PTC case

양대영
팀장

Private 5G network for asset management

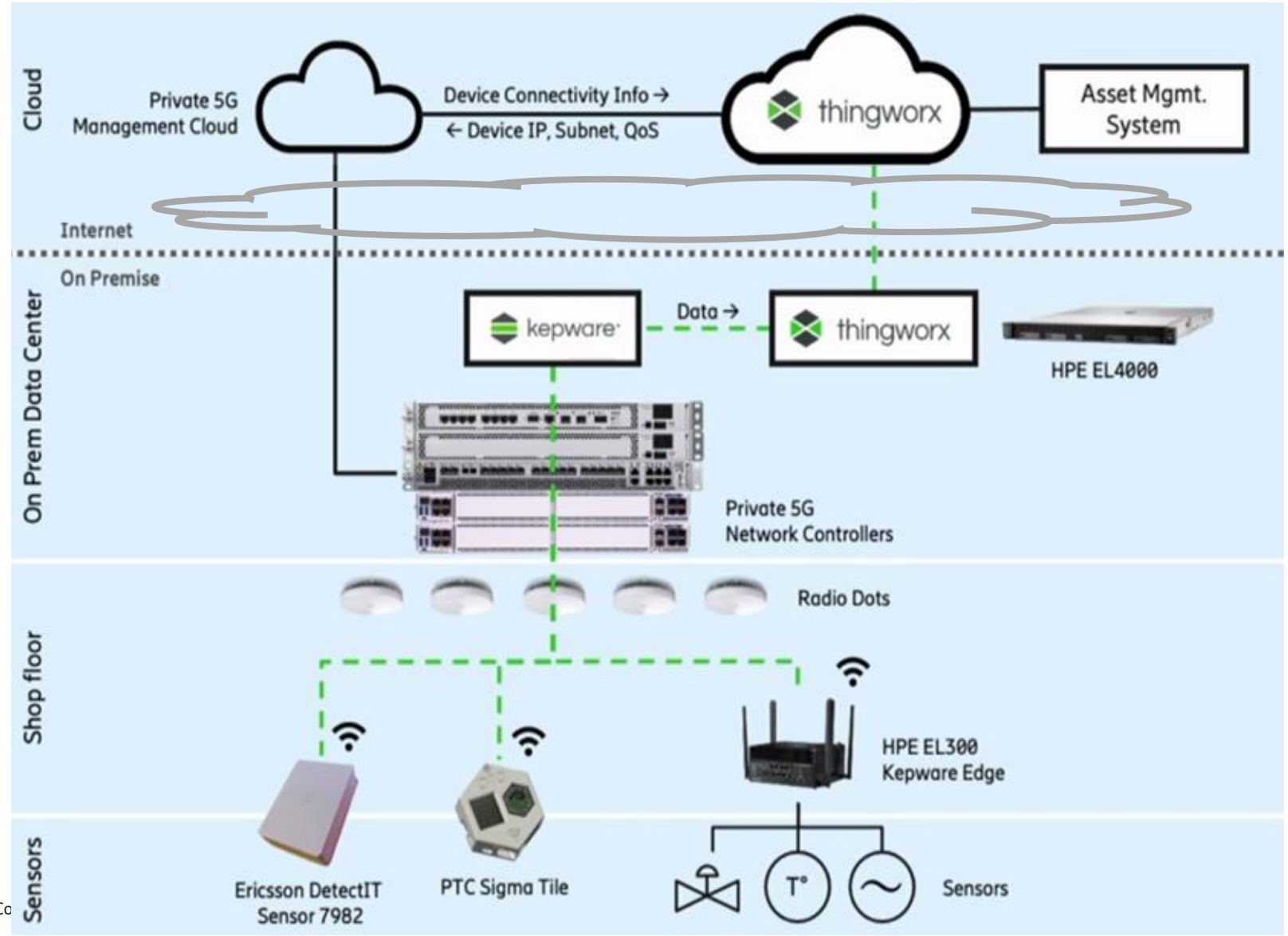
Ericsson Private 5G – PTC

Thingworx pre-integrated on HPE Stack

ptc ERICSSON

Solution:

Many sensors for asset management with real time machine vision.



