



INTELLIGENT IOT AT SCALE: BUILT ON AZURE

A Multi-Tenant, Scalable & Secure Industrial IoT Solution

PLATFORM OVERVIEW

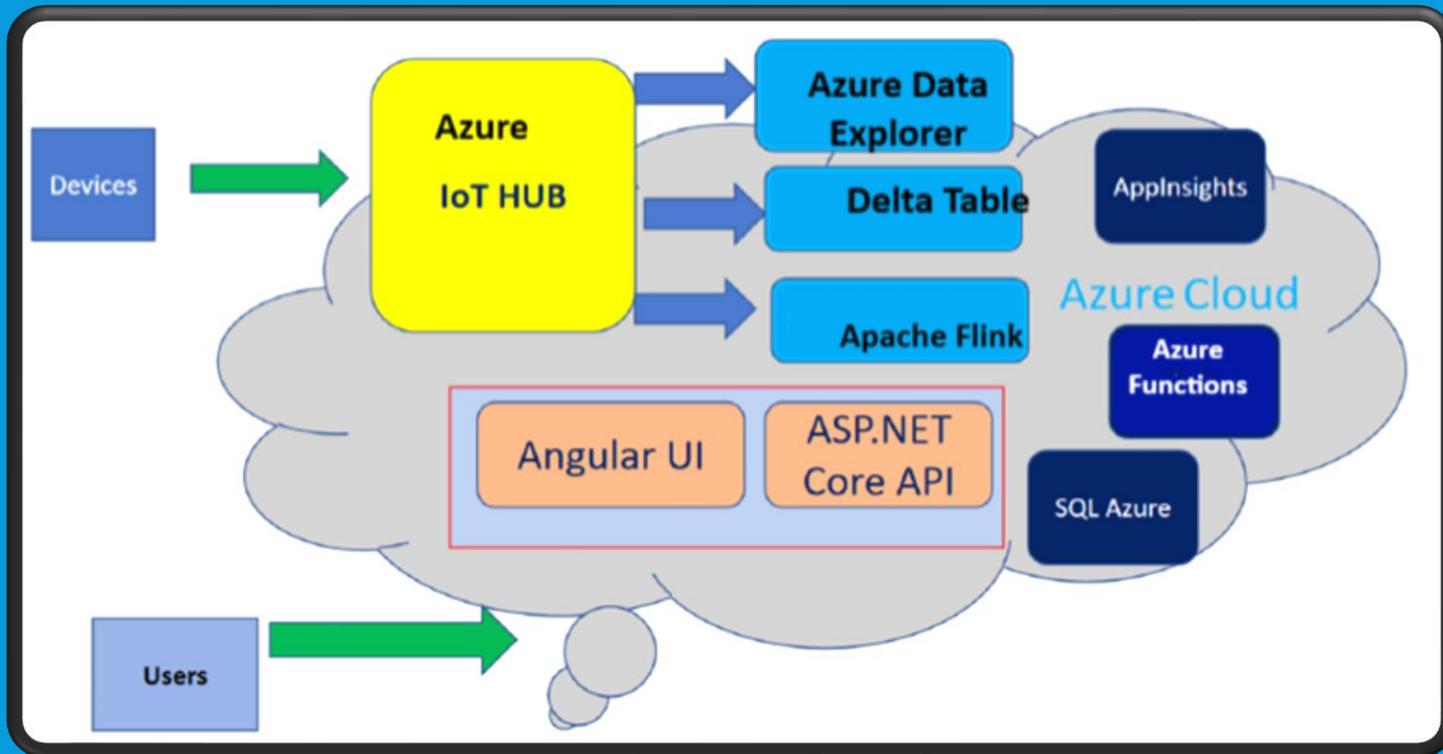
Full-fledged enterprise IoT platform

Scalable, secure & multi-tenant

Supports millions of messages per day

Flexible integrations & protocol support

Ideal for industrial, smart building, energy & remote monitoring use cases



KEY FEATURES



Multi-tenant architecture



Geographical hierarchy
(Regions & Locations)



Flexible device
management



Protocol support: MQTT,
AMQP, HTTPS, LoRaWAN



TTN LoRaWAN integration



Customizable dashboards &
visualizations



Rule engine & alerting



OTA firmware updates



User administration with
RBAC



Analytics (ADX, Delta tables,
Event Hub, Functions)

MULTI-TENANCY

Separate data spaces for each organization

Strict database-level isolation

Each tenant has independent:

