



Executive
Perspectives

AI-First Companies Win the Future

Telecommunications

February 2026

Introduction

We meet often with CEOs to discuss AI—a topic that is both captivating and rapidly changing. After working with more than 2,000 clients over the past two-plus years, we are **sharing our most recent insights in a new series designed to help CEOs navigate AI**. With most sectors going through major shifts, the focus in 2026 is on how to leverage AI to **fully transform organizations and create new sources of competitive advantage**.

The telecommunications landscape is shifting. Connectivity is commoditizing, pricing freedom is narrowing, traditional efficiency levers are exhausted—and yet, customer expectations continue rising. **However, agentic AI offers a new set of levers, allowing telcos to reimagine operations with hyperpersonalization, autonomous networks, and sustainable competitive advantage**.

- What does it mean to operate as an AI-first telco end to end (E2E)?
- How are leaders using agentic AI today to drive EBITDA uplift?
- What pragmatic steps should telcos take to transition from isolated pilots to a scaled AI operating model?

Advances in agentic AI, as well as predictive and generative AI, are enabling telcos to move AI from a support role to a foundational capability, and the leaders are creating value.

In this Executive Perspective, we outline how AI-first telcos unlock end-to-end transformation and sustained value creation



Executive summary | An AI-first telco transformation journey

WHY now is the right time to act

The rapid progress of GenAI is reshaping industry economics. Early movers across industries are already seeing lasting bottom-line impact from GenAI, while most **telcos are stuck experimenting with proofs of concept in selected functions** or domains. The **value-creation potential** from an AI-first transformation for telcos is **significant, with up to 15pp EBITDA and 10pp EBIT increases**. **The transformation requires a significant investment of capital and time** (up to 200% of run-rate savings for the initial investment and 10%–30% of annual run-rate costs).

WHAT an AI-first telco looks like

To tap into this potential, telcos need to **reimagine key functions, domains, and processes E2E to build an AI-first** operating model, which is **predictive, proactive, and personalized with agentic AI at its core**, orchestrating like an enterprise-wide superbrain.

Each key function needs to be transformed:

- **Customer value management:** Multiple agents handle customer journeys E2E, seamlessly navigating across different channels
- **Telco network operations:** Cross-domain agents execute observe-plan-act cycles to predict and prevent network failures
- **IT and digital platforms:** Machine language-driven platforms sense system behavior, diagnose issues, and optimize performance through closed loops
- **Corporate functions:** AI augments finance, HR, legal, and procurement—automating reconciliation, analysis, and drafting — while humans retain oversight

HOW to start the journey to transform into an AI-first telco

E2E transformation can start with a series of moves:

- **Adopt the 10-20-70 rule:** Prioritize 70% of effort on people, process, and change, with 20% on tech and data and 10% on algorithms
- **Establish agent-ready data:** Treat data as a critical enterprise asset by embedding business context and exposing agent-consumable data at scale to drive consistent agent performance beyond frequently asked questions (FAQs)
- **Strategically build solutions:** Off-the-shelf solutions should be leveraged, but alone they are not enough; context, reusability, and the right architecture are paramount
- **Execute a readiness self-check:** Secure C-level and business sponsorship, establish a three-year investment envelope, and ensure every lighthouse solution has clear P&L accountability
- **Pursue scale over siloed efforts:** Progress from stagnant pilots to enterprise-wide adoption by embedding AI into core platforms, establishing cross-functional operations, and designing voice and digital in parallel

Structural disruption of the global telecom industry drives urgency to innovate, with GenAI as the critical lever



Value migration upward

Connectivity margins are plateauing as value shifts from core network infrastructure to AI-enabled digital platforms and intelligence layers



Intelligence as currency

Network performance is no longer just about capacity; it is driven by autonomous AI that self-optimizes traffic in real time



Sovereign infrastructure

National demand for localized data centers and clusters of graphics processing units (GPUs) ensures sensitive AI workloads stay within domestic borders



Programmable connectivity

Standardized APIs transform networks into on-demand cloud services (a network as a service, or NaaS), allowing enterprises to consume bandwidth via software



AI gatekeepers

On-device AI assistants will mediate 75% of user requests by 2026, becoming the primary gatekeepers for customer service discovery

Traditional toolbox is not enough

- Limited scope for price-led growth, as customers demand clear value
- Repeated efficiency programs deliver diminishing impact
- Network and IT improvements fail to reset performance

Agentic AI reinvents the game

- Resets customer value through personalization and proactive service
- Transforms network intelligence with predictive, autonomous operations
- Unlocks step-change productivity
- Creates new growth engines

An AI-first telco could see a productivity gain of as much as 30% to 40% across domains ...