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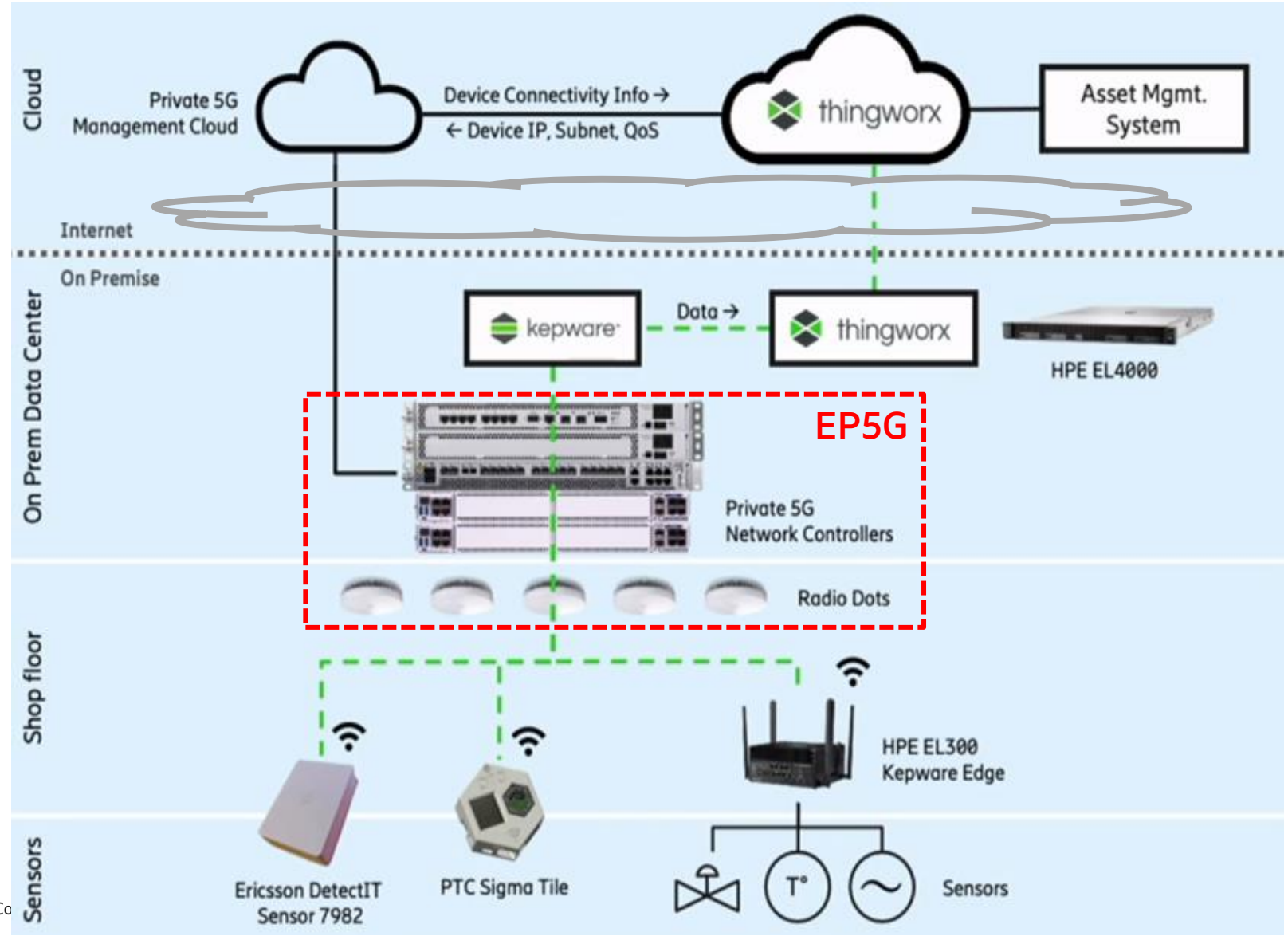
