In collaboration
with Accenture

WORLD ECONOMIC FORUM

Proof over Promise:
Insights on Real-World AI Adoption from 2025 MINDS Organizations

WHITE PAPER

JANUARY 2026

Images: Adobe Stock

Contents

Disclaimer
This document is published by the World Economic Forum as a contribution to a project, insight area or interaction. The findings, interpretations and conclusions expressed herein are a result of a collaborative process facilitated and endorsed by the World Economic Forum but whose results do not necessarily represent the views of the World Economic Forum, nor the entirety of its Members, Partners or other stakeholders.

Foreword

Muqsit Ashraf
Group Chief Executive,
Strategy, Accenture

Maria Basso
Head, AI Applications and Impact,
World Economic Forum

Stephan Mergenthaler
Managing Director, Chief Technology
Officer, World Economic Forum

Globally, organizations across all sectors have pursued ambitious efforts to capitalize on the potential of artificial intelligence (AI). They are exploring applications with a wide range of AI technologies – from machine learning (ML) and deep learning to large language models, complex agentic systems and more. They have big goals; from generative AI alone, organizations expect, on average, double-digit percentage increases in productivity and revenue growth within 18 months of deployment and scaling, and a similar reduction in costs.[1] At its core, AI in the broadest context is seen as a lever to create additional value.

As we have seen, not every pilot or early-stage programme is succeeding as hoped. Amid the push for rapid adoption, challenges such as data readiness, legacy infrastructure, fragmented governance and insufficient workforce training have left many organizations struggling to advance beyond initial AI experiments.[2] Capturing and sharing insights from organizations that are beginning to achieve those ambitions and demonstrate real value is a critical next step to propel the larger ecosystem forward. Rather than restricting progress to what each organization can figure out on their own, the real opportunity lies in collective learning. Harnessing the experiences of successful adopters helps others to accelerate their own journey to impact.

The World Economic Forum, as part of its AI Global Alliance, created the MINDS (Meaningful, Intelligent, Novel, Deployable Solutions) programme to help leaders unlock the full value of AI for businesses and society. Through an ever-growing network of organizations contributing their experiences, MINDS is building a shared foundation of knowledge to help organizations deploy AI responsibly, inclusively and at scale.

This inaugural MINDS white paper draws on insights from hundreds of organizations that opened their doors to share their AI journeys, metrics, challenges and lessons learned. Beyond celebrating their achievements, it recognizes their openness in advancing collective progress.

The organizations in our first cohorts embody a shift from experimentation to execution, and from promise to performance. Their success does not hinge on technology or large budgets alone, but on the art of identifying the right problems, building the right capabilities and creating the right conditions for AI to deliver sustained value.

Executive summary

Artificial intelligence is delivering real-world results, with impact, scale and trust now driving value.

After years of bold investments and high expectations, the conversation around artificial intelligence (AI) has shifted decisively from potential to performance. Today, business leaders are demanding clear evidence of how AI delivers measurable value and impact while setting the stage for the next wave of enterprise innovation.

To address this, MINDS (Meaningful, Intelligent, Novel, Deployable Solutions) serves as a global showcase of impactful AI applications and enables knowledge exchange of AI-driven transformations across industries, geographies and societies.

Drawing on insights from hundreds of applicants and in-depth interviews with the selected 2025 MINDS cohorts, this report distils five key insights that enable successful AI adoption and scaling:

1 **Insight 1:** Harnessing AI as a core part of how organizations work

Organizations are embedding AI as a strategic enterprise-wide capability, shifting from tactical use to a reimagining of core processes and long-term purpose.

2 **Insight 2:** Amplifying strengths when humans and AI work together within a changing workforce

Successful AI adoption starts with people and organizations redesigning work to augment human expertise with AI, amplifying specialized capabilities and innovation through collaboration.

3 **Insight 3:** Strengthening data foundations and strategic data sources to advance impact and scale

Data quality is the biggest barrier to AI success, so organizations are harnessing various data advantages and pursuing differentiated data strategies essential for scaling AI impact.

4 **Insight 4:** Modernizing the technology stack for advanced AI capabilities

Organizations are moving beyond fragmented solutions and investing in unified AI platforms and strategic engineering capabilities that enable secure, agile and scalable adoption of AI.

5 **Insight 5:** Scaling AI with confidence through responsible AI practices

Confident AI adoption requires trustworthy systems, prompting organizations to embed technical controls and right-size human oversight for automated decision-making.

These insights are not standalone; their interplay amplifies impact. Organizations that address multiple dimensions – strategy, workforce, data, technology and governance – achieve measurable and scalable results. Conversely, those focusing narrowly on technology or short-term return on investment (ROI) consistently struggle to scale AI.

By learning from the experiences of MINDS cohort members, organizations can accelerate their journey to impactful AI adoption, avoid common pitfalls and build resilient strategies for the future.

1 Advancing meaningful AI adoption through the MINDS programme

MINDS organizations are turning AI ambitions into impactful, measurable and sustainable outcomes for businesses and society.

Artificial intelligence (AI) is rapidly emerging as a transformative force, unlocking new possibilities across industries and societies. Yet, as organizations seek to harness these technologies, many encounter the deeper challenge of translating ambition into sustainable, real-world impact.

Recognizing the importance of turning promise into practice, the World Economic Forum established MINDS (Meaningful, Intelligent, Novel, Deployable Solutions) as a flagship programme under the AI Global Alliance to help leaders unlock the full value of AI for businesses and society.

1.1 Overview of the MINDS programme

MINDS aims to spotlight the most effective examples of applied AI and to connect leaders, allowing them to share practical insights on solutions already delivering impact. Going beyond a sole focus on traditional return on investment (ROI) metrics of economic performance, MINDS champions AI solutions that also address systemic social challenges – from climate resilience and equitable healthcare to sustainable supply chains – ensuring that AI innovation can advance both business values and societal progress.

Open to organizations of any size, sector or geography, MINDS recognizes the diverse organizations behind transformative AI applications to enable meaningful knowledge exchange.

> Recognizing the importance of turning promise into practice, the World Economic Forum established MINDS to help leaders unlock the full value of AI for businesses and society.

Evaluation process

The AI Global Alliance community developed a comprehensive evaluation framework to assess applications from organizations worldwide. The framework is built on three pillars:

- **Impact:** Demonstration of ability to deliver measurable outcomes across economic, environmental and social impact, while also considering scalability potential
- **Novelty:** Introduction of novel, AI-driven solutions to persistent challenges
- **Responsibility:** Compliance with local regulations and embedding of responsible practices throughout the design and implementation of AI solutions

Following in-depth interviews by the MINDS programme team and the Impact Council – a strategic advisory group, composed of AI experts from academia and the private sector, representing the full spectrum of AI expertise from AI models to social and economic impact – selected outstanding examples of AI applications. The 2025 cohorts represent a diverse range of organizations that demonstrate how AI can be responsibly deployed to achieve real-world results.

The MINDS applicant pool reflects a self-selected group of organizations enthusiastic about sharing how they are using AI to drive impact. The insights gathered in this report are not intended as a representative survey of the broader industrial transformations taking place with AI, but as a showcase of select organizations helping to create guideposts for innovation.

1.2 A global landscape of AI adoption: diversity across regions, industries and scales

In its inaugural year, the MINDS programme received hundreds of applications, each demonstrating tangible evidence of how AI-enabled transformation delivers value.