Assessed over 10,000 telco employees in more than 3,000 unique roles





Grounded in real data—human resources information system data—to map client job roles and activities across all roles

Robust assessment of AI impact on job profiles on the basis of task type, including:

- Repetitiveness
- Physical task need
- Human interaction need
- Ethical judgment need
- Conceptualization need

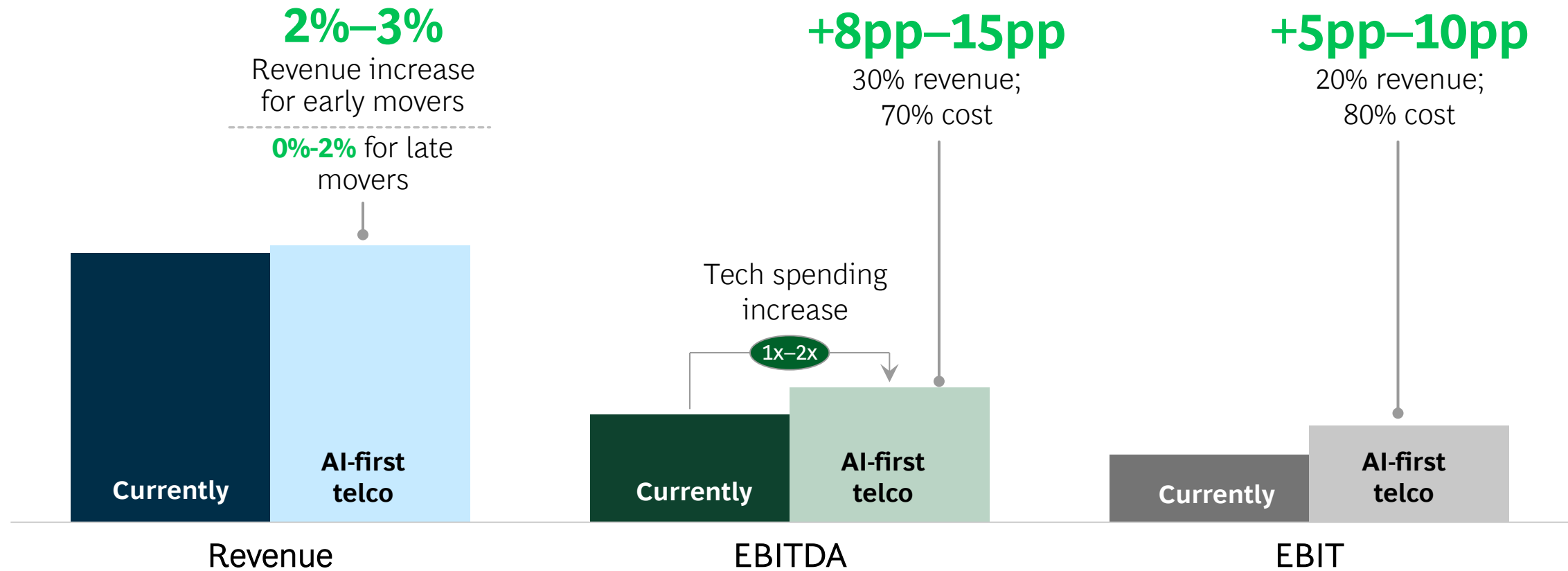
To quantify AI-enabled time and activity reduction potential, we triangulated and validated productivity gains against BCG experience and past client cases.

Source: BCG analysis.

	Domain	Subfunction (example)	Productivity gain target (including outsourced head count)
	Customer value management	Contact center and customer care	45%–60%
		Marketing and retention	35%–45%
	Telco network operations	Field dispatch and tech support	40%–50%
		Network planning	35%–45%
	IT and digital platforms	Software development and IT operations	15%–25%
		Data and platform integrations	10%–20%
	Corporate operations	Finance and procurement	25%–35%
		HR, legal, and other functions	10%–20%