Ideal for SaaS models

Ensures enterprise-grade security & compliance

Users, roles, permissions

Device configurations

Rules & dashboards

Internet of Things IIoT OT Infrastructure Cloud

Sign In

Please login your account

Tenant Name

Switch Tenant

Username or Email

Enter username or email

Password

Enter your password

Remember me

[Forgot Password?](#)

Sign In

[Don't have an account? Create account](#)

Home



Map

Aug 6, 2024 3:35 PM - Aug 6, 2024 6:36 PM



Alert

ConfigDevice3	8 months ago	Active
GBTESTLED	8 months ago	Active
ConfigDevice3	8 months ago	Active
GBTESTLED	2 months ago	Active
GBTESTLED	2 months ago	Active
GBTESTLED	2 months ago	Active
ConfigDevice3	7 months ago	Active



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GEOGRAPHICAL HIERARCHY

The screenshot shows a web application interface for managing locations. At the top right, there are navigation icons for a user guide, a camera, a notification bell, and a user profile labeled 'Tenant Name / User Name' with a 'Welcome' message. Below this is a 'Locations' section with a search bar and two buttons: 'Export To Excel' and 'Create New Location'. A table below lists the following data:

Name	Details	Creation Time	
Bundaberg	Hills St, Bundaberg East QLD 4670, Australia	Aug 6, 2024 5:56 PM	⋮
Burnett	Burnett Ln, Brisbane City QLD 4000, Australia	Aug 6, 2024 6:03 PM	⋮
Caboolture	19 Hayes St, Caboolture QLD 4510, Australia	Aug 6, 2024 5:55 PM	⋮
Cairns	1/21 McLeod St, Cairns City QLD 4870, Australia	Aug 6, 2024 5:55 PM	⋮

Regions

- High-level asset grouping (country, state, BU)

Locations

- Sites, buildings, floors, zones

Benefits

- Organized device deployments
- Location-based dashboards and alerts
- Simplified maintenance & reporting
- Useful for distributed facilities or field assets

DEVICE MANAGEMENT

The screenshot displays the 'Device Profiles' management page. At the top, there is a navigation bar with a 'User Guide' link, notification and user icons, and a 'Tenant Name / User Name' dropdown menu. Below the navigation bar, the page title 'Device Profiles' is followed by a search bar and two action buttons: 'Export To Excel' and 'Create New Device Profile'. The main content is a table with the following data:

Profile Name	Enabled Status	
ConfigProfile	Yes	⋮
ConfigProfileMultiple	Yes	⋮ Edit Delete
MultiSensor	Yes	⋮
MultiSensorProfile	Yes	⋮

- Device Groups for organized monitoring
- Device Profiles for onboarding similar device types
- Bulk and manual provisioning workflows
- Azure IoT Hub Device Twin integration
- Real-time visibility into:
 - Health
 - Connectivity
 - Last activity
- Remote configuration & status updates

