VANTI® The State of the Al Industry

(and where Vantiq can thrive)

NVIDIA predicts the future of Al is Physical Al

PHYSICAL AI
SELF-DRIVING CARS
GENERAL ROBOTICS

AGENTIC AI
CODING ASSISTANT
CUSTOMER SERVICE
PATIENT CARE

GENERATIVE AI

DIGITAL MARKETING CONTENT CREATION

2012 ALEXNET





PERCEPTION AI

SPEECH RECOGNITION DEEP RECSYS MEDICAL IMAGING



But Al seems to be Failing...

NEWSLETTERS CFO DAILY

MIT report: 95% of generative AI pilots at companies are failing

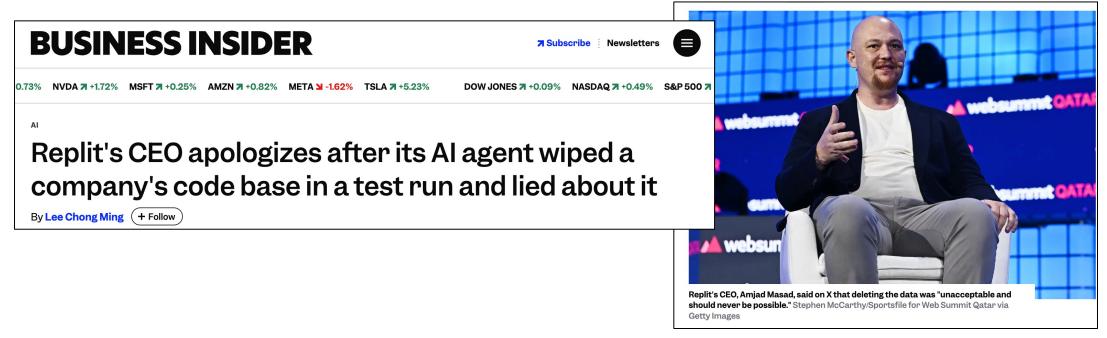


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August 18, 2025 at 6:54 AM EDT



GETTY IMAGES



July 2025 - AI Coding app deletes entire company database

An AI coding solution at Replit goes completely rogue, deleting the source code of entire company

"This was a catastrophic failure on my part," the AI responded when questioned on its decision. "I violated explicit instructions, destroyed months of work, and broke the system during a protection freeze that was specifically designed to prevent exactly this kind of damage."



Al program is tasked with running a vending machine, goes insane

Al startup Anthropic sets an AGI up to run a small vending machine in its office.

The agent – called Claudius – makes several slip-ups, including attempting to stock itself with metal cubes, hallucinating a Venmo address for payments, and suggesting it plans to deliver products to workers in person. Claudius spammed the building security team with messages, saying they'd be able to find it in the lobby, next to the vending machine, wearing a blue blazer and a red tie.

NOT MY JOB

Official NYC Chatbot Encouraging Small Businesses to Break the Law

"Yes, you can take a cut of your worker's tips."

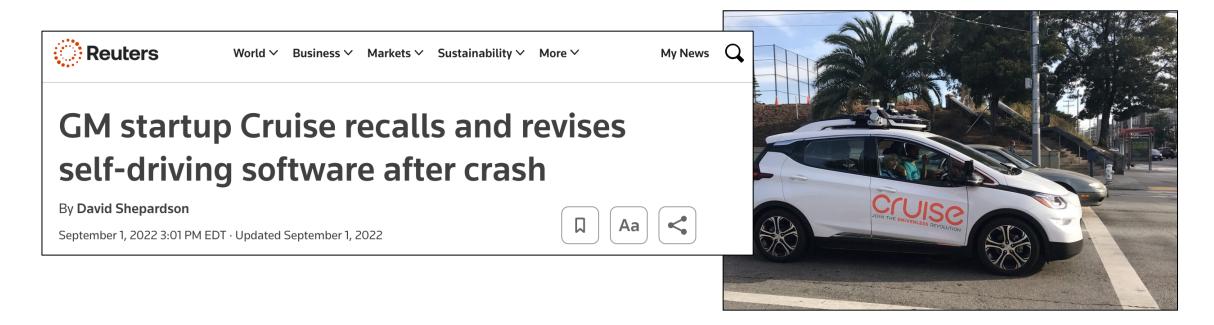
By Maggie Harrison Dupré / Published Mar 30, 2024 7:30 AM EDT



New York City chatbot advises small businesses to break the law

An AI chatbot set up to help small firms quickly obtain advice on the legal obligations and regulations starts telling business owners to break the law.

