AI for wireless networks

Tair Ismailov, Strategic engagement director

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The GSMA

Supporting **1100+** mobile operators and companies in the broader ecosystem

The first sector to commit to **UN SDGs** in 2016

Convening and informing the mobile ecosystem **MWC/M360**

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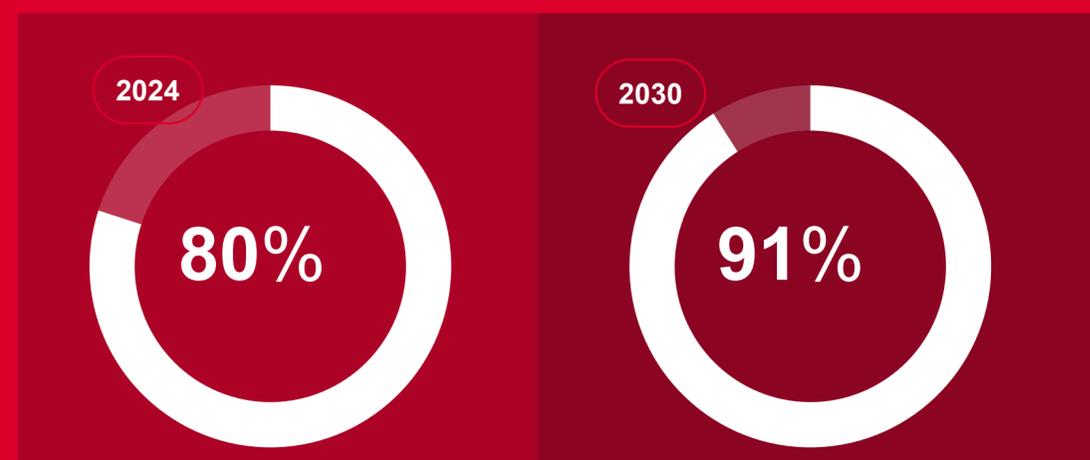
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Mobile industry in numbers

Unique mobile subscribers

2024

5.8bn
71% penetration rate*

2030

6.5bn
76% penetration rate*
*percentage of population

Operators revenues and investment

2024

$1.08tn

2030

$1.25tn
Operrator capex of **$1.3 trillion** for the period 2024 - 2030

Smartphones
(percentage of connections)