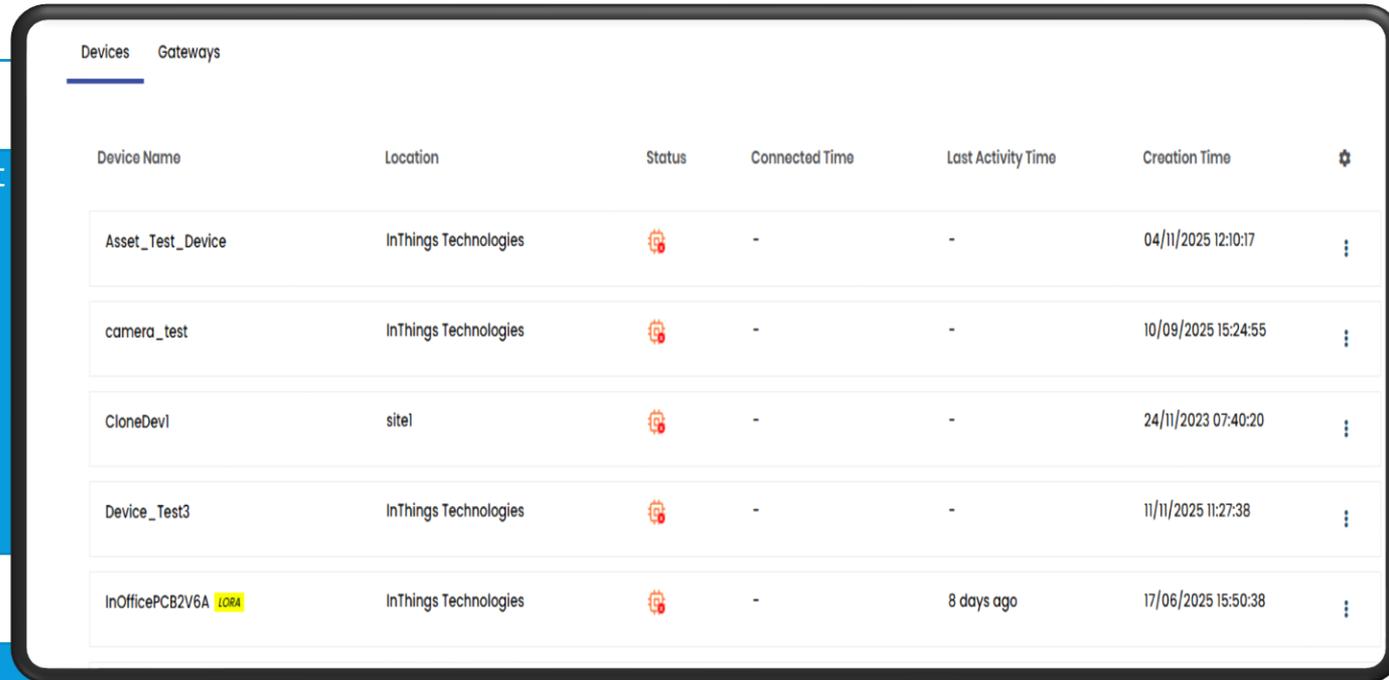
MULTI-PROTOCOL CONNECTIVITY

Supports:

- MQTT – lightweight & efficient
- AMQP – reliable, queued messaging
- HTTPS – secure REST-based communication
- LoRa / LoRaWAN – long-range, low-power deployments

Advantages:

- No vendor lock-in
- Seamless onboarding for mixed device types
- Unified ingestion into Azure IoT Hub

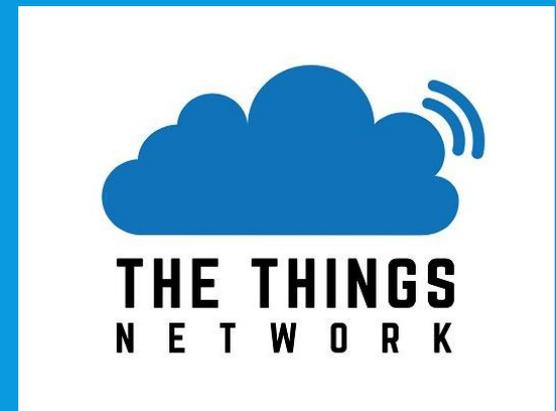


The screenshot displays the 'Devices' tab in the InThings IoT Hub interface. It features a table with columns for Device Name, Location, Status, Connected Time, Last Activity Time, and Creation Time. Each row represents a device, with a status icon (a red gear with a white 'X') and a vertical ellipsis menu icon to the right of each entry. The 'InOfficePCB2V6A' device is highlighted with a yellow background and a 'LoRa' tag.

