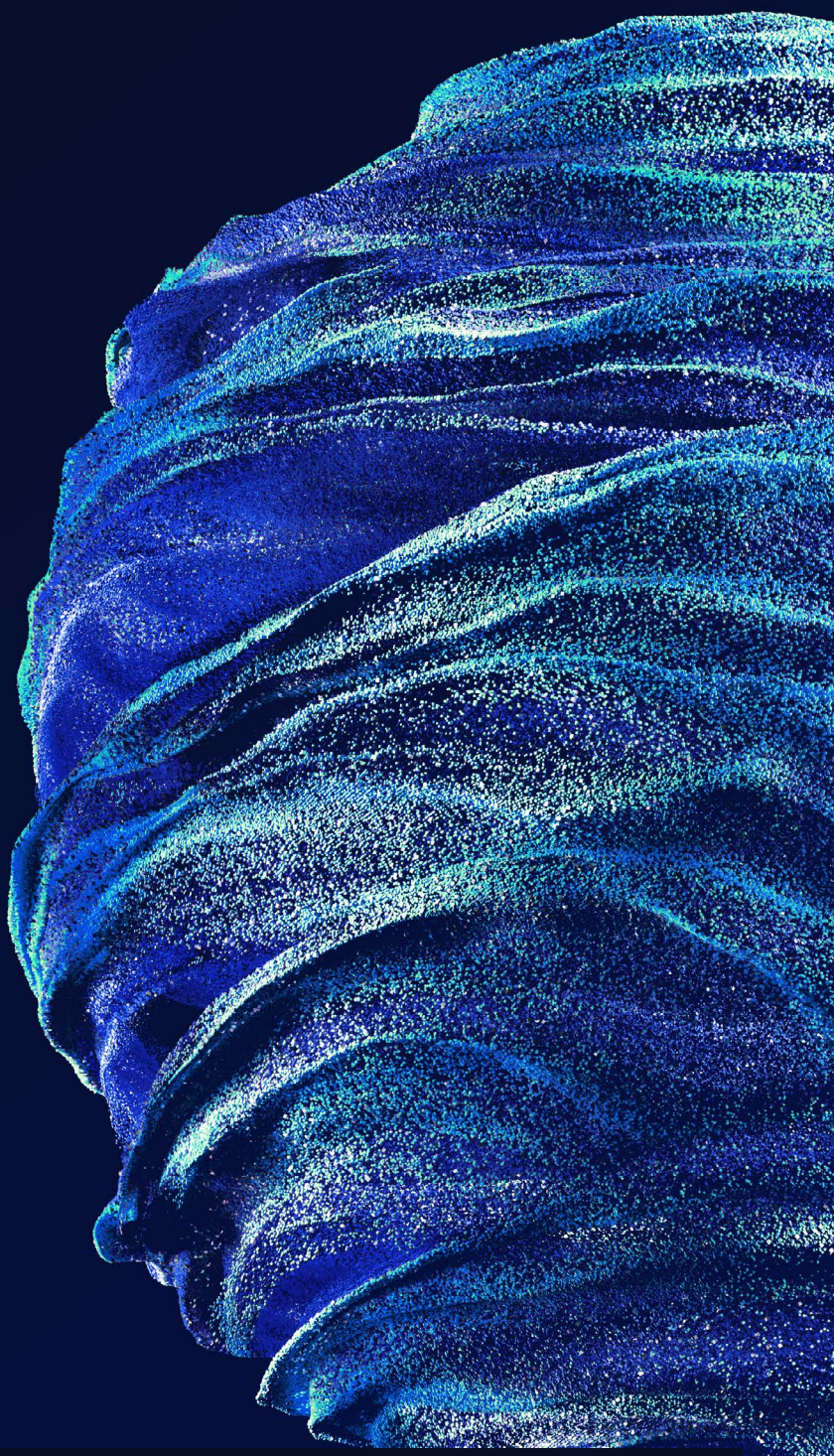
NTT DATA

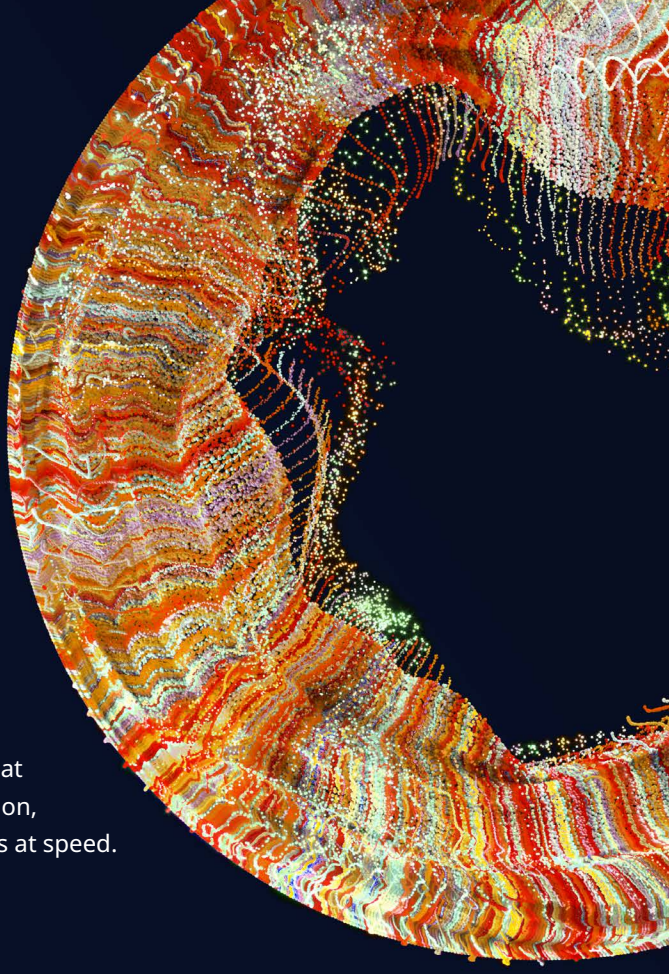


The era of mass intelligence

Intelligence becomes a shared capability

We are entering an era where intelligence is embedded across systems, processes and products. It is no longer centralized but distributed at scale. AI now supports how people reason, decide and act, amplifying human capability rather than replacing it.

Six macrotrends form part of this shift.
Together, they are shaping the architecture of the future.



01

Human-orchestrated autonomy

Autonomous systems are a core building block of mass intelligence

Autonomy is shifting from isolated automation to coordinated systems that act across digital and physical environments. However, humans set direction, boundaries and accountability, while intelligent agents carry out decisions at speed.

Technology landscape

Now

Organizations are deploying transparent, supervised, sustainable autonomous systems that align with human intent and provide responsible oversight.

Next

Enterprises scale autonomy with multiagent coordination, dynamic decision routing and transparent reasoning to promote safety and maintain compliance.

Beyond

System-level autonomy embeds self-regulation, collective intelligence and bio-digital interfaces, transforming organizations and public services.

Strategic takeaways

- Treat autonomy as a governed ecosystem, not a collection of tools.
- Invest in human-on-the-loop oversight as a core capability.
- Embed autonomy first in critical operations where speed and accountability matter most.

