NTT DATA

NTT DATA Technology Foresight 2025

Understanding today's technological trends is essential for preparing for tomorrow's business success.

The NTT DATA Technology Foresight 2025 report traces the technology patterns that will become business realities, synthesizes complex data and recommends strategies for navigating the next wave of change.

This year's report identifies 5 trends to continue watching:

01

Enhanced humans

> Imagine a future where your potential isn't limited by time, task or knowledge.

The amplification of human abilities through synergistic collaboration between people and machines, using technologies such as artificial intelligence (AI), machine learning and automation

Reducing the time employees spend

daily on non-productive activities

Every day, the average employee spends:

20%
of their time searching for information.

28%
managing emails.

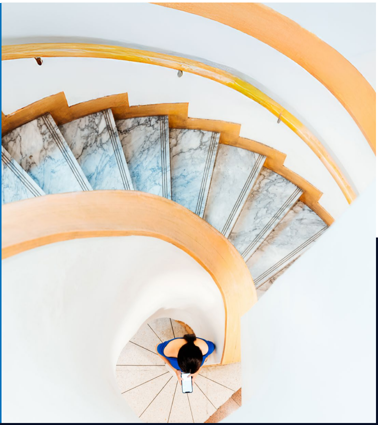
14%
collaborating.

€1.5 million

Annual savings an **organization with 1,000 employees** could realize by reducing the time people spend on searches **by 30 minutes daily**.

Technology–human integration is about

- Boosting workers' productivity
- Improving the quality of their outputs
- Arming them with skills to handle more complex and value-generating tasks

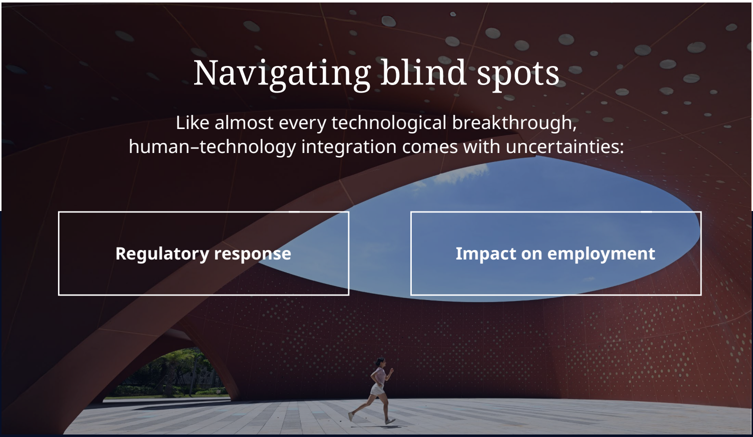


Technological advancements to continue monitoring

- Large language models (LLMs)
- GPT models
- OpenAI's o1 model
- Retrieval augmented generation (RAG)
- Digital humans (also called AI avatars)

4 strategies for success

1. Deploy safety and compliance guardrails
2. Prioritize organizational enablement through AI adoption
3. Make AI assistants part of daily life
4. Welcome AI as a partner in software development



Navigating blind spots

Like almost every technological breakthrough, human–technology integration comes with uncertainties:

Regulatory response

Impact on employment

Where to next?

Constantly adapt and integrate the latest tools and techniques.

Deploy transparent and explainable AI systems that comply with new laws.

Remember, critical thinking and targeted questioning remain essential.

Establish clarity for the ownership of AI models.

Ensure the value generated by AI services is shared.

Do this next

5 minutes

Prioritize key workflow bottlenecks.

5 days

Deploy a GenAI chatbot for internal queries.

5 months

Launch a cross-departmental AI enablement program.

02

Ambient intelligent experiences

> “Envision unlocking personalized customer journeys at every touchpoint, transforming interactions into lasting relationships.
>
> Redefining how customers and brands interact across different touchpoints and reshaping customer engagement

Delivering adaptive customer journeys and immediate, relevant interactions

73%

of customers cite experience as a key factor in their purchasing decisions.

70%

of CX leaders plan to integrate GenAI into many of their touchpoints in

90%

of contact centers report improvements in complaint-resolution speed and the next 2 years. call-volume processing using AI.

Chatbot-led customer service interactions cost

30%

less than agent-led interactions.

Ambient intelligent experiences allow organizations to:

- Proactively anticipate customer needs
- Nurture meaningful emotional connections
- Cultivate dedicated brand advocates

Technological advancements to continue monitoring

- Emotion AI and sentiment analysis technologies
- Recommendation engines
- Speech and gesture recognition
- Smart sensors
- RFID technology

4 strategies for success

1. Deploy intuitive user interfaces.
2. Invest in AI-powered customer engagement tools.
3. Use smart virtual assistants to provide personalized, context-aware customer support.
4. Unify customer experiences across multiple digital and physical platforms.