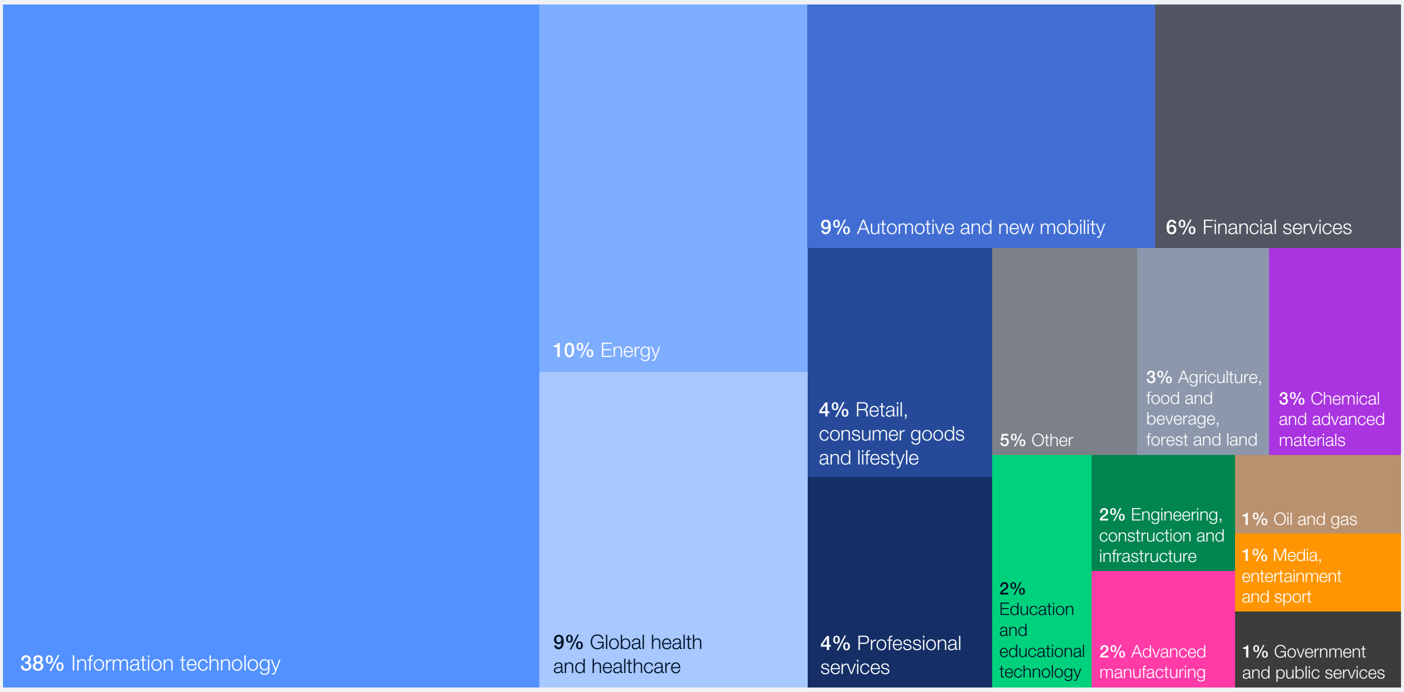
Global reach:

- Applications included multinational and cross-sector collaborations, underscoring AI's role as a shared global priority.
- **Over 30 countries** were represented in the applicant pool, spanning every major region.

Industry breadth and depth:

- Robust participation came from diverse industries (see Figure 1) – such as energy and utilities, health and life sciences, and banking and financial services.
- **Information technology** accounted for **nearly one-third of submissions**, thereby providing a strong foundation of technical expertise.

FIGURE 1 **Applicants to the MINDS programme by industry (percentage of total)**



Diversity of scale:

- Collectively, the cohort illustrates that impactful AI adoption is achievable for organizations of any size, whether through independent innovation or collaborative partnerships.
- Over 50% of applicants were small and mid-sized organizations (1–500 employees), demonstrating that innovation is not confined to scale.
- Approximately one-third were large multinational enterprises with workforces exceeding 10,000.

Broad spectrum of AI applications within business functions

- Broad adoption underscores the fact that AI has become a cross-functional enabler, transforming both front- and back-office domains.
- **Operations** emerged as the **most common application area**, reflecting AI's maturity in optimizing processes, improving efficiency and enhancing resilience.
- Strong adoption was also seen across research and development (R&D), customer experience, strategy and planning, business development, engineering, quality and compliance, sales and marketing, supply chains, human resources, finance, procurement, law and security.

Evolving capabilities

- Applicants harnessed AI tools that were cutting edge only a few years ago. Machine learning (ML) remains foundational, complemented by natural language processing, computer vision and, increasingly, agentic systems.
- Technologies such as chatbots and image recognition, once complex, are now standard, demonstrating how rapid advances in AI are driving tangible business and societal value.
- More than **one-third** of applicants to the MINDS programme highlighted the use of agentic AI in their current solutions.

Collaborative partnerships

- Many organizations are increasingly **forming partnerships** to bridge any gaps they may have and accelerate the scaling of AI. This represented **30% of MINDS applications**, often consisting of a technology provider and one customer.
- Collaborations often combine complementary strengths, such as advanced technologies, domain or technical expertise and even diverse datasets.

1.3 Selected cohort of organizations for the 2025 MINDS programme

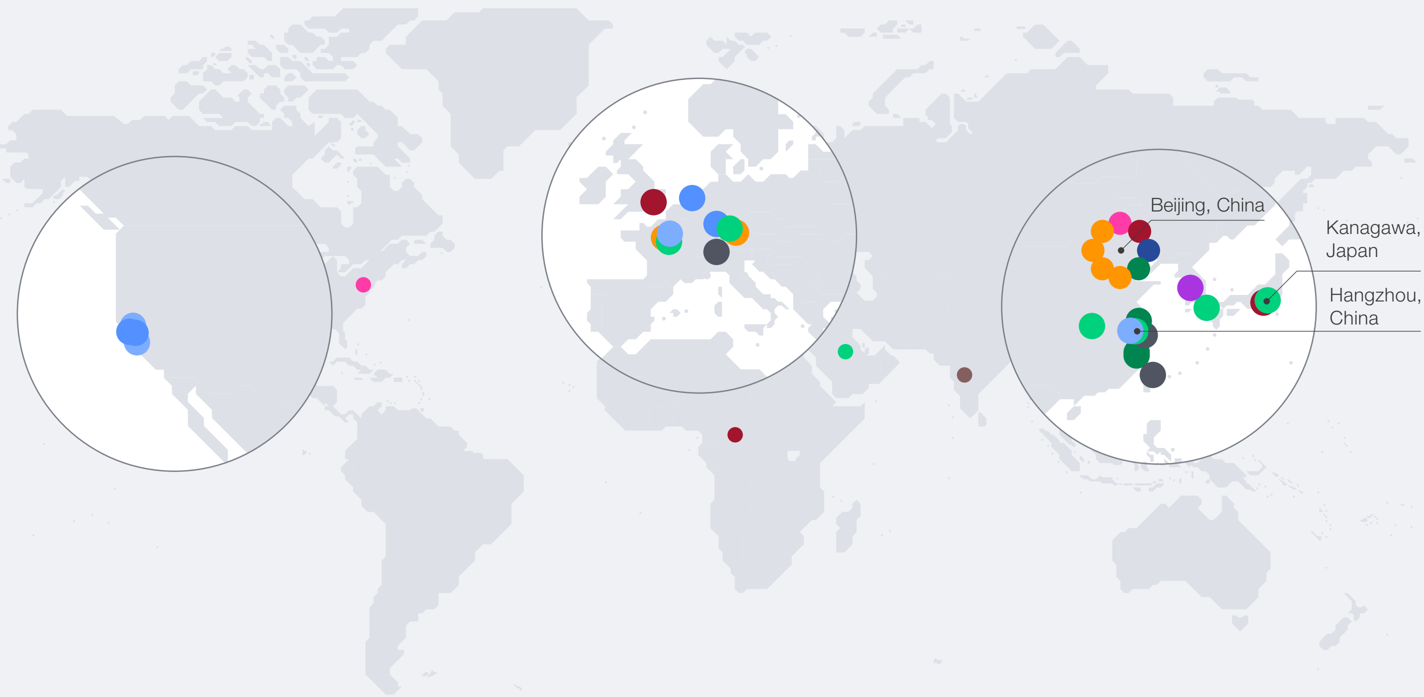
Each organization represents a proof point of what is possible when AI is implemented effectively.

The organizations listed in Figure 2 were notable leaders selected as members of the 2025 MINDS cohorts, representing broad regional diversity. Each organization represents a proof point of what is possible when AI is implemented effectively. The insights that follow, however, are not meant to represent the full scope of global AI adoption, but rather to highlight examples from select organizations that offer direction and inspiration for future innovation. Collectively, organizations within these cohorts are delivering measurable progress for industry and society across three impact categories:

- **Economic:** creating new sources of value and business models, enhancing efficiency through automation, boosting throughput and production quality, and delivering cost savings and productivity gains from AI-driven opportunities
- **Environmental:** driving sustainability through better energy efficiency, reduced waste and lower emissions
- **Social:** promoting positive impacts for people and communities by improving health, education, inclusion, well-being and other factors that strengthen resilience and shared prosperity

Further information, including detailed case studies and impact metrics, is available on the MINDS website.