30%–40%
Productivity gain target

... with the potential to drive up EBITDA by 8pp to 15pp

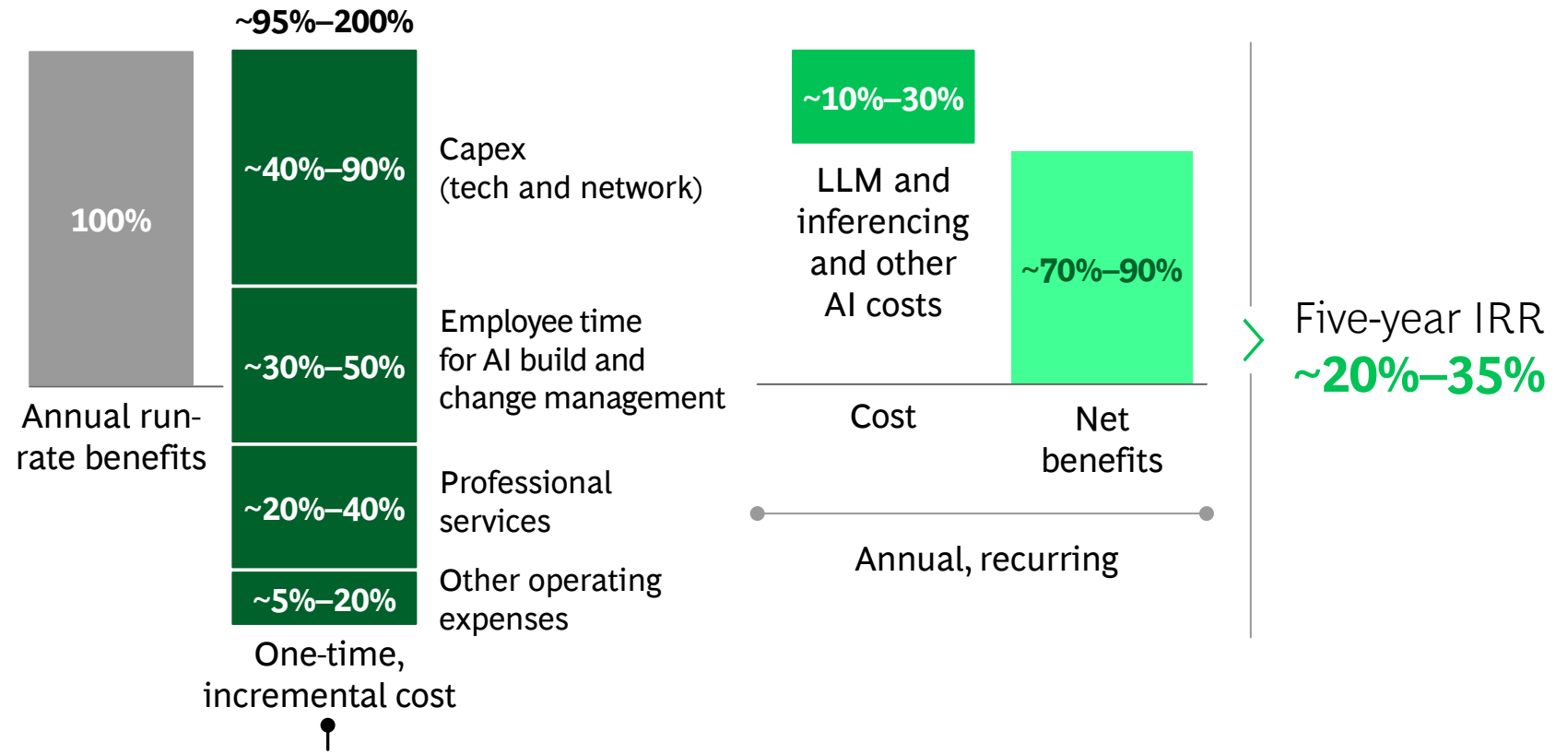


However, telcos need to be willing to invest early and take a multiyear perspective to unlock strong AI returns—about 20% to 35% five-year IRR

Illustrative

Initial, incremental transformation investment estimated to be about 95%–200% of annual run-rate benefits

Impact of total run-rate benefits



Costs depend on complexity of legacy systems, current tech investment, and AI-readiness of current workflows

Source: BCG case work.

Note: IRR = internal rate of return; LLM = large language model.

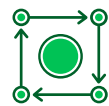
AI deployment is an essential step—but reshaping unlocks more meaningful enterprise value



DEPLOY

Strategies that adopt AI tools to streamline day-to-day work, foster productivity, and free up capacity for high-value work

Automate routine tasks (e.g., use automated network alarm triage and ticketing, AI-assisted script generation for customer care agents, and smart scheduling for field technicians) to minimize daily operating friction and improve efficiency



RESHAPE

AI-enabled transformations that redesign E2E workflows and processes to reimagine how functions operate

Transformation of work beyond productivity (e.g., moving from reactive to predictive network maintenance and orchestrating proactive omnichannel customer care journeys) to improve quality, speed, and customer experience



INVENT

New offerings that elevate customer value propositions and create pathways to revenue opportunities; often high-risk, high-reward bets

Reinvent the telco model through GenAI (e.g., offering AI-native NaaS with real-time slicing, performance-linked pricing, and ecosystem APIs) to unlock new, scalable revenue pools

More mature companies emphasize **reshape**

The following slides expand on existing and future opportunities in Reshape

E2E transformation across all three plays ...



... **multiplies** value beyond what individual initiatives achieve alone



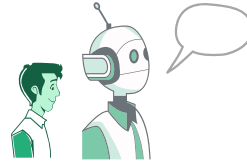
... **scales** from functional transformation to company-wide transformation

Reshape | The fully agentic target state reflects a shift toward E2E autonomy, though not fully attainable across all telco core functions



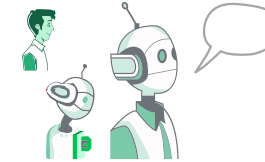
Human-led | AI assisted

B2B and B2C Propensity models suggest next-best offer; chatbot handles simple queries



AI led | human checked

☆ **B2B and B2C** Agents orchestrate journeys (intent, actions, and escalation); humans review outcomes



AI-first | AI led, AI checked, human managed

B2C Agents manage customer journeys E2E, crossing between voice and chat seamlessly
B2B Human oversight required

Illustrative



Customer value management



Telco network operations

Alarms are correlated and likely root causes identified, with recommended actions

Self-healing scripts patch network and reroute traffic; bots suggest changes



IT, data, and digital platforms

Teams monitor systems via shared dashboards; bots flag incidents and support data tagging and validation

☆ Models label and enrich data, manage data quality, detect anomalies, and identify root causes; humans approve fixes

Long-horizon domain (more than 5 years); human oversight required



Corporate operations

Bots update systems upon human guidance and resolve routine employee queries

GenAI drafts contracts and policies and forecasts; humans audit samples for quality assurance

