AI & ROBOTICS
DEEP DIVE

Where We Are • Where We're Going

2025 - 2028 OUTLOOK

THE BIG PICTURE

2025 Is The INFLECTION POINT

AI moves from experimentation to enterprise deployment. Robots transition from demos to production lines.

$37B	78%	3.2x
Enterprise AI Spend	AI Adoption Rate	YoY Growth

AI LIFECYCLE

Where AI Sits Today

Gartner Hype Cycle Positions:

Generative AI
Trough of Disillusionment • Moving toward practical deployment

AI Agents
Peak of Inflated Expectations • New hype driver, 2-3 years to mature

AI-Ready Data
Peak of Inflated Expectations • Foundation for scaling

AI Engineering
Entering Productivity • Essential for enterprise delivery

ENTERPRISE AI MATURITY

The 4-Stage Journey

STAGE 1: AWARENESS — 28%
Educating workforce, formulating AI policies, experimenting

STAGE 2: ACTIVE — 35%
Proofs of concept, pilots, knowledge sharing

STAGE 3: OPERATIONAL — 25%
Production deployments, executive sponsorship, dedicated budget

STAGE 4: SYSTEMIC — 12%
AI-first culture, embedded in all new projects

Source: MIT CISR Enterprise AI Maturity Model 2025

GENAI ADOPTION

The Numbers Tell The Story

54.6%

Adult AI Users

Up 10pp YoY

82%

Weekly AI Use

At Enterprise Level

89%

Piloting GenAI

In Quality Engineering

37%

In Production

Enterprise Deployment

$37B

2025 AI Spend

Up from $11.5B in 2024

171%

Projected ROI

From Agentic AI

THE NEXT WAVE

AI Agents Are Reshaping Enterprise

Agentic AI moves from reactive text generation to autonomous, goal-driven execution.

- 79% of organizations now report AI agent adoption
- 23% actively scaling agentic AI systems
- 39% in experimental phases
- Market projected to reach $236B by 2034 (CAGR 43.8%)
- 50% of companies launching pilots in 2025, doubling by 2027

"The age of agentic AI has arrived." — Jensen Huang, NVIDIA

AGENTIC AI

The Autonomy Ladder

LEVEL 1: Assistive
Reactive, single-turn responses (ChatGPT-style)

LEVEL 2: Guided
Multi-step with human oversight at each stage

LEVEL 3: Partially Autonomous
Plans, executes, adjusts with minimal oversight

LEVEL 4: Fully Autonomous
Sets goals, adapts, creates own tools

Current State (Q1 2025): Most at Levels 1-2, few exploring Level 3

ROBOTICS LANDSCAPE

The 2025 Robot Revolution

$50B
Global Robotics Market 2025

$111B
Projected by 2030

14%
CAGR Growth

Key Market Segments:

- Mobile Robots: 50-60% of revenue through 2030
- Industrial Robots: China accounts for 42% of global sales
- Collaborative Robots (Cobots): Growing at 27.5% CAGR
- Humanoid Robots: Fastest-growing at 137.7% CAGR

HUMANOID ROBOTS

The $30B Race By 2035

Morgan Stanley forecasts humanoid robot market could surpass $5 trillion by 2050 with 1 billion units sold.

2025 Production Targets:

Tesla Optimus	**5,000 units**	Scaling to 100K by 2026
BYD	**1,500 units**	Target 20,000 by 2026
Agility (Digit)	**10,000/year**	Factory operational
Figure AI	**$1B funding**	BMW partnership active

MAJOR PLAYERS

Who's Building The Future

TESLA OPTIMUS
General-purpose, mass production focus, $20-30K target price

BOSTON DYNAMICS ATLAS
Research benchmark, electric reboot, Hyundai partnership

FIGURE AI
OpenAI integration, BMW deployment, $1B+ raised

AGILITY DIGIT
Commercial deployment leader, GXO logistics deal

UNITREE
Price disruption leader — G1 at $16K, R1 at $5.9K

APPTRONIK APOLLO
Mercedes-Benz partnership, industrial focus

CONVERGENCE

Physical AI:
Where AI Meets Robots

Physical AI allows robots to train themselves in virtual environments and operate by experience rather than programming — creating a 'ChatGPT moment' for robotics.