2024

80%

2030

91%

Mobile's contribution to GDP
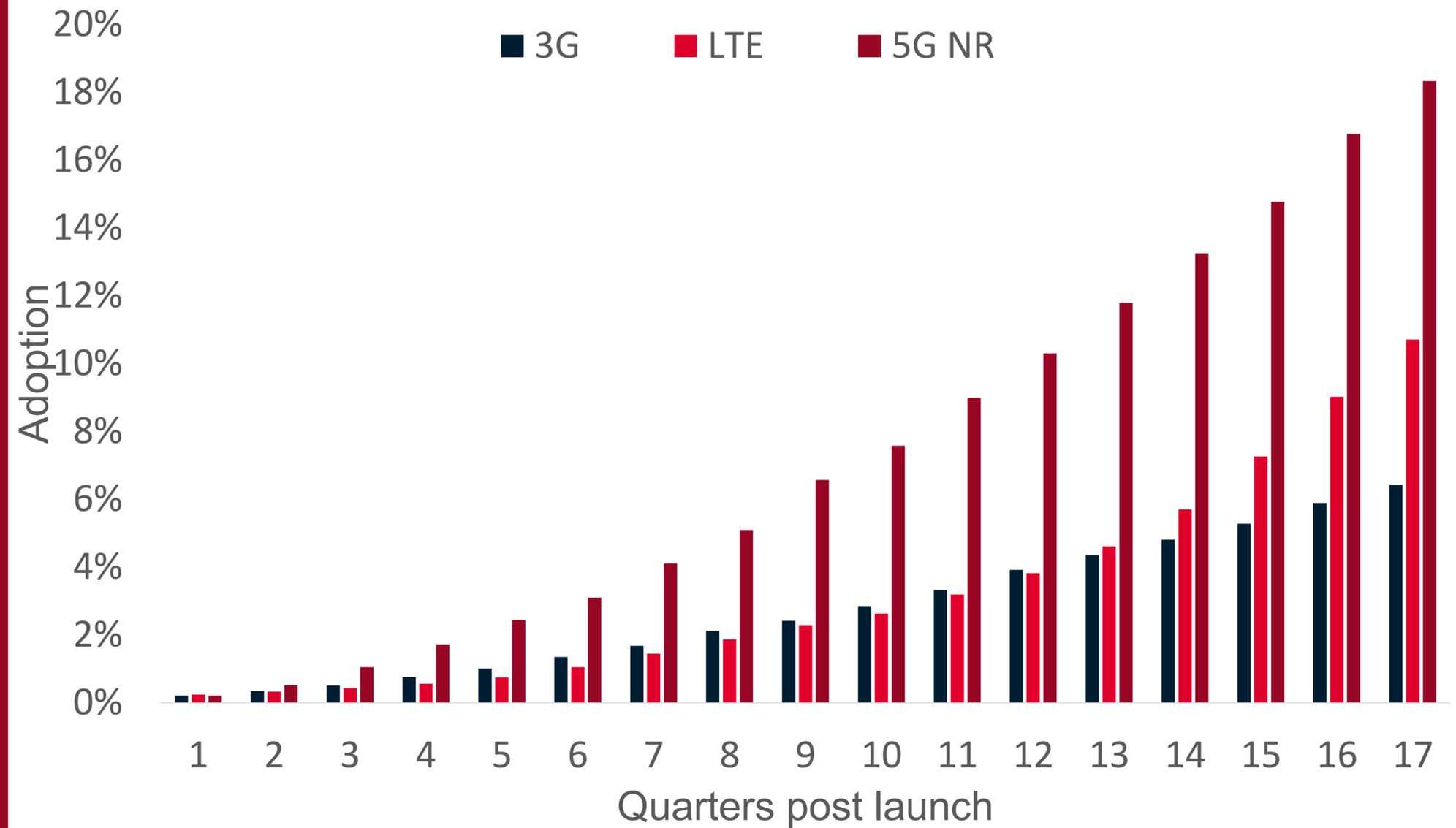
2024

$6.5tn
5.8% of GDP

2030

$11tn
8.4% of GDP

Source: The Mobile Economy, 2025.
GSMA Intelligence

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5G penetration
>20%

5G has the fastest take up of all prior generations

Adoption

■ 3G   ■ LTE   ■ 5G NR

Quarters post launch

Source: GSMA Intelligence

the mobile industry faces a long-standing growth challenge

telco revenue growth vs total capex

3G peak

4G peak

5G peak

— Mobile revenue growth (yoy) — Telco capex (per year)