Touchless purchasing and invoice-to-payment processes, bot-run workforce planning, and real-time outlier flagging

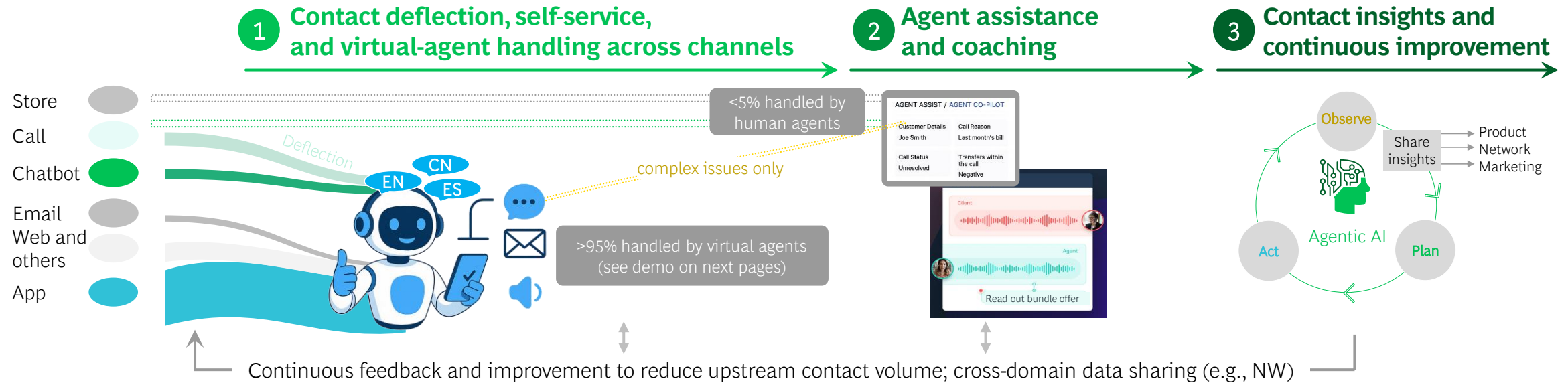
Source: BCG analysis.

Note: Illustrative progression; pace varies by function.



Deep dive to follow

Case example | Eighty percent of customer interactions are resolved with AI agents, routing only complex cases to humans



Role of AI

- Authenticates and **detects intent**
- **Deflects contacts** to self-help virtual agents
- **Always-on digital concierge** across channels
- **Proactive problem solving** to cut contact volume (including email, voice, chat, and app)



Role of human (AI-augmented)

Oversight when required; quality and compliance checks

- Customized **real-time prompts and scripts**
- Personalized **service-to-sale** triggers
- **Agent coaching** based on top-performer models
- Autonomous **customer follow-ups**

Deliver AI-generated scripts; solving for complex issues

- Analysis of **root causes** to prevent issues from arriving upstream
- **Quality assurance** on all interactions
- Automatic **sharing of customer insights** with other domains

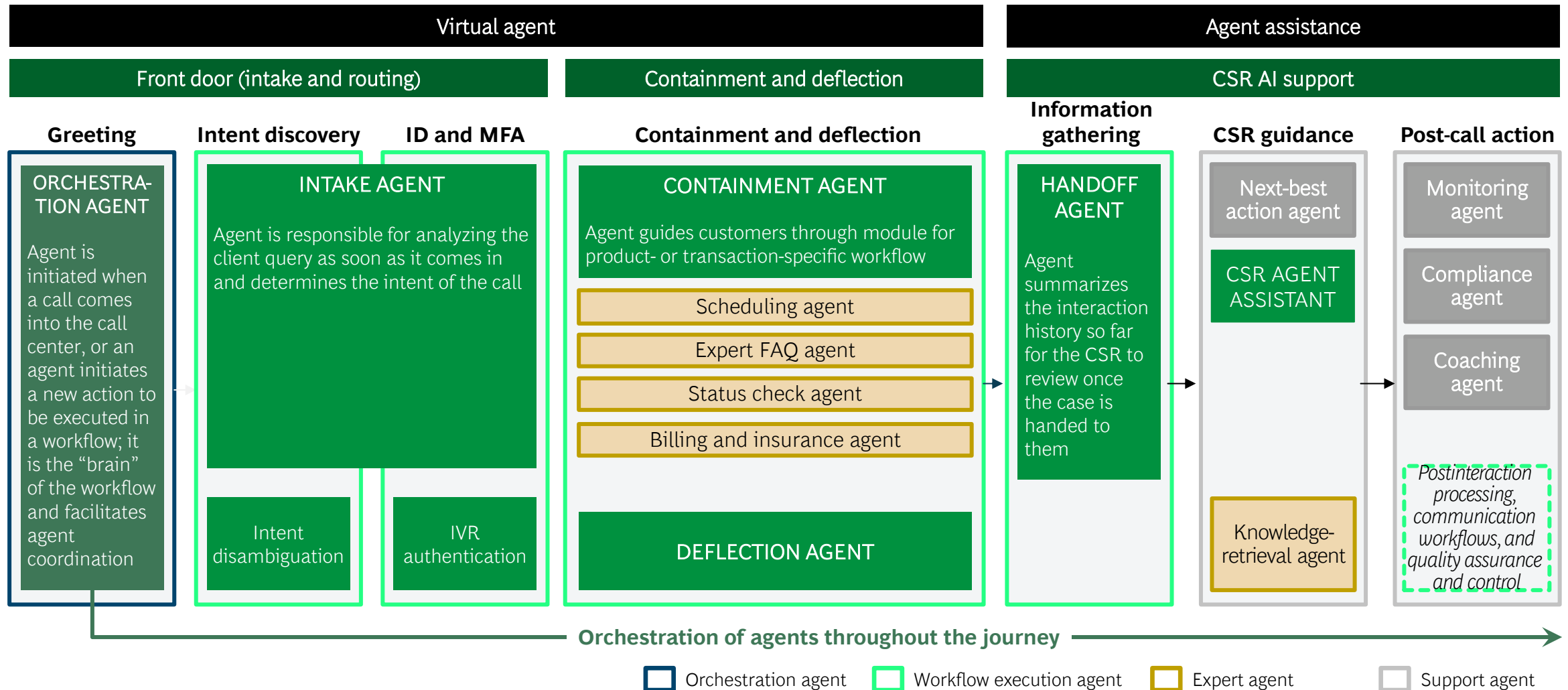
Approve AI-generated suggestions; handle complex cross-domain coordination

