KEYNOTE · TELCO AI

From Ambition to Trusted AI

How CSPs move from pilots to responsible AI at scale

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Agenda

01 The Telco AI Adoption Journey

02 Building a Trusted Data Foundation

03 Navigating the Regulatory Landscape

04 The Path Forward

The Telco AI Adoption Journey

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Where CSPs are today

85% of telcos have at least one GenAI use case in production

30% of GenAI use cases reach large-scale production

66% of telecom organisations are actively using AI in production

1 **Experiment**
Isolated PoCs, tool trials

2 **Pilot**
Use cases in limited production

3 **Scale**
Industrialised, reusable platform

4 **AI-Native**
AI embedded in every process

Most CSPs are here: "pilot purgatory"

Source: Altman Solon & Kyndryl, 2025; NVIDIA, State of AI in Telecommunications, 2026

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What distinguishes AI leaders

	LEADERS	FOLLOWERS
Strategy	Business-led use cases with P&L owners and KPIs	Disconnected pilots, tech-led
Data	Unified, governed, AI-ready data	Siloed BSS / OSS / network data
Platform	Reusable components, MLOps / LLMOps	Rebuild for every use case
People	New operating model, upskilled talent	AI treated as an IT project
Ambition	Agentic AI redesigning end-to-end processes	Automating single tasks

~7% vs ~2% EBITDA uplift from GenAI: leaders vs peers

Source: Altman Solon, Telco GenAI Readiness Survey 2025 (109 executives)

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The prize: where GenAI creates value

The value shows up three ways: new revenue, cost savings, and productivity — the net effect is margin (EBITDA).

$140–180B

Advanced analytics & traditional ML

Established value base — mostly cost & efficiency

+$60–100B

New generative AI use cases

Incremental — new revenue + deeper cost savings

$450–680B

Total AI economic potential

Revenue + cost + productivity, industry-wide

+8–10% EBITDA uplift from AI over a five-year horizon — the gap between leaders and the rest

Agentic AI: **~$150B** potential value for telecoms · **$4.6B → $8.7B** agentic AI in telco market, 2026–31

Source: McKinsey — GenAI economic potential (2023), Telcos' AI inflection point (2026); Mordor Intelligence (2026); Deloitte (2026)

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Where the value comes from

GenAI and agents create value three ways. EBITDA is the net result, not a separate lever.

NEW REVENUE

Top line

- Hyper-personalised offers & cross-sell
- New digital & B2B services
- AI channel monetisation
- Churn reduction (retention)

COST SAVINGS

Where most value is today

- Autonomous network operations
- IT operations & incident resolution
- AI customer service / self-service
- Software development automation

PRODUCTIVITY

More per head

- Code generation for engineers
- Knowledge search & workflows
- Marketing content at scale
- Finance & HR automation