$bn per year
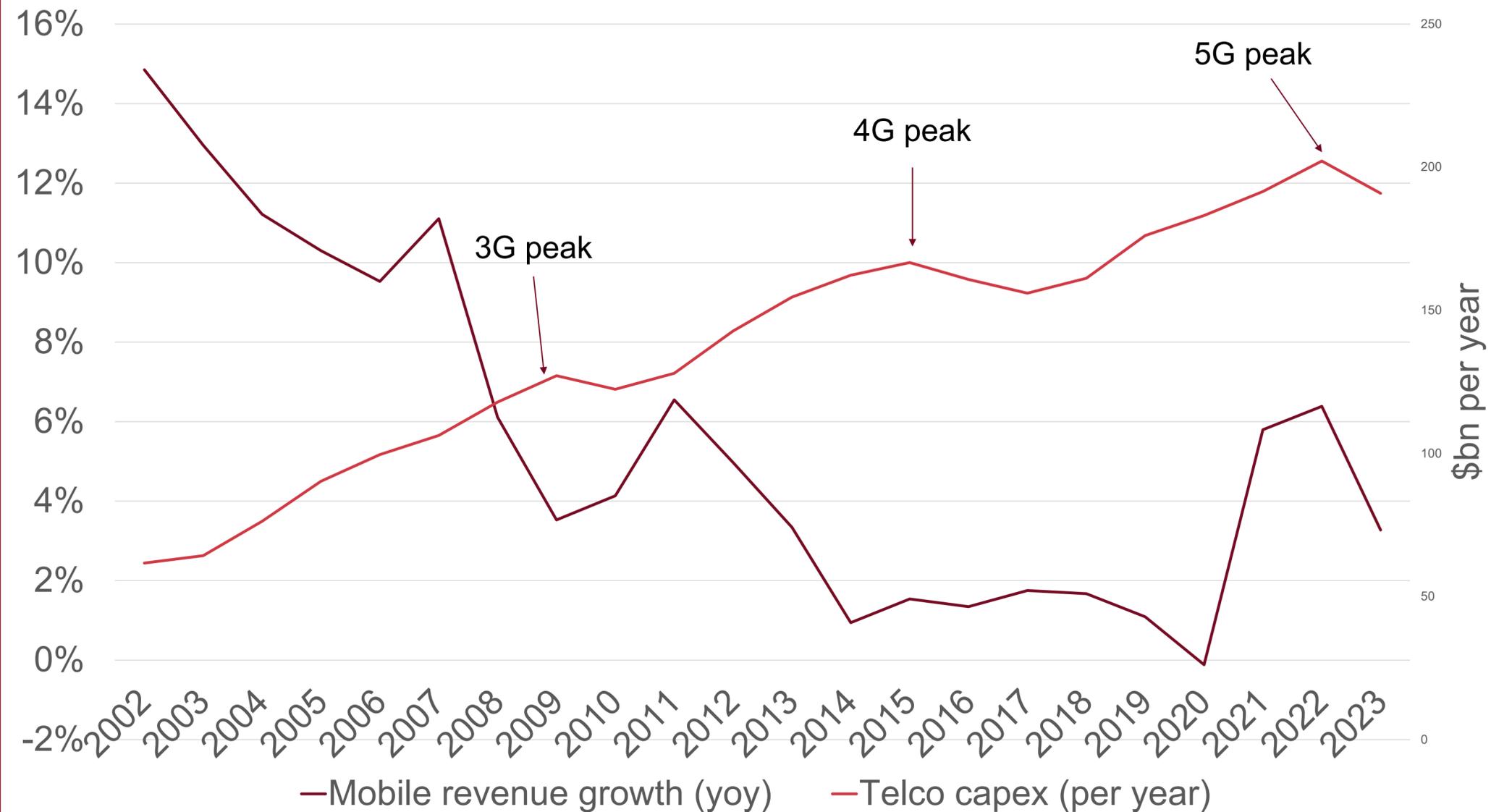
Source: GSMA Intelligence

Enterprise segment

85% rate 5G as important

10% of revenue spent on digital trans.

2% only deployed private networks

spend

14% on mobile

13% on AI

Source: GSMA Intelligence

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Consumer segment

1 in 5
are not satisfied with 5G

41%
speed

25%
coverage

China & UAE
dissatisfaction is lower as 5G SA networks lunched

5%
are ready to pay extra for 5G
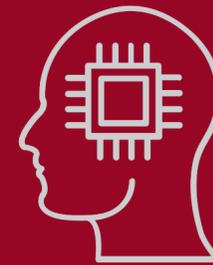
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AI in telecoms

Core AI

Network planning & operation

IT functions

Inventory management

ML

Predictive maintenance

Security thread detection

GenAI

Sales & marketing

Personalised service creation

65% MNOs have a formal AI strategy

leading telcos use AI in 9 of 13 business areas

most MNOs spend 5–15% of their digital budget on AI

Source: GSMA Intelligence

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AI in numbers

47%	70:30	~20%	20%
Customer care - most common function for operators	Live versus trial/planned	Telco AI with a revenue objective	Larger operators have, on average, 20% more AI deployments

Source: GSMA Intelligence

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AI for telco

User experience

Automation versus AI in network management
Experience in support for growth

Cloud is about AI

AI dominates cloud investment
Partnership with hyperscalers

RAN AI

Optimisation versus monetisation focus

Agentic telco

Agentic AI remains in its infancy

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Is AI focused on costs, revenues or both?

