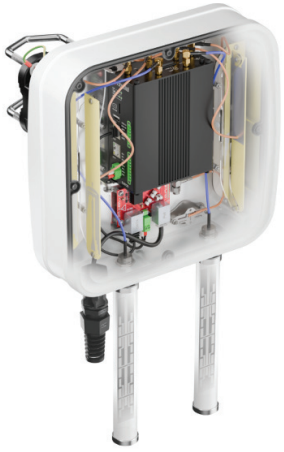
Brochure

XEdge Sensors for AI Agents

Automated, Hands-Free Field Testing, Using True User Experience (UE) Data Has Never Been Easier

Today's AI agents don't just receive structured UE data; they can also command specific measurements on demand. With XEdge, your AI agent can automatically collect over 200 KPIs and generate any extra data you need when you need it. It's the next generation in automated, hands-free field testing, showing what users actually experience.



AI agents transforming network operations need one thing above all: quality input data.

Network-side telemetry tells you what the infrastructure sees in terms of availability and 'health'. However people using the network can have very different experiences.

Coverage maps show green, yet calls drop. Dashboards show capacity available, yet applications time out.

XEdge gives you the missing piece: what user devices actually experience.

XEdge: Ground Truth from the Edge

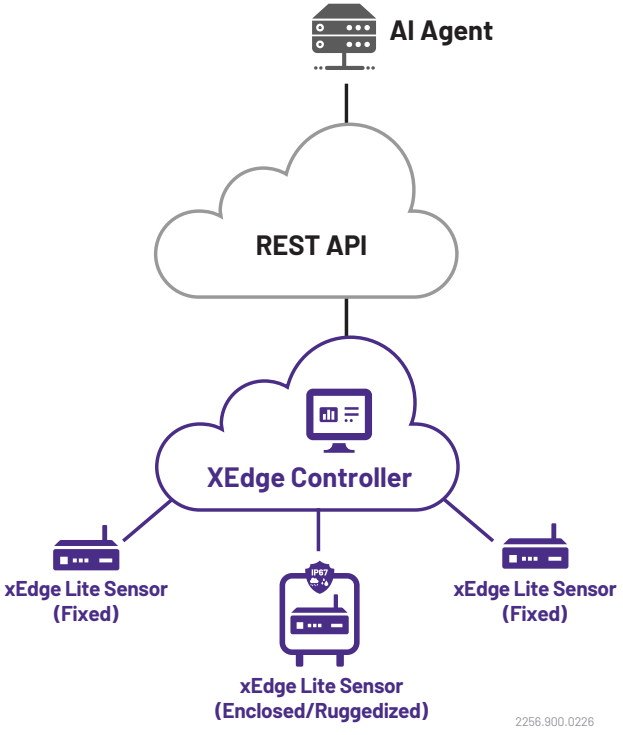
XEdge sensors capture what matters – the UE perspective.

Deployed at fixed locations or mobile, these autonomous sensors operate 24/7 to continuously collect 200+ KPIs, and feed structured data directly to AI agents via REST API.

There is:

- No manual data collection
- No parsing unstructured logs
- No waiting for trouble tickets

With XEdge, you can have as much clean, time-stamped, geo-tagged data, ready for AI consumption, as you need.



XEdge for AI Agents

XEdge provides correlated data from a single point in space and time RF metrics, application performance, and GPS coordinates are all captured together, from the same device, at the same moment. This enables AI agents to understand causality, not just correlation.

Every XEdge Measurement Delivers a Complete Picture to AI Agents

When an AI agent detects "high latency", without extra information, it's hard to know if this was caused by RF degradation, backhaul congestion, or application server issues.

XEdge data gives the answers because all metrics come from the same device, same location, and the same moment.

And if the AI agent needs more data, because it controls the sensors, it can initiate the extra measurements.

