Microsoft

AI playbook for telecommunications Business Decision Makers

A narrative guide to deploying and scaling AI across the telecom enterprise with agentic AI and the Frontier telecom strategy

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Executive narrative: from pilots to production

Telecommunications operators are moving decisively from proofs of concept to production-scale AI. Customer expectations now assume personal, proactive, and multilingual service; operations teams expect tools that surface issues before they become outages; and boards expect AI to bend the cost and revenue curves simultaneously.

Microsoft's approach is to meet telecoms where they operate today—across networks, IT, and the business—and provide an integrated platform that makes AI safe, governable, and fast to scale—delivering intelligence by design and trust by default.

Microsoft IQ serves as the organizing lens for this transformation, operationalizing intelligence across the enterprise—spanning data (Fabric IQ), AI and models (Foundry IQ), and workflows (Work IQ)—to create continuous, connected intelligence across data, applications, and work.

In this playbook we translate the Frontier Telecom narrative into concrete steps: unify your data estate with Microsoft Fabric; standardize app and agent development on Azure AI Foundry and Azure AI Agent Service; empower employees with Microsoft 365 Copilot and Copilot Studio; fortify posture with Microsoft Defender, Microsoft Sentinel, and Microsoft Entra; and accelerate service innovation with Dynamics 365 Customer Service, Dynamics 365 Contact Center and Field Service.

Why Microsoft: an integrated, secure and scalable AI stack for telecoms

Microsoft differentiates by delivering a genuinely integrated, full-stack approach to AI. Telecoms can move from data to decisions without stitching together point solutions: the data estate and analytics plane in Microsoft Fabric; model development, evaluation, and safety in Azure AI Foundry; agent planning and tool use in Azure AI Agent Service; and a high-productivity business layer across Microsoft 365 and Dynamics 365. This coherence reduces integration cost, simplifies governance, and accelerates time-to-value, particularly when compared with fragmented multi-vendor stacks.

Intelligence & Trust as a Competitive Advantage

Microsoft's platform is built to deliver intelligence by design and trust by default, increasing the density of intelligence across the enterprise while reducing operational and regulatory risk. This is operationalized through Microsoft IQ, which structures intelligence across three interconnected layers:

- **Fabric IQ** (data intelligence layer): Microsoft Fabric unifies the data estate, enabling real-time insights and governed data access across the organization.
- **Foundry IQ** (AI/model intelligence layer): Azure AI Foundry provides model development, evaluation, and safety—ensuring AI systems are performant, secure, and continuously improving.
- **Work IQ** (workflow intelligence layer): Microsoft 365 and Dynamics 365 embed intelligence directly into daily work, enabling copilots and agents to drive productivity and decision-making in context.

Together, these layers form a continuous intelligence loop—where data, AI, and workflows reinforce one another—while the integrated Microsoft stack reduces complexity, strengthens governance, and lowers risk compared to fragmented approaches.

Security and responsible innovation are engineered into the platform. Microsoft Entra governs identities and access, Microsoft Purview enforces data classification and policy, Microsoft Defender and Microsoft Sentinel provide AI-assisted detection and response, and

our Responsible AI standard brings human-in-the-loop safety and auditability to every stage of the lifecycle. For telecoms navigating strict regulators and sovereign requirements, these controls enable innovation without compromising residency, safety, or compliance.

Scale is multiplied by the ecosystem. Through Microsoft's commercial marketplace and a global network of ISVs, startups, and GSIs, operators can package and monetize network and data capabilities as vertical solutions—extending into sectors like financial services, retail, and the public sector—while activating hyperscale go-to-market channels. The result: faster service launches, broader reach, and lower cost of acquisition.

The Frontier telecom model (and why agentic AI matters)

Becoming Frontier telecom means organizing around four connected ambitions: enriching employee experiences, reinventing customer engagement, reshaping business processes, and bending the curve on innovation.

Microsoft IQ serves as the intelligence fabric powering these ambitions—connecting the enterprise through continuous, applied intelligence.