02

Embodied agency and emotions

Systems that respond to data and the human experience

Intelligence is moving beyond screens and commands and into systems that sense emotion, context and physical presence. Digital humans, robots and affect-aware interfaces respond to human experience.

Technology landscape

Now

Current emotional AI uses multimodal sensing, validated wearables, responsive platforms and protection mechanisms to improve wellbeing.

Next

Emerging technologies deliver deeper emotional interaction, adaptive digital humans and centralized perception–action models for richer, AI-embedded experiences.

Beyond

Frontier technologies enable autonomous systems to adapt environments and interactions using multimodal perception, neuroadaptive interfaces and synthetic empathy.



Strategic takeaways

- Build emotional intelligence into every human-facing system.
- Treat emotional data as high-sensitivity assets.
- Prepare for emotionally intelligent agents that co-work, co-teach and co-care.

03

Intelligence we trust

The stabilizing pillar of mass intelligence

As intelligence acts more independently, trust shifts from policy to infrastructure. Transparency, provenance and security determine whether intelligence can scale.



Technology landscape

Now

Organizations implement explainable AI, audit tools and robust security to promote integrity, accountability and safeguard against manipulation.

Next

Enterprises adopt scalable trust solutions, including AI monitoring, governance automation and quantum-safe security for resilient operations.