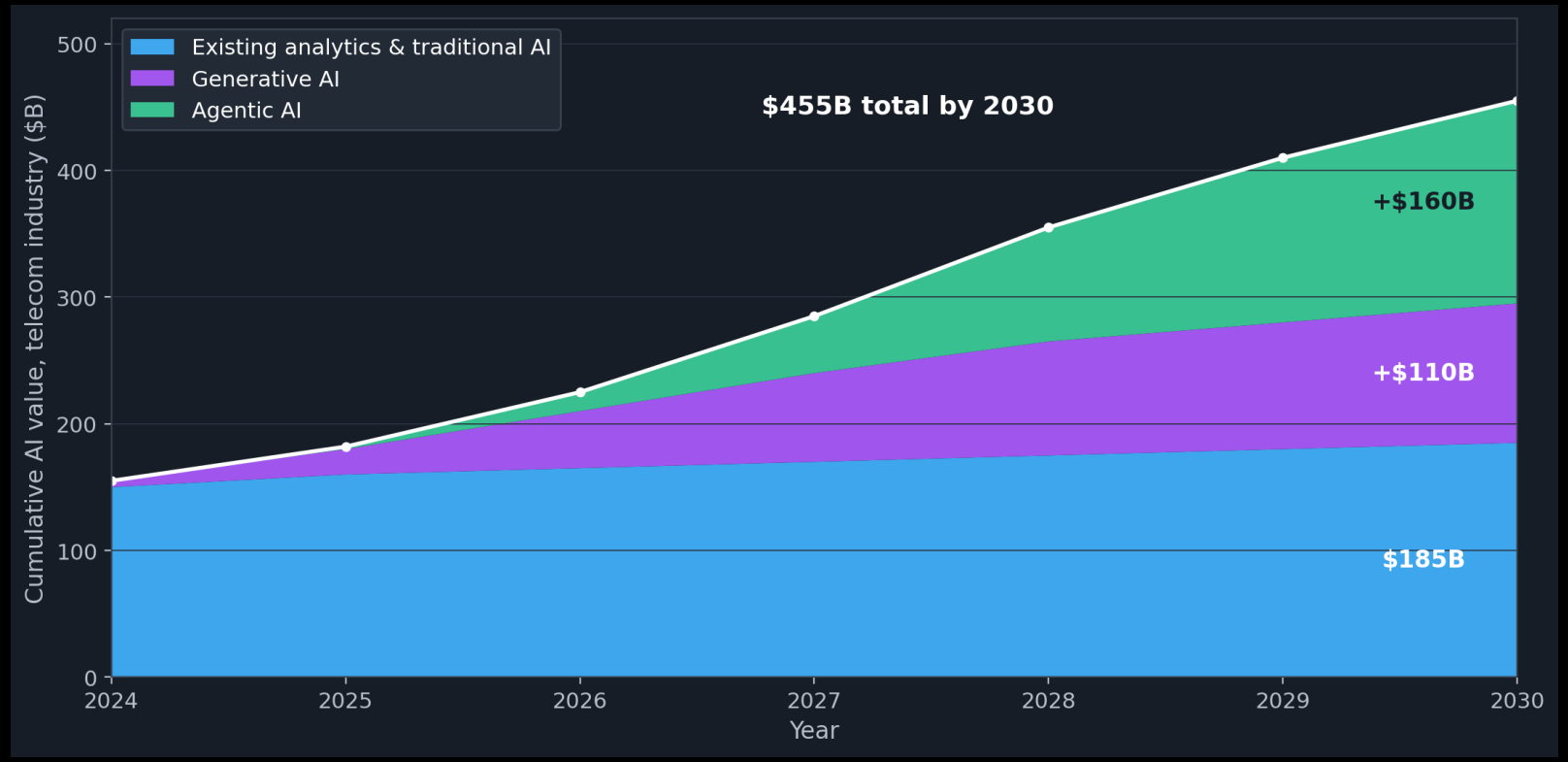
Net effect: revenue up + cost down → **+8–10% EBITDA** over five years (McKinsey)

Source: McKinsey — Telcos' AI inflection point (2026); value levers illustrative, mapped to telco use cases.

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The value compounds over time

Three waves stack — analytics is the base, GenAI the growing layer, agentic the steepest climb.



WHAT THE VALUE IS

Existing analytics
Mostly cost efficiency

Generative AI
New revenue + cost savings

Agentic AI
Revenue + deep automation

Net effect → +8–10% EBITDA (margin)

Source: McKinsey — GenAI economic potential & Telcos' AI inflection point; agentic sizing Deloitte / Mordor. Illustrative cumulative build.

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Agentic AI: the next wave

From assistants to autonomous agents — AI that plans, acts and resolves across the network and the business.

~$150B

potential value for telecoms from agentic AI

Deloitte

$4.6B→$8.7B

agentic AI in telco & network mgmt market, 2026–31

Mordor Intelligence · ~13.5% CAGR

55–65%

of operators already exploring or deploying agentic AI

TCS; Circles

400 / 2,000+

AI agents live: AT&T / SK Telecom

STL Partners

The shift is from AI that answers to AI that acts — bounded by human oversight, but already live at scale.

Source: Deloitte (2026); Mordor Intelligence (2026); TCS; Circles; STL Partners (2026)

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AI leaders in action

TELKOMSEL · INDONESIA

IT operations: GenAI incident analysis

Built CELYNA on Amazon Bedrock with Amazon Nova Pro and AWS Lambda, analysing logs across databases, applications and Kubernetes to pinpoint root causes of IT incidents.

83%

faster resolution with self-healing

<1 min

to identify root causes, from 1+ hour

CHUNGHWA TELECOM · TAIWAN

Trusted data: GenAI with security and governance

Moved its GenAI projects to Amazon Bedrock for data security and governance; content is not used to train base models or shared with model providers.

13%

developer time saved on SDLC docs

3

GenAI apps: SDLC, marketing, education

Source: AWS customer case studies — Telkomsel (CELYNA); Chunghwa Telecom

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Building a Trusted Data Foundation

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Four pillars of trusted data

01

Sovereignty

Control where data lives and who can access it: residency, sovereign cloud options, jurisdictional controls.