Telco AI strong internal focus

Region	AI deployments launched (cumulative)	Primary objective		New deployments (three months to September)	
		Internal (costs and efficiencies)	External (product revenue)	Internal (costs and efficiencies)	External (product revenue)
Europe	122	84%	16%	75%	25%
Asia Pacific	120	75%	25%	63%	37%
Latin America	57	91%	9%	–	–
Sub-Saharan Africa	52	94%	6%	92%	8%
MENA	46	83%	17%	79%	21%
Eurasia	21	81%	19%	50%	50%
Northern America	14	79%	21%	100%	0%

Source: GSMA Intelligence

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The telecoms industry's level of AI adoption

Telco AI deployments are most evident in **customer care** (an easy win) but are expanding to other functions

Source: GSMA Intelligence

Telco AI monetization

APPS	AI engineering tools	Models (LLM/SLMs)	Infrastructure
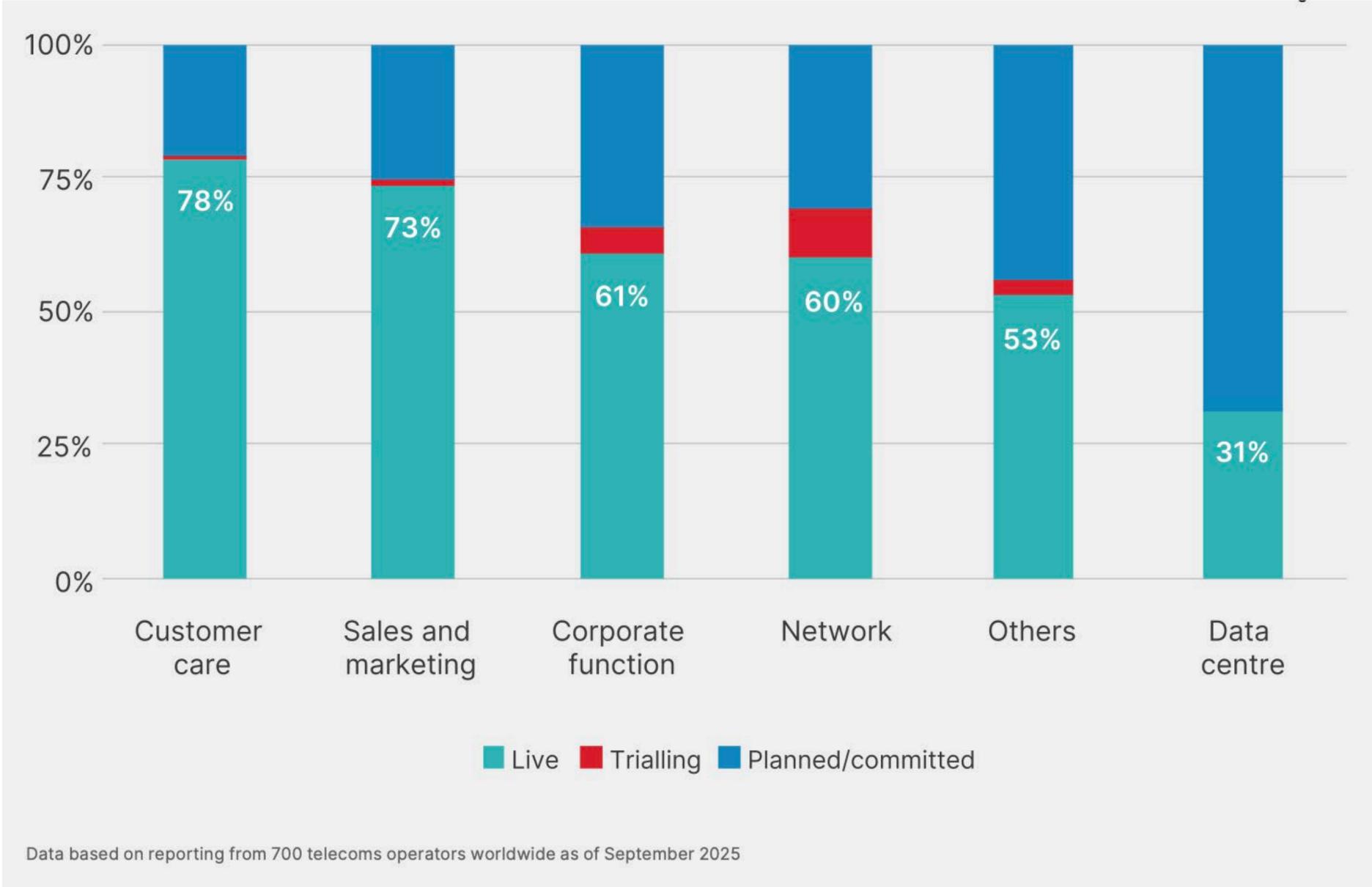
The distribution of compute power from the device edge to the public cloud