Layer	Metrics	AI Value
RF	RSRP, RSRQ, SINR, CQI, PCI, Cell ID	Signal quality context for performance issues
Application	Latency, throughput, jitter, packet loss	User experience quantification
Location	GPS coordinates, timestamp, cell info	Spatial correlation and trending
Connection	Registration state, handover events, RRC state	Mobility and attachment behavior

Create An Automated Team of Field Engineers – At a Fraction of the Cost

In an ideal world, with unlimited resources, you'd probably have a team of measurement engineers with professional test equipment deployed across your network. They would be ready to run tests on schedule, respond to queries on demand, and report results in structured format, as often as needed.

The good news is that XEdge combined with your AI agent, offers you the same, without the need to employ that team of professionally skilled people.

XEdge Provides:

- Autonomous operation: no staff required
- 24/7 continuous collection: not periodic snapshots
- Instant response to AI agent queries via API
- Consistent methodology: no human variation
- Low cost: scalable to hundreds of locations

From Passive Consumer to Active Investigator-Most data sources treat AI as a passive recipient — here's the data, do what you want. XEdge is different. AI agents can command the sensors directly. They don't just receive data. They request specific measurements, at specific locations, at specific times.

Transform Network Performance with AI Agents in Control

XEdge radically changes how AI agents investigate network issues. Here are some examples:

Hypothesis Testing

AI agent suspects RF interference at location X. Instead of waiting for scheduled data, it commands: *"Run RF scan now, all bands, report SINR and neighbor cells."* The result arrives in seconds. The hypothesis is then confirmed or rejected.

Targeted Deep Dives

An anomaly is detected in sector Y. The AI agent triggers a burst of measurements: speed tests every 10 seconds for 5 minutes. The intermittent issue is captured and root cause identified.

Comparative Analysis

A user reports poor video quality. The AI agent commands simultaneous tests from three nearby sensors: *"Run YouTube QoE test, report buffering events and resolution changes."* A spatial pattern emerges and the problem is localized.

Verification Before Escalation

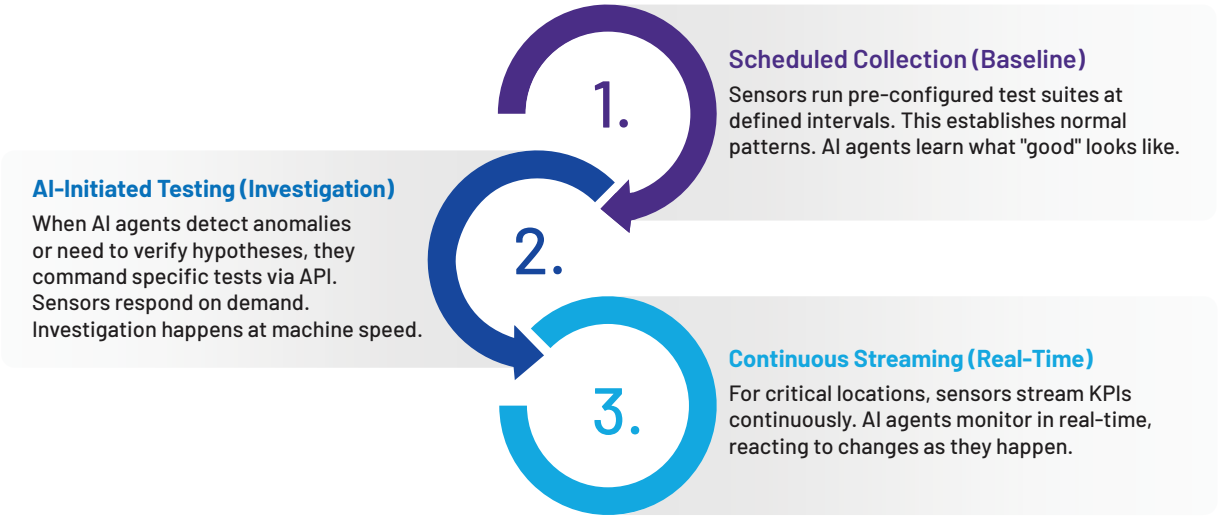
Before creating a high-priority ticket, the AI agent verifies: *"Confirm latency >100 ms at coordinates Z."* The XEdge sensor executes the test. Only verified issues are then escalated and the false positives eliminated.