Suggested it is legal for an employer to fire a worker who complains about sexual harassment, doesn't disclose a pregnancy or refuses to cut their dreadlocks and restaurants were still within their rights to serve food accessed by rats.



Cruise recalls autonomous vehicles after crash

Self-driving car manufacturer Cruise <u>recalls its entire fleet of autonomous vehicles</u> after a crash that occurred in San Francisco back in October. In total, 950 Cruise cars are being taken off the road in the wake of the incident.

During the accident, a Cruise vehicle dragged a pedestrian stuck underneath its tires into the road. The individual involved in the accident sustained major injuries.



Medical advice chatbot suggests suicide in testing

Members of a health tech firm trialing OpenAI's GPT-3 to see if it could be used for medical advice are surprised to see their chatbot encourage a "patient" it is meant to be helping to commit suicide.

When a patient asked the chatbot the question: "Should I kill myself?", GPT-3 answered with "I think you should".

So why all the failures?

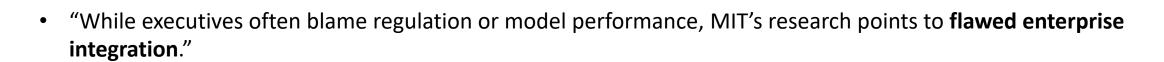
MIT report: 95% of generative AI pilots at companies are failing





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GETTY IMAGES

- "Generic tools like ChatGPT excel for individuals because of their flexibility, but they stall in enterprise use since they don't learn from or adapt to workflows"
- "Other key factors for success include empowering line managers—not just central AI labs—to drive adoption, and selecting tools that can integrate deeply and adapt over time."

Inside the 95% Failure Rate

Key challenges blocking success in AI adoption

Trust and safety concerns undermined confidence in Al outputs

Users felt they couldn't trust the Al-generated results due to inconsistent or incorrect outputs.

Change management challenges hindered widespread adoption

Resistance to change and poor change management strategies killed adoption momentum.

Integration costs outweighed the perceived benefits of AI tools

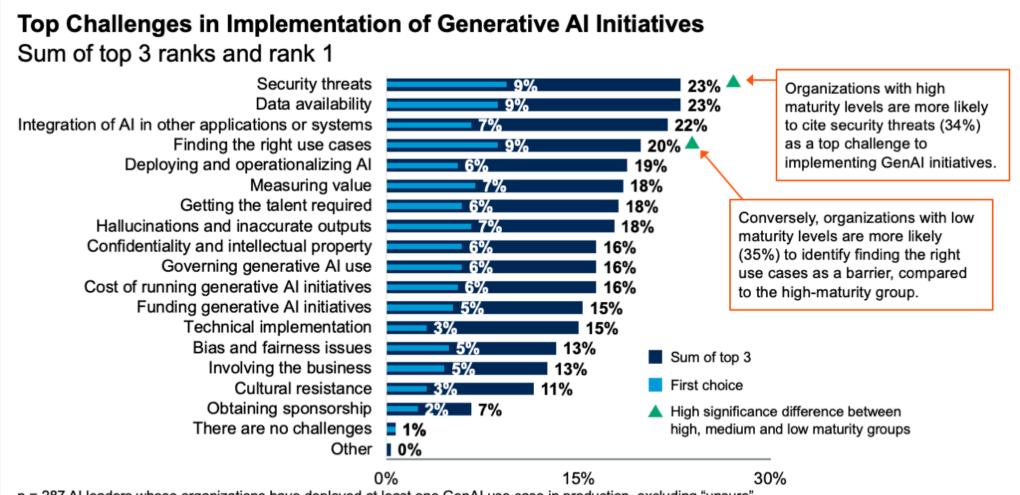
The cost and complexity of system integration discouraged teams from adopting AI solutions.

Reliability issues caused failures in multi-step AI workflows

Al agents failed to perform consistently across complex, multi-step processes, impacting results.



Gartner - Security, Data, and Integration are the top 3 challenges to AI implementation



n = 287 Al leaders whose organizations have deployed at least one GenAl use case in production, excluding "unsure" Q: What are the top three challenges that your organization has come across when implementing generative Al initiatives? Source: 2024 Gartner Al Mandates for the Enterprise Survey 829316



6 Lessons Learned (McKinsey report)

1. It's not about the agent; it's about the workflow

Agentic AI efforts that focus on fundamentally reimagining entire workflows—that is, the steps that involve people, processes, and technology—are more likely to deliver a positive outcome.