Device

Telco edge
(RAN and core)

Enterprise edge
(on-premises)

Cloud data centre

Centralisation of compute

Decentralisation of compute

Data centre processing
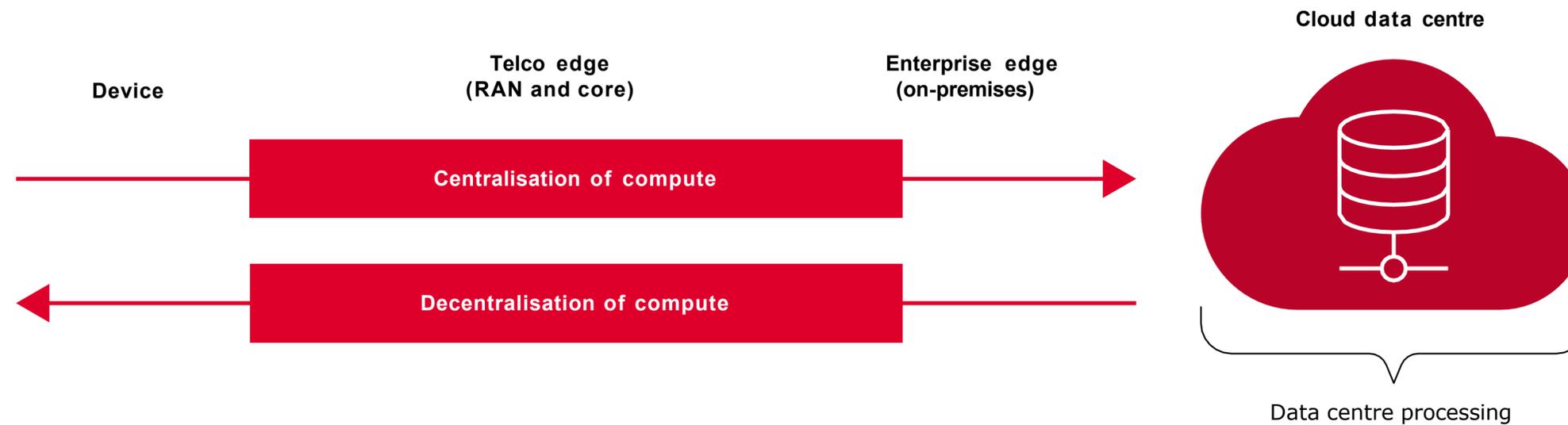
AI maturity model for operators

capacity and maturity will impact the business models

Level 1	Level 2	Level 3	Level 4

Level 4 — Transformation and innovation
- Sovereign AI clouds
- AI Factories + GPUaaS
- Increasing B2B services
- Intelligent network services for AI workloads

Level 3 — Integration and operationalisation
- Deployment of domain-specific LLMs with genAI applications for internal use cases, including network optimisation
- Agentic AI beginnings

Level 2 — Exploration and early adoption
- Use cases prioritised and mapped out
- Early PoCs/trials
- LLM strategy outline
- Mapping of AI to internal functions

Level 1 — Foundation and awareness building
- Use-case identification
- Internal education of potential benefits
- R&D efforts

Source: GSMA Intelligence

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AI use cases

- **AI+ network strategy**
- **embracing consumer genAI**
- **AI pyramid strategy**
- **Aura digital assistant**

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Thank You

Tair Ismailov
Strategic Engagement Director
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tismailov@gsma.com

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