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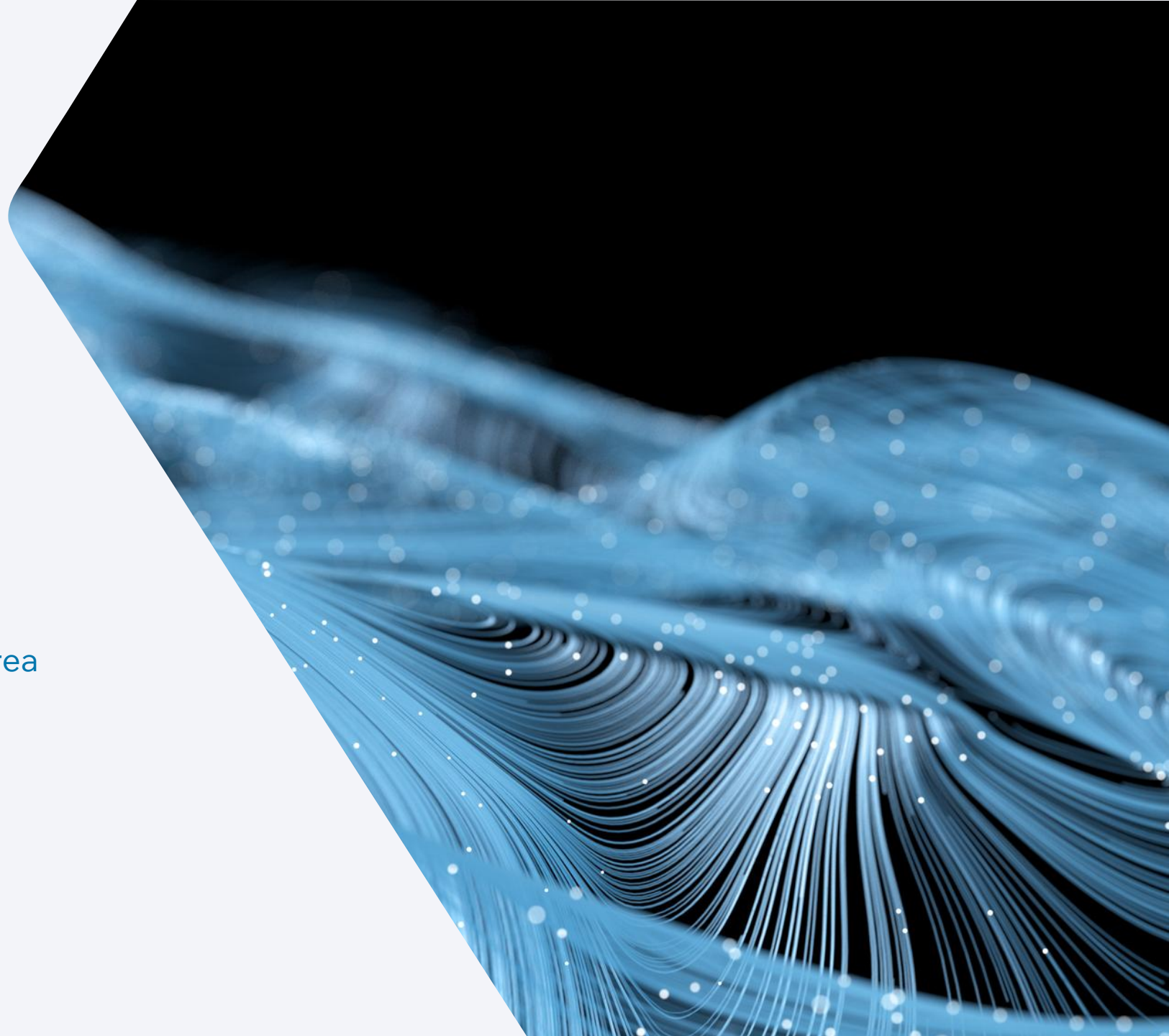
# From Cloud to Edge

## The value of distributed AI in South Korea

Commissioned by Qualcomm - August 2026



Prepared by Access Partnership

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All calculations were done in USD and are based on the latest available data as of time of analysis in 2026.

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Access Partnership's Economics Strategy team is a leading economic and strategy consulting practice with deep experience across a number of topics in the digital economy and the future of skills, sustainability, and economic development.

# Content

# Executive summary and key highlights

With a world-class AI stack, South Korea is well positioned to lead the global physical AI era and advance its AI G3 ambition. Distributed AI and edge-based deployment are the next step in scaling AI, generating over US$50 billion in annual economic value by 2035 from use cases targeting Korea's structural challenges. Realizing this potential calls for US$18B of investment over 2026-2035 and a "Korea-Along" strategy, combining strong domestic capabilities with deeper global collaboration to accelerate deployment at scale.

## Korea can unlock opportunities with distributed AI...

On-device AI applications with hyper-personalization and real-time monitoring can assist Korea's **Demographic Cliff**