Command Type	Example	Response Time
RF Scan	*"Report current RSRP, RSRQ, SINR, serving cell"*	< 5 seconds
Speed Test	*"Run TCP download/upload test to server X"*	30-60 seconds
Latency Probe	*"Ping target Y, 100 packets, report stats"*	< 15 seconds
Application Test	*"Run HTTP GET to URL, report TTFB"*	< 10 seconds
Full Diagnostic	*"Execute complete test suite"*	2-3 minutes

Every command returns results in the same structured plain-text format as all scheduled measurements. This allows the AI agents to process on-demand results with the same logic as the baseline data.

Three Modes of Operation

All three modes use the same API and data format. The AI agents choose the mode that fits the situation.



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How API Data Structure Works

XEdge REST API delivers JSON-formatted measurements. Every data point includes:

Field	Type	Description
timestamp	ISO 8601	Measurement time (UTC)
device_id	String	Unique sensor identifier
latitude / longitude	Float	GPS coordinates
cell_id / pci / tac	Integer	Serving cell identification
rsrp / rsrq / sinr	Float	RF measurements (dBm / dB)
dl_throughput / ul_throughput	Float	Data rates (Mbps)
latency / jitter	Float	Network timing (ms)
test_type	String	Measurement category
raw_data	Object	Full 200+ KPI payload

XEdge: Standard REST endpoints. Standard JSON format. No proprietary protocols. AI agents integrate in hours, not weeks.

Use Cases for AI Agents

Anomaly Validation

The AI detects an unusual pattern in network metrics. Before escalating, it queries XEdge sensors in the affected area. The ground truth confirms or refutes the anomaly with UE-perspective data.

Root Cause Isolation

Users complain about a spike in sector X. The AI agent correlates XEdge RF data (RSRP normal) with application data (latency 340ms). Conclusion: backhaul issue, not RF. Correct team notified.

Proactive Degradation Detection

The XEdge sensors continuously feed baseline data. The AI agent notices SINR trending down over 72 hours at location Y. A maintenance ticket is created before users complain.

Coverage Validation

The planning model says coverage is adequate. XEdge sensors in the field report actual measurements. The AI agent identifies gaps between the model and reality, feeding optimization algorithms.

SLA Compliance Monitoring

An Enterprise customer has guaranteed latency SLA. XEdge sensors at the customer's premises provide continuous proof. The AI agent flags violations before the customer reports them.

XEdge Deployment Options

XEdge sensors adapt to different operational needs:

Variant	Form Factor	Best For
XEdge Lite	Compact, low power	Mass deployment, dense sensor networks
XEdge (1-4 Modem)	Full platform	Multi-operator monitoring, lab environments
Mobile Deployment	Vehicle-mounted	Drive testing, coverage surveys

All variants use the same API. This means AI agents see consistent data structure regardless of sensor type.

Scaling AI with Edge Data

- With such a low cost per device, organizations can deploy dense sensor networks.
- More sensors = more ground truth = better AI decisions
- XEdge turns edge data from sparse sampling into continuous visibility, ensuring compatibility with environments where WiFi is restricted

XEdge Technical Specifications

Specification	Value
Network Technology	4G LTE, 5G NR (NSA and SA), Sub-6 GHz
KPIs Collected	200+ metrics per measurement
Collection Interval	Configurable 1 second — 15 minutes
API Format	REST/JSON
Data Retention	90 days raw, 1 year aggregated
Connectivity	Cellular backhaul or Ethernet
Power	PoE+ or DC power, <20 W (Lite)
Environment	Indoor (IP30) or Outdoor (IP67 enclosure)

Summary

- AI agents are only as good as their input data. Network-side telemetry provides one perspective. XEdge provides the other — what users actually experience.
- XEdge: Structured data. Correlated metrics. Continuous collection. API-ready.
- XEdge: sensors that feed your AI agents.

To Learn More

- Visit our XEdge website page
- Please contact your VIAVI representative for technical specifications and deployment options

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