Source: BCG analysis.
Note: NW = Network



Deep dive to follow

Deep dive | Each part of the customer journey will be handled by agents with clearly defined roles that interact seamlessly with one another

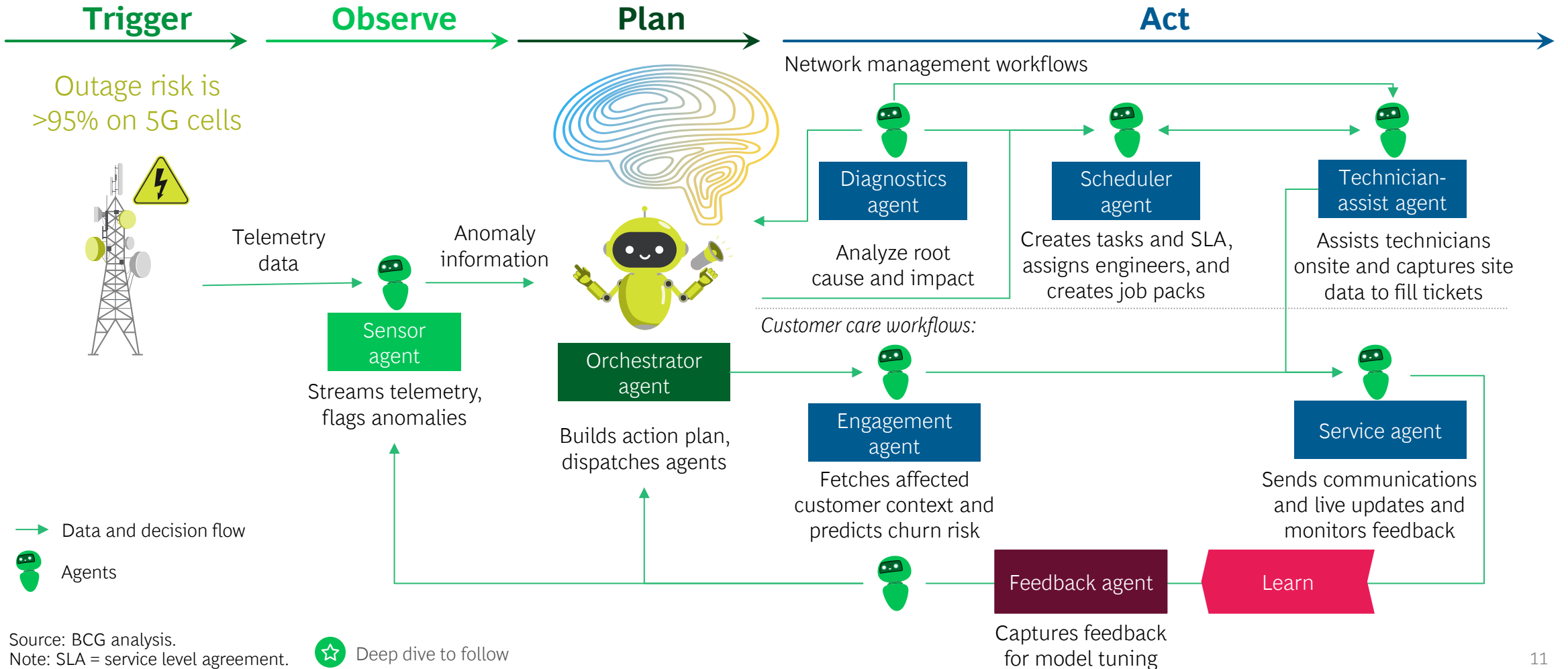


Note: MFA = multifactor authentication; IVR = interactive voice response; CSR = customer service representative.