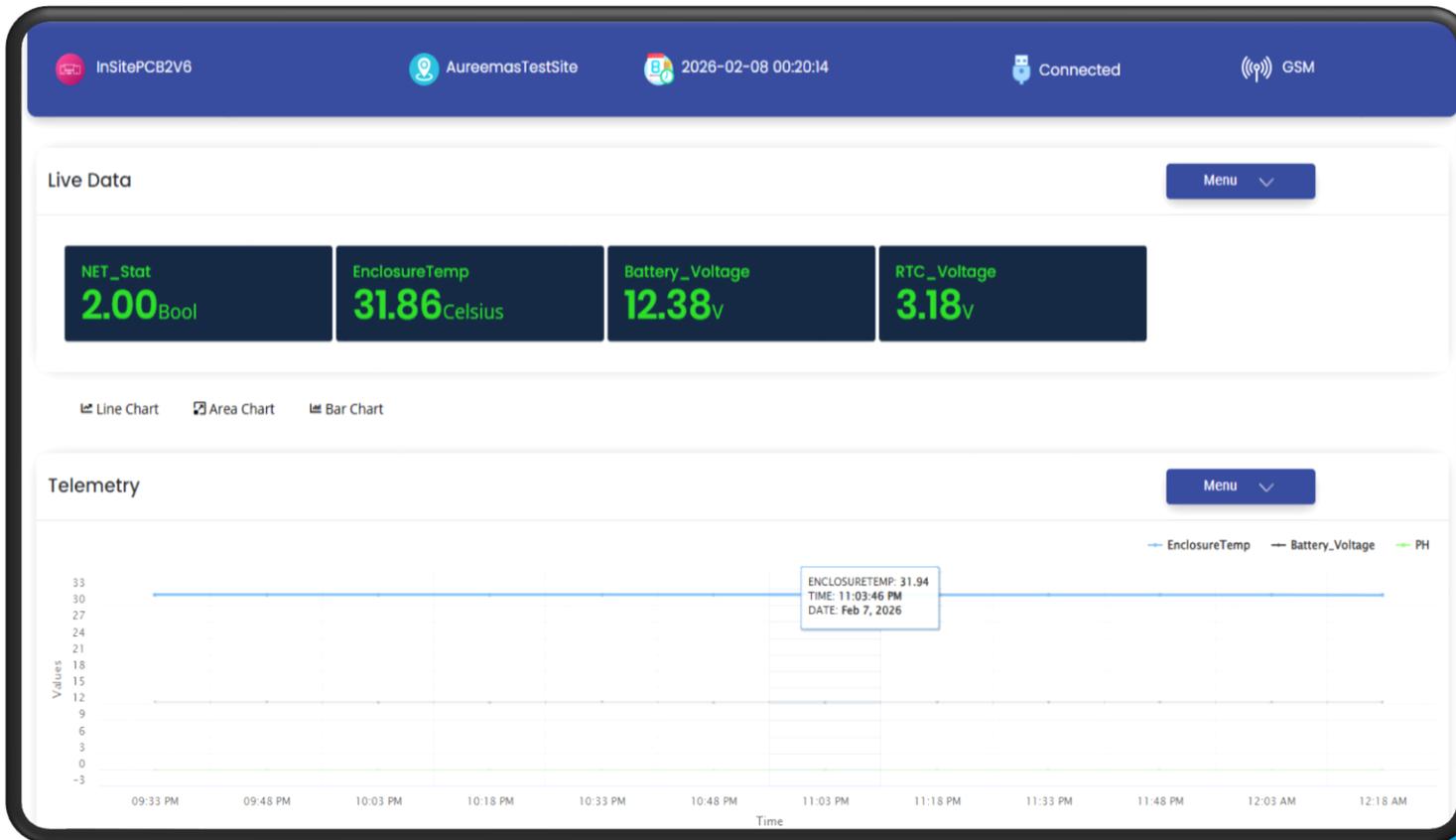
Device Name	Location	Status	Connected Time	Last Activity Time	Creation Time	
Asset_Test_Device	InThings Technologies		-	-	04/11/2025 12:10:17	
camera_test	InThings Technologies		-	-	10/09/2025 15:24:55	
CloneDev1	site1		-	-	24/11/2023 07:40:20	
Device_Test3	InThings Technologies		-	-	11/11/2025 11:27:38	
InOfficePCB2V6A LoRa	InThings Technologies		-	8 days ago	17/06/2025 15:50:38	

LORAWAN & TTN INTEGRATION

- Direct integration with TTN for LoRaWAN networks
- Auto-registration of gateways
- Device enrolment & telemetry bridging to Azure IoT Hub
- Supports public, private, and hybrid LoRaWAN networks
- Coverage mapping & gateway deployment planning
- Unified visibility of LoRaWAN devices inside the platform



CUSTOM DASHBOARDS & VISUALIZATION



Build dashboards without technical expertise

Widget library: charts, gauges, tables, maps, KPIs, heatmaps

Real-time & historical data views

Role-based & sharing-enabled

Multi-device comparison

Drill-down views from summaries to device-level telemetry

RULE ENGINE & ALERTING

Rules

Search...