Beyond

Trust relies on global AI registries, standardized traceability and robust protections against misinformation and synthetic media.

Strategic takeaways

- Make trust a runtime capability, not a compliance layer.
- Strengthen AI security before scaling autonomy.
- Build cross-organizational trust networks.

04

Informed infrastructure

The operational substrate of mass intelligence

Infrastructure is no longer passive. It senses conditions, models outcomes and adapts in real time. Computing, connectivity and data work together as a foundation to support intelligent activity at every scale.



Technology landscape

Now

Organizations modernize digital infrastructure for AI, emphasizing cloud-edge orchestration, sovereignty and interoperability for connected operations.

Next

Infrastructure evolves for AI with transparency, resilience, sustainability, federated learning and adaptive governance driving distributed intelligence.

Beyond

Infrastructure is advancing toward autonomous, sovereign, globally interoperable systems, enabling intelligent, resilient operations for societies and economies.

Strategic takeaways

- Treat infrastructure as a strategic intelligence layer, not a technical utility.
- Build sovereignty and interoperability into architecture decisions now.
- Operationalize sustainability through intelligence, not reporting.

05

Sovereign silicon ecosystems

The hardware foundation of mass intelligence

Silicon now defines who can innovate, operate and protect critical systems. Nations and industries are building sovereign, resilient computing foundations.



Technology landscape

Now

Current sovereign computing relies on advanced chips, secure hardware, trusted supply chains and sustainable manufacturing for resilience and efficiency.

Next

Emerging technologies enhance sovereign AI with smarter designs, stronger security, sustainability and hybrid photonic-electronic architectures for future needs.

Beyond

Frontier technologies such as photonics and neuromorphic chips will enable autonomous, efficient and adaptive sovereign computing for national intelligence.

Strategic takeaways

- Treat silicon as national and enterprise-critical infrastructure.
- Build a heterogeneous, energy-efficient computing strategy.
- Embed hardware-rooted trust into every AI and infrastructure deployment.

06

From illusory efficiency to sufficiency

Reframing how mass intelligence evolves

Sufficiency prioritizes resilience and ecological alignment, optimizing resources for long-term stability and shared value instead of endless efficiency and growth.

Technology landscape

Now

Organizations use AI, IoT and smart infrastructure for immediate, measurable resource savings and compliance with sustainability standards.

Next

Enterprises adopt predictive, low-carbon systems and circularity, optimizing resources across supply chains and digital infrastructure.

Beyond

Sufficiency relies on societal infrastructure, planetary digital twins, fusion energy, regenerative materials and adaptive governance.

Strategic takeaways

- Shift from optimization to absolute reduction.
- Build a digital backbone for traceability and accountability.
- Operationalize circularity across value chains.

6 trends, 6 different industry applications



Automotive

Connected, software-defined vehicles raise the bar for secure updates, reliable software quality and integrated charging and energy experiences.



Banking

Banks are operating as regulated critical infrastructure, with rising expectations for instant services, trusted AI decisions and proven resilience across cloud, data and third parties.



Insurance

The industry is moving from reactive payouts to predictive, prevention-first resilience using digital twins, intelligent agents and continuous risk sensing.



Manufacturing

Factory operations are becoming more adaptive and resilient, powered by agentic automation, real-time decision-making and consolidated data across plants.



Pharmaceutical

R&D, clinical and manufacturing models are becoming more evidence-driven and inspection-ready, supported by digital twins and trusted AI governance.



Telecommunications

Operators are shifting from connectivity providers to outcome-based service platforms, using automation, programmable networks and real-time assurance to compete on cost and performance.



6 trends, 1 united transformation ecosystem

These six macrotrends are not evolving independently. They reinforce one another, creating a convergent system of change. By viewing these six macrotrends as interdependent components of mass intelligence, organizations can move from isolated initiatives to coherent strategies that align technology, purpose and long-term resilience.

NTT DATA stands ready to help

Our services include business and technology consulting, data and AI, and industry solutions, as well as the development, implementation and management of applications, infrastructure and connectivity.

Read the full report

Visit nttdata.com to learn more.

NTT DATA is a $30+ billion business and technology services leader in AI and digital infrastructure. We accelerate client success and positively impact society through responsible innovation. As a Global Top Employer, we have experts in more than 70 countries. NTT DATA is part of NTT Group.

NTT DATA