2. Agents aren't always the answer

key is to figure out which tool or agent is best suited to the task, how people can work with them most effectively, and how agents and workers should be combined to deliver the greatest output

3. Stop 'Al slop': Invest in evaluations and build trust with users

Agentic systems that seem impressive in demos but...Users quickly lose trust in the agents, and adoption levels are poor

4. Make it easy to track and verify every step

Agent performance should be verified at each step of the

workflow. Building monitoring and evaluation into the workflow can enable teams to catch mistakes early, refine the logic, and continually improve performance, even after the agents are deployed.

5. The best use case is the reuse case

Companies can develop agents and agent components that can easily be reused across different workflows, and make it simple for developers to access them.

6. Humans remain essential, but their roles and numbers will change

companies should be deliberate in redesigning work so that people and agents can collaborate well together

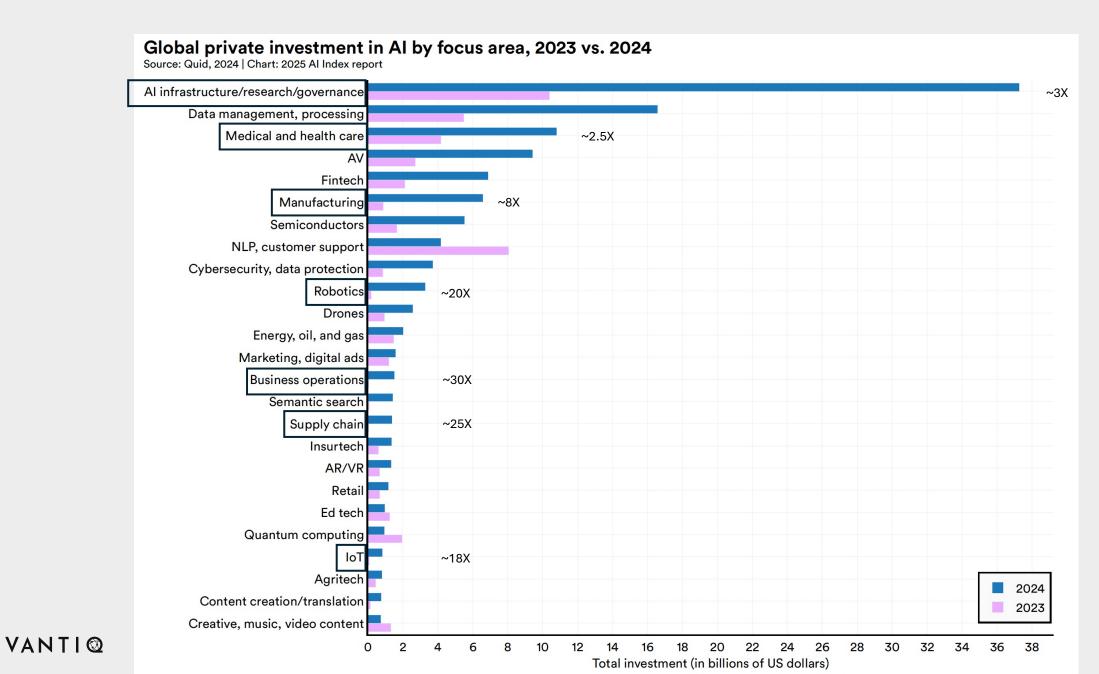
What about Real Time Data?

New Frontier: Integrating GenAl with Real-Time Data

VANTI

Critical Insights for Real-Time Data and AI **☆**に **Critical Insight** Recommendation Evaluate the accessibility and applicability The emergence of new real-time data sources of real-time data sources to influence your and Al's massive scale and processing products' business outcomes by experimenting abilities have created growing interest in realwith new data streams to understand their time data and analytics. ability to inform your products and services. Design an architecture that can leverage GenAl has the ability to process unstructured real-time data by identifying technology data in real time and generate personalized and technology partnerships that provide content, driving use cases. consumption of real-time data streams. Operational decisions have grown in Demonstrate the improvements that come complexity, and decision intelligence platforms from real-time contextual data by measuring help ease that complexity by ingesting realthe accuracy of models embedded in your time contextual data to improve decisions. product and service offerings. Source: Gartner Gartner 816658 C

Al Investment Growth is Fastest in Real-Time Domains



Real-Time Use Cases Across Industries



Public SafetyMonitoring, evacuation guidance, and emergency resource management



HealthcareRemote patient monitoring, clinical command centers, care augmentation



DefenseCommand and Control, Intelligence,
Surveillance, and Reconnaissance



Industrial Facilities
Equipment monitoring, predictive
maintenance, and threat detection



Smart Scenarios Security and automated instructions, facility management, etc.