FIGURE 2 | **Geographical distribution and measurable impacts of 2025 MINDS organizations**



Information technology

AMD (Advanced Micro Devices) and Synopsys
Santa Clara, US
Sunnyvale, US

EXL Services
New York, US

KPMG and SAP
Amstelveen, Netherlands
Walldorf, Germany

Energy management

Horizon Power and TerraQuanta
Beijing, China

Schneider Electric
Rueil-Malmaison, France

Siemens
Munich, Germany

National Institute of Clean and Low-Carbon Energy
Beijing, China

China Huaneng Clean Energy Research Institute
Beijing, China

State Grid Corporation of China
Beijing, China

Battery manufacturing

CATL (Contemporary Amperex Technology) and AIMS (Hangzhou Augmented Intelligence Manufacturing Solution)
Ningde, China

CATL (Physics-informed EV battery AI platform)
Ningde, China

Tsinghua University and Electroder
Beijing, China
Suzhou, China

Global health and healthcare

Ant Group
Hangzhou, China

Landing Med
Wuhan, China

Social Medical Corporation Genshukai and Fujitsu
Iki City, Japan
Kanagawa, Japan

The Ministry of Health of Saudi Arabia and AmplifAI
Riyadh, Saudi Arabia

Sanofi and OAO
Gentilly, France
Grünwald, Germany

Robotics

Hyundai and DEEPX
Seoul, South Korea

Financial services

Industrial and Commercial Bank of China (ICBC)
Beijing, China

Retail, consumer goods and lifestyle

PepsiCo
Purchase, New York, US

Wumart and Dmall
Beijing, China

Chemical and scientific discovery

Deep Principle
Hangzhou, China

Phagos
Suresnes, France

University of California, San Francisco (UCSF) Institute for Neurodegenerative Diseases and SandboxAQ
San Francisco, US
Palo Alto, US

Engineering, construction and infrastructure

Hitachi Rail
London, United Kingdom

Fujitsu (supply chain)
Kanagawa, Japan

Lenovo
Beijing, China

Cambridge Industries
Bangui, Central African Republic

Advanced manufacturing

Foxconn and Boston Consulting Group (BCG)
New Taipei City, Taiwan, China

Siemens and EthonAI
Zug, Switzerland

Black Lake Technologies
Shanghai, China

Social and public good

Tech Mahindra
Pune, India

Measurable impacts for the 2025 cohorts of MINDS organizations

Organization name	Application	Impact
	Impact categories: Economic, Environmental, Social	
Ant Group	Multimodal AI platform for clinical decision support and medical consultation services	Over 90% auxiliary diagnostic accuracy 80% reduction in literature search time Serving 160 million users/nearly 1 million doctors/over 5,000 institutions
Black Lake Technologies	AI-driven coordination platform for flexible manufacturing	18% increase in use Cycle time reduced from 6–12 to 1–3 months Minimum order size reduced from 10,000 to 100 units
CATL (Contemporary Amperex Technology) and AIMS (Hangzhou Augmented Intelligence Manufacturing Solution)	Data-efficient industrial AI systems for manufacturing decision intelligence	50% reduction in quality variation 50% decrease in operator workload Faster production
EXL Services	Automated AI platform for digital transformation and process migration	Over 80% reduction in manual effort for code assessment and discovery 70–80% reduction in manual effort for code conversion 20–40% reduction in overall project cost 30–40% increase in code performance optimization
Foxconn and Boston Consulting Group (BCG)	Self-learning AI factory systems for electronics manufacturing optimization	50% reduction in workload related to changeover 30% decrease in problem resolution time Approximate 10% decrease in cycle time
Fujitsu	Real-time AI optimization for resilient and efficient supply chain operations	$15 million decrease in annual inventory cost $20 million decrease in stock Faster disruption assessment
Hitachi Rail	AI-powered digital asset management platform for rail operations and maintenance	Approximate 20% reduction in service delays Approximate 15% reduction in maintenance costs
Horizon Power and TerraQuanta	AI forecasting models for energy trading and market optimization	50,000 times more efficient compared to traditional Used across a 2,000-gigawatt-hour (GWh) trading portfolio
Hyundai and DEEPX	Ultra-efficient on-device AI for autonomous robotics	Achieved a 240% increase in performance compared to graphics processing units (GPUs), while consuming only one-eighth of the energy Up to 90% total cost of ownership (TCO) reduction (energy and operations)
Industrial and Commercial Bank of China (ICBC)	AI infrastructure for over 20 financial business domains	Over 400,000 users; used daily by 20,000 staff 50,000 person-years of workload handled
KPMG and SAP	AI copilot for acceleration of enterprise resource planning (ERP) projects and cloud transformation	1.5 hours a day in consultant time saved Reduced coding mistakes that required rework by 50% (15% → 7.5%) Projects delivered 18% faster
Lenovo	Resilient global operations with an AI-driven supply chain agent	Disruptions flagged up to two weeks earlier 5% increase in “on-time in-full” (OTIF) to increase customer satisfaction Decision-making time reduced by 50–60%
PepsiCo	3D vision on edge machines for smart factory operations	0.15% waste reduction in a high-precision context Over $100,000 annual savings per line

Organization name	Application	Impact
Schneider Electric	AI-enabled microgrid systems for energy optimization and carbon reduction	14% reduction in megawatt-hours (MWhs) and 28% reduction in carbon dioxide (CO_2) per site/year across 97 sites $430,000 annual net savings at pilot site
Siemens	AI control centre for building performance and energy efficiency	28% increase in comfort compliance 6.4% reduction in monthly energy cost in the first pilot deployment
Siemens and EthonAI	Industrial AI framework for quality control and operational excellence	Over $10 million projected savings 20 factories in rollout; expansion planned Inspection setup time reduced from days to minutes Early defect detection; zero customer complaints target
Tsinghua University and Electroder	Democratizing battery cell design and AI simulations	3.6 times faster concept-to-prototype 40% reduction in material and energy waste
University of California, San Francisco (UCSF) Institute for Neurodegenerative Diseases and SandboxAQ	AI-enabled discovery framework for neurodegenerative disease therapeutics	Virtually screened 5.6 million compounds in weeks, narrowing the pool to 7,000 for lab testing; a 36-fold reduction in effort 36 times narrowing in weeks 30 times higher hit rates versus traditional screening
AMD (Advanced Micro Devices) and Synopsys	Reengineering chip design with reinforcement learning and agentic AI	2 times faster chip design 5 times lower costs Fewer defects, improved reliability
CATL	Physics-informed and agentic AI cell design platform for next-generation electric vehicle (EV) batteries	46% reduction in prototype development time Increase in prediction accuracy to 95% $140.6 million reduction per year in R&D costs
Cambridge Industries	Private large language model (LLM) infrastructure and edge intelligence for urban maintenance and construction safety	40% reduction in emergency road repair costs over 6 months Approximately $2 million reduction per year in maintenance costs per municipality 50% reduction in safety incidents
China Huaneng Clean Energy Research Institute; Huaneng Jilin Power Generation, New Energy Branch; China Huaneng Group, Jiangsu Branch	AI monitoring and control for renewable energy infrastructure and robotic intervention safety	Increase in data cleansing accuracy to 92% 25% increase in data processing speed Autonomous intervention capability enables safe robot-driven emergency operations Over 90% increase in accuracy for small and medium-sized pointer and dial defects
Deep Principle	Agentic AI for materials discovery	500–1,000 times faster identification of optimal candidates via virtual screening Up to 50% automated materials simulations (from near 0%) 30–50% cost reduction for experimental formulation
Landing Med	AI cytology and telepathology system for population-based cervical cancer screening	91% coverage across Chinese provinces 90% correct identification of positive cases, 6% increase from manual checks Five times more productive pathology screening
National Institute of Clean and Low-Carbon Energy	Policy-aware AI forecasting for electricity, carbon, coal and certificate markets	50% reduction in price forecast error versus existing methods 1% increase in forecast-driven trading optimization $14.06 million increase per year in revenue

FIGURE 2 | **Geographical distribution and measurable impacts of 2025 MINDS organizations** (continued)