In a next wave of AI implementation, an agent orchestrator will act like a superbrain, orchestrating reusable assets and agents

Cross-domain agents in action: 5G cells hit >95% outage risk; agents autonomously fix and communicate before outage happens

Illustrative

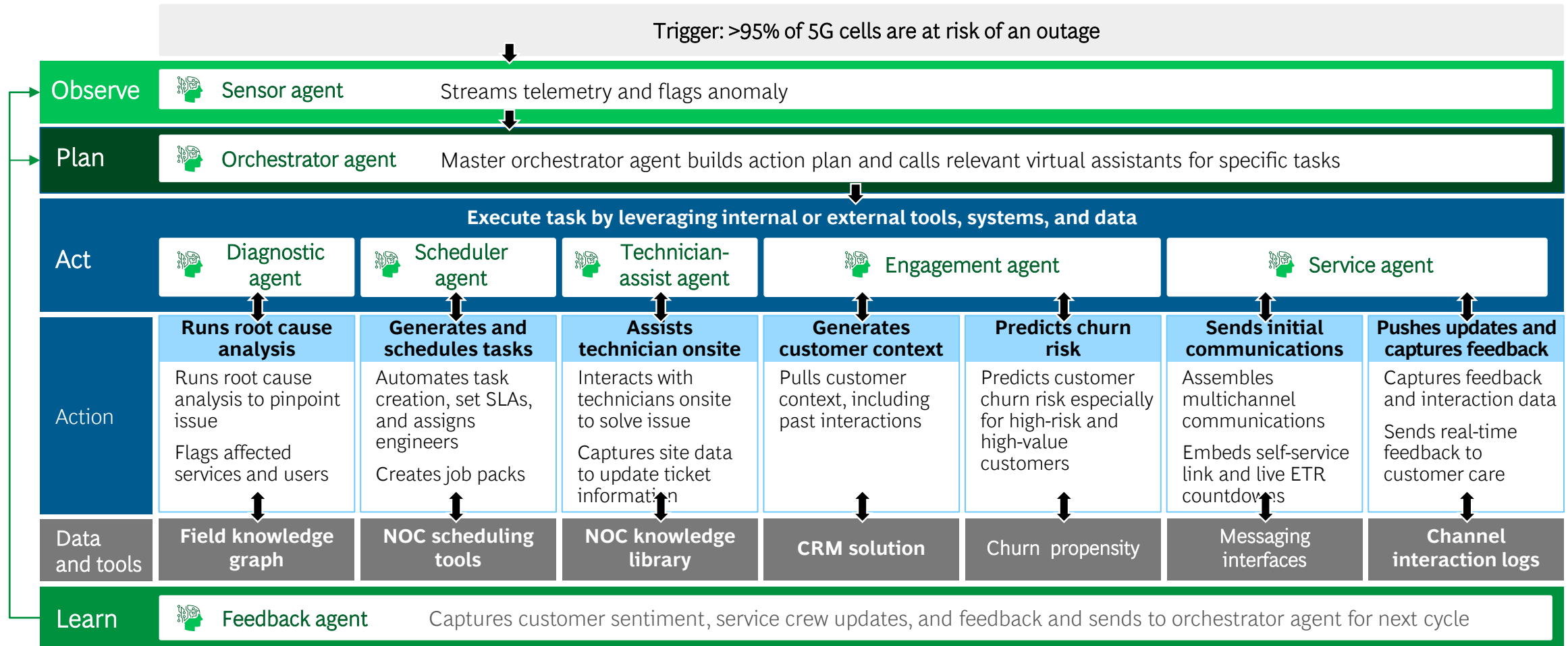


Source: BCG analysis.
Note: SLA = service level agreement.

★ Deep dive to follow

Deep dive | Cross-domain agents autonomously execute continuous observe-plan-act cycles to predict and resolve faults

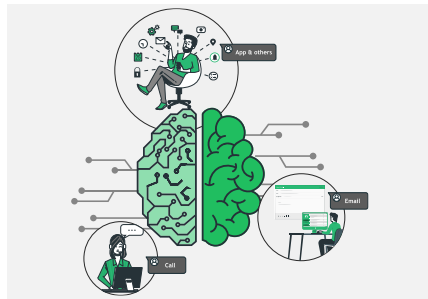
Example



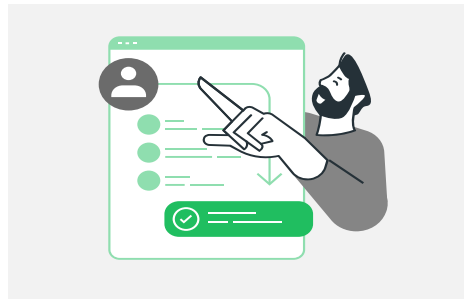
Source: BCG analysis.

Note: SLA = service level agreement; ETR = Estimated Time to Repair ; NOC = network operations center; CRM = customer relationship management.