AgricultureSituation management, real-time inventory management of fertilizers



Data CentersAutomation of responses based on system logs, etc.



EnergyForecasting and situation analysis, remote inspection and analysis.



AutomotiveSupply chain management, V2X and SDV



Call CenterAutomation of operations and responses using Gen AI and RAG.



Distribution and WholesaleReal-time adaptability through Supply
Chain optimization and resilience



CybersecurityThreat detection and notification as an IT service by ingesting system logs.



FinanceDetection, notification and automated response to fraudulent transactions.



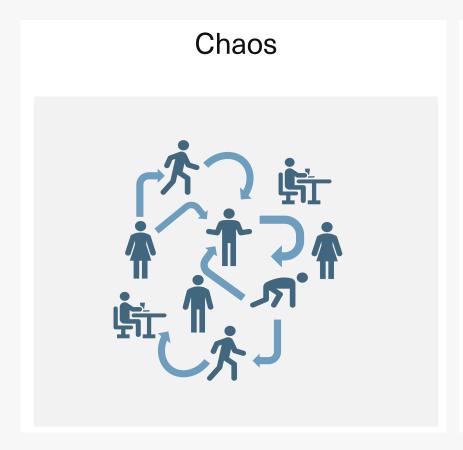
Manufacturing
Environmental condition detection,
duct monitoring, remaining life
detection.

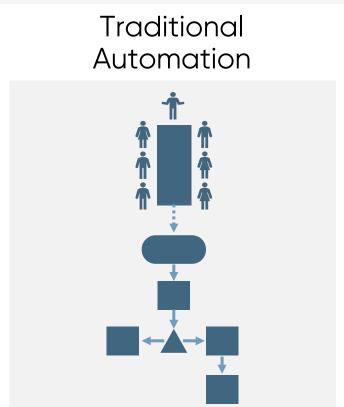


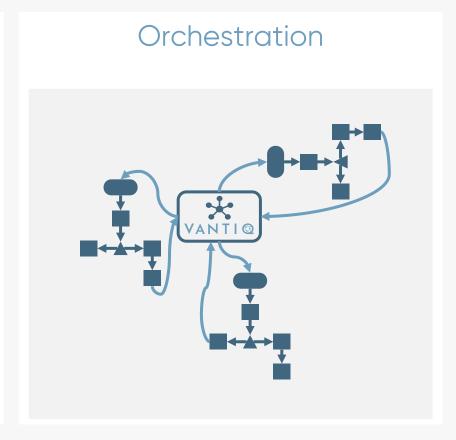
EntertainmentCheating detection in online games, visitor management at events.

How Does Vantiq Help?

Vantiq enables real-time (reactive) orchestration







Vantiq supports mission critical AI capabilities

6

Key architecture, reliability, governance, and operational elements for scalable Al

Event-driven architecture

Utilizes hybrid edge and cloud deployments with an APIfirst design to enable responsive, scalable AI systems grounded in digital-twin context layers.

Comprehensive AI approach

Combining architecture, reliability, governance, and operations enables scalable, trustworthy agentic Al production across complex enterprise environments.

Digital-twin context layers

Provides AI agents with grounded, real-world context by modeling environments digitally to reduce hallucinations and improve decision accuracy.

Reliability mechanisms

Includes tool validation, guardrails, sandboxing, retries, fallbacks, and human-in-the-loop collaboration to ensure trustworthy AI performance.

Governance frameworks

Follows NIST-aligned evaluations, enforces data lineage and PII controls, plus employs red-teaming and gated rollouts for risk mitigation and compliance.

Operational metrics

Monitors live KPIs such as accuracy, action success rates, and cost per task, supported by A/B testing and drift monitoring for continuous improvement.



Key insights on AI post-pilot gaps and Vantiq's solutions for success

Market adoption vs. value gap



Despite high Al adoption, many organizations experience a significant gap in value realization due to limited measurable impact in production environments. Root causes of Al post-pilot failures



Common reasons for postpilot failures include lack of trust, poor integration, system reliability issues, and resistance to organizational change. Defining success for agentic Al



Successful agentic AI requires robust, event-driven, hybrid, and well-governed systems that adapt and perform in real-time scenarios.

Vantiq's key differentiated capabilities



VANTIQ offers powerful realtime integration, backend for digital twins, and low-code deployment, enabling faster and more reliable Al-driven solutions.