Singtel

Inside the new industrial stack that's powering connected industries

What is vertical IoT and how is it different?

For years, enterprises invested in broad IoT platforms, but these systems were often weighed down by complexity, integration costs, and inconsistent performance. Now, the focus has shifted to **vertical IoT: domain-specific stacks built for real operational contexts, from energy grids and logistics hubs to smart factories and utilities.**

Energy sector[1]

- IoT in energy management is projected to triple in value by 2030 – growing from **USD 70.6B in 2023 to USD 222.6B by 2030**
- **CAGR: 17.8%** – one of the fastest-growing IoT verticals globally
- Asia Pacific leads **the global IoT energy market with 36% share** – the highest of any region

Logistics sector[2]

- IoT spend in logistics is set to nearly quadruple in the next decade – from **USD 57.4M in 2025 to USD 216.5M by 2035**
- **CAGR: 14.1%**, driven by real-time visibility, asset tracking, and operational automation
- Logistics is fast becoming one of **the top verticals for large-scale IoT deployments**

What makes vertical IoT different[3]

Unlike horizontal IoT platforms that try to do everything, vertical IoT stacks are tailored for outcomes. They integrate devices, networks, and analytics around specific use cases such as predictive maintenance, grid stability, or supply chain visibility.

57.5%

of organisations have adopted **process automation**, making it the most common IoT use case.

55%

of organisations have rolled out **IoT-based quality** control, improving throughput and accuracy.

55%

use **IoT for energy monitoring**, up from 20% in 2021, driven by sustainability goals and rising energy costs.

54%

have implemented **real-time inventory management**, leading smart supply chain use cases.

54%

use **supply chain track and trace,** with 60% seeing ROI in under 24 months.

By aligning technology stacks with real-world workflows, vertical IoT solves specific, high-value operational problems in sectors like manufacturing, logistics, and energy.

Inside the new industrial stack

Behind every vertical IoT deployment lies a common backbone — a modern industrial stack that connects devices, edge compute, and intelligence into one seamless flow of data and decisions.

This is the architecture powering the next generation of connected industries:

Device layer

Sensors, wearables, and AI-enabled cameras capture data at scale from machines, workers, and environments.

Edge layer

Processing happens closer to the source for speed, control, and efficiency.

Intelligence layer

AI and analytics engines synthesise edge data into enterprise-wide intelligence to predict faults, optimise assets, and guide decisions across connected plants, grids, and supply chains.

From data to intelligence

Every connected device generates a signal. In a vertical stack, it travels through an intelligent feedback loop where raw data evolves into real-time intelligence.

Sense

A camera or sensor detects an anomaly.

Process

Edge intelligence filters noise, validates the signal, and acts immediately by triggering alerts or automated responses in real time.

Act

Intelligent systems adapt operations, schedule maintenance, or notify teams before downtime or damage occurs.

Analyse

AI in the cloud forecasts potential failures, performance dips, or safety risks.

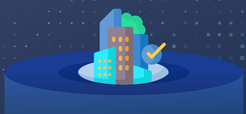
This real-time loop is already reshaping how grids balance load, how factories manage assets, and how logistics networks run.

Singtel 5G+ powers the new industrial stack

Singtel 5G+ provides the unified edge-to-cloud fabric that vertical IoT is dependent on. Converging networking and security ensures predictable performance and trusted connectivity from the device layer, all the way to enterprise systems.

5G+ fabric

Built on 700 MHz spectrum and standalone 5G architecture, Singtel 5G+ delivers ultra-low latency and deterministic performance for critical industrial workloads.



Unified infrastructure

With networking and security tightly integrated, enterprises can scale IoT without complexity or compromise.

Build your new industrial stack with Singtel.

Contact us

References

1 Fortune Business Insights, IoT Energy Management Market Size, Share & COVID-19 Impact Analysis, By Component (Solution/Platform/System and Services), By Application (Smart Cities, Smart Utilities, and Industrial IoT), By End User (Commercial and Industrial), and Regional Forecast, 2023-2030, 2025

2 Future marketing insights, IoT Spend by Logistics Market, 2025

3 IoT Analytics, The top 10 IoT use cases, 2024