**>$5.9B** of economic value in 2035 from **Companion and Assistive Robotics**

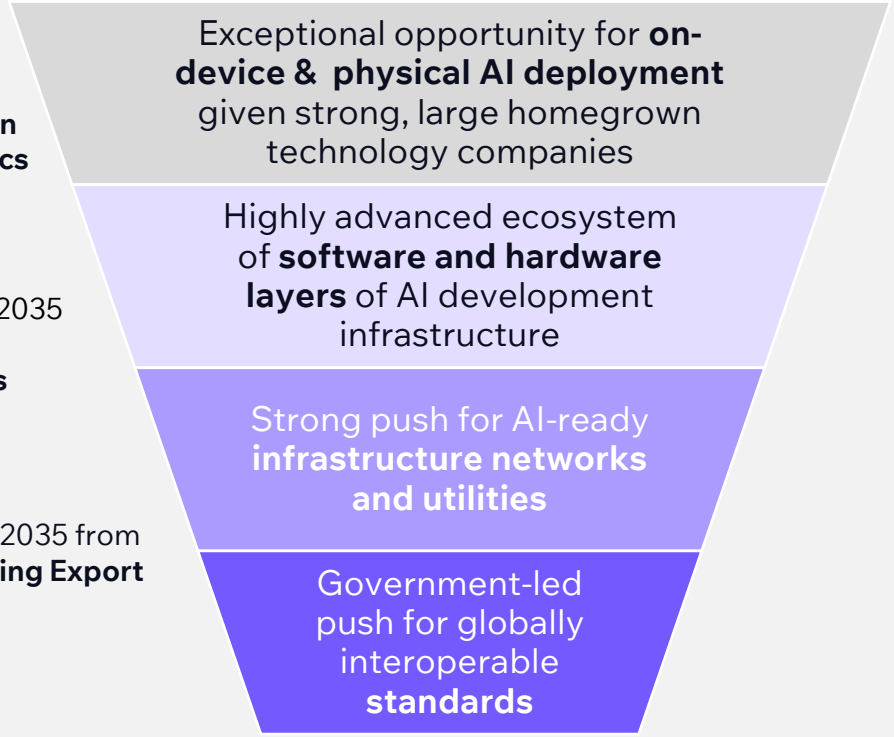
Tackling its **Systemic Labor Deficit** through labor-complementing robots with edge processing

**>$23B** of economic value in 2035 from **Autonomous Industrial Operations**

Korea can mitigate issues from its **Structural Exports Dependency** by creating cybersecure manufacturing infrastructure and exporting AI-powered devices

**>$21B** of economic value in 2035 from **Distributed AI boosting Export Competitiveness**

## ...especially with the country's distinct advantages across the AI stack

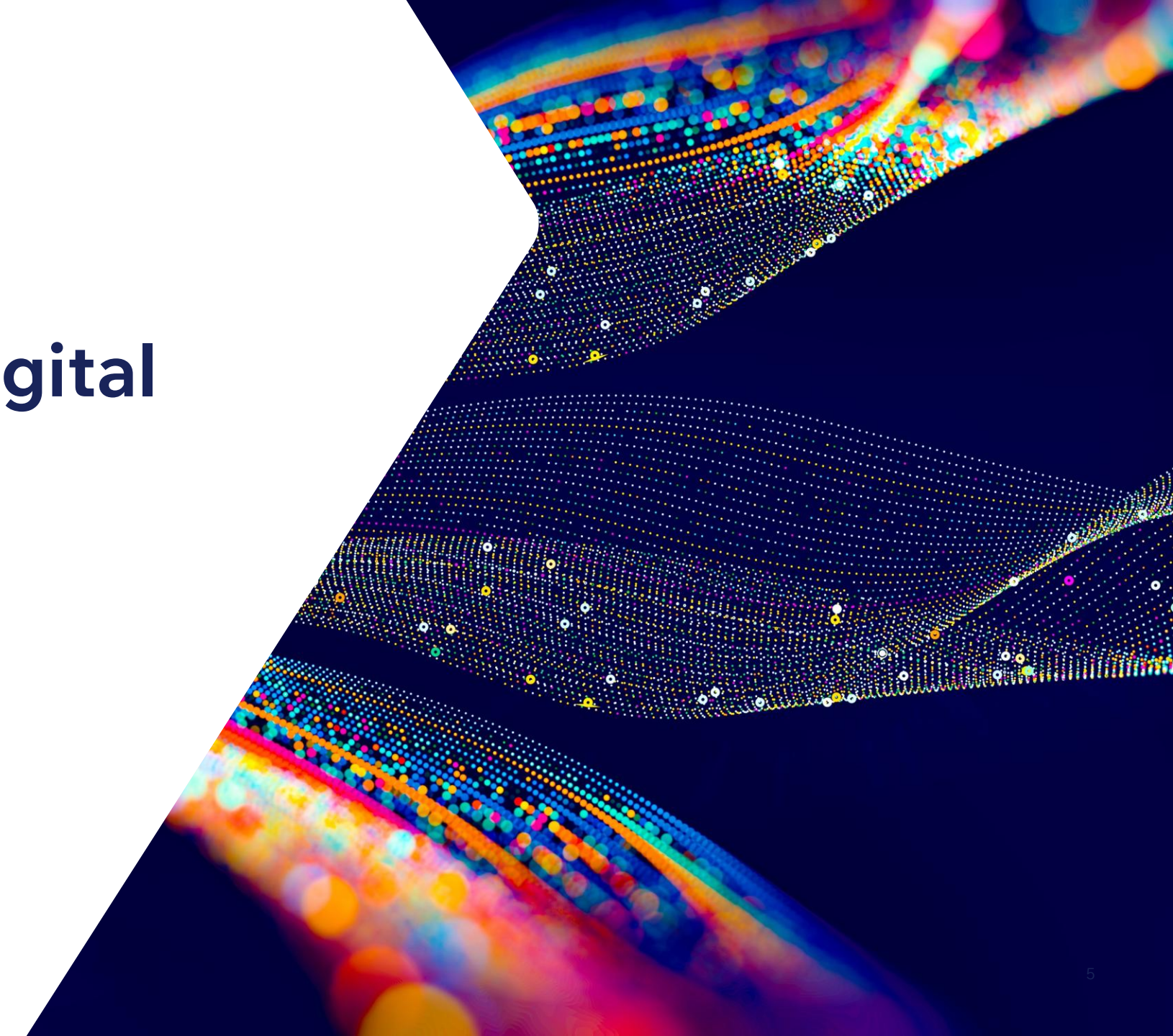



## Targeted policies will be key to unlock this

1. Facilitate global interoperability through bi/multilateral standards initiatives with leading economies
2. Promote vendor diversity and data portability across the distributed AI stack
3. Front-load pre-6G infrastructure investments and tie them to deployment outcomes
4. Establish regulatory clarity through clear safety and performance benchmarks for distributed AI

Chapter 1

# **Korea's AI and digital landscape:** An imperative for distributed AI



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# Korea today has world-class digital infrastructure but faces a triple threat of an aging population, labor shortages, and export dependency

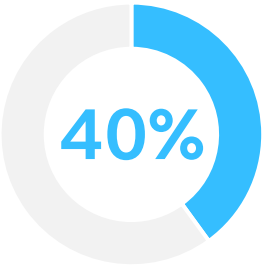
Korea is a global leader in the digital economy.

