

5Tech Platform — Technical Overview

The 5Tech Platform software: a dashboard, MQTT/cloud pipeline, edge processing, and automation/AI logic that turn field data into monitored insight, alerts, and recommendations — human-in-the-loop.

sensorium-platform · Platform · Revision Draft (Preliminary) · 2026-07-07 · Status: **Preliminary**

PRELIMINARY. This overview describes intended functionality. Values and capabilities marked [TBD] are pending confirmation and must not be treated as final.

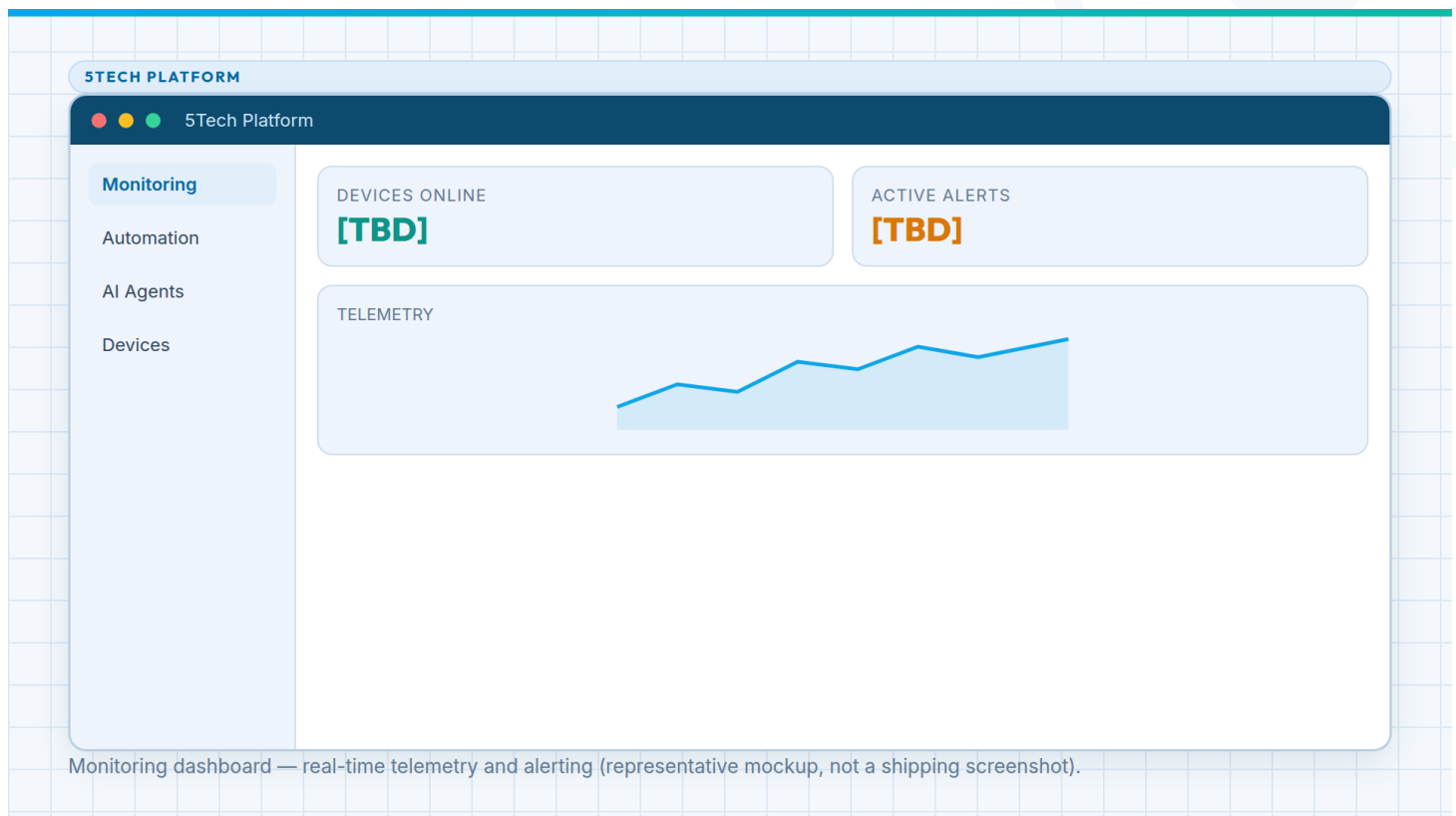


Figure FIG-001 — The 5Tech Platform monitoring dashboard: live telemetry, KPIs, and active alerts.