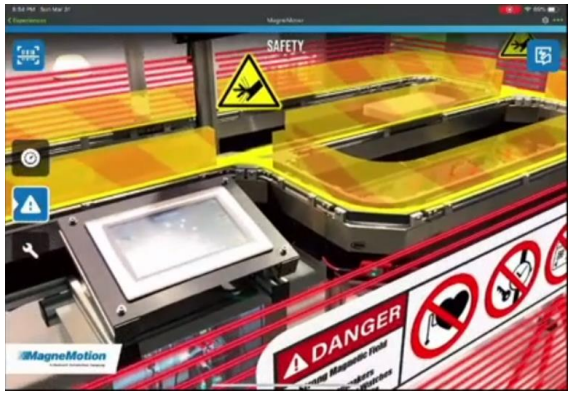
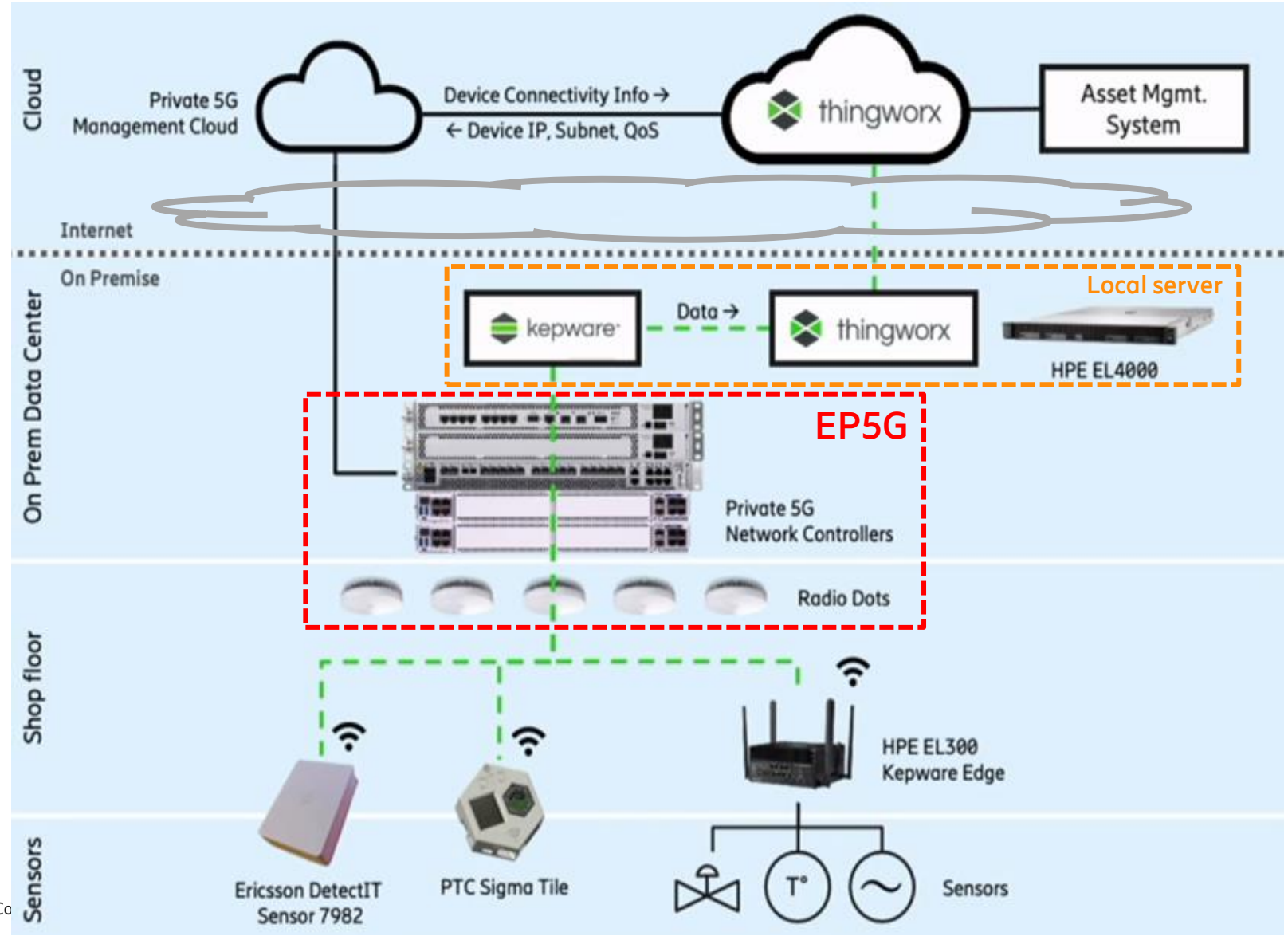