Organization name	Application	Impact
Phagos	AI-guided phage therapy design platform for antibiotic-free animal health	95% selection accuracy Decrease in therapy development time (2 years to 2 months) 100% success rate against salmonella in live chickens
Sanofi and OAO	Agent-powered AI transformation engine accelerating time from discovery to patient impact	40% AI readiness uplift; over 1,400 employees activated to unleash over 1,300 AI innovations Global single-digit percentage sales increase, 10 times ROI
Schneider Electric	On-device AI for efficient room control including HVAC energy optimization and automated comfort management	Up to 15% energy savings within weeks of deployment Indoor comfort consistency with global standards (ASHRAE 55)
Social Medical Corporation Genshukai and Fujitsu	AI agent systems for hospital operations, bed management and patient flow optimization	10% annual revenue uplift from improved operations $7,000 monthly medical fee refunds due to compliance challenges, with complex regulations reduced to JPY 0 (Japanese yen) 400 fewer hours per month in staff time that was previously consumed by analogue processes for understanding regulations and bed control
State Grid Corporation of China	City-scale AI orchestration system for efficient and low-carbon grid dispatch and virtual power plant operations	$1.12 billion reduction in power grid construction and operation cost 510,000 ton reduction in carbon emissions per year 12% increase in multidimensional forecasting accuracy for real-time grid balance status
Tech Mahindra	Sovereign multilingual AI framework for national language inclusion and education access	Increase in conversational accuracy in Hindi and Bahasa (from 70% global benchmark to 92%) 35% reduction in translation errors Supported 3.8 million queries a month across citizen services, banking and healthcare; approximately 200 downloads per month of model/tooling
The Ministry of Health of Saudi Arabia and Amplifai Health	AI thermal imaging analytics for diabetic foot risk assessment	80% reduction in treatment costs for patients 12 times screening capacity, bridging the podiatry workforce gap by enabling nurses to conduct AI-assisted screenings, with specialists focusing on high-risk cases
Wumart and Dmall	Enterprise retail AI for pricing, loss prevention and energy management	$421 increase in gross profit per store/day 30% reduction in labour costs 26% reduction in energy use at flagship store

2 Key insights from MINDS organizations

AI creates value when it becomes a core asset, augments people, uses strong data and builds trust.

As organizations move beyond isolated AI experiments towards enterprise-wide transformation, distinct patterns emerge in how they integrate AI into their strategies, operations and workforce. Drawing from the examples of the MINDS organizations, several common shifts illustrate how AI is evolving from a technical capability to a source of long-term value creation.

2.1 **Insight 1:** Harnessing AI as a core part of how organizations work

Organizations are asking: “How can AI help us reimagine novel business models to enable new forms of competitive advantage?”.

The most advanced MINDS organizations are shifting from viewing AI as a tactical tool to a strategic capability embedded across the entire organization that shapes purpose and long-term impact. They are not asking, “Where can AI fit?” but rather, “How can AI help us reimagine novel business models to enable new forms of competitive advantage?”. In practice, this starts with leaders rethinking core processes to maximize the value from AI. AI objectives are now being embedded into team goals, and progress is being reviewed regularly to encourage active participation and balance top-down business outcomes and bottom-up innovation.

Success with AI comes from balancing short-term gains with long-horizon AI investments

Sustaining AI strategies requires balancing investments in proven, short-term ROI initiatives with longer-term, higher-risk bets that take time to mature but can reshape how organizations operate and compete. About 75% of applicants to the MINDS programme reinvest returns from current AI projects to expand adoption into new functions and fund strategic goals, while maintaining dedicated budgets for initiatives where ROI is still emerging.

By linking AI initiatives to long-term goals, organizations are moving beyond pilots and incremental gains, adapting AI to scale by creating new ways to innovate and amplify the impact of individual solutions across the organization (see Spotlight 1).

SPOTLIGHT 1

Social Medical Corporation Genshukai partners with Fujitsu to build the future of hospitals with AI agents

Japan's healthcare system faces deep structural challenges. More than 60% of medical institutions operate at a deficit, and staff shortages driven by demographic change threaten care quality and accessibility, especially in rural areas.[3] Social medical corporation Genshukai, a leading regional healthcare provider in Japan, aims to transform hospitals into hubs of medical excellence, human connection and sustainable management.

Genshukai partnered with Fujitsu to apply AI to the most complex aspects of hospital management. Fujitsu deploys specialized AI agents to tackle critical issues, enforcing medical record standards, optimizing bed allocation and improving coordination with referring facilities. These agents work collaboratively to streamline resources and enhance the patient and staff experience from admission to discharge.

Impact: By embedding AI into the organization's operating model rather than treating it as a short-term fix, Genshukai and Fujitsu demonstrate how technology can serve a long-term purpose: strengthening healthcare resilience and sustainability. Because the region's medical services harness a common system, the approach is highly scalable (over 8,000 medical institutions).

Financial sustainability and operational efficiency have improved – e.g. through measurable gains in cost savings (approximately $7,000), revenue uplift (approximately 10%) and hours saved across hospital management (approximately 400 hours per month).

Several MINDS have adopted this vision-led approach to reinvent discovery processes in areas such as pharmaceuticals and materials discovery, bringing functional leaps, innovation and efficiency that traditional research methods cannot yet deliver.

BOX 1

Rethinking scientific discovery

Deep Principle designed its research platform to power the future of chemical discovery. Rather than simply generating AI point solutions for tasks within the existing research process, it has created a modular intelligence system to deliver expert reasoning across a complete, reimagined research life cycle. This mindset shift enables broader thinking and impact – applying AI against the current limitations of scientific discovery to redesign it.

Additional value is unlocked when AI is treated as an enterprise-wide capability

To offer employees secure, centralized ways to innovate with AI, organizations are building shared AI infrastructure that serves the entire business. Organizations like the Industrial and Commercial Bank of China (ICBC) are integrating AI into their core systems so it supports everything from operations to innovation, allowing teams to experiment, learn and scale solutions more efficiently (see Spotlight 2).

This shift marks a higher level of AI maturity; AI is now a core enterprise capability, driving continuous improvement, innovation and long-term growth rather than being limited to one-off pilots.

SPOTLIGHT 2

ICBC builds AI as a foundation for innovative transformation

Even as AI technologies advance rapidly, their use in finance has remained limited by complex infrastructure, strict regulatory requirements and fragmented scenario-specific applications. ICBC's transformation began with the development of a 100-billion-parameter financial language model, created to enable a more integrated and intelligent way of working across the organization. Building on this foundation, ICBC now applies AI across more than 20 business domains – including credit, risk management, marketing and financial markets – through a centralized AI platform that enables the rapid deployment of specialized agents within minutes.

Impact: Validated by more than 10 global financial certification benchmarks, ICBC's AI platform has handled a cumulative 50,000 person-years of workload through evolving intelligent office models, revolutionizing transaction processing workflow and upgrading financial business tools.

Building on this AI-as-infrastructure foundation, MINDS organizations are expanding AI applications and deploying it across operations and global supply chains to improve responsiveness and efficiency.

BOX 2 **Unifying diagnostics with AI**

China Huaneng Clean Energy Research Institute applies this pattern to enable intelligent renewable energy infrastructure management. With the operational complexity of these environments growing, fragmented approaches can't keep up. Their AI-first approach lets them unify fault diagnostics, data and equipment management across disconnected sites, serving operations teams, maintenance engineers and remote monitoring staff.

BOX 3 **Supply chain transformation powered by AI agents**

Lenovo applies this pattern to orchestrate a global supply chain. With operations spanning 30 manufacturing sites, 48 logistics hubs, 2,000 suppliers and 180 markets, a hybrid AI suite led by an AI agent unifies forecasting, supplier risk sensing, inventory optimization and logistics routing, tightening the loop between planning and execution. Disruptions are flagged up to two weeks earlier, and decision-making time is reduced by 50–60% across global operations.

2.2 **Insight 2:** Amplifying strengths when humans and AI work together within a changing workforce

For most organizations, employees represent both the most critical user base and the greatest potential source for amplifying AI-driven impact. MINDS organizations are proving that successful AI adoption begins with people, not technology. They are focusing on bringing employees along the journey, harnessing human strengths and rethinking how work gets done in partnership with AI.

Successful AI adoption begins with people

MINDS organizations show that adoption accelerates when AI initiatives are co-designed with employees from the start. AI offers an opportunity to rethink workflows by engaging those who know them best, building ownership, increasing adoption and ensuring solutions meet real needs. This approach is reinforced through increased role-based upskilling, hands-on learning and AI champion networks, enabling people and technology to work seamlessly together.

BOX 4 **Empowering people to transform biopharma's processes**

Sanofi and OAO enabled 60,000 employees to co-create more than 1,300 AI use cases, embedding innovation into the fabric of their operations. The resulting transformation across Sanofi is supporting the biopharma company's acceleration of the process from drug discovery to patient impact.

Applicants to the MINDS programme are achieving faster, more sustained adoption by embedding AI directly into employees' daily work rather than treating it as a separate technical layer. By designing tools around employees' real needs and embedding AI literacy into learning programmes, these organizations enable workers to augment existing processes, unlocking higher adoption, trust and creativity (see Spotlight 3) and drawing on existing knowledge and insights.

Leaders are also cultivating transparency and trust with important change management practices such as open dialogue about AI's role, its impact on jobs and the skills needed to use it effectively. Regular communication and feedback help employees feel supported and confident as AI becomes part of their everyday work.