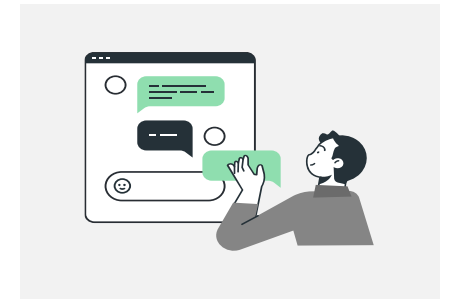
Case example | Agentic AI can transform billing from reactive remediation to a proactive, trusted resolution



- **Handles common billing queries** via chat, email, and voice; explains in easy-to-understand language
- **Simulates impact** of discounts, proration, and plan switches
- **Proactively flags (and resolves) likely billing issues** before they occur
- **Initiates credits** (and potentially concessions) where required



- **Generates real-time insights** on entitlements, discounts, and past adjustments
- **Ensures compliance, consistency, and escalation detection** in assisted interactions for revenue assurance
- **Personalizes follow-up** via AI-generated explanations and confidence scores



- **Captures repeat issues and routes insights** to upstream systems (e.g., rating engine and product)
- Clusters data to **identify patterns** across region, plan, or product



Role of AI



Role of human (AI augmented)

Validates edge cases and exception workflows; oversees high-risk reversals or billing policy overrides

Approves final resolution decisions as needed; trains or tunes prompts for higher-quality agent scripts

Validates trend drivers and adjusts upstream; partners with product and IT to implement structural fixes



Deploying AI creates momentum, but enterprise value is realized when organizations transform how they work across people and processes

10%

+

20%

+

70%

Algorithms

Setting up AI models (e.g., designing or selecting a foundation model and training model and fine-tuning them)

Technology and data

Building AI infrastructure (e.g., identifying data and analytics platforms, data architecture, and data assets, and integrating them with the core systems)

People, process, and change

Transforming the organization (e.g., through business process reinvention, adoption at scale, organization and operating model rewiring, and people strategy)

Transformation hinges on a clear set of execution choices made early and reinforced through how the organization operates

Relative GenAI impact

10%
Algorithms

- Be aware: LLMs are interchangeable; **differentiation stems from execution, not the model**
- Ensure that **agentic AI acts within E2E processes and workflows** and doesn't just suggest next steps

20%
Technology
and data

- **Invest early in a rich API and middleware layer** to enable reliable read-and-write access across all systems, use case by use case
- **Treat decision-grade knowledge as mission-critical infrastructure** to drive consistent agent performance beyond FAQs
- **Orchestrate E2E workflows across systems** to realize value, not standalone AI deployments

70%
People,
process,
and change

- **Secure C-level and business sponsorship** and ensure clear P&L accountability
- **Anchor execution with joint business-technology ownership**, prioritizing decision rights and velocity
- **Anchor on business outcomes** by translating high-volume intents into journey-level workflows that enable agentic design
- **Design voice and digital in parallel** to accelerate time to value and avoid experience gaps
- **Choose partners who coshape, not just deliver**, investing alongside business
- **Automate first-line interactions with agentic AI**, reserving humans for complex requests
- **Set strict performance and risk standards from day one**, with clear guardrails and success metrics
- **Establish cross-functional operations**, spanning analytics, dynamic routing, and engagement
- **Build future-ready skills and teaming models** by upskilling agents, leaders, and driving adoption

Note: LLM = large language model.

Technology | Most enterprises will require a hybrid approach of buying and building—not just purchasing off-the-shelf AI platform solutions

Typical solution distribution¹

Third-party vendors

Adopt

Third-party SaaS vendors are increasingly providing solutions for **commodity tasks**, but context, workflows, architecture, and reusability must be considered in tandem (e.g., a unified platform to build, deploy, and manage AI agents that streamline and automate business workflows)

Adapt

If **in-house resources** are limited, third-party vendors are preferred for stronger functionality, support, and application management, with adaptability possible within their app (e.g., addition of custom workflows and tools on a SaaS orchestration platform)

In-house

Assemble

When **customization need and environment complexity is high and in-house resources are available**, building internally is preferred to drive differentiation, leveraging proprietary data, enterprise platforms, and internal expertise (e.g., internally built agent platform with domain-specific setup, enabling full control over agent logic, optimization, and evolution)

Choice enablers

Model gateway enables switching between models and vendors on the basis of cost and performance without breaking code

Guardrails as a service, providing safety checks across all agents, regardless of vendor

Evaluation harness to benchmark, test, and certify agent performance before deployment

Buying = turnkey and fast but narrow
Best for speed, adoption, and compliance inside core systems of record

Building = flexible and portable but heavy
Best for bespoke, cross-enterprise orchestration or to avoid vendor lock-in

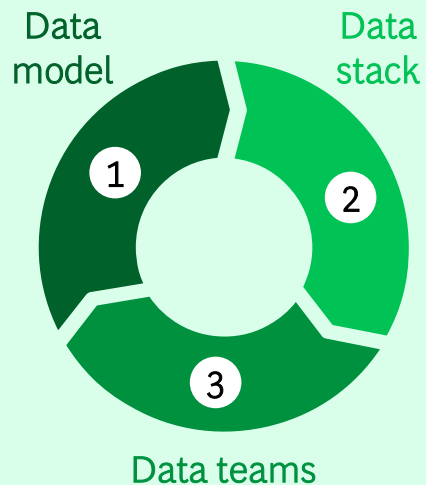
Hybrid approach is inevitable
Enterprises buy agents embedded in suites and build orchestration for cross-cutting workflows



Key takeaway: Buy solutions to accelerate entry, but enterprise value comes from context, workflows, and orchestration

Source: BCG client experience.
1. Not an exhaustive list.