Private 5G network for asset management

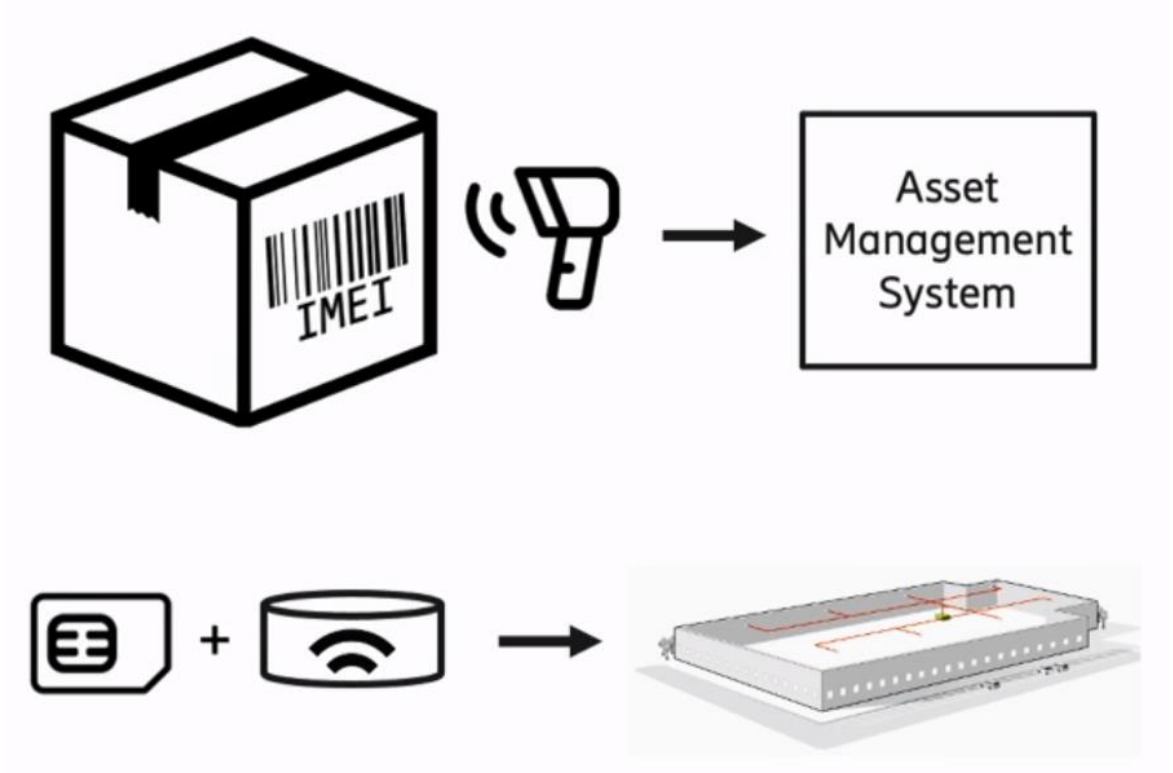
Services

1. Monitoring process line
2. Remote fault recognition
3. Remote training
4. Anticipative maintenance
5. Reduction machine change-over time and cost





Automatic device provisioning
PTC Thingworx and Ericsson Private 5G



- Connected devices have a unique IMEI number printed with a barcode on the packaging
- Upon receiving the package, the enterprise scans the IMEI number and stores it together with device model and serial number in an asset management system.

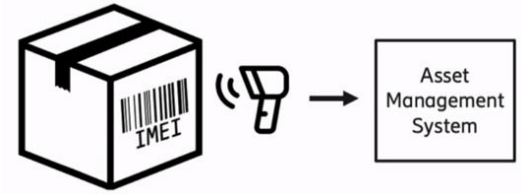
- Take a SIM prepared for the site and insert into the device.
- Place the device at the site and turn it on.

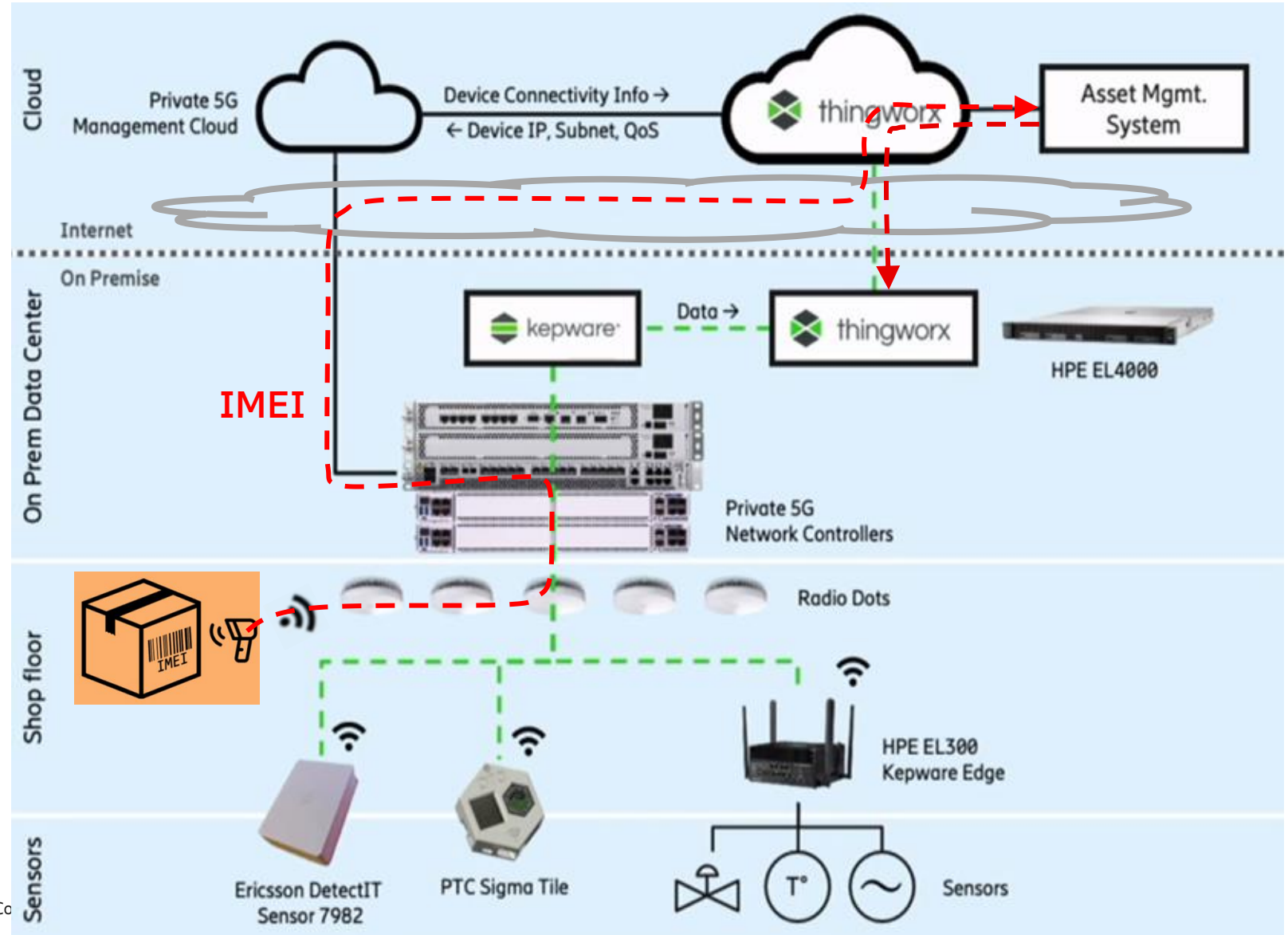
High-level description of SIM, IMSI, IMEI and APNs