SPOTLIGHT 3

Cambridge Industries embeds AI into daily work to empower mid-skill workers

Cambridge Industries is taking a people-centred approach to AI adoption, empowering mid-skill workers involved in infrastructure management across African cities. Their approach is specifically aimed at workers who have traditionally lacked access to advanced engineering tools or decision-making roles.

Cambridge Industries equipped workers with mobile-first AI applications designed for accessibility and scale even in areas with constrained connectivity, budgets and technical capacity. The approach allows workers to apply AI in routine tasks without adding complexity to their workflows. For road maintenance, inspectors capture routine images that are analysed by AI to detect surface damage, predict deterioration and generate heatmaps used to prioritize repairs, enabling real-time infrastructure monitoring with minimal technical overhead. In construction, autonomous drones monitor active sites, flagging safety risks and translating complex safety manuals into actionable site-specific guidance delivered via WhatsApp or dashboards.

This transformation succeeds by bridging high-level engineering knowledge and everyday operational tasks. By embedding AI into the hands of local inspectors, technicians and site coordinators, it reaches the people who are closest to the challenge being addressed but who're often excluded from AI innovation.

Impact: Cambridge Industries cut emergency road repair costs by 40% within six months, issued 3,000 AI-generated safety alerts and reduced site safety incidents by 50%. These results highlight how embedding AI into frontline workflows, with accessible design and real-time insights, can drive operational efficiency, improve compliance and create safer, more resilient systems.

Amplifying specialized capabilities through human-AI collaboration

Leading MINDS organizations are using AI to enhance specialized expertise rather than replace it. Instead of confining AI to technical or data science teams, they are redesigning roles and workflows so experts across functions can use AI assistants at key decision points.

These organizations are drawing on the full spectrum of AI technologies (from ML to generative and agentic systems) to extend human capability in complex, knowledge-intensive domains such as biotechnology, healthcare and finance. AI enables specialists to explore more options, simulate complex scenarios and scale insights that were previously unattainable (see Spotlight 4).

This shift reflects a deeper maturity in AI adoption. Human expertise becomes the differentiator, and AI the force multiplier that unlocks new levels of precision, creativity and innovation. Instead of limiting AI to specialist teams, these organizations are redesigning roles, adding AI assistants for workers and embedding assistance into existing tools at key steps.

SPOTLIGHT 4

Phagos combines AI and human biologics expertise to scale innovation in animal health and reduce antibiotic dependence

Phagos is addressing one of agriculture's most pressing challenges: antimicrobial resistance driven by widespread use of antibiotics in livestock. Traditional development of bacteriophage (phage)-based therapies, a promising alternative to antibiotics, has been slow and resource-intensive. Phagos developed an AI-powered platform that integrates generative AI and ML models to predict phage–bacteria interactions directly from genomic sequences and rank optimal therapeutic combinations, drastically reducing development time.

The solution combines deep domain expertise held by humans with AI to address a challenge that has historically resisted scalable innovation. Expert microbiologists use the system daily to guide experimental design and interpret results, creating a feedback loop in which human expertise refines AI predictions and AI expands the scope of scientific exploration.

Impact: Phage therapy development timelines have dropped from 2 years to 2 months, and testing cycles from days to minutes. A pilot programme has shown 100% clinical efficacy against E. coli in live chickens.

MINDS organizations are also strategically introducing AI in situations where shortages of expert talent are limiting progress. This offers another path to scale the impact of critical and resource-limited expert knowledge.

BOX 5

AI-driven chip design

In semiconductor chip design, where human ingenuity is essential but talent shortages threaten progress, **AMD** is harnessing **Synopsys'** reinforcement learning and agentic workflows to take on more execution tasks, maximizing the knowledge and time of expert engineers. Their approach has doubled the speed for chip design, expanding the range of viable solutions and reducing time to market.

BOX 6

AI-enabled cervical cancer screening in remote areas

In healthcare, **Landing Med's** AI-enabled cervical cancer screening addresses a shortage of experts; there are fewer than 10 pathologists per million people to handle cervical cancer screenings in China. By triaging first-line sample reviews with AI and routing edge cases to experts, the system now covers 91% of the country's remote regions, improving early detection and expanding the reach of critical expertise.

BOX 7

AI-assisted diabetic foot detection

The **Ministry of Health of Saudi Arabia** is partnering with **Amplifai Health** to deploy an AI-powered thermal imaging solution for diabetic foot screening, addressing a rapidly growing challenge where the number of specialized professionals cannot meet national demand. The innovation delivers a 10 times increase in screening capacity, effectively bridging the podiatry workforce gap by enabling nurses to conduct AI-assisted screenings while specialists focus on high-risk cases, and reducing treatment costs by up to 80%. The solution has been validated through clinical trials and approved by regulatory authorities in Saudi Arabia, Bahrain and the United Arab Emirates.

2.3 **Insight 3:** Strengthening data foundations and augmented data sources to advance impact and scale

Scaling AI depends on mastering data at greater depth and precision than before.

MINDS organizations recognize that data is a fundamental driver of AI impacts. Yet, "data quality" remains the most oft-cited barrier to achieving such impact. To address it, organizations are actively building differentiated data advantages – centralizing structured and unstructured data, and augmenting it with synthetic, real-time and physics-based data to unlock new frontiers of innovation. This shift signals that scaling AI depends on mastering data at greater depth and precision than before.

Digital natives and industry incumbents have different data advantages when scaling AI

Whether through modern design or legacy data transformed into intelligence, or through strategic alliances, MINDS organizations are finding distinct paths to scale AI effectively.

- **Digital natives:** Many digital-native organizations had early structural advantages, including integrated data ecosystems allowing high-velocity expansion. They have converted this foundation into intelligence platforms that continuously generate insights and value.
- **Industry incumbents:** Established industry players are converting their own unique assets into differentiators – particularly their deep reservoirs of proprietary and unstructured data accumulated over decades (see Spotlight 5). Several incumbent MINDS organizations are also extracting new value from proprietary and legacy data through code and workflow assistants, a proven use case for large language models (LLMs). When such assistants are grounded in an organization's own archives of knowledge, they become significantly more effective, with specific responses aligned with internal standards.

BOX 8

Enabling an agile supply chain with AI

Black Lake Technologies exemplified this approach. Building on a robust data foundation and a unified technology architecture, Black Lake combines structured, unstructured and synthetic data through a single platform to support flexible supply-chain coordination. By using AI to automate design, modelling and part decomposition that was traditionally manual, creators can bring new products to market faster, while SME factories with surplus capacity can take on more high-quality orders. This enables more flexible production: cycle times drop from 6–12 months to 1–3 months, minimum order sizes shrink from 10,000 units to 100, and capacity use rises from 65% to 83%, demonstrating how a digital native translates data and process innovation into measurable impact with AI.

SPOTLIGHT 5

CATL's transformation of terabytes of data into an intelligent battery cell design system

CATL (Contemporary Amperex Technology) turned a deep reservoir of proprietary, multimodal data into a sustained AI advantage. The company developed an AI-powered battery cell design platform that fuses physics-informed ML with transformer models and a unified pipeline for time series, text, image and graph data. Harnessing 600 terabytes (TB) of historical testing across hundreds of thousands of design cases, the platform automates data collection, cleaning, feature engineering and model training while enabling reuse of data, models and compute across products and plants. It replaces manual trial-and-error design cycles (which often last weeks) with AI-driven recommendations generated in seconds and parameter optimization completed in minutes.

Impact: CATL compressed design from two weeks to minutes, cutting prototype cycles from 24 to 13 months and raising the accuracy of new designs from 70% to 95%. Savings of $140.6 million per year were achieved.

BOX 9

Enterprise resource planning (ERP) cloud migration copilot

To streamline complex enterprise resource planning (ERP) cloud migrations, **KPMG** coupled **SAP's** AI copilot with 200,000 pages of proprietary documentation and terabytes of curated help content and best practices from previous migration projects (up to 9 terabytes of content/3 million documents). The resulting solution incorporates prior learning while delivering projects faster, aiming for an 18% faster migration rate with 50% less code reworks.

BOX 10

AI agents for code migration

In their AI-powered platform migration solution, **EXL** fine-tuned LLMs on historical migration life cycle data, then orchestrated a multi-agent platform. This platform uses that institutional memory to reduce rework, auto-convert almost 80% of the code (while improving quality) and shorten project timelines.

Data gaps are being closed with various augmentation strategies

While extensive datasets have long been considered a prerequisite for impactful AI, MINDS organizations are showing that innovation does not have to stall in data-scarce environments (see Spotlight 6). These organizations are mitigating dependence on massive datasets by combining domain expertise, alternative data streams and advanced modelling techniques to unlock new levels of AI-driven impact.