Navigating blind spots

Like almost every technological breakthrough, ambient intelligent experiences come with uncertainties:

Technological integration and interoperability issues

Consumer acceptance and behavioral changes

Where to next?

Continually integrate new tools to meet evolving customer expectations.

Deploy real-time data processing and sentiment analysis to deliver hyper-personalized experiences.

Ensure human-centric experiences feel both intuitive and personal.

Be clear on data ownership.

Maintain data privacy.

Do this next

5 minutes

Identify high-impact touchpoints.

5 days

Set up a sentiment-responsive system.

5 months

Create a cross-functional CX innovation team.

03

Digital sustainability for economic resilience

> “Envision resilience redefined by technology, harmonizing people, planet and prosperity.

An emerging business strategy that integrates environmental stewardship with economic growth

Encompasses environmental, social and personal dimensions, along with the principle of ownership, fostering individual and collective responsibility

20%

efficiency boosts in businesses that embrace sustainable practices.

94%

of consumers are more likely to be loyal to a brand that offers complete supply chain transparency.

63%–92%

accuracy using AI algorithms to detect mental illnesses.

Gamification for inclusivity and sustainability can lead to a

50%

increase in employee engagement.

By adopting digital sustainability practices, organizations can:

- Improve organizational resilience
- Meet rising consumer expectations for ethical operations
- Contribute to global social equity and ecological balance

Technological advancements to continue monitoring

- Trusted data spaces
- Smart grids
- Sustainable data centers
- Remote sensing technologies

4 strategies for success

① Digitally optimize energy and resource usage.

② Improve individuals’ and communities’ ability to adapt, recover and thrive in the face of environmental, social and economic challenges.

③ Build organizations’ and communities’ ability to withstand and recover from economic shocks.

④ Establish resilient societies through equitable access to resources.

Navigating blind spots

Like almost every technological breakthrough, digital sustainability for economic resilience comes with uncertainties:

Ensuring commitment to and progress toward decarbonization targets

Governments, industries and civil society aligning globally to tackle climate change

Where to next?

Adopt a holistic approach that integrates environmental, economic and social dimensions.

Use systems mapping and analysis tools to optimize these interconnected domains.

Balance the use of advanced technologies with ethical considerations to ensure social inclusiveness and address privacy concerns.

Do this next

5 minutes

Identify environmental priorities.

5 days

Pilot upskilling platforms.

5 months

Deploy policy-simulation tools.

04 Cognitive cloud convergence

> Picture a world where limitless possibilities await you at the intersection of technology and thought.

The seamless integration of advanced cloud computing technologies with AI and human cognitive abilities

Deriving deeper, real-time data insights that improve operations and enhance decision-making

175ZB

Projected global data volumes in 2025.

+15%

In 2024 the number of large organizations with a multicloud strategy reached 85%.

75%

of enterprise-generated data is expected to be created and processed outside a traditional centralized data center or cloud in 2025.

Cognitive cloud convergence helps organizations:

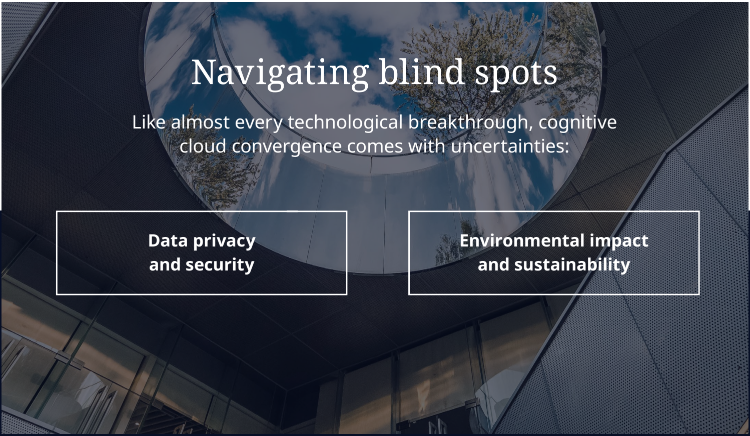
- Derive deeper insights from their data in real time
- Anticipate market trends and customer needs
- Better prioritize strategic initiatives

Technological advancements to continue monitoring

- Containerization
- Ochestration tools
- Edge-computing platforms
- Infrastructure as code
- AI and ML services

4 strategies for success

1. Fuse AI and cloud computing.
2. Capitalize on advances in cloud infrastructure.
3. Process data near its source (edge technologies and IoT).
4. Streamline and automate processes.