- IMEI (International Mobile Equipment Identity) – 15digits
  - The unique identifier of every mobile device (ID of the cellular modem): Device Type, S/N, Model No.
- IMSI (International Mobile Subscriber Identity) – 15digits
  - This Logical representation of a subscription in mobile network
- SIM(Subscriber Identification Module) Card
  - The physical entity carrying the IMSI information in a device
- APN (Access Point Name)
  - A grouping of IMSIs used in EP5G to segment the network in terms of IP subnet and Quality of Service

Automatic device provisioning sequence 1

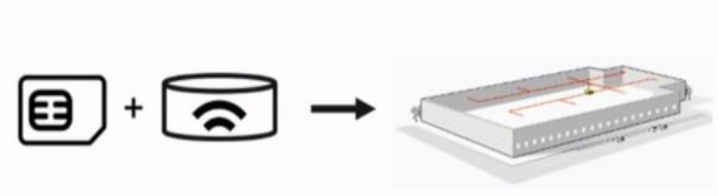
Transfer device type, serial number and model number to Asset Management System with IMEI barcode scan

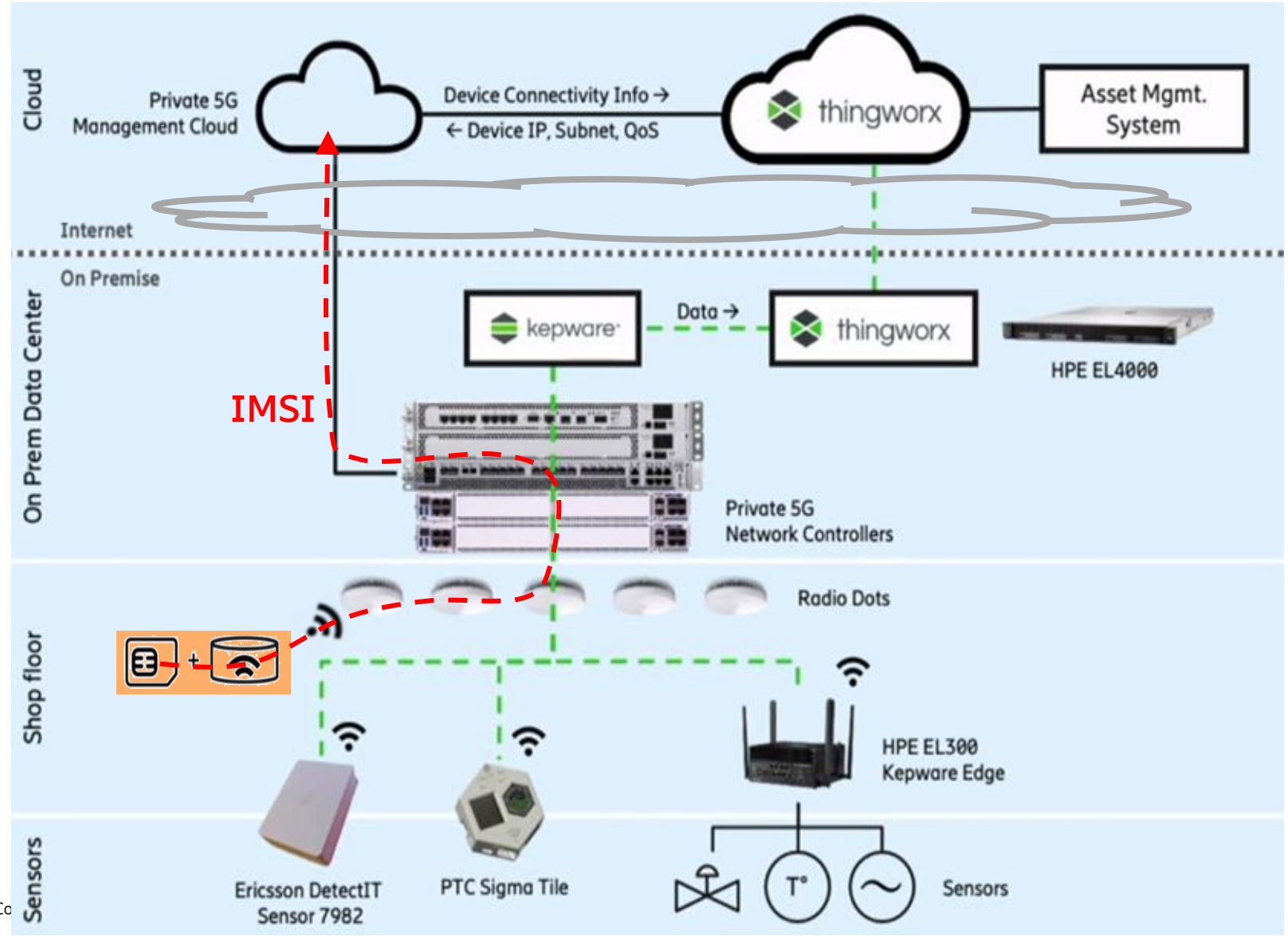




Automatic device provisioning sequence 2

- Take a SIM prepared for the site and insert into the device.
- Place the device at the site and turn it on.