SPOTLIGHT 6

University of California, San Francisco and SandboxAQ – physics-guided AI under data scarcity

University of California, San Francisco's (UCSF) Institute for Neurodegenerative Diseases partnered with SandboxAQ to speed up drug discovery for neurodegenerative diseases, like Parkinson's and Alzheimer's, by combining AI with quantum chemistry and physics-based simulations. Instead of relying only on large, labelled datasets, the team runs simulations that estimate how well a molecule might bind to a target and uses those results as high-quality guidance signals for the AI ranking models. It represents a smart data augmentation; physics adds trustworthy "labels" where real data are limited, so that AI can explore a much larger chemical space with higher precision.

Impact: With this approach, UCSF expanded screening from about 250,000 to 5.6 million compounds, narrowing to around 7,000 for lab testing in weeks. This represents a 36-fold reduction in experimental effort and a 30-fold boost in hit rates versus traditional methods.

Other MINDS organizations are incorporating physics-based models, among others, to augment limited datasets in design and production processes.

BOX 11

Democratizing battery cell development

Tsinghua University, working with **Electroder**, brought this approach to battery cell development. They integrated multiple data sources with mathematical and computational models representing the physical laws underlying a system. They also incorporated a chat assistant to extract design insights from uploaded scientific papers. Ultimately, these efforts sped up the development process by 3.6 times.

BOX 12

Physics-informed AI in data scarce environments

CATL and AIMS (Hangzhou Augmented Intelligence Manufacturing Solution) used a data augmentation strategy in industrial operations, where a key goal is to reduce failures. Failures are infrequent enough to begin with, however, that there's limited data to draw on related to past events. They deployed a hybrid solution combining physics-based models, expert rules and ML to learn from limited, imbalanced and noisy data while adapting to changing conditions. Their approach led to a 50% production speed increase and a 50% drop in quality consistency variation.

MINDS organizations are also successfully adopting data augmentation strategies that pair real-time data sources with legacy and historical data to amplify AI impact.

BOX 13

Augmenting forecasting with new data sources

Horizon Power and TerraQuanta combine real-time observations with 40 years of historical weather data to improve weather forecasting, enabling better planning and less reactivity in energy trading markets. Their AI-powered forecasting achieves 50,000 times more efficiency over traditional models and improves electricity price forecasts.

In the same sector, the **National Institute of Clean-and-Low-Carbon Energy** built an AI forecasting layer that pairs real-time data like electricity prices and carbon allowance trades with a language model specialized in energy policy and market analysis. This augmented approach gives analysts and planners in energy markets earlier, clearer signals, driving increased sales revenue from trading optimization.

Overall, high-performing systems require data that is accurate, relevant and fit for purpose. For leaders, the key question is whether their data foundation supports their AI ambition. Beyond quality and access, two factors are prioritized:

- **Regulatory compliance requirements** can determine what data can be used and shared, particularly in healthcare and financial services. For instance, synthetic data accelerates pharmaceutical research but still falls short of approval standards in most countries.
- **Collaborative data ecosystems** also drive progress, especially for domain-specific and global challenges. As seen during the COVID-19 pandemic, healthcare organizations advanced faster by sharing treatment and outcome data. Organizations can advance such efforts by participating in collaborative ecosystems that create shared resources without exposing raw data.[4]

2.4 **Insight 4:** Modernizing the technology stack for advanced AI capabilities

MINDS organizations are rethinking the foundations of their technology to stay competitive and agile to evolving business needs.

AI, and generative AI in particular, offers organizations a way to get more from their computing infrastructure while simultaneously placing new demands on it. Among all applicants to the MINDS programme, "limitations of technical infrastructure" was cited among the top three challenges to achieving AI impact. Across the board, the focus is moving from simply expanding infrastructure to developing strategic engineering capabilities that create the right conditions for AI to deliver impact at scale.

Unified AI platforms enable scalability and agility, unlike fragmented point solutions

MINDS organizations are rethinking the foundations of their technology to stay competitive and agile to evolving business needs. On the hardware side, they are expanding computing power, improving data storage and connecting edge devices that process information closer to where it is generated (such as in factories, hospitals or logistics centres). On the software side, they are building unified data environments that connect models, workflows and applications, supported by robust security and model-serving capabilities. Together, these integrated platforms become strategic enablers for AI, reaching far beyond what fragmented point solutions can offer (see Spotlight 7).

SPOTLIGHT 7

State Grid Corporation of China's platform for city-scale intelligent energy management in Shanghai

Shanghai's rapid growth has created immense pressure on its power grid, which serves more than 12 million residential and corporate users with increasingly fragmented and renewable-heavy energy profiles. Traditional forecasting and trading systems cannot keep pace with this complexity. To solve this, State Grid Corporation of China launched the Intelligent Energy Management Master, a city-scale AI platform that uses orchestration rather than isolated tools.

The platform integrates four intelligent agents for forecasting, trading, regulation and settlement within a unified system used by grid operators and energy managers. Generative AI optimizes decisions under tight constraints, while human-in-the-loop oversight ensures trust and scalability through intuitive dashboards that visualize real-time data and resource flows.

Impact: As a result of its platform-centric AI strategy, forecasting accuracy improved by 12.5%, grid reliability reached 99.9983%, and the system saved over $1.12 billion by avoiding costly new generation and transmission investments.

By embedding AI into unified architectures, organizations can unlock interoperability and scalability, reduce redundancy and accelerate time-to-value in multiple applications. AI platforms also provide structural flexibility to adapt to evolving market conditions and regulatory landscapes. This positions organizations not only to optimize current processes but also to lead in shaping future industry standards and impacting sustainable growth in an AI-driven economy.

BOX 14 **Unified platforms for building efficiency and quality controls**

Siemens applies a platform-based AI approach across multiple domains, including building efficiency and comfort (where AI-based closed-loop HVAC optimization improves comfort compliance by 28% while reducing monthly energy consumption) and quality control (where Siemens standardized their inspections with **EthonAI's** industrial AI platform). The latter, integrated with Siemens Industrial Edge, enables factories across Europe, North America and Asia to automate millions of visual inspections and uncover inefficiencies through causal AI. Standardizing visual inspection via a unified platform – rather than isolated point solutions – enables savings between $34,000–115,000 per inspection station deployed.

Organizations are pursuing diverse strategies to design optimal AI computing infrastructure

Some MINDS organizations are harnessing private infrastructure to fine-tune models and take advantage of capabilities like retrieval-augmented generation (RAG) and agentic systems. Their approach prioritizes sovereignty and compliance while ensuring dedicated performance and control over sensitive workloads.

Other MINDS organizations embrace hybrid architectures that combine edge and cloud computing. In these systems, data from machines and sensors is analysed first at the edge for speed and then in the cloud for deeper insights. This process, supported by custom middleware software, bridges the two layers. Such hybrid approaches prove effective in managing costs while keeping solutions scalable.

BOX 15

Railway intelligence platform

Hitachi Rail's AI-powered digital asset management platform integrates real-time data from trains, signalling systems and infrastructure to optimize maintenance, reduce costs and improve operational efficiency across railway networks.

BOX 16

Microgrid optimization

Schneider Electric introduced an intelligence platform to automate complex energy decisions across diverse facilities ranging from campuses to industrial sites, with a cloud-based model predictive control (MPC) optimizer connected to an edge controller, turning each facility's solar panel, batteries, electric vehicle (EV) chargers and flexible loads into a self-learning microgrid. Ultimately, it cuts emissions and costs without sacrificing sites' workloads.

BOX 17

AI for commercial building efficiency

Siemens has applied an edge-cloud model to commercial building operations. Its AI system optimizes heating, ventilation and air conditioning (HVAC) systems in real time, combining live data, occupancy forecasts and weather insights to optimize comfort and efficiency without new infrastructure. In pilot sites, the system improved comfort compliance by over 25% and cut energy use by more than 6%.