02

Ownership

The CSP keeps ownership of its data and fine-tuned models; customer data is not used to train third-party models.

03

Security

Encryption in transit and at rest, zero-trust access, confidential computing and full audit trails.

04

Governance

Catalog, lineage, data quality and access policies as code, so every use case inherits controls.

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Data sovereignty: a prerequisite, not a feature

Data residency

Choose the Region and country where data is stored and processed — including EU-only options.

Operational autonomy

Operated by EU-based personnel under EU control, so day-to-day running stays in the jurisdiction.

Access control & transparency

Fine-grained access, customer-managed encryption keys, and full audit of who touched what.

Verifiable assurance

Independent certifications and attestations your regulators and customers can check.

WHY TELCOS

Telcos hold location data, call records, identity and payment data — among the most sensitive in the economy.

Sovereign controls earn the right to apply AI to that data, and are increasingly required by national regulators and enterprise customers.

In the Gulf

KSA, UAE and Oman mandate data residency and localisation — sovereign controls are already a hard requirement, not a future one.

64% of enterprises are in favour of sovereign AI (Omdia) · **AWS European Sovereign Cloud** — EU-operated, GA Jan 2026 (eusc-de-east-1)

Source: AWS European Sovereign Cloud; AWS digital sovereignty guidance

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From data silos to an AI-ready platform

01

Unify

BSS, OSS and network telemetry into a governed lakehouse

02

Govern

Catalog, lineage, fine-grained access and quality

03

Activate

Feature stores, RAG and agents consume trusted data

04

Assure

Monitoring, audit trails and guardrails in production

Build controls once in the platform — every AI use case inherits them.

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A reference architecture for AI-ready data

SOURCES
BSS · OSS · network telemetry · CRM · tickets

GOVERNED LAKEHOUSE
Catalog · lineage · quality · fine-grained access control

ONTOLOGY / SEMANTIC LAYER
Shared telco concepts + knowledge graph (TM Forum SID / ODA) — meaning for agents

AI SERVICES
Feature store · RAG & knowledge bases · agents · guardrails

ASSURANCE
Monitoring · evaluation · audit trails · human oversight

ONE CONTROL PLANE

Build controls once.

Every use case — care, network, IT — inherits the same security, governance and audit.

Source: AWS lakehouse & generative AI reference architectures

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The semantic layer: data agents can reason over

Agents need shared meaning, not just tables — an ontology maps raw data to telco concepts so AI reasons correctly.

AGENTS & GENAI

Ask in business terms; answers grounded in real relationships

KNOWLEDGE GRAPH

Entities + relationships: who/what connects to what

ONTOLOGY / SEMANTIC MODEL

Shared definitions: Customer, Subscription, Service, Cell, Ticket

PHYSICAL DATA

BSS, OSS, network telemetry, CRM — governed lakehouse

WHY IT MATTERS FOR TELCOS

- One language across BSS, OSS and network — a "customer" or "service" means the same thing everywhere.
- Agents reason over relationships, cutting hallucination and wrong joins (GraphRAG).
- Built on open telco standards — TM Forum SID and ODA — so it is portable, not bespoke.
- The ontology is where governance and meaning meet: definitions, policy and lineage in one place.

Source: TM Forum SID / Open Digital Architecture; AWS GraphRAG with Amazon Neptune & Bedrock.

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Navigating the Regulatory Landscape

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The rules are diverging, not converging

EU — comprehensive

Risk-based AI Act with binding, extraterritorial obligations; GDPR and NIS2 alongside. The strictest bar.

US & UK — sectoral

No horizontal law; principles and existing regulators. US pushing a national standard and pre-empting state laws.

China — filing control

Generative-AI filing mandate, content labelling, and new rules for agentic / anthropomorphic services.

Binding-law club grows

South Korea AI Basic Act (Jan 2026) and Vietnam join the EU with comprehensive AI laws.

Gulf — sovereignty-led

UAE Federal AI & Data Authority; data-residency and localisation rules across KSA, UAE, Oman.

Standards as common ground

ISO/IEC 42001, NIST AI RMF, TM Forum & GSMA guidance bridge the regimes.

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EU AI Act: a phased timeline



The direction is stable even as dates shift: classify risk, be transparent, keep humans in control, document everything.

Source: European Commission; Council of the EU — Digital Omnibus, 2026. Verify dates before presenting.

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A global patchwork, not one rulebook

Six regulatory postures a multinational CSP must navigate at once — the common thread is data sovereignty.

UNITED STATES

National push, state patchwork

Federal framework pre-empting ~2,000 state bills; sectoral + FTC enforcement.