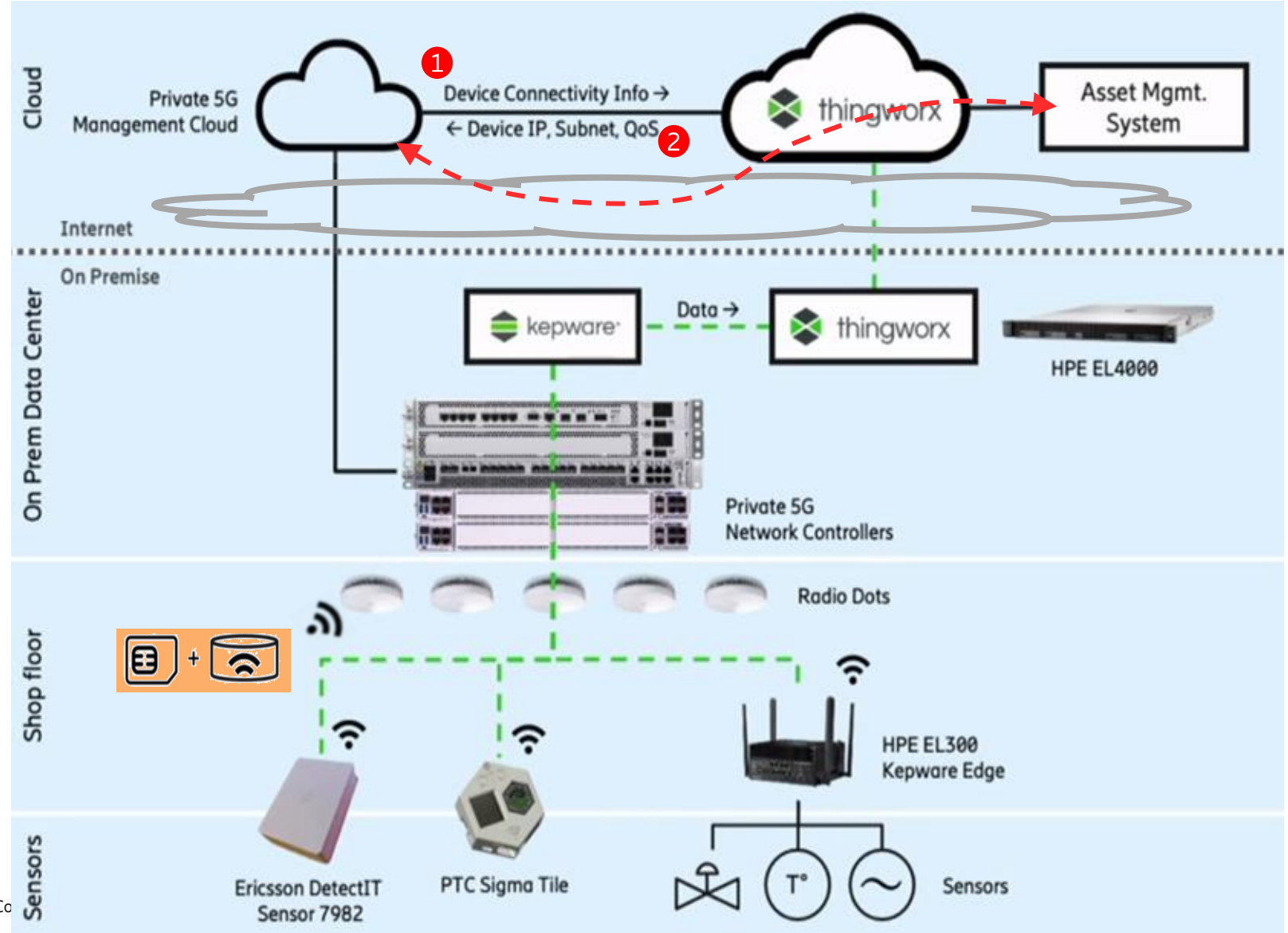




Automatic device provisioning sequence 3

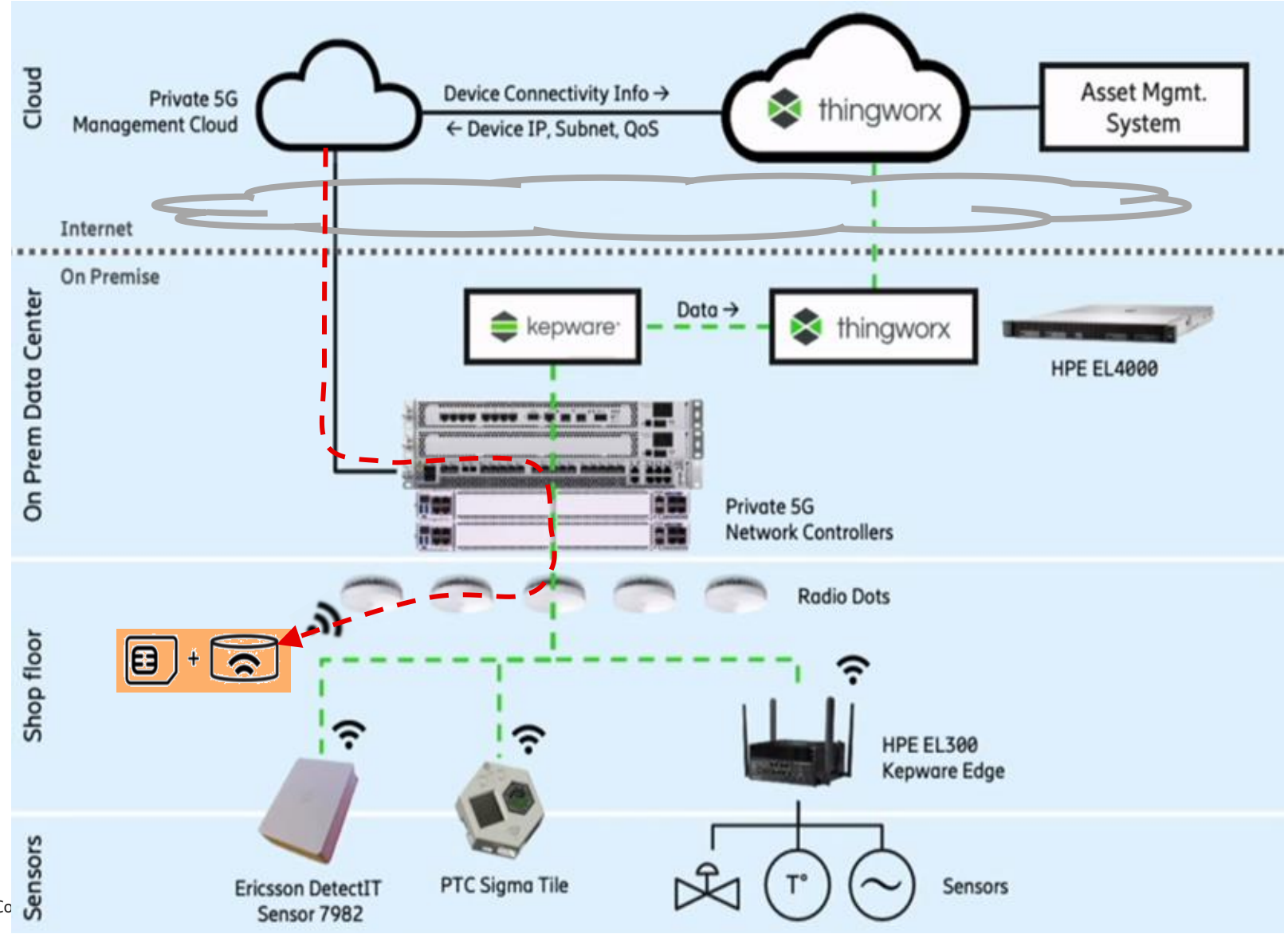
Through the API

1. send device connectivity information to Asset Management System
2. Get Device IP, Subnet and QoS policy for new device from Asset Management System