The country leads the world in digital infrastructure – ranked 1st among OECD countries in 5G (2024) and the first to roll out a 5G network (2019). The ICT sector made up 13% of Korea's GDP in 2023 (highest in the OECD) and R&D spending reached 5% of GDP in 2024 (second-highest worldwide).

**Yet beneath this digital prowess lies profound structural vulnerabilities that economic policies alone cannot tackle.**

**Risk 1: The Demographic Cliff**

A rapidly aging society and restrained migrant inflow are reshaping Korea's labor base – creating a shrinking pool of workers

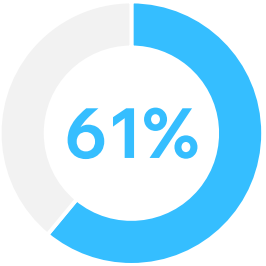



**Notable statistics**

Share of Korea's population that would be aged by 2050

**Risk 2: Systemic Labor Deficit**

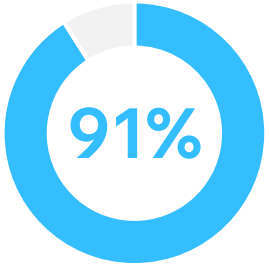
A shrinking workforce is straining Korea's most critical sectors, from SMEs to semiconductors[1], creating hiring pressure across the economy




Of local manufacturing SMEs report difficulty hiring (2025)

**Risk 3: Structural Exports Dependency**

As one of the world's top semiconductor exporters, Korea's growth is heavily exposed to labor scarcity and geopolitical risk




Trade dependency ratio, as a share of Korea's GDP

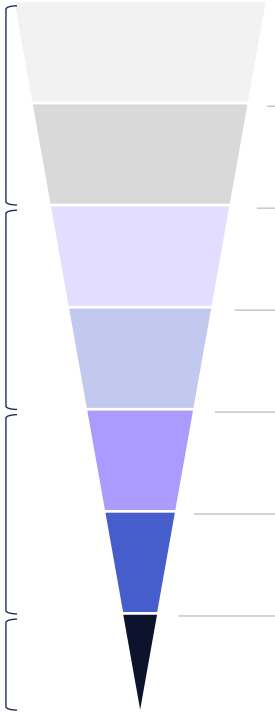
**These three forces compound. Korea needs a strategic lever capable of acting on all three simultaneously.**

1. For the semiconductor sector, 18% of the semiconductor workforce is estimated to be unfilled by 2031. Derived from Chosun Ilbo (2025), "Semiconductor Industry Faces 54,000 Worker Shortage by 2031." Available at: https://www.chosun.com/english/industry-en/2025/11/28/FVVNPEAGEZAFPFV4HXG4ZZSGWM/

Source: Access Partnership analysis

# AI is the definite strategic pathway to achieving Korea's economic goals

Korea is taking a holistic approach by developing the entire AI stack. The government's ambitious AI G3 goals and AI development and deployment initiatives is expected to position Korea as an AI powerhouse for the foreseeable future.



| | Korea's AI stack | Examples of relevant policy initiatives *(non-exhaustive)* |
|---|---|---|
| **AI deployment** | Mass market AI-enabled devices (Physical & on-device) | Korea aims to lead on-device and physical AI development by 2030 through government-led pushes such as the **K-On-Device AI Semiconductor Project** and the **K-Moonshot** initiative |
| | Industrial AI deployment | Cross-ministry AI Transformation (AX) plans are realizing the **2026 National AI action plan** (e.g., developing fully autonomous ships; achieving 40% AI adoption in manufacturing) |
| **Hardware & software** | Data & Models (Software) | The **Sovereign AI Foundation Model project** aims to establish a localized, Korean AI model spanning multimodal and physical AI to reduce reliance on foreign-based applications |
| | Compute processing & chips (Hardware) | Partnerships and investments are driving domestic chip development and manufacturing capabilities, such as the **K-Semiconductor Grand Leap** and the **National AI Computing Center** |
| **Infrastructure & utilities** | Network connectivity | Korea has already fully rolled out 5G connectivity nationwide and is aiming for 6G commercialization as soon as 2028 as part of its **Hyper AI Network Strategy** |
| | Power infrastructure | The **National Backbone Grid Expansion Special Act** and the **RE100 Industrial Complex Bill** have created the legislative foundations to expand power, especially renewable energy |
| **Regulation** | Standards & governance (Cuts across all layers) | Through its bid to establish itself as a **Global AI Hub** for the UN, Korea is positioning itself to lead in AI standards and governance across every layer of the stack |

**Korea has strong deployment goals, but leveraging AI to tackle its three structural challenges across homes, factories and export sites will require a cost-effective and efficient way of scaling AI applications quickly**

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Source: Access Partnership analysis; For more information, please see the Appendix page

# Tackling the country's key structural risks would require developing AI applications that go beyond cloud-based deployment

Key use cases can mitigate Korea's structural risks but adopting cloud-only AI constrains the inference and processing required to unlock their key value – additionally, cloud-based AI inference is projected to undergo significant deployment challenges.