UNITED KINGDOM

Principles, no AI Act

Existing regulators (ICO, Ofcom, CMA); growth-led, AI sandbox, frontier-AI security.

CHINA

Filing & content control

Generative-AI filing mandate, content labelling, new agentic / companion-AI rules.

MIDDLE EAST / GULF

Sovereignty & residency

UAE Federal AI & Data Authority; data localisation across KSA, UAE, Oman.

SOUTH KOREA & VIETNAM

New binding AI laws

Korea AI Basic Act live Jan 2026; comprehensive, lighter-touch than the EU.

CANADA, SINGAPORE, JAPAN

Guidance-led

Framework/voluntary approaches; privacy regulators and AI-safety cooperation.

Sources: White House / Baker Botts; UK gov & Reed Smith; CASRAI; Modulos / VerifyWise (Gulf); Latham (APAC) — 2026. Verify with legal before presenting.

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Responsible AI by design

Compliance is an accelerator, not a brake.

Organisations with governance built in ship faster, because the approval path for each new use case is clear and repeatable.

72% → 14%

of CSPs believe their AI is trustworthy, but only 14% can provide evidence to prove it

1. **Risk classification** AI inventory with risk tiers per use case
2. **Human oversight** Human-in-the-loop for consequential decisions
3. **Transparency** Model cards, disclosure, explainability
4. **Fairness** Bias testing and evaluation before release
5. **Guardrails** Red-teaming and continuous monitoring

Source: TM Forum & Accenture AI trust research, 2026 (130 operators)

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The operating model: people, not just platforms

Business ownership

Each AI use case has a P&L owner and measurable KPIs, not just an IT sponsor.

Central platform team

A small team owns the shared data and AI platform, guardrails and reusable components.

Federated builders

Domain teams build on the platform, so the tenth use case costs a fraction of the first.

Skills & change

Upskilling, new roles (ML/LLM ops, prompt & evaluation engineering) and new ways of working.

Build vs buy: reuse platforms, models and partner accelerators — build only what differentiates you.

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FOUR MOVES FOR THE NEXT 12 MONTHS

The path forward

01

Focus on value

Pick three use cases with clear P&L owners

02

Build the foundation once

Sovereign, secure, governed data platform

03

Govern from day one

Risk tiers, oversight, guardrails by design

04

Scale with partners

Reuse platforms, accelerators and expertise

Trust is the platform AI runs on.

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AI leaders in action — more operators

BT GROUP · UNITED KINGDOM

Network automation: towards Level-4 autonomy

Building an intent-driven autonomous mobile network on Amazon Bedrock, SageMaker and Neptune — anomaly detection across core and RAN, agentic root-cause analysis.

11K/wk
network changes supported

Level 4
autonomy targeted

NTT DOCOMO · JAPAN

Network automation: digital-twin RCA

A network digital twin on Amazon Neptune graph analytics with Amazon Bedrock agentic AI for near-real-time troubleshooting and automated root-cause analysis.

>50%
reduction in MTTR

<5 min
failure isolation

Source: AWS customer references — BT Group; NTT DOCOMO

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AI leaders in action — more operators

TELEFONICA · GLOBAL

Customer experience: conversational eSIM

An AI agent on Amazon Bedrock AgentCore completes a travel-eSIM purchase through natural conversation, extended across Alexa+, web and mobile via an MCP gateway.

<2 min
eSIM purchase

170+
countries covered

TELSTRA · AUSTRALIA

Customer experience: omnichannel self-service

Reimagined its contact centre with Amazon Connect, delivering AI-powered omnichannel engagement and intelligent self-service across voice, chat and app.

~20%
queries self-served

4x
faster app support

Source: AWS customer references — Telefonica; Telstra

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AI leaders in action — more operators

CP GROUP / TRUE CORPORATION · THAILAND

National AI: telecom, retail and skills at scale

A five-year collaboration with AWS to make Thailand a regional AI hub — True Corporation building an AI-first telco with predictive network maintenance and AI customer service, on secure, sovereign infrastructure.

3M

Thais to be upskilled in cloud & AI

5-year

collaboration across the CP Group

CELCOMDIGI · MALAYSIA

Business productivity: AI-driven telco-tech

Built an AI sandbox and 15+ generative-AI applications as it transforms into an AI-driven telco-tech company serving 20M+ customers.

15+

GenAI apps live

up to 20%

lower IT costs

Source: AWS & CP Group / True Corporation announcement, Aug 2026; CelcomDigi — AWS customer reference

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