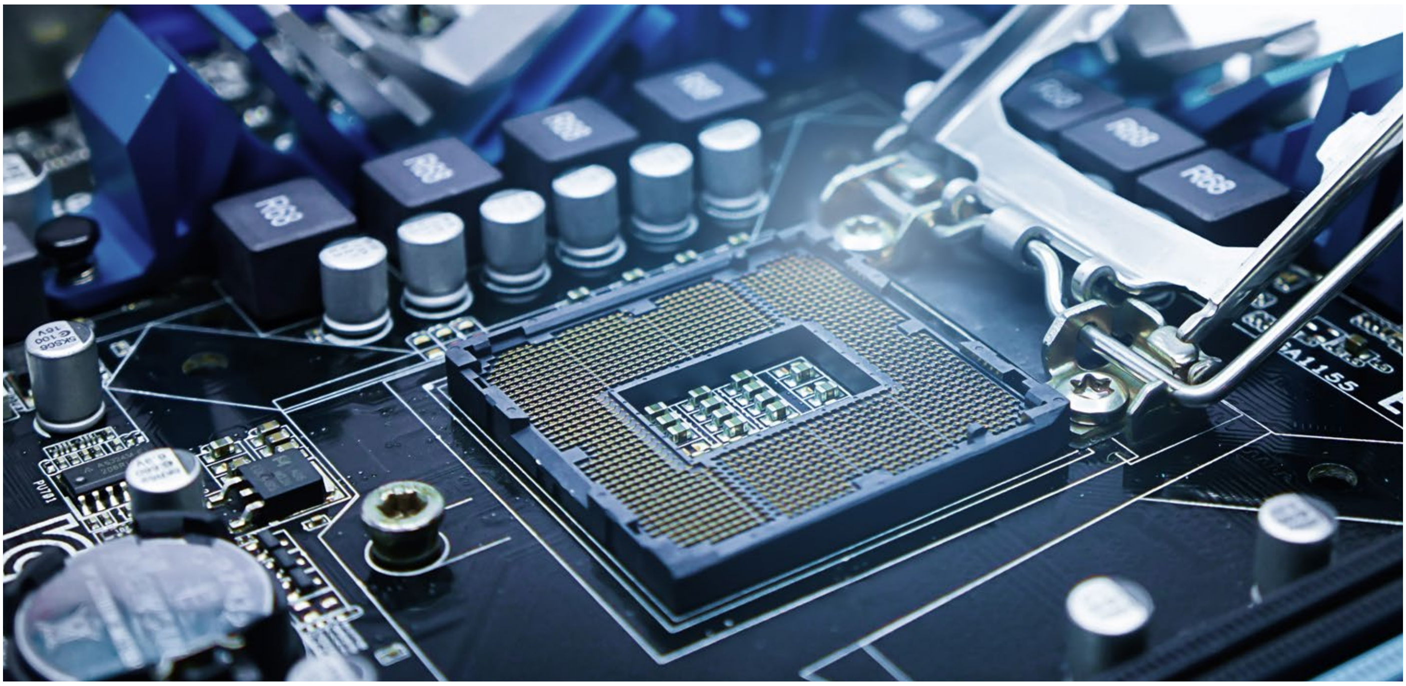
Some MINDS organizations modern AI infrastructure stacks are combining edge computing for latency-sensitive and cost-critical workloads, with cloud and high-performance computing (HPC) for large-scale training and orchestration (see Spotlight 8). Others are also introducing custom silicon to reshape unit economics and gain a competitive advantage through specialized hardware acceleration (see Spotlight 9).

SPOTLIGHT 8

Ant Group's hybrid AI infrastructure approach to transforming patient care

The Ant Group is tackling fragmentation within healthcare and improving efficiency across the entire patient journey by deploying a hybrid edge-to-cloud architecture. Real-time voice and digital-human interfaces run at the edge for low-latency, natural patient interactions, while distributed cloud training accelerates model updates at scale. This multimodal system processes text, imaging and sensor data securely. By combining privacy-first design, on-premise compliance and edge-cloud synergy, Ant Group delivers scalable and cost-efficient AI that transforms care delivery from disconnected tools into an intelligent, end-to-end service layer.

Impact: Ant Group's edge-cloud architecture doubles model update speed and reduces medical literature search times by 80%. This strategic blend of edge and HPC drives scalable, secure AI for healthcare, enabling inclusive and integrated patient care with specialist-level reasoning for over 5,000 diseases across 70 departments, and diagnostic accuracy above 90%.



SPOTLIGHT 9

Hyundai and DEEPX optimize for real-time edge computing

Hyundai and DEEPX are redefining AI infrastructure for robotics by integrating custom AI semiconductors for hardware acceleration with proprietary optimization software. This approach enables real-time inference on compact, battery-powered delivery robots without relying on cloud connectivity or energy-intensive graphics processing units (GPUs). Their chips deliver GPU-level performance while reducing power consumption and heat generation, critical for indoor environments with strict energy constraints.

Supported by development tools for building applications, the solution accelerates deployment and scalability across edge applications.

Impact: Hyundai and DEEPX's patented AI hardware and software bring real-time intelligence to edge devices with 70% less power. This enables affordable, scalable automation for robotics and internet of things (IoT), improving operational efficiency and presenting new opportunities for innovation.

Analysis of all applicants to the MINDS programme shows that, while cloud adoption has unlocked scalability and innovation, organizations continue to navigate a dynamic balance between on-premises and cloud investments. Competing priorities such as cost, standardization, flexibility, sovereignty and risk diversification are driving ongoing trade-offs. As such, organizations are investing in a range of AI infrastructure modernization strategies:

– Overall, 55% of all applicants to MINDS represented **hybrid architectures**, blending on-premises and cloud capacity to balance control, flexibility and scalability. This enabled organizations to handle multi-domain workloads, expand R&D capacity and integrate diverse AI tools across functions, supporting complex use cases in larger organizations.

– In total, 15% of applicants are anchoring **on-premises computing infrastructure** in environments where sovereignty and data ownership dominate, including in-house LLMs, or where raw performance is critical, e.g. simulation-heavy R&D.

– Additionally, 30% of applicants are pursuing a **cloud-first infrastructure** strategy for flexibility, speed, global reach and instant access to cutting-edge AI services. Example workloads include marketing analytics and mainstream software development, where agility represents a key advantage.

– **Edge computing** served as an add-on capability for 18% of all applicants, bringing inference to where data is generated to achieve real-time responsiveness and energy-aware scale in distributed settings such as smart manufacturing cells, robotics lines and dense IoT networks.

– For the heaviest computing power lifts, 5% of applicants turned to **high-performance computing** to underwrite model training and physics-grade simulations.

2.5 **Insight 5:** Scaling AI with confidence through responsible AI practices

The 'trust-by-design' paradigm is fast becoming a foundation for enterprise-scale AI transformation.

Beyond data quality and technical limits, many MINDS organizations identify trust, reliability, accuracy, human oversight and compliance as core challenges. Sustainable AI adoption requires an ecosystem of well-designed principles, practices and controls – collectively referred to as "responsible AI" – to effectively govern the technology for desirable outcomes.[5] As AI transforms more business processes, organizations must operationalize responsible AI at scale to ensure trust, resilience and meaningful human judgment where it matters most.

Technical controls are being embedded into AI systems to cultivate trust and enable scalable governance

Several MINDS organizations are shifting from policy-heavy oversight to technology-enabled governance, embedding responsible AI principles directly into the systems and operational workflows themselves. This approach to adaptive governance moves beyond static guidelines towards dynamic real-time enforcement of trust mechanisms (such as traceability, explainability and fairness) directly within the AI life cycle.

By integrating controls like model monitoring, bias detection and secure data pipelines into composable AI platforms and agentic AI systems, organizations are preparing resilient infrastructures capable of scaling with responsibility in mind. For example, organizations like CATL and Deep Principle have implemented multi-tiered security systems and automated compliance checks that align with global AI governance frameworks and regulatory standards while maintaining human oversight where appropriate.

These safeguards cut risk and speed deployment by embedding governance from the outset. This "trust-by-design" paradigm is fast becoming a foundation for enterprise-scale AI transformation.

Human oversight is being right-sized for varying degrees of automated decision-making

A more nuanced model of human oversight is emerging. Rather than inserting humans into every decision loop, organizations are calibrating oversight to the level of autonomy, risk and decision complexity, signalling a mature, context-aware approach to responsible AI.

Across the MINDS cohorts, three governance archetypes are emerging:

- **Full autonomy with human override capabilities:** In low-risk, well-bounded environments, AI systems are granted full autonomy with the option for human override. Siemens and Schneider Electric exemplify this model, using AI to autonomously optimize building temperatures. These systems act directly on the physical world, but the consequences of error are minimal and reversible, making light-touch oversight sufficient.

- **Bounded autonomy in structured contexts:** In moderately complex scenarios, AI operates within predefined action spaces and structured environments. Lenovo and Fujitsu's supply chain orchestration systems, and EXL's coding assistants, fall into this category. Here, AI agents make decisions independently but within tightly scoped parameters, ensuring that governance is embedded through design constraints rather than constant human supervision.