| Risks | Relevant AI use cases | Limitations of AI today |
|---|---|---|
| **Demographic cliff** | Healthcare monitoring and detection, companionship provision, senior mobility assistance | Round-trip latency weakens always-on reliability for quick-response intervention; transmitting biometric data to the cloud also creates privacy risk |
| **Systemic labor deficit** | Autonomous robots and cobots, worker safety management in hazardous environments | Challenging to reduce cloud latency to meet the sub-10ms requirements for industrial applications or safety-critical applications – especially for robots in time-sensitive environments |
| **Exports dependency** | Proprietary manufacturing data processing, AI inference in exported equipment | Data exhaust created by cloud routing creates metadata that exposes sensitive network architecture; potential cybersecurity risks by hosting data in external servers |

**Beyond these limitations, cloud-based AI inference is expected to face significant gaps in the future:**

**30x** Demand for AI inference compute in Korea could multiply **30 times** by 2030…

**5x** Meeting this demand is equivalent **quintupling** data center capacity in Korea…

**86%** …and based on current data center investment trajectories, Korea could have an **86% gap** in AI inferencing capacity in 2030

**Using cloud-based AI alone to tackle Korea's challenges will not be sustainable for the long term. As AI becomes more physical, a latency-sensitive, energy-efficient and geographically distributed architecture will be necessary for inference capabilities**

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Source: Access Partnership analysis

Chapter 2

# Impact of distributed AI on Korea's economy and society

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# Complementing cloud-based AI through distributed AI systems would fully unlock the value of key use cases

Deploying and scaling AI through distributed solutions can effectively target challenges that stem from Korea's triple threat.

| Risks | Relevant AI use cases | Limitations of AI today | Strengths of Distributed AI |
|---|---|---|---|
| **Demographic cliff** | Healthcare monitoring and detection, companionship provision, senior mobility assistance | Round-trip latency weakens always-on reliability for quick-response intervention; transmitting biometric data to the cloud also creates privacy risk | Local, private, always-on, and hyper-personalized inference via on-device – this preserves data while ensuring continuous monitoring even during network disruptions |
| **Systemic labor deficit** | Autonomous robots and cobots, worker safety management in hazardous environments | Challenging to reduce cloud latency to meet the sub-10ms requirements for industrial applications or safety-critical applications – especially for robots in time-sensitive environments | Deterministic, real-time control via on-device, edge or on-premise AI to ensure robots are tightly coordinated and safely deployed alongside workers for highly dynamic tasks |
| **Exports dependency** | Proprietary manufacturing data processing, AI inference in exported equipment | Data exhaust created by cloud routing creates metadata that exposes sensitive network architecture; potential cybersecurity risks by hosting data in external servers | On-device or on-premise AI ensures air-gapped processing to protect proprietary manufacturing data and processes; enables devices to operate independently and comply with sovereignty requirements |

Source: Access Partnership analysis

# Distributed AI delivers the best of both worlds to Korea with the scale of cloud and the proximity of edge, bringing AI to where users need it

Distributed AI use cases and solutions that are significant to Korea

### Autonomous Industrial Operations

- Industrial robotic arms
- Construction robots
- Humanoid robots for hazardous tasks
- XR smart glasses for hands-free guidance
- Autonomous cleaning and inspection robots
- Predictive maintenance

### AI-augmented Workforce (e.g., XR, wearables)

- AR/XR guidance for electricians and technicians
- Smartphones with on-device inference
- Wearables for heat and fatigue monitoring
- Handheld devices for scanning and asset tracking

### Companion & Assistive Robotics

- Mobility support robots
- Fall detection and safety monitoring
- Conversational companion robots

### Cybersecurity at the Edge

- On device biometric authentication
- Edge based anomaly detection across drones and IoT assets

### Energy & Resource Optimization

- Smart meters with edge analytics
- IoT energy controllers
- Edge-enabled HVAC systems
- Smart energy management in factories & buildings
- Predictive maintenance

### Export Competitiveness via Distributed AI

- Smartphones with on-device AI
- Smart home appliances
- Home and service robots
- XR productivity devices

### Intelligence, Surveillance, Reconnaissance

- Autonomous aerial drones for ISR
- Drones for contested and denied environments
- XR displays for situational awareness
- Smartphones and handheld tactical AI nodes
- Predictive maintenance

### Productivity Extension for Older Workers

- XR glasses for memory and task support
- Smartphones as personal AI copilots

### Senior Mobility Assistance

- ADAS for driver safety monitoring
- Autonomous community shuttles

### Smart Home Systems

- Smart refrigerators with on device intelligence
- Air purifiers with adaptive edge control
- Home robots for fall and inactivity detection
- On device biometric access (face, voice)