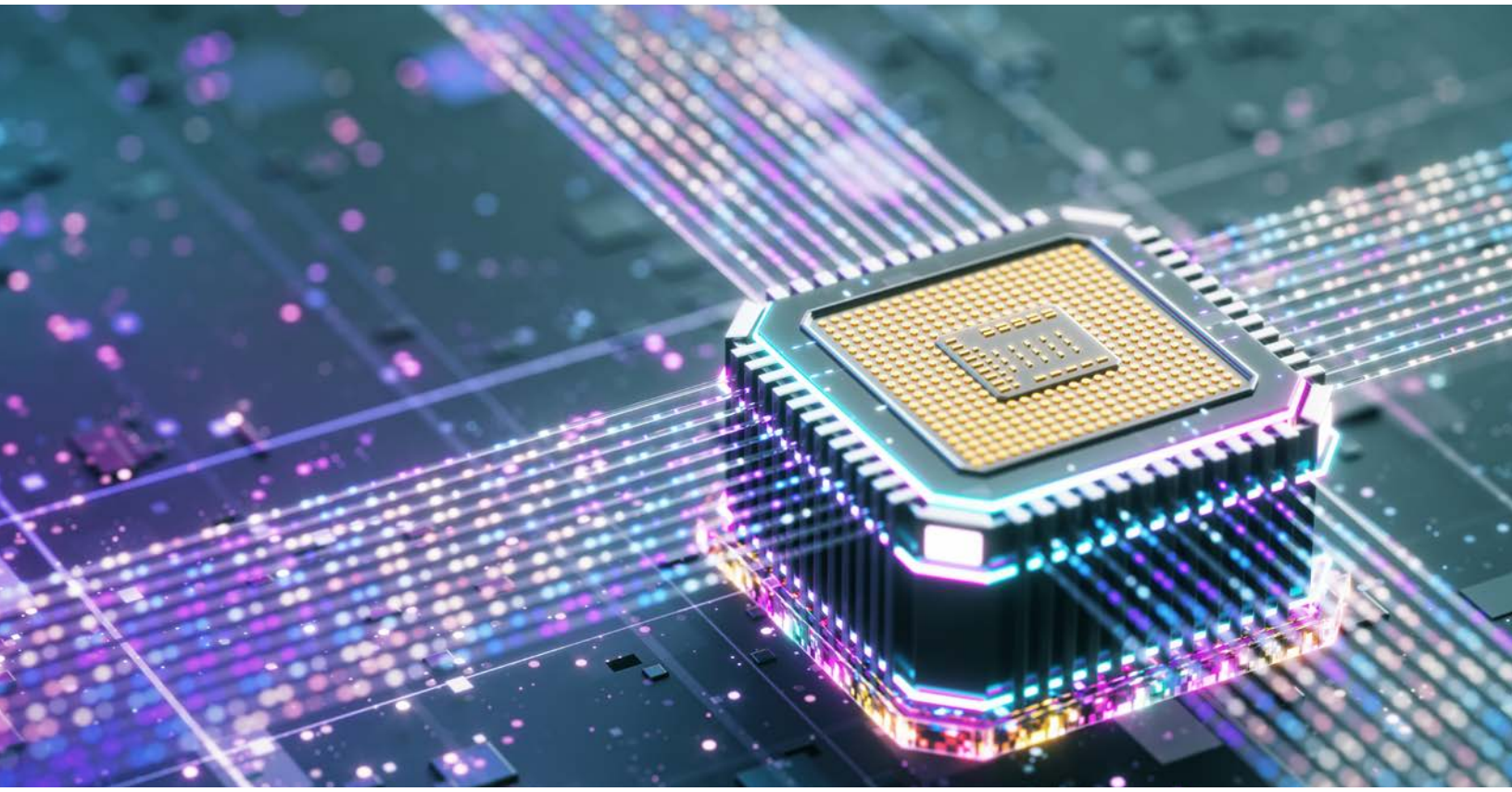
Microsoft IQ connects data, AI, and work to create continuous intelligence loops across the enterprise. Agentic AI is the connective tissue across those ambitions. Unlike single-turn chat, agents plan, act, and learn across systems using tools and APIs under human-in-the-loop control. In practice, a customer care agent grounded by Azure AI Search can verify entitlements in Dynamics 365, open a case, and schedule a truck roll in Field Service—while a network operations agent built on Azure AI Agent Service can detect an anomaly, assemble diagnostics from Fabric's real-time telemetry, propose a remediation, and execute safely with rollback policies.

Replace manual, multi-system work with **AI agents** that guide telecom teams through service, network, and customer tasks in real time.