Approved Rules Non Approved Rules

Name

- Abington_rule
- Abington_rule_rot
- abington_rule_temp
- GBTESTLED_cur

Alerts

Search... Export To Excel

Alert Number	Device Id	Property	Severity	Status	Creation Time	
ALR_28,422	ConfigDevice3		!	Active	Sep 20, 2023 4:25 PM	⋮
ALR_28,423	GBTESTLED		!	Active	Sep 20, 2023 4:28 PM	⋮
ALR_28,432	ConfigDevice3		!	Active	Nov 30, 2023 4:55 PM	⋮
ALR_28,434	GBTESTLED		!	Active	Jun 21, 2024 12:03 PM	⋮

Condition-based rules (e.g., sensor limits, offline status)

Triggers, conditions & actions (notifications, webhooks, state updates)

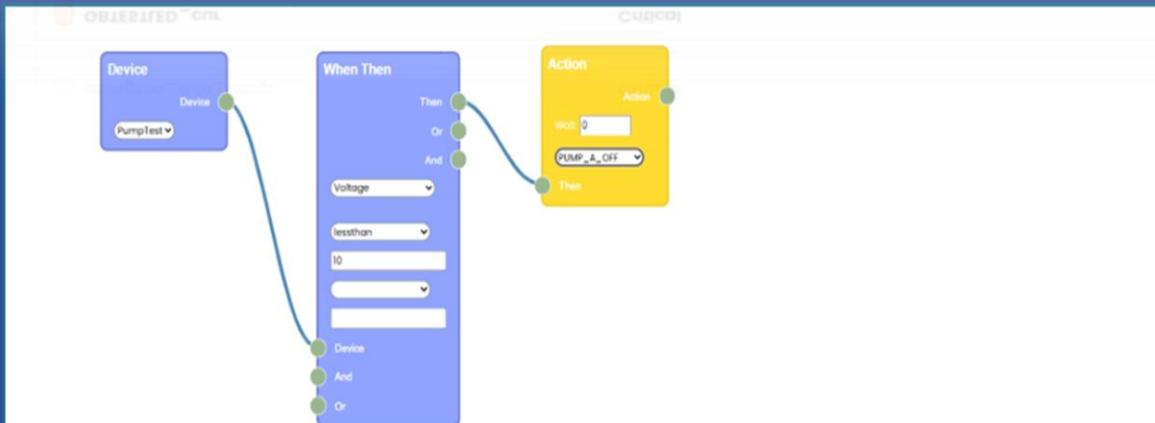
Real-time evaluation of incoming telemetry

Alerts logged & tracked with severity levels

Aggregate rules (e.g., multiple devices showing anomalies)

Full audit trail for compliance

Device Multiple Devices When Then AND OR Alert Action Email SMS Call Save Changes Clear All Submit



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OTA FIRMWARE UPDATES

Device Updates



Search_

+ Create Device Update Definition

Device Update Definition Device Update Release

Device Update Definitions	Device Manufacturer	Device Model	Firmware Name	Firmware Version	Firmware Provider	⚙
Test-Release-4_Jun	ESPRESSIF	ESP32	ESP32-2.4	1.0	-	⋮
ota test	onesense	pcb2v5	device_config	1	dev	⋮
device_config_test	onsense	pcb2v5	device_update	device_update	dev	⋮
Test-1307	test	test	test	test	test	⋮
Test-1304	test	test	test	1.2110	test	⋮

- Secure remote firmware distribution
- Update strategies: immediate, scheduled, phased rollout
- Targeted to specific devices, groups, or locations
- Real-time progress monitoring
- Retry & rollback support
- Critical for security patches & performance improvements



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USER ADMINISTRATION

Users



Search...



Excel operations



Create new user

Show advanced filters

User name	Name	Surname	Roles	Email address	Email confirm	Active
 thomascoop	Thomas	Cooper	User	thomas@onesense.com.au	Yes	Yes
 adamsanthony	Adams	Anthony	User	adams@onesense.com.au	No	No
 oliverjames	Oliver	James	User	oliver@onesense.com.au	Yes	Yes

- Role-Based Access Control (RBAC)
- Predefined roles: Admin, Operator, Viewer
- Custom role creation
- MFA support & security policies
- Detailed audit logs & user activity tracking
- Permissions scoped by tenant, region, location, or device groups



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ANALYTICS CAPABILITIES



- Powered by Azure Data Explorer & Delta tables
- Fast querying across large telemetry datasets
- Pre-built dashboards for device health & KPIs
- Support for custom Azure Functions workflows
- Event Hub for streaming data integrations
- Export to Power BI, Tableau, SQL-based pipelines
- Enables trend analysis, root cause detection & forecasting

TECHNOLOGY STACK



Azure IoT Hub



Delta Lake / Data
Lake Storage



Azure Functions



Azure App Service /
Web Apps



Azure Event Hub



Azure Key Vault



Azure Data
Explorer (ADX)



TTN LoRaWAN
Network

GET IN TOUCH



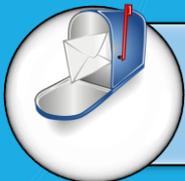
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