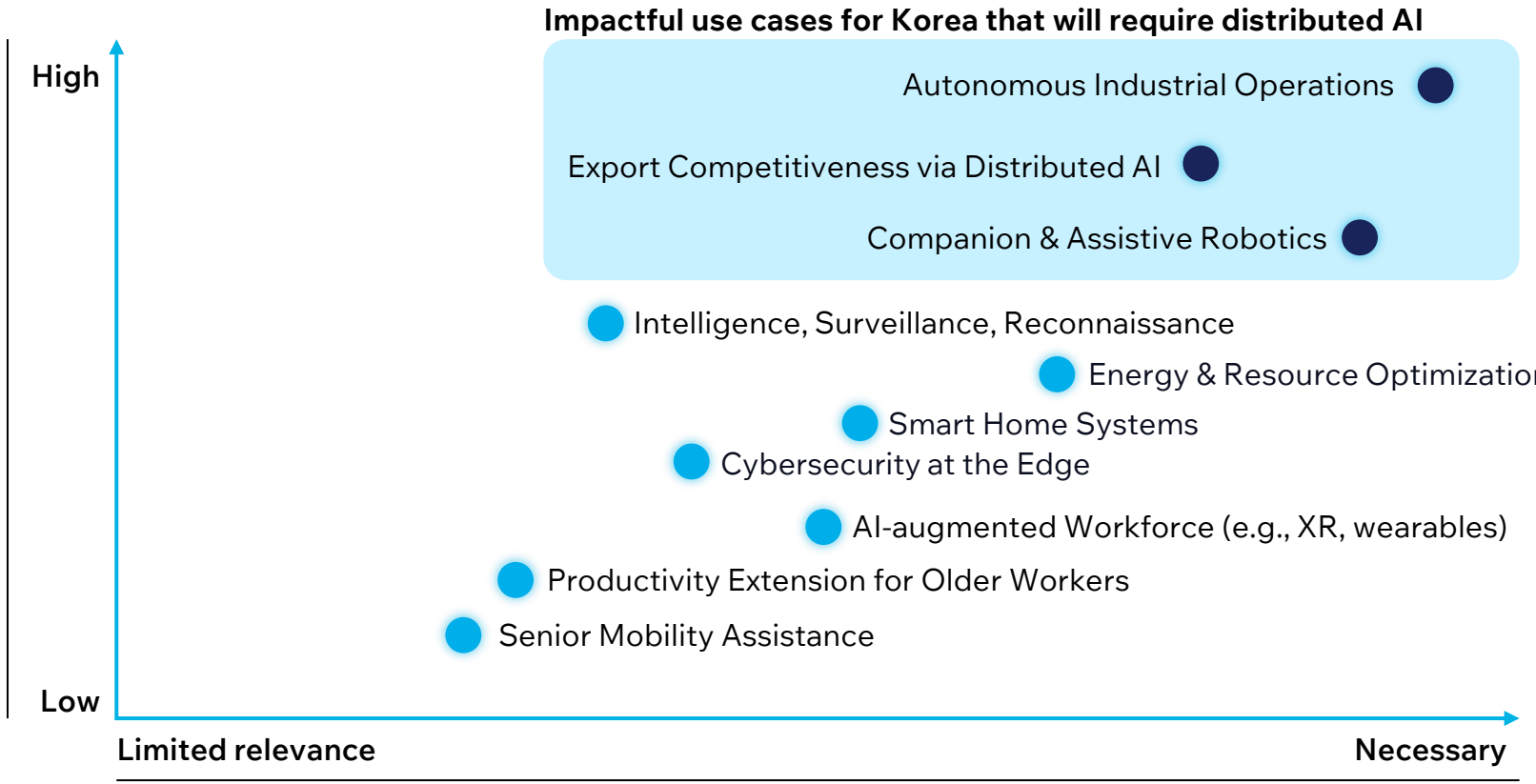
Source: Access Partnership analysis

# Distributed AI is critical to drive Korea's transition to a physical AI powerhouse and fortify its societal well-being

**Impact on economy**

This dimension analyzes the scale of a use case's impact using public data, such as:

- Impact on the socio-economic challenge
- Market size
- Breadth of impact
- Quality of current infrastructure
- Governmental priority




This dimension relies on assessments of the scale of distributed AI deployment due to factors such as real-time or near-instant processing, reliance on sensitive data, level of personalization needed, or ability to leverage lightweight AI models

Source: Access Partnership analysis

# Distributed AI could create more than $50 billion in annual economic value for the country by 2035 by tackling Korea's triple threat

Impact of **three use-cases** - driven by maintaining industrial productivity with fewer workers, extending workforce participation, and enhancing AI-enabled export competitiveness.

| | >$5.9B<br>**Companion and Assistive Robotics** | >$23B<br>**Autonomous Industrial Operations** | >$21B<br>**Export Competitiveness via Distributed AI** |
|---|---|---|---|
| **Examples** | Applications such as mobility support robots, fall detection and safety monitoring, and conversational companion robots | Applications such as Industrial robotic arms, construction robots, humanoid robots for hazardous tasks, XR smart glasses for hands-free guidance, autonomous cleaning and inspection robots, and predictive maintenance | Applications such as smartphones with on-device AI, smart home appliances, home and service robots, and extended reality (XR) productivity devices |
| **Impact created by** | • Healthcare cost savings<br>• Labor substitution<br>• Productivity extension | • Lower downtime<br>• Higher labor productivity<br>• Fewer safety incidents | • Higher value (premium positioning)<br>• Higher market share<br>• Introduction of new products |

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Note: Economic Value refers to the increased revenue or cost savings that businesses generate from increased market reach or increased productivity. It is not directly attributable to the GDP.
Source: Access Partnership analysis

Chapter 3

# Paving the way for distributed AI leadership with governmental support

# Korea can pave the way for distributed AI leadership with governmental support to cement its status as an AI G3 country

We conservatively estimate that the incremental investment required is around $18B over 2026-2035.

**Estimated investment required for effective distributed AI deployment** (2026-2035)

**~$18B**

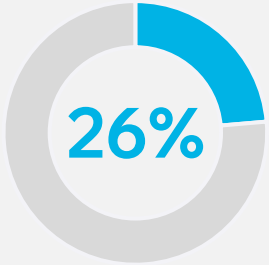
(or ~2B per annum over a decade)

**Includes funding for:**

- Industrial AI adoption incentives
- Workforce & skills transition
- Distributed AI infrastructure & connectivity
- Semiconductor & distributed AI hardware ecosystem
- R&D and export competitiveness programs

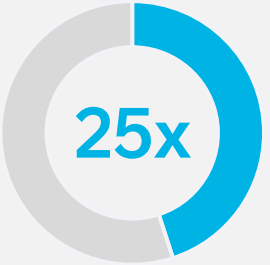
**If the required investment were spread over a decade (~2B per annum), the annual investment…**

**Equates to**




of Korea's total AI budget announced for 2026

**Generates**

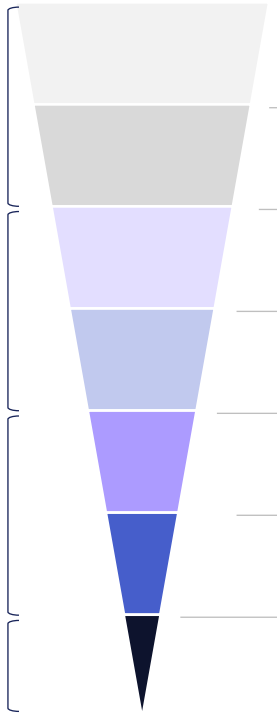



of total annual economic returns – based on the three major use cases *(Page 14)*

Source: Access Partnership analysis ; For a breakdown of the annual investment figure, please see the Appendix.