Deliver always-on, AI-driven customer interactions that **resolve issues faster and hyper-personalize experiences**, enabling high-value engagement across all channels and customer lifecycle.

Run network and business operations as **connected, real-time workflows** across OSS, BSS, and customer systems.

Launch new AI-powered services faster by turning network, customer, and operational data into commercial offerings.



Frontier in telecom × Microsoft AI ambition

Agentic AI operates as a "control plane" that connects the network, IT, and the enterprise business. On Microsoft's stack, agents become a reusable system of intelligence—querying Fabric data products in real time, invoking OSS/BSS and network controllers through secure tool calls, and coordinating people in Teams when approvals are required. This is the practical foundation of a Telecom AI Factory: a portfolio of governed agents and skills that get better with use—powered by Microsoft IQ as the underlying intelligence layer.

Confidence to modernize comes from a compliance-ready posture. Microsoft enables sovereign AI patterns, combining data boundary controls, confidential computing, and responsible AI governance, so operators can meet local regulator expectations while still benefiting from global model and platform innovation.

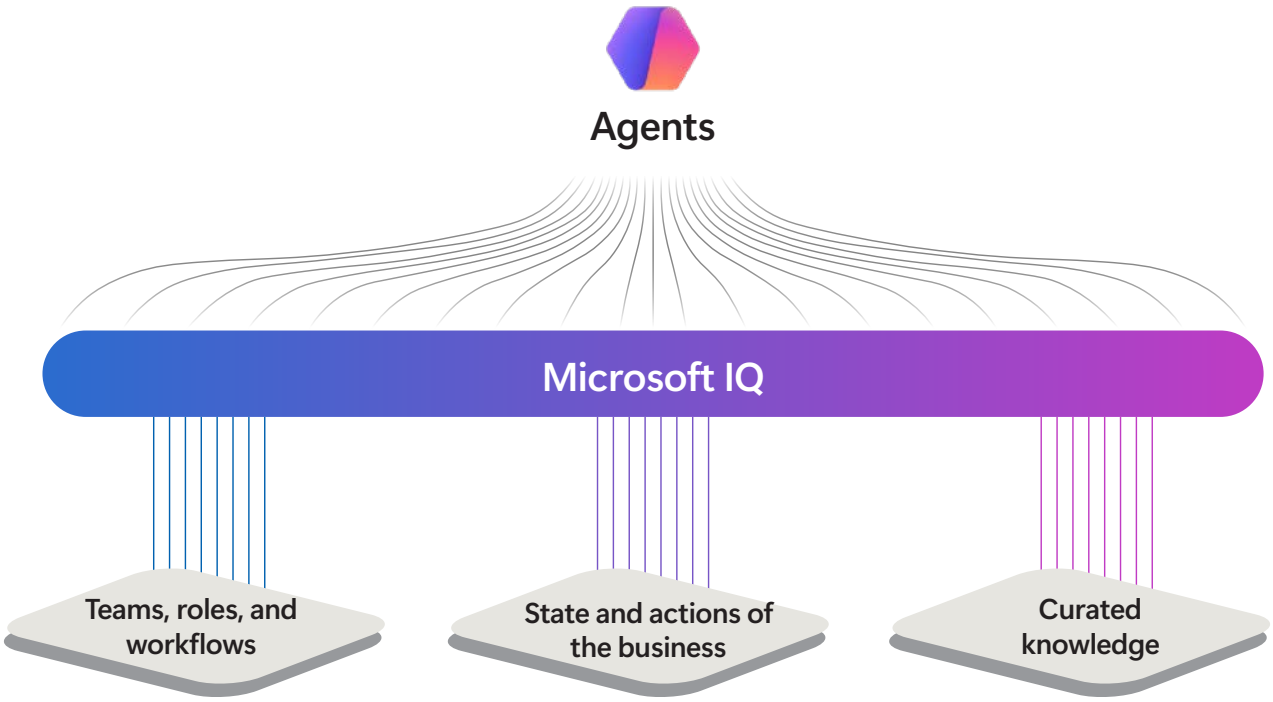
The ecosystem multiplies impact. By partnering with Microsoft, telecoms can plug into a deep catalog of AI-ready partner solutions and co-sell routes to market.

Operators can move beyond connectivity into new B2B/B2C monetization—bundling network insights, security services, and domain copilots, and publishing them through marketplace channels.