Key Technologies Enabling This:

- Vision-Language-Action (VLA) Models: Robots understand and act on natural language
- Simulation-to-Reality Transfer: Training in digital twins, deploying in real world
- Foundation Models for Robotics: NVIDIA Isaac GR00T, Google DeepMind Gemini Robotics
- Embodied AI: Combining perception, reasoning, and physical movement

EXECUTIVE INSIGHT

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Humanoid robotics are having a moment—from viral videos to billion-dollar valuations. But the reality behind the headlines is more complex.

— Bain & Company, Technology Report 2025

Key Reality Check:

Most deployments remain early-stage with heavy human supervision. The 'autonomy gap' is real — demos often mask technical constraints.

KEY QUESTION

When Will Robots Match Human Capabilities?

Intelligence & Perception Near human-level by 2027	**Advancing Rapidly**
Handling & Dexterity Major challenge remains	**Significant Gap**
Battery Life & Power Limits deployment duration	**Gating Factor**
Safety & Reliability ISO standards in development	**Improving**

2028 OUTLOOK

AI in 3 Years

GenAI Production at Scale
95% of enterprises using GenAI APIs/models in production (Gartner)

Agentic AI Mainstream
$24.5B enterprise agentic AI market by 2030

AI Agents Widely Deployed
33% of enterprise software embeds agentic AI (Gartner)

Reasoning Models Mature
Beyond-human performance in coding and scientific reasoning

Multi-Modal Standard
Text, image, video, code processing as baseline

Operating Model Transformation
66% of extensive adopters redesigning operating models

2028 OUTLOOK

Robotics in 3 Years

Humanoid Market Explosion
$6.5B market by 2030, 137.7% CAGR — fastest-growing robotic category

Commercial Deployment Phase
2026-2027 humanoids operating in automotive and logistics

Price Points Collapse
Sub-$20K humanoids becoming viable (Unitree leading)

Physical AI Integration
Robots training in simulation, deploying with minimal programming

Fleet Orchestration
Multi-vendor robot fleets coordinated by AI orchestrators

Human-Robot Collaboration
Cobots grow to $7B market by 2030 (27.5% CAGR)

STRATEGIC IMPLICATIONS

What This Means For Business

- AI-First Organizations Outperform: Companies at higher AI maturity stages show above-average financial performance
- Workforce Evolution: 43% of extensive adopters hiring generalists over specialists; 45% reducing middle management layers
- Buy vs Build Shift: 76% of AI use cases now purchased (up from 53% in 2024) — enterprise prefers off-the-shelf
- Code is the Killer App: 50% of developers use AI coding tools daily; code completion grew to $2.3B market
- Governance is Critical: Without strong frameworks, 70-85% of AI initiatives fail to meet expectations

KEY TAKEAWAY #1

AI Has Moved From Experiment To Infrastructure

Enterprise AI spend hit $37B in 2025 (3.2x YoY growth). 40% of GenAI investment now comes from core operations budgets, not innovation funds. AI is now core business infrastructure.

KEY TAKEAWAY #2

Robotics Is At A Tipping Point

Investment in humanoid robotics surged 250% YoY in China alone. Production capacity is scaling from hundreds to thousands. Cost barriers are collapsing faster than projected.

Unitree R1: $5,900

A price point thought impossible just 12 months ago

KEY TAKEAWAY #3

The Convergence Is Accelerating

AI + Robotics = Physical AI. This convergence will reshape industries. Companies that pilot early, invest in infrastructure, and build workforce trust will be positioned when the robots are truly ready.

- Intelligence & perception nearing human parity
- Handling & dexterity remain key challenges
- 2026-2027: First real commercial deployments at scale

GLOBAL
GAUNTLET AI

AI Strategy • M&A Advisory • Systems Building

Let's Connect

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