# Korea holds a uniquely complete distributed AI stack – targeted policy levers can convert these advantages into global leadership

Korea has an AI stack that no other country can replicate for distributed AI leadership – it can generate the real-world training data, reference architectures, and standards contributions that make it the global distributed AI model. Advancing targeted key policy levers can further realize its AI G3 and UN Global AI Hub ambitions.



| | | Korea's distinct advantages | Policy levers to advance distributed AI |
|---|---|---|---|
| **AI deployment** | Mass market AI-enabled devices (Physical & on-device) | **Globally integrated homegrown brands** like Samsung, LG, and Hyundai already ship hundreds of millions of devices while already meeting international ecosystems and standards | **Facilitating global interoperability** to reduce trade friction, promote interchangeability, and secure market access for AI innovation and products |
| | Industrial AI deployment | | |
| **Hardware & software** | Data & Models (Software) | **Highly advanced ecosystem** spanning full-stack participation across foundry, advanced memory, and a maturing on-device NPU fabless base within global supply chains | **Promoting competition and vendor diversity** by opening the ecosystem to multinational investment so applications stay vendor-agnostic and cost-competitive |
| | Compute processing & chips (Hardware) | | |
| **Infrastructure & utilities** | Network connectivity | **AI-ready network in place** with a 6G roadmap to 2030 and expanding renewable energy infrastructure | **Tying infrastructure investment to outcomes** to ensure demand for AI-ready networks grows alongside supply, reducing investment uncertainty |
| | Power infrastructure | | |
| **Regulation** | Standards & governance (Cuts across all layers) | **Coordinated, government-backed approach** to expand distributed AI at national scale, with strong political drive | **Establishing regulatory clarity** for AI safety and quality standards to de-risk distributed AI adoption across devices at homes and factories |

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Source: Access Partnership analysis

# Four policy priorities can secure Korea's distributed AI leadership

Recognizing that Korea's advanced distributed AI deployment can serve as the living lab for the wider world's AI adoption and governance goals, the Korean government should…

**1. Facilitate global interoperability through bi/multilateral standards initiatives with leading economies**

Champion industry-led global standards through standards development organizations, using avenues like the UN Global AI Hub bid to internationally promote interoperability and to secure market access for Korean AI products across every layer of the stack. Pursue G2G dialogues that establish promotion programs between partner countries to facilitate sharing of best practices and success stories – especially partners who are ahead of the curve (e.g., US-Korea Technology Prosperity Deal)

**2. Promote vendor diversity and data portability across the distributed AI stack**

The Sovereign AI Foundational Model project is already heterogeneous by design. Extend this model across the full cloud-to-edge stack to keep applications vendor-agnostic and cost-competitive, and to avoid lock-in at any layer.

Embed data portability, multi-vendor procurement, and open interface requirements into the National AI Action Plan's ministry-specific tasks.

**3. Tie 6G infrastructure investment to deployment outcomes by front-loading pre-6G and the hardware ecosystem**


Pre-6G infrastructure laid down now will determine who captures early deployment leadership. Use the 6G Vision Fest (December 2026) to showcase how infrastructure commitments will facilitate distributed AI deployment outcomes to minimize investment uncertainty while Korea's build-out runs ahead of the pack.