Foundations: data, safety, and an agentic platform

Data is the fuel, and governance is the guardrail. Microsoft Fabric provides a unified, SaaS-based data plane where telecoms can model subscriber, product, usage, and network telemetry and run near-real-time analytics. Microsoft Purview enforces data loss prevention, lineage, and policy, while Microsoft Entra governs identities and access. Microsoft Defender XDR and Microsoft Sentinel modernize detection and response with AI-assisted triage and automation.

On the application side, Azure AI Foundry consolidates model catalog, evaluation, and safety. Developers use GitHub and GitHub Copilot to accelerate secure code, while production apps run on Azure Kubernetes Service, leveraging services like Azure Cosmos DB and Azure SQL. For agent orchestration, Azure AI Agent Service provides planning, tool usage, and safety controls, while Copilot Studio enables the low-code creation of line-of-business copilots that integrate with Dataverse, Microsoft 365, and third-party systems.



Microsoft IQ: the foundation for enterprise intelligence

At the core of this architecture is **Microsoft IQ**, which structures how intelligence is created, governed, and applied across the telecom enterprise:

- **Fabric IQ** – a unified data estate delivering governed, real-time insight across network, customer, and business data
- **Foundry IQ** – a complete AI lifecycle layer for model development, evaluation, safety, and continuous improvement
- **Work IQ** – embedded copilots and agents that bring intelligence directly into workflows and decision-making

Together, these layers enable a continuous flow from data to insight to action—powering agentic systems that learn and improve over time.

Trust layer across all IQs

Trust is not a separate layer—it is embedded across every dimension of Microsoft IQ. Microsoft Purview, Microsoft Entra, Microsoft Defender, and Microsoft Sentinel form a **cross-cutting Trust layer** that enforces governance, security, compliance, and responsible AI across Fabric IQ, Foundry IQ, and Work IQ. This ensures that intelligence is not only powerful, but also secure, compliant, and enterprise-ready by design.

Frontier outcomes

Reinventing customer engagement

Customer care becomes an intelligence surface when copilots—the activation of Work IQ—are grounded in approved knowledge and embedded in the workflow. With Dynamics 365 Contact Center and Copilot Studio orchestrating conversations—and Azure AI Search providing retrieval—agents resolve intent in any channel

while protecting privacy and safety. Microsoft 365 Copilot then summarizes interactions, drafts follow-ups, and coordinates across Outlook and Teams so supervisors can focus on quality, not paperwork—bringing applied intelligence into daily work.

Results are visible in public deployments. At Telstra, two generative AI tools—Ask Telstra and One Sentence Summary—help frontline teams respond more quickly. Ninety percent of employees using One Sentence Summary reported time savings, and interactions required 20% less follow-up. At Vodafone, Microsoft 365 Copilot trials resulted in an average of four hours saved per user per week, with an expanded rollout to tens of thousands of employees. Telkomsel's Azure Open AI–powered assistant, "Veronika," has expanded multilingual support across various channels, enhancing the customer experience.