Navigating blind spots

Like almost every technological breakthrough, cognitive cloud convergence comes with uncertainties:

Data privacy and security

Environmental impact and sustainability

Where to next?

Embed cloud–AI synergy into core functions.

Prepare infrastructure to leverage edge capabilities for real-time responsiveness in critical processes.

Identify the workflow areas that would benefit most from automation.

Incorporate real-time data analytics into cloud strategies.

Do this next

5 minutes

Identify key business units for cloud–AI integration.

5 days

Assess edge and IoT infrastructure.

5 months

Launch an automation pilot.

05

Accelerated security fusion

> “Visualize a future where security becomes an invisible, adaptive force, always one step ahead.
>
> Cybersecurity transitions from a traditionally reactive function into a proactive and anticipatory strategy

Boosting defenses by integrating threat intelligence, ML and advanced real-time analytics across multiple security domains

69%

of executives believe AI will be necessary to respond to cyberattacks.

90%

of organizations are actively implementing or planning to explore LLM use cases.

5%

feel highly confident in their AI security preparedness.

90%

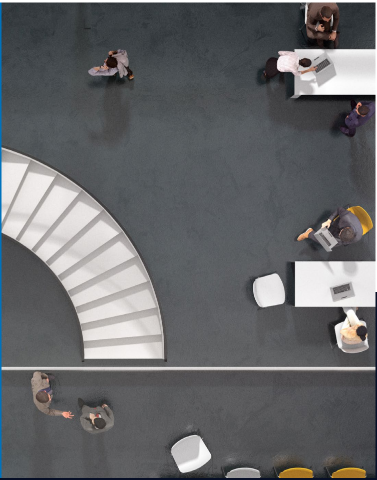
of companies experienced breaches in their AI systems over the past year.

62%

of organizations have deployed an AI package with at least one common vulnerability or exposure.

Accelerated security fusion allows organizations to create a unified defense system that:

- Identifies vulnerabilities proactively
- Streamlines response processes
- Strengthens their security posture across diverse operational environments



Technological advancements to continue monitoring

- Zero trust architecture
- Behavioral analytics
- Cyberfusion centers
- Encryption technologies

4 strategies for success

1. Integrate organizational strategies, new threat detection and response technologies and user engagement.
2. Fortify digital identities with enhanced, AI-powered identity and access management.
3. Employ measures designed to protect sensitive data from unauthorized access and breaches.
4. Integrate AI into cyber-risk management processes.

Navigating blind spots

Like almost every technological breakthrough, accelerated security fusion comes with uncertainties:

- **Effectiveness of GenAI for threat simulation**
- **Post-quantum cryptography readiness**

Where to next?

Ensure integration between teams and technologies to establish a cohesive and proactive defense strategy.

Systematically analyze vulnerabilities, including cryptographic standards, to safeguard against emerging risks.

Leverage automation to enhance speed, accuracy and scalability in cyberincident management.

Do this next

5 minutes

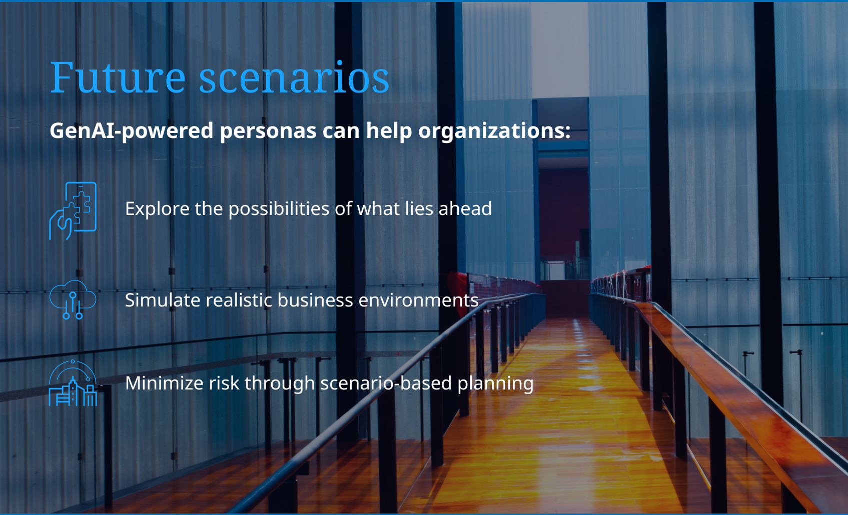
Identify and address security weaknesses.

5 days

Select and prepare breach-simulation tools.

5 months

Build a security deployment roadmap.



Future scenarios

GenAI-powered personas can help organizations:

- Explore the possibilities of what lies ahead
- Simulate realistic business environments
- Minimize risk through scenario-based planning

Read the report

Join the conversation

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