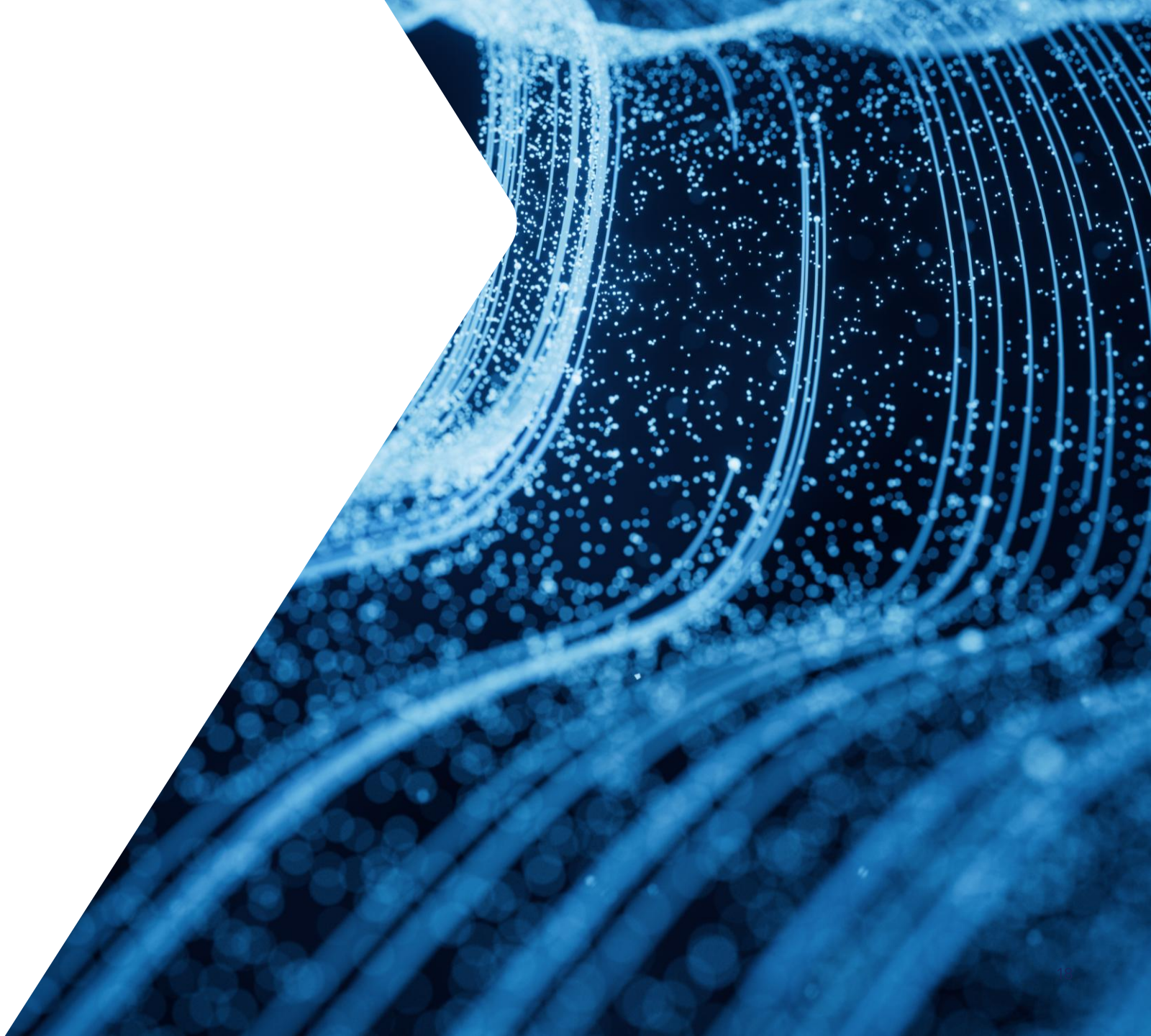
**4. Establish regulatory clarity through clear safety and performance benchmarks for distributed AI**

Embed distributed AI-specific performance and safety benchmarks into the governance framework before the AI Basic Act grace period ends (January 2027).

Include distributed AI benchmarks in ministry-specific tasks under the National AI Action Plan for manufacturing, mobility, and healthcare.

Source: Access Partnership analysis

# Appendix



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# Korea has a holistic range of policies to develop the AI stack

Korea's AI policies are well developed and are already targeting bleeding edge technologies – with key differences being mainly in the stage of policy implementation only.

Strong policy coverage | Some activity beginning | Early development

| AI stack | Relevant Korean AI-related initiatives around advanced technological capabilities |
|---|---|
| On-device and physical AI | **K-On-device AI semiconductor project** – One of 15 K-AX flagship projects; commits to launch 10 products in-country by 2030<br>**K-Moonshot (March 2026)** – Run by Ministry of Science and ICT with 161 participating companies; includes physical AI as one of 8 pillars (humanoids, general-purpose physical AI model and computing platform internalization)<br>**Global leader in physical AI by 2030** |
| Industrial AI deployment | **K-AI Transformation (K-AX)** – Cross-ministerial drive to operationalize 2026 National AI Action Plan with 15 flagship projects, e.g., AI ship (fully autonomous vessel by 2030), AI factory (40% manufacturing AI adoption by 2030)<br>**Manufacturing AI Transformation (M.AX) program** – Ministry of Trade, Industry, and Resources-led program of US$820 million specifically for industrial AI deployment in key export sectors, e.g., robots, auto, shipbuilding, electronics |
| Sovereign models and data | **Sovereign AI Foundation Model project** – LG AI Research, SKT, Upstage, Motif Technologies<br>**2026 National budget** – Around KRW 10 trillion funding for sovereign AI initiatives, developing national AI infrastructure and capabilities |
| Sovereign compute and chips | **K-Semiconductor Grand Leap (June 2026)** – ₩800T public-private program, four new Samsung/SK Hynix HBM fabs to double memory output by 2030<br>**AI Computing Resource Base Enhancement** – Around KRW 2 trillion worth of investment in 2026<br>**National AI Computing Center** – Develop 1 exaflop (EF) capacity |
| Connectivity | **Hyper AI Network Strategy** – 6G commercialization by 2028-30, AI RAN, LEO satellite by 2030 |
| Power and grid | **National Backbone Grid Expansion Special Act (Sept 2025)** – High-Voltage Direct Current (HVDC) procurement<br>**RE100 Industrial Complex Bill** – Dedicated zones where AI data centers and chip fabs co-locate with on-site renewables |
| Standards and governance | **UN Global AI Hub bid** – Global AI governance leadership |

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Source: Access Partnership analysis

# Key definitions: the AI computing continuum

## Cloud AI

AI training and inference executed in hyperscale data centers. Cloud AI provides the capacity needed for model training, global model hosting, orchestration, and the heaviest workloads, ensuring consistency across large user populations, but requires data to travel to and from centralized servers.

## Edge AI

AI inference executed at or near the network edge (i.e., factory gateways, hospital edge servers, or micro-data centers) rather than in centralized cloud. Edge AI delivers real-time responsiveness, reduces backhaul costs, and keeps data within local or organizational boundaries.

## On-device AI

A subset of edge AI, on-device AI operates inference directly on end-user hardware (smartphones, PCs, robots, industrial endpoints) without connectivity, which enhances privacy and offline resilience with the lowest latency.

## Distributed AI

The hybrid computing continuum in which AI workloads are dynamically partitioned across on-device, edge, on-premises, and cloud tiers based on latency, privacy, bandwidth, energy, and cost requirements. No single tier can meet the demands of real-real-time, multimodal AI at scale; distributed AI treats the tiers as one tightly integrated system, with each handling the workloads it serves best.

