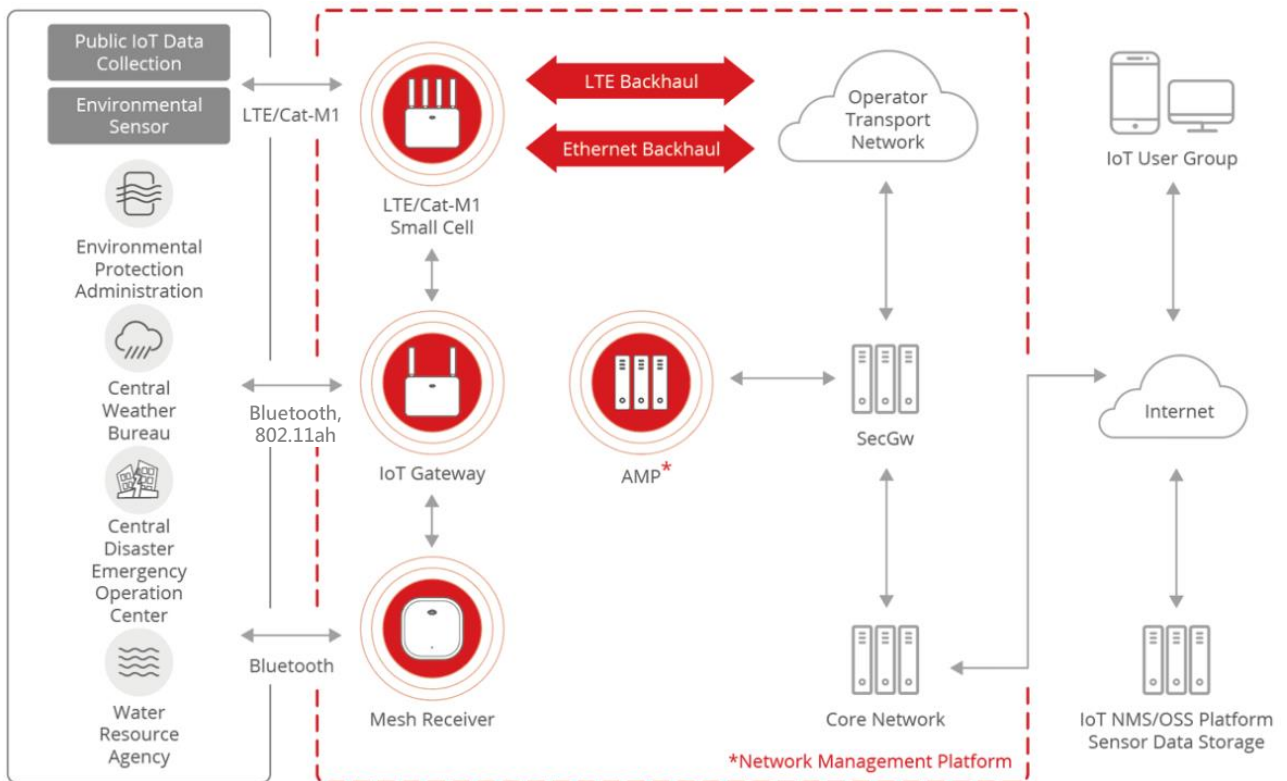
For a Private Network

# Civil IoT Network Solution

## Scenario Requirement

Askey Civil IoT Network Solution is a LTE/Cat M1 type civil IoT solution for IoT data collection. It uses licensed 3GPP Band 20 to secure data transmission, and is suitable for civil IoT applications such as environmental monitoring, disaster prevention, smart agriculture, and water resources management. It is cost-efficient and compatible with various IoT sensors, which can help quick deployment of IoT fields.

- Extends the network coverage of IoT field
- Collects IoT data from various sensors
- Provides secured data transmission by LTE/Cat M1 radio access in Band 20
- Uses commercial 4G networks or fixed-line networks to transmit IoT data to data centers in the backend
- Provides full capabilities of device management



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## Solution Brief

Askey Civil IoT Network Solution is mainly composed of LTE/Cat M1 small cells, IoT gateways, and an AMP network management platform, connecting with various IoT sensors and a common 4G core network software. It is designed to quickly deploy a civil IoT field to collect data from sensors, communicate the data center for further analysis, and control all the devices through the AMP platform.



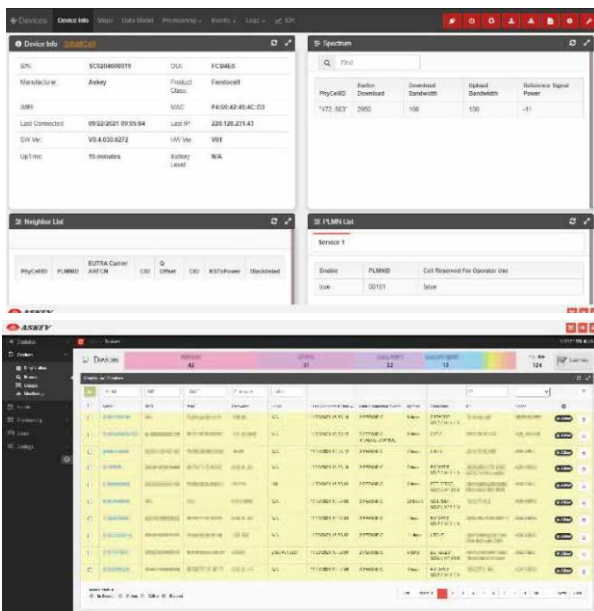
### SFU4120U LTE/Cat M1 Small Cell

- LTE UEs/Cat M1 UEs can access SFU4120U concurrently.
- Either one of SFU4120U's LTE backhaul and Ethernet Backhaul can connect with Askey's core network.
- By deploying SFU4120U, a mobile operator can rapidly set up the LTE/Cat M1 network to serve an enterprise for a specific area without the Cat M1 investment of macro base station. Additionally, the construction investment of Ethernet Backhaul is not required.



### APL2000W-11ah IoT Gateway

- Integrated with multiple communication interfaces such as LTE/Cat M1, IEEE 802.11ah (WiFi HaLow), Bluetooth Mesh 5.0, WiFi, Ethernet port, USB port and serial ports (RS422/RS485) facilitate flexible connection of different communication devices.
- Support MQTT Client function, above MQTT v3.1 version.
- Firmware-over-the-air (FOTA) services enable firmware downloads and updates.



### AMP Network Management Platform

- Scalable architecture to manage over 10 million of devices for Askey's clients.
- AMP is a TR-069 provisioning and management solution designed to provide Carrier-grade device management services.
- Flexible to manage all kinds of devices, such as 5G/LTE Router, WiFi Router, STB, VoIP, etc.
- Auto-provisioning and OTA firmware/applications upgrade.
- Real-time control and fault management..



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**Specializing in Network Communications, Leading the Smart Lifestyle**

Established in 1989 in Taiwan, ASKEY is a member of ASUSTek Computer Inc., specializing in development of network communications and electronics manufacturing.

**Your Smart Partner to Fulfill a Transformative Digital Vision**

We adopt a human-oriented approach in performing scenario applications to provide new-generation Netcom solutions, and create a wonderful vision for a digital lifestyle.