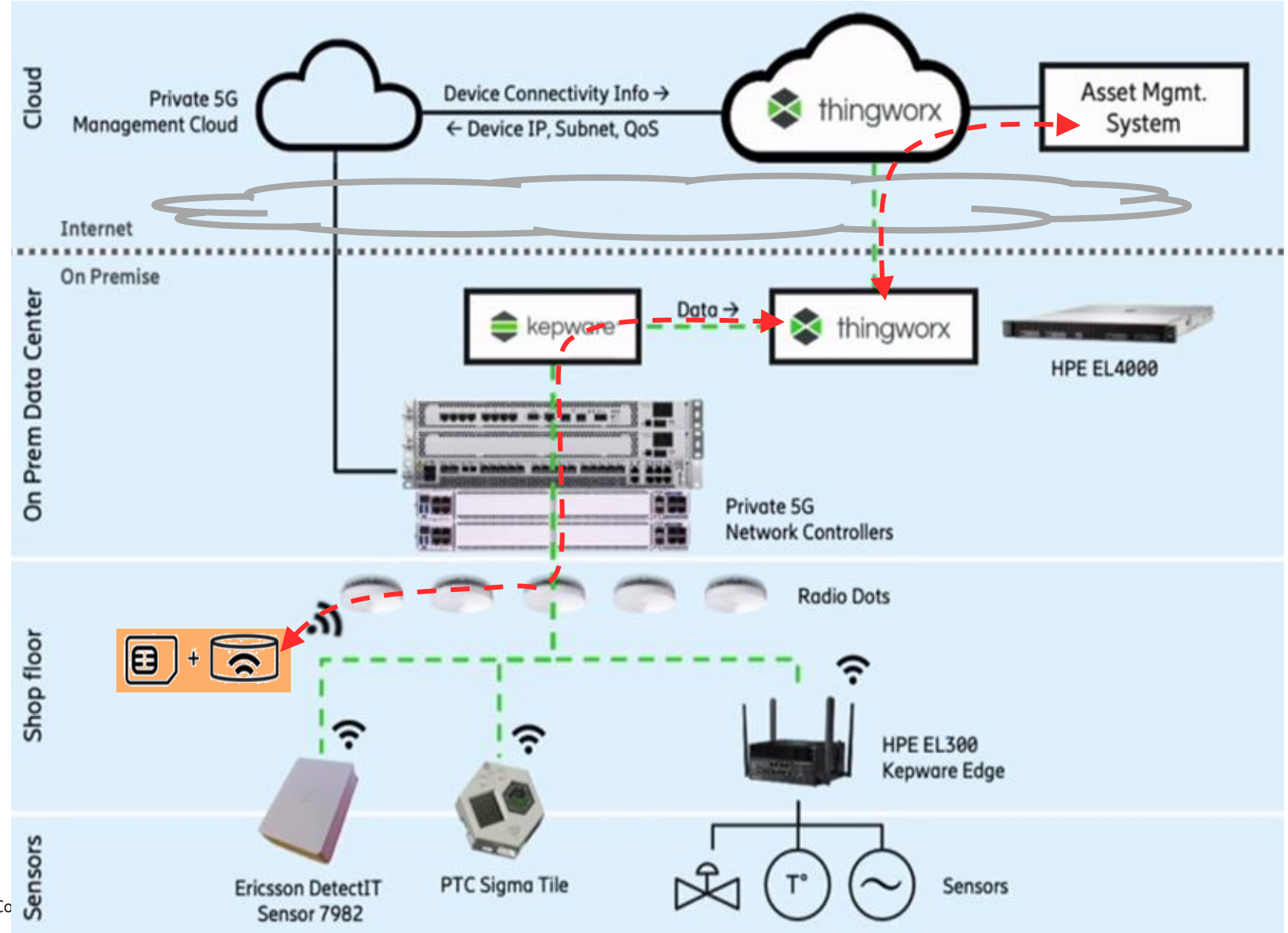
Automatic device provisioning sequence 4

- EP5G Management system sets Device IP, Subnet and QoS to new device.



Collected Data Flow

- Collected data will be processed in local server
- Required data will be communicated between local server and Assent Management system

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