What it is

The **5Tech Platform** is **software** — not a device — and the *Decide* layer of the 5Tech ecosystem. It turns sensor and machine data into monitored insight, alerts, reports, and recommendations for people to act on. It is fed by the **Sensorium™ Gateway** — which connects the BLE smart

sensor nodes (the **SmartBolt** and **SafeZone** modules) and forwards their data over MQTT. Where required, it can integrate with existing site systems such as **SCADA / ERP** (integration scope [TBD]). It is built for industrial operators who want auditable visibility of their field data, with a person in the loop for every operational decision.

The Platform is organized as four software modules — the **5Tech Dashboard**, the **MQTT / Cloud Pipeline**, **Edge Processing Logic**, and **Automation / AI Logic** — which together carry a sensor event through to a monitored insight, an alert, or a recommendation.

Where it fits

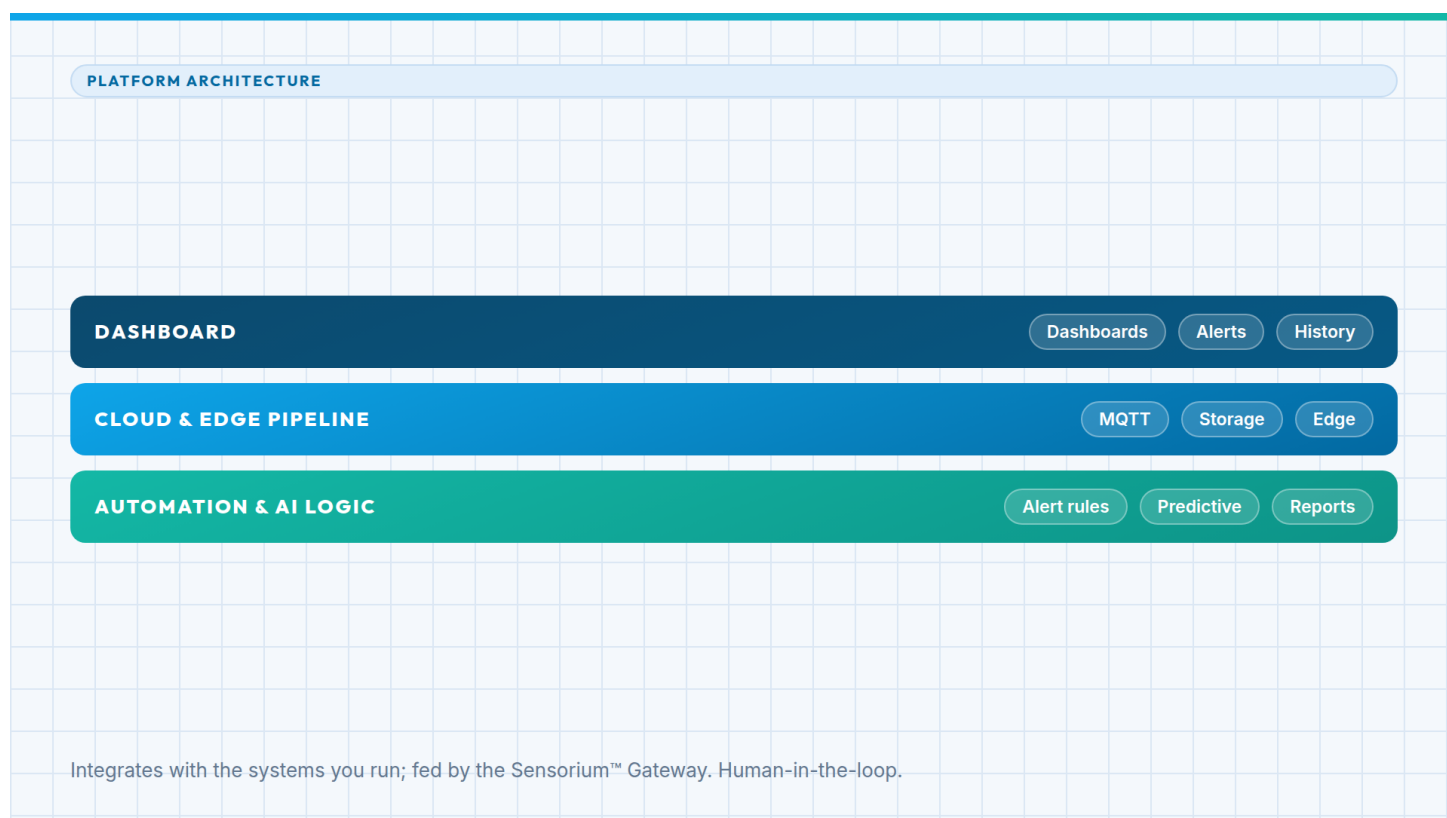


Figure FIG-002 — The 5Tech Platform's software modules — Dashboard, MQTT/Cloud Pipeline, Edge Processing, and Automation/AI Logic — fed by the Sensorium™ Gateway.