## Sovereign AI

A nation's ability to independently build, deploy, and govern AI using its own infrastructure, data, and talent that advances its laws, cultures, and values.

## Physical AI

Unlike the compute tiers above, physical AI describes a class of applications: AI systems that perceive, reason, and act in the physical world in real time – robots, autonomous machines, drones, and connected vehicles. Physical AI must operate, learn, and scale reliably under real-world conditions, on-device and at the edge, coordinated with cloud-based learning across fleets.

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Source: BCG (2026), 6G: The Network for the Future of AI and Immersive Connectivity, and Access Partnership analysis

# Top-down framework for estimating AI compute inference

## Overall description of approach taken

- To describe **total compute available**, the total compute capacity[1] available in data centers (public and on-premise) dedicated to AI up to 2030 as proxy (including compute used for training and inference) was modelled based on publicly available data.
- To measure the **potential on-device AI compute capacity, the overall AI compute capacity demanded** was also estimated – the "gap" between demand and current supply represents the total compute that will happen away from data centers.

### Compute capacity
(AI DC supply)

**Key assumptions for projecting supply of data center (DC) compute capacity**

- Projected compute capacity of DCs dedicated to AI workloads using: (a) total DC power capacity in gigawatts (GW) and; (b) total AI compute[2] to estimate a *compute-per-GW ratio* that changes over time
- **Assumption**: Of total cloud workloads. the share dedicated to AI would grow from 14% in 2025, estimated by Goldman Sachs, to 70% by 2030 based on McKinsey's projections. Additionally, around 40% of workloads are dedicated to training-related compute based on analysts from Centre for the Governance of AI

### Compute demanded
(AI demand)

**Key assumptions for projecting demand for AI compute**

- Estimated total demand for AI by leveraging estimates by McKinsey that projects "annual FLOP demand" from use of **generative AI** to be 0.2 QFLOPs in 2024 – growing to be 25 QFLOPs in 2030
- It also estimates that by 2030, 40% of total compute demanded by businesses and consumers will be toward generative AI applications. Additionally, we assume that of total demand by businesses and consumers, demand for training applications will range between 10% and 25% of total compute

1. Given limited research on TOPs (tera operations per second) used to describe neural processing units, compute is measured in terms of FLOPs (or floating point operations per second) as a proxy of potential capacity to complete calculations.
2. Estimates on the total AI compute were estimated in April 2025 by the AI Futures Project, a team of AI developers and researchers. See AI Futures Project (2025), *AI 2027*. Available at: https://ai-2027.com/about

# Top-down framework for country-specific AI compute projections

**Overall description of approach taken**

- Existing modelled figures on global compute capacity and demand were apportioned into country-specific figures. This illustrates the relative levels of installed DC capacity (AI DC supply) and AI demand for each country, with the assumption that DC capacity available within each country is dedicated to its domestic users.

**Country-level compute capacity** (AI DC supply)

**Key assumptions for projecting country-level supply of data center (DC) compute capacity**

- Existing modelled figures were apportioned into country-level figures based on a count of DCs (Data Center Map) and DC energy usage (IEA). These two factors served as proxies for supply of DC compute capacity.
- Growth in Korea's supply of DC compute capacity is based on growth of domestic DC capacity (Savills Korea).

**Country-level compute demanded** (AI demand)

**Key assumptions for projecting country-level demand for AI compute**

- Existing modelled figures were apportioned into countries based on the relative usage of AI tools (aitools.xyz). This is measured by utilising web traffic analysis software to track the number of average visits[1] to a database of over 10,500 AI tools, applications, and platforms. This serves as a proxy for demand from both B2B and B2C users.
- Growth in Korea's demand for AI compute is based on global growth rates (McKinsey). Global growth rate was further adjusted based on the respective CAGR of AI spending as measured by market research firms, including IDC.



1. The number of average visits refers to the monthly average visits for each month between January and December 2025.

# Impact of distributed AI use cases

## Overall description of approach taken

- Three scenarios were developed to assess the potential economic value of edge AI adoption across various distributed AI use cases in 2035.
- The conservative scenario assumes that edge AI adoption in Korea follows the baseline AI adoption in Korea (i.e., SME AI adoption rates) (OECD). The base scenario assumes moderate edge AI adoption driven by adoption in industrial use cases (PROM WAD).

### Autonomous industrial operation

**Key assumptions for projecting the economic value of autonomous industrial operation**

We assume that economic value is due to 3 value drivers:

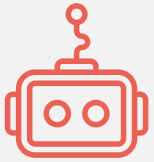
- Productivity gains (based on productivity gains or increased output per worker)
- Downtime reduction (based on the reduction in downtime and the corresponding reduction in monetary losses)
- Safety improvements (based on reduction in safety incidents and the corresponding reduction in cost of workplace incidents)

### Export competitiveness

**Key assumptions for projecting the economic value of export competitiveness**

We assume that economic value is due to 3 value drivers:

- Price premium (based on revenue increase from edge AI adoption in manufacturing functions on exports)
- Market share gains (based on potential market share increase due to edge AI adoption)
- New product categories (based on the percentage of exports in new product categories)



### Companion and assistive robotics

**Key assumptions for projecting the economic value of companion and assistive robotics**

We assume that economic value is due to 4 value drivers:

- Reduced caregiver costs (based on elderly population in Korea, average annual caregiver cost, and savings from edge AI)
- Delayed institutional care (based on elderly population in Korea, average institutional care cost, and savings from edge AI)
- Healthcare cost reduction (based on healthcare spending – of which is spent on elderly, and savings from edge AI)
- Family productivity gains (based on number of working age caregivers and potential productivity gains per caregiver)

Access Partnership

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## Need a problem solved?

Our dedicated experts, located around the world, are here to help.

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