- **Human-governed autonomy for high-stakes decisions:** In high-risk or sensitive domains, human oversight remains essential. Whether it's Ant Group's diagnostic AI or State Grid Corporation of China's grid management systems, these applications require human validation before AI outputs are acted upon.

This tiered approach shows that the level of human involvement should be proportional to the potential impact of its decisions and the context within which they are made. Rather than defaulting to binary governance models, organizations appear to be experimenting with risk-calibrated approaches in which human roles are strategically designed to complement AI capabilities.

2.6 Amplifying impact through the interplay of key insights

Among the MINDS organizations, the strongest results appeared when organizations' efforts aligned with more than one of the five key insights shared above. These organizations demonstrated that the insights are not merely additive, but work cumulatively to create a multiplying effect, amplifying impact across business, society and the environment (see Spotlight 10).

SPOTLIGHT 10

Foxconn's transformation for self-learning factories

Foxconn's Project Genesis, developed in partnership with Boston Consulting Group (BCG), illustrates the combinatorial effect at work: the interplay between robust AI infrastructure, codified human expertise and a long-term vision guided by AI agents. Its goal is to redefine electronics manufacturing with AI infrastructure designed for autonomous, self-evolving factories.

Overall, six breakthrough AI applications provide the foundation for the company's next wave of digital transformation. Multiple agents enable shopfloor managers to monitor capacity, maintenance and layout optimization with precision and speed, moving operations from intelligence to autonomy and from experience-driven workflows to continuously learning systems.

Crucially, Foxconn has digitalized decades of manufacturing know-how from experienced masters and paired technology with a mindset shift across global teams so that GenAI complements rather than replaces expert work. As Foxconn notes, "AI can power production, people power transformation".

Impact: 50% reduction in workload related to changeover; 30% decrease in problem resolution time; approximate 10% decrease in cycle time

BOX 18

A unified approach to retail operations

Wumart and Dmall's efforts to embed AI as a core capability within the company transformed retail operations by pairing optimal AI infrastructure with real-time data and scenario libraries for continuous improvement. Their approach moved the organization from digitally enabled stores to AI-orchestrated operations, addressing fragmented tools, manual routines and inconsistent execution. This resulted in significant daily profit increases, loss prevention and energy savings of 26%, demonstrating that infrastructure modernization, data strategy and workforce engagement are most powerful when pursued in tandem.

BOX 19

Sovereign LLM for cultural integration

Tech Mahindra's approach to scaling language-inclusive AI models for public services is another powerful illustration of the combinatorial effect. By designing a multilingual, multimodal large language model tailored for low-resource languages and dialects, Tech Mahindra simultaneously tackled challenges in data diversity, technology stack modernization and responsible AI. Their system was trained using reinforcement learning with native speakers, ensuring contextual relevance and cultural alignment, while its modular architecture supported extensibility and data sovereignty. This strategy not only advanced inclusion and accessibility in citizen services, banking and healthcare, but also demonstrated how combining data strategy, infrastructure and responsible innovation can drive equitable and scalable impact.

Conclusion

The inaugural MINDS programme cohorts demonstrate that the journey to impactful and responsible AI adoption is neither linear nor uniform. Across hundreds of organizations and diverse industries, the most successful transformations have been driven by a combination of strategic long-term vision, robust data foundations, modernized technology stacks and commitment to workforce empowerment. While the report highlights major present shifts, MINDS applications also revealed emerging signals that are poised to grow stronger and impact future cohorts as more organizations adopt AI at scale:

– Advances in AI reliability and explainability will be essential for building trust and unlocking new opportunities, especially in high-stakes environments.

– Collaborative data ecosystems and privacy-preserving techniques will accelerate progress on complex industry or societal challenges, enabling broader and more secure AI solutions.

– Clear terminology and standards for AI solutions will cultivate credibility and effective collaboration, helping organizations communicate ambitions and adopt best practices with confidence.

By sharing practical insights, measurable outcomes and lessons learned from real-world pioneers, the MINDS programme serves as a beacon for others to accelerate their own AI ambitions, from experimentation to meaningful transformation. As the MINDS ecosystem continues to evolve, the interplay of these foundational and emerging insights will be essential for organizations seeking to unlock sustainable value and shape a future where AI serves both business and humanity.

Contributors

World Economic Forum

Maria Basso
Head, AI Applications and Impact

Federico Capaccio
Specialist, Applied AI

Fatima Gonzalez-Novo
Specialist, AI Applications and Impact

Jill Hoang
Initiatives Lead, Applied AI

Cathy Li
Head, Centre for AI Excellence; Member, Executive Committee

Accenture

Anne Groeppelin
Managing Director, Strategy

Karen O'Regan
Managing Director, Strategy

Luigi Scorzato
Manager, Data Engineering, Management and Governance

Manal Siddiqui
Senior Manager, Responsible AI; Canada Lead

Michelle Sipics
Associate Director, Strategic Programs, Innovation

Acknowledgements

The authors extend their gratitude to all applicants to the MINDS programme, Impact Council members and additional contributors who shared their valuable insights. A complete list of acknowledgements can be found on the initiative's homepage.

World Economic Forum

Tarik Fayad
Lead, Strategic Integration

Na Na
Lead, Industrial and Tech Transformation Content and Programming

Chiharu Nakayama
Initiatives Lead, Centre for AI Excellence

Harsh Sharma
Lead, Artificial Intelligence and Machine Learning

Accenture

Ricardo Ferreira
Senior Manager, Technology Strategy

Shivansh Gupta
Research Specialist

Reine Khoury
Senior Strategy Consultant

Alexa Lane
Strategy Analyst

Organizations

Accenture

ADQ

AMD

Amplifai Health

Ant Group

Black Lake Technologies

BP

Cambridge Industries

CATL

Centre for the Fourth Indusrial Revolution Rwanda

China Huaneng Clean Energy Research Institute (CERI)

China Huaneng Group, Jiangsu Branch

Cognizant

CrowdStrike

Cyber-Human Lab, University of Cambridge

Deep Principle

DEEPX

Digital Green

Dmall

Dow Jones & Company

Electroder

EthonAI

EXL Service

Foxconn Industrial Internet

Foxconn Technology Group

Fujitsu

Google

Hangzhou Augmented Intelligence Manufacturing Solution (AIMS)

HCLTech

Hitachi Rail

Horizon Power

Huaneng Jilin Power Generation, New Energy Branch

Hyundai Motor Group Robotics LAB

Industrial and Commercial Bank of China (ICBC)

Infosys

Johnson & Johnson

KPMG

Landing Med

Lenovo

Massachusetts Institute of Technology (MIT)

Ministry of Health of Saudi Arabia

Mubadala Investment Company

MUFG Bank

National Institute of Clean-And-Low-Carbon Energy (NICE)

OAO

PepsiCo

Phagos

Rockwell Automation

SandboxAQ

Sanofi

SAP

Schneider Electric

Siemens

Social Medical Corporation Genshukai

Stanford University

State Grid Corporation of China (SGCC)

Swiss Mobile Data

Synopsys

Tech Mahindra

TerraQuanta

Tsinghua University

UCSF Institute for Neurodegenerative Diseases

Wumart

Zurich Insurance Group

Production

Louis Chaplin
Editor, Studio Miko

Rose Chilvers
Designer, Studio Miko

Laurence Denmark
Creative Director, Studio Miko

Endnotes

1. Accenture. (2025). *The Front-Runners' Guide to Scaling AI: Lessons From Industry Leaders*. https://www.accenture.com/content/dam/accenture/final/accenture-com/document-3/Accenture-Front-Runners-Guide-Scaling-AI-2025-POV.pdf.
2. Ibid.
3. Yomiuri Shimbun. (2025). *Over 60% of Japan's hospitals operating at deficit as cost of living and labor rises, survey says*. https://japannews.yomiuri.co.jp/society/general-news/20250313-243140/.
4. World Economic Forum. (2022). *Unlocking Greater Insights with Data Collaboration*. https://www3.weforum.org/docs/WEF_Unlocking_Greater_Insights_2022.pdf; World Economic Forum. (2025). *Synthetic Data: The New Data Frontier*. https://reports.weforum.org/docs/WEF_Synthetic_Data_2025.pdf.
5. World Economic Forum. (2025). *Advancing Responsible AI Innovation: A Playbook*. https://reports.weforum.org/docs/WEF_Advancing_Responsible_AI_Innovation_A_Playbook_2025.pdf.

COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

The World Economic Forum, committed to improving the state of the world, is the International Organization for Public-Private Cooperation.

The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744
contact@weforum.org
www.weforum.org