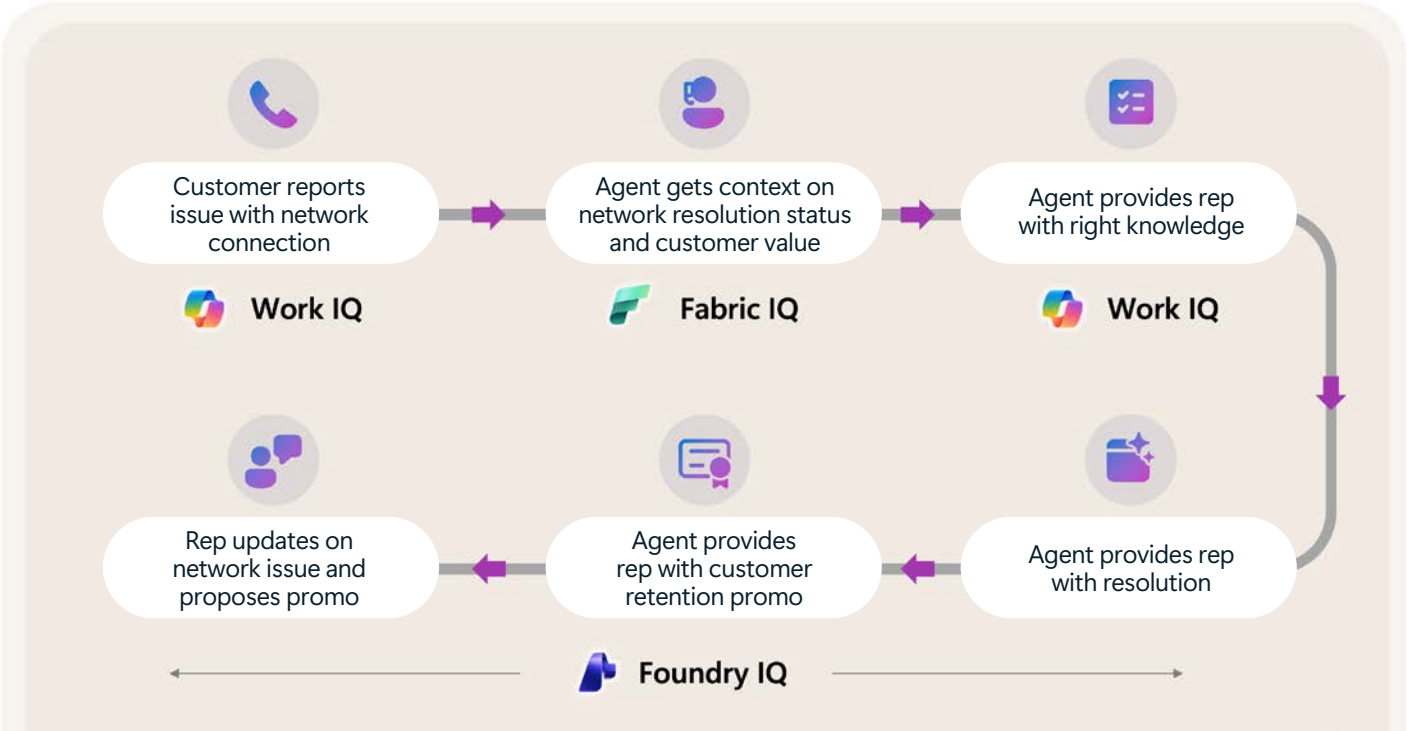
These patterns—summarization, retrieval-augmented guidance, and proactive outreach—consistently improve containment, speed, and satisfaction through applied intelligence in daily work.

Enrich employee experiences

Productivity gains come from bringing generative assistance into the flow of work through Work IQ. Microsoft 365 Copilot reduces routine effort in writing, summarizing, and meeting prep, while Copilot Studio lets HR, Finance, and IT publish governed process agents. As the activation layer of Work IQ, copilots embed intelligence directly into everyday tasks—turning insight into action. Telecoms like Vodafone report sustained time savings and improved inclusivity outcomes as Copilot assists neurodiverse employees and accelerates high-judgment knowledge work—demonstrating how applied intelligence in daily work increases both throughput and employee satisfaction.

Reshape processes and automate operations (toward autonomous networks)