Data | Without agent-ready data, nothing scales



1 Business context fabric

- Agents need more than data; they need **business context**, including:
 - **Objectives** – outcomes, not outputs
 - **Resources** – tools and data
 - **Constraints** – brand tone and regulatory limits

2 Unstructured data ready for agent retrieval

- **Enable retrieval over unstructured data** by converting documents (e.g., contracts and network manuals) into searchable formats that agents can retrieve at runtime
- **Implement short- and long-term agent memory** (session and episodic or semantic) to retain and reuse interaction history

3 Data products for agents

- Data teams must shift towards **exposing data via APIs and model context protocol** (MCP) that agents can call autonomously
- **Federated data ownership**, with business teams owning data while platforms expose it via APIs for agent consumption
- **Data-driven decision-making culture**, with shared playbooks and templates to standardize high-quality agent-supported decisions

Bringing this to life across telcos

- 1 **Well-connected integration** across network logs, customer interaction history, and tariff structures
- 2 **Must mine thousands of data records daily** to surface relevant insights
- 3 **Users must be equipped with intuitive platforms** to interact with and supervise agents
- 4 **Continuous monitoring and enhancements** are essential to ensure the capability scales and adapts with the business

Key takeaway: Data must be treated as a critical enterprise asset; investing in quality, governance, and management is essential for scaling agents across telcos

Self-check

Is my organization on the path to an effective AI transformation?

10%

Algorithms

- We established a standard **funding process** for AI initiatives, with clear ROI and scaling criteria
- We approved a **budget for agent-ready data, platforms, and talents**
- We have a defined **three-year AI investment envelope** (percentage of revenue)

20%

Technology and data

- We have data owners and stewards** across customer, network, operations, and commercial
- We run an **active program** cleaning, governing, and integrating data
- We transformed **our critical data to be agent-ready** (accessible, compliant, and enriched with context and unstructured retrieval where needed)

70%

People, process, and change

- We make AI (incl. agentic AI) a strategic priority and communicate it** across the organization
- We have a **named AI sponsor** (in the C-suite or at the board level)
- We track AI progress as a **standing agenda item** in leadership meetings
- We identified areas where AI can create tangible value** for our organization
- We launched **three to five lighthouse solutions** with clear ROI and outcomes
- We assigned a **business sponsor with P&L** accountability to each solution
- We measure **both business impact** (e.g., opex reduction, MTTR, churn, and ARPA uplift)
- We scale **proven pilots** to build credibility and momentum and sustain investment
- We **keep delivering every two months** and scale in a year
- We continuously train our leadership team on agent fluency**
- We have deployed human-agent teams** across business, IT, data, and operations
- We adopted a graduated autonomy model** to manage risk and trust
- We established an AI talent plan** to attract, retain, and motivate talent
- We communicate wins from AI pilots visibly** across the organization
- We established an **AI governance council** (for ethics, compliance, and regulatory topics)
- We operate under a **responsible AI framework** (safety, explainability, bias)
- We publish a **regular AI and agent impact report** tied to business performance

Note: MTTR = Mean Time to Repair;
ARPA = Average Revenue Per Account

Near-term checks: What can you start tomorrow?

Risks | Avoid these common pitfalls in AI transformation



Executives must recognize the **common pitfalls that derail AI transformation in telco**—and address them early to unlock impact at scale

Chasing novelty over value: Teams pursue new AI or agent technologies without anchoring on high-impact telco use cases — diluting capital, and leadership attention

Skipping early data readiness: Agents are built on siloed or low-quality OSS/BSS, network, or customer data, with fragmented ownership across functions

Running pilots in isolation: Solutions stay stuck as proofs of concept, disconnected from core workflows, systems, and automation; insights don't move to action

Underestimating scale and compliance: One-off pilots don't build reusable platforms; regulatory, security, and change management gaps stall enterprise rollout

Treating AI as IT spending: AI and agents are funded as technology initiatives rather than business capabilities tied to KPIs, leading to low ROI and stalled scaling

BCG Experts | Key contacts for AI in telecommunications

Americas



Val Elbert
Managing Director
& Senior Partner



Scott Stemberger
Managing Director
& Senior Partner



Djon Kleine
Managing Director
& Partner



Don Massoni
Managing Director
& Partner



Japjit Ghai
Managing Director
& Partner



Peter Pessoa
Managing Director
& Partner

Europe, Middle East, and Africa



Franck Luisada
Managing Director
& Senior Partner



Alfonso Abella
Managing Director
& Senior Partner



Max Reimpell
Managing Director
& Senior Partner



Stephanie Wegener
Managing Director
& Partner



Marcus Wittig
Managing Director
& Partner



Nacho Hafner
Managing Director
& Partner

Asia-Pacific



Vaishali Rastogi
Global Leader –
Technology, Media &
Telecommunications
Practice



Olivier Rival
Managing Director
& Partner



Tarandeep Singh
Managing Director
& Partner



BCG