In the **Sense** → **Connect** → **Decide** chain, the Platform is *Decide*:

- **Sense** — the BLE smart sensor nodes: the **SmartBolt** and **SafeZone** modules on the **BLE Smart Sensor Node Platform**, with the **ESP32 Edge IoT Bridge** (Phase-1 MVP) validating the pipeline.
- **Connect** — the **Sensorium™ Gateway** aggregates field data and forwards it over MQTT.
- **Decide** — the **5Tech Platform** software (dashboard · pipeline · edge logic · automation/AI logic) turns data into monitored insight, alerts, and recommendations — a person decides

and acts.

The Platform can integrate with existing **SCADA / ERP** systems where required (scope [TBD]), and it underpins the packaged Solutions — Construction Site Monitoring, Industrial Asset Monitoring, Worksite Safety Automation, and Fleet & Mobile Asset Monitoring.

The four modules

MODULE	SUBTITLE	FUNCTION
5Tech Dashboard	Monitoring & Alerts	Sensor monitoring, device status, alerts/notifications, historical data, and client-facing visualization.
MQTT / Cloud Pipeline	Ingestion & Messaging	Sensor data ingestion, gateway-to-cloud communication, device messaging, data storage, and automation triggers.
Edge Processing Logic	Local Processing	Local filtering, basic decision-making, offline-friendly processing, and sensor event detection — reduced cloud dependency.
Automation / AI Logic	Rules & Recommendations	Alert rules, predictive monitoring, workflow automation, maintenance recommendations, and AI-assisted reporting — human-in-the-loop.

Automation / AI Logic — what it does (human-in-the-loop)

- **Alert rules** — flag events that need a person's attention.
- **Predictive monitoring** — surface trends that may call for maintenance.
- **Maintenance recommendations** — suggest actions for an operator to review and approve.
- **AI-assisted reporting** — draft summaries, audit trails, and daily briefings for review.

None of these act on the operation on their own: the platform surfaces data, alerts, reports, and recommendations, and a person decides.

Highlights

- **Four software modules** — Dashboard, MQTT/Cloud Pipeline, Edge Processing, and Automation/AI Logic in one platform.
- **Fed by the Sensorium™ Gateway** — field data from the SmartBolt and SafeZone modules and other BLE sensor nodes.
- **MQTT / cloud pipeline** — sensor data ingestion, device messaging, storage, and automation triggers; optional **SCADA / ERP** integration where required (scope [\[TBD\]](#)).
- **Automation / AI logic** — alert rules, predictive monitoring, maintenance recommendations, and AI-assisted reporting.
- **Human-in-the-loop** — the platform surfaces data, alerts, reports, and recommendations; people decide. No autonomous decisions, live digital twin, or policy-enforcing engine is claimed.
- **Foundation for Solutions** — Construction Site Monitoring, Industrial Asset Monitoring, Worksite Safety Automation, and Fleet & Mobile Asset Monitoring build on it.

Documentation for this product

DOCUMENT	WHERE	STATUS
User guide	../../../../manuals/sensorium-platform-manual/	Draft
Datasheet	../../../../datasheets/sensorium-platform-datasheet/	[TBD]
Installation guide	../../../../installation/sensorium-platform-installation/	[TBD]

Works with

- **Sensorium™ Gateway** — the Connect layer that feeds the Platform ([../../../../sensorium-gateway/](#)).
- **Sensorium™ SmartBolt** and **SafeZone** — sensing modules on the BLE Smart Sensor Node Platform, sensed upstream; the **ESP32 Edge IoT Bridge** (Phase-1 MVP) validates the pipeline.
- **SCADA / ERP** — existing site systems the platform can integrate with where required (scope [\[TBD\]](#)).

[TBD — licensing / deployment tiers overview; full detail to follow in the datasheet.]

Figures

ID	TITLE	STATUS	FUTURE FILENAME	PURPOSE
FIG-001	Monitoring Dashboard	Missing	images/dashboard_monitoring.png	Overview cover / hero — the monitoring workspace
FIG-002	Platform Architecture	Missing	diagrams/platform_architecture.png	Dashboard / Pipeline / Automation & AI layers

This overview is preliminary and subject to change. See [revision.md](#) for change control, [references.md](#) for sources, and [figures.json](#) / [image_prompts.md](#) for the figure index.