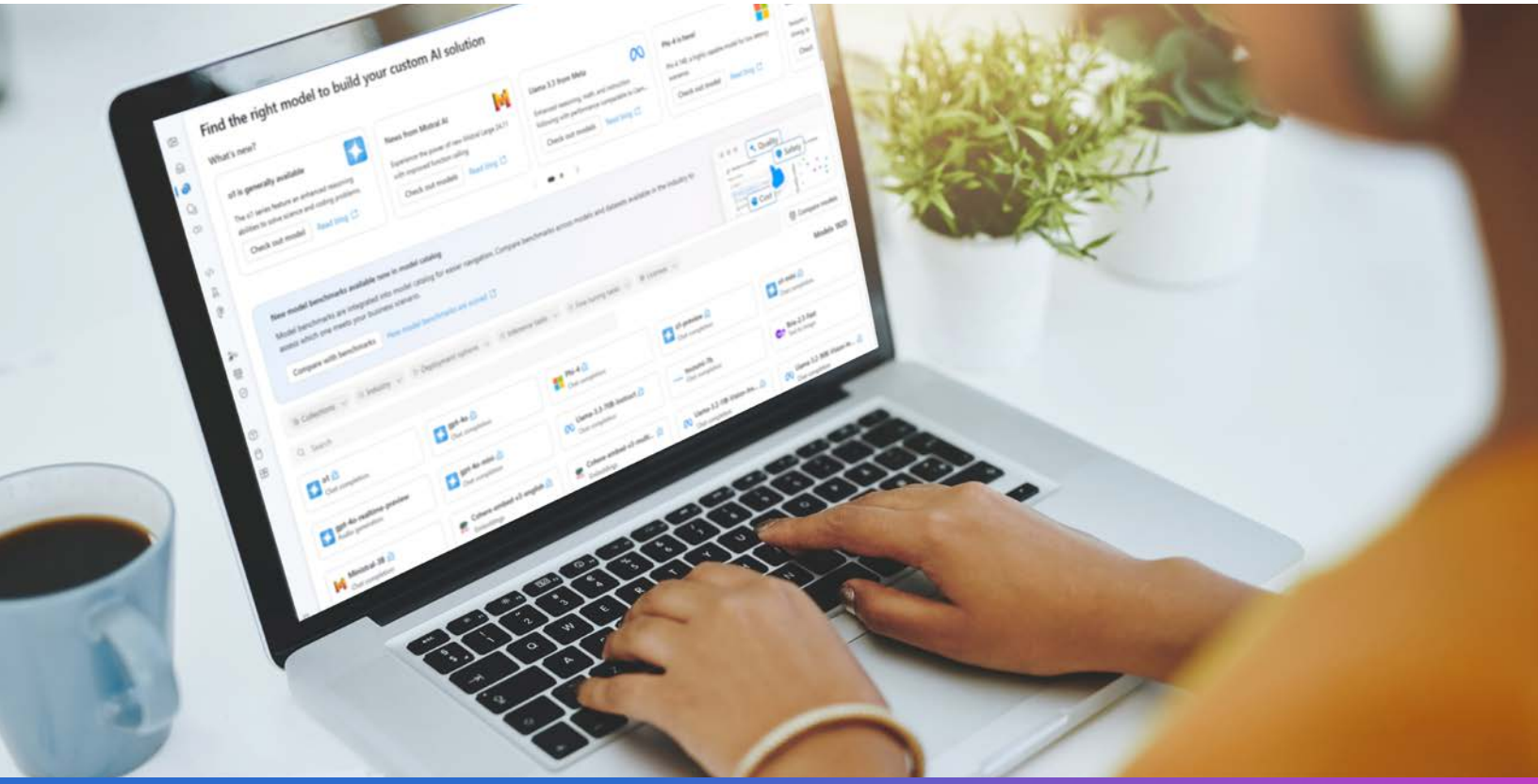
Network and operations teams benefit when agents reason across telemetry, tickets, and knowledge—extending Work IQ into operational workflows.



With Fabric ingesting RAN and core signals, an Azure AI agent assembles likely root causes, proposes safe remediations, and executes via orchestrations with rollback. Telefónica España demonstrates how big data and AI on Azure improve network performance and operational efficiency, moving decisions closer to real time and reducing manual effort. T-Mobile shows how Power Platform and Copilot Studio embed AI into frontline workflows at scale, with apps like PromoGenius supporting tens of thousands of users each month—bringing applied intelligence into operational work at scale.

Safeguard the network and the enterprise

Threat actors are adopting AI; defenses must be AI-assisted by design. Microsoft Sentinel and Defender XDR correlate signals across endpoints, identities, email, and cloud workloads with AI-driven detections and automation. Operators and partners have used these capabilities to accelerate investigations with natural-language assistance and automate repeatable steps, improving analyst throughput while strengthening posture across IT and network domains—extending applied intelligence into security operations.



From insights to action with Work IQ

Work IQ transforms intelligence into action by embedding copilots and agents directly into workflows—ensuring that every employee, process, and interaction benefits from real-time, context-aware intelligence.

Creating new revenue streams

Frontier telecoms are turning intelligence into revenue streams by monetizing their capabilities as services. With Fabric IQ as the foundation, operators can transform unified, governed data into high-value data products, APIs, and AI-powered services—unlocking new commercial models beyond connectivity.

Examples include managed customer-engagement platforms, AI-powered SOC offerings built on Microsoft Sentinel, and intelligence-driven data products and APIs packaged via the marketplace. Operators like du have expanded managed security services by integrating Microsoft security into their enterprise offerings, showing how AI-enhanced services can open new growth vectors while deepening customer trust. In this model, Fabric IQ enables intelligence monetization at scale, converting insights into differentiated offerings for B2B and B2C markets.

AI-native business outcomes Customer engagement.

Public stories show measurable gains: Telstra's One Sentence Summary reduced follow-up effort by 20% and boosted agent effectiveness, while the Ask Telstra solution improved access to knowledge for 80% of agents. Vodafone's use of Microsoft 365 Copilot reports four hours saved per week per user, enabling faster, more personalized engagement. Telkomsel's "Veronika," built with Azure OpenAI, demonstrates multilingual, always-on support at a national scale, improving containment and satisfaction in one of the world's most linguistically diverse markets.

Operational efficiency. Telefónica España's collaboration with Microsoft to harness big data, AI, and automation has enhanced network performance and operational efficiency, with analytics and decision-making transitioning from batch processes to near real time. T-Mobile's Power Platform apps—augmented with Copilot Studio agents—have achieved significant gains in process throughput and widespread frontline adoption, highlighting how agentic patterns reduce cycle times and shift expert capacity to higher-value work.

Employee productivity. Across telecoms, Microsoft 365 Copilot consistently returns hours to knowledge workers and frontline teams—time they invest back into customer and network outcomes. Organizations report improved inclusivity and employee satisfaction as AI assists with comprehension, drafting, and synthesis tasks that previously consumed scarce attention.

Sustainability. As agents optimize operations, energy footprints improve. Fabric-based analytics and AI can orchestrate RAN energy-saving patterns (for example, dynamic cell shutdown or traffic-aware power management) in low-demand periods—an approach many operators are piloting as part of broader Net Zero commitments. Realized savings vary by architecture and policy; measurement should be instrumented in Fabric and surfaced in Power BI scorecards.

The agent factory: operating model for scale

Scale safely by establishing an Agent Factory that operationalizes Foundry IQ across the AI lifecycle. The Agent Factory standardizes design reviews, safety evaluations, prompt and skill versioning, red-teaming, and production monitoring. Foundry IQ ensures every agent is governed, evaluated, and continuously improving.

Use Azure AI Foundry for model operations and evaluations; enforce Purview and Entra policies for data and identity boundaries; adopt Copilot Studio governance for the solution lifecycle; and align on an approval workflow in Teams that routes risk-sensitive changes to the appropriate authorities.

A 12-week path to value

• **Weeks 1–2:** Align on outcomes, shortlist high-value use cases, assess data sources for grounding, and codify Responsible AI and safety guidelines.
• **Weeks 3–6:** Stand up Fabric workspaces and real-time pipelines, create projects in Azure AI Foundry, and develop initial copilots in Copilot Studio and agent workflows in Azure AI Agent Service.
• **Weeks 7–12:** Validate security in Sentinel, pilot with real users, measure value using Power BI scorecards, and decide on production rollout with runbooks, on-call, and success metrics in place.

How we measure impact

Measure impact in customer experience (containment, CSAT/NPS, first-contact resolution), operations (MTTI/MTTR, incident volume, energy per site), and workforce (hours saved per role, SLA adherence). Use Copilot analytics, Dynamics 365 dashboards, and Fabric-powered Power BI to instrument outcomes. Align finance early so that benefits—such as cost avoidance, revenue lift, and cash impact—are recognized in quarterly reviews.

Trust, governance, and responsible AI

Trust is a cross-cutting pillar across all Microsoft IQ layers—ensuring that intelligence is deployed securely, responsibly, and at enterprise scale. Trust is not an overlay—it is embedded into every layer of Microsoft IQ.

Every solution in this playbook assumes responsible AI by default. Grounding data must be curated and governed in Fabric, sensitive information classified and protected by Purview, access controlled by Entra, and application estates monitored by Defender and Sentinel. Human-in-the-loop checkpoints, audit trails, safety filters, and incident response playbooks are non-negotiable.

Microsoft intelligence and trust at a glance

Fabric IQ (data intelligence layer): Microsoft Fabric, Azure Databricks, Power BI

Foundry IQ (AI/model intelligence layer): Azure AI Foundry, Azure OpenAI Service, Azure AI Agent Service

Work IQ (workflow intelligence layer): Microsoft 365 Copilot, Dynamics 365, Power Platform, Copilot Studio, GitHub Copilot

Trust Layer (cross-cutting): Microsoft Purview, Microsoft Entra, Microsoft Defender XDR, Microsoft Sentinel

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