Minds *and* Machines
Disruptive Tech White Paper

DECODING THE FUTURE OF AI: TOP TRENDS AND PREDICTIONS FOR 2025

INTRODUCTION

The world of Artificial Intelligence today can be divided into two large sectors: (1) speculation on, and studies of, its overall impact on human society and (2) its direct application for current human activities. In this report, we will initially focus on (1) and then move into more depth with (2). As we have previously noted, the field had, for quite some time, settled into a consensus that AI would progress through three distinct phases: **first, there would be narrow applications of the technology** to specific areas of activity, such as writing stock market analyses, playing chess, or (in concert with robots) performing surgery. While a narrow AI program might be able to match, or even surpass, humans in a well-defined action, it would not be able to write the stock market article and then play a game of chess.

Phase Two would be Artificial General Intelligence (AGI), which would constitute an ability not only to equal human capacities in specific domains but also roam across various disciplines, writing an op-ed in the morning, then composing a symphony over lunch, and diagnosing diseases throughout the afternoon. Until recently, AGI was seen as the "holy grail" of AI, something to be achieved in an ill-defined, but distant, future. Today, industry titans seem confident that AGI is just over the horizon, or maybe it is already here, and we have failed to recognize it. Finally, most knowledgeable observers have considered **Phase Three, Super AI, or Superintelligence**, as a vision of possibility that might never be achieved. Indeed, it perhaps should never be achieved, because it would represent a science fiction future in which AI would surpass all the human knowledge, and all human intelligence, on Earth.

The year 2024 saw watershed moments in which influential members of the AI community began to predict that superintelligence was within reach. Not only that, but it could be achieved without going through the process of creating AGI and that it could also be made safe. As we have noted in earlier publications, the new thinking apparently began with Ilya Sutskever. He announced in mid-2024 that he had launched a startup called Safe Superintelligence, Inc and quickly raised several billion dollars in funding. According to Sutskever, his new company would simply skip the AGI stage altogether and have as its mission to build superintelligence, He also promised that safety would be part of the AI from the beginning, rather than creating something very powerful, like ChatGPT and then scrambling to fix the safety issues its very existence had brought into being.

As we said last year, "Sutskever's bold pronouncements are intriguing, but one wonders if "safety" is even a meaningful term when discussing a species with transcendent intelligence versus one with significant intelligence, but at a much lower level." (*Minds and Machines, December 2024)* This may be the year in which we find out. As if that weren't enough, Sam Altman, CEO of OpenAI and Sutskever's former colleague/boss, began to make similar noises about superintelligence. *Time* Magazine notes that Altman posted the following on his personal blog:

"We are now confident we know how to build AGI [artificial general intelligence] as we have traditionally understood it, Time went on to say, "He added that OpenAI, the company behind ChatGPT, is beginning to turn its attention to superintelligence." [Time](#) notes further that in another blog post, Altman says, "We are beginning to turn our aim beyond [AGI], to superintelligence in the true sense of the word. We love our current products, but we are here for the glorious future." In other words, Sam Altman, who blew our minds in 2022 with ChatGPT, is now casually telling us that AGI is no longer the "holy grail", and the real prize is something that has, for years, been considered out of reach in our lifetimes. What will he be saying by the end of this year?

[In 2024](#)**, the integration of AI with robots marked yet another paradigm-shifting moment for humanity**. In particular, the advent of "humanoid robots", some of whom actually look human, points to a future where the AI/robot

merger produces androids, intelligent robots almost indistinguishable from us. As 2025 dawns, a company offered a "companion robot" selling for $175,000 and able to offer buyers a variety of forms of companionship.

To investors, these discussions may seem too speculative to be meaningful. However, it is worth noting that Sutskever's newly formed company was able to raise a lot of money in record time and is still in business. Moreover, Altman's OpenAI is abandoning the remains of its nonprofit origins to become a for-profit enterprise. Investors should, at the least, consider this new development in concert with Altman's recent musings on the future. This concludes our foray into the "big picture" of AI in 2025. In the next section, we consider how the technology is being deployed today.

KEY TAKEAWAY

The present and future of Artificial Intelligence (AI) will be shaped by the interplay between technological advancements, investment, and regulation. We anticipate 2025 to be a pivotal year for AI-native companies as they demonstrate initial product-market fit, driving innovation, and transformation across industries. Growth and transformation will be driven by advancements in foundation models, increased adoption of AI-native apps, and increased investment in the sector. **We believe funding for AI native startups will continue to grow in 2025, driven by strong investor appetite, ongoing participation of strategics and sovereign investors, and significant capital needs.** The application layer is poised for the fastest percentage growth, while the model layer will again claim the most total capital. With over $45B deployed into AI-native startups in 2024, we expect this momentum to continue, albeit at a diminishing rate, with the total funding potentially reaching new records in 2025.

Markets expect that a growing number of AI-native companies will reach $50M in Accounting Rate of Return (ARR), with at least 50 startups generating $50M in ARR while still growing north of 50%, including several more that cross the $100M threshold. While AI exits will rise, M&A activity is likely to outpace IPOs, though companies like CoreWeave and Scale AI are anticipated to go public in the first half of the year. The U.S. Department of Defense is likely to double down on AI, with defense tech poised to be the fastest growing category of applied AI in 2025, driven by ongoing global conflict and the need for modern tech. AI-generated content will likely surge, with video becoming a rising star, and we expect to see a breakout consumer and enterprise video product similar in scale to Google's NotebookLM. As AI continues to evolve and improve, we expect to see significant advancements in areas such as multimodal model performance, reasoning models, and AI engineering, which will further fuel innovation across the sector.

The AI sector will also face significant challenges, including the need for clearer regulations on copyright and artist compensation, building content authentication mechanisms to combat deep fakes and misinformation, and preventing model collapse from AI-generated content being reused in training. Despite these concerns, we **believe that the pros of AI-generated content far outweigh the cons, and that 2025 will be a breakout year for AI-generated content, with significant implications for the media and entertainment industries.** The growth of AI will also drive increased investment in security, as companies seek to protect themselves from AI-enabled cyberattacks and other threats. As AI consumption grows, the adoption of outcome-based pricing models is expected to ramp up gradually. Many categories will likely transition toward a hybrid approach, combining a base-level platform subscription with premium AI consumption seamlessly integrated into the pricing structure. At the same time, AI will remain both a significant security risk and a critical defense tool. The rise in AI-enabled cyberattacks could inflict billions in economic damage on companies or government entities, underscoring the urgent need for robust security measures in 2025. **We believe that AI regulation will move slowly absent a major calamity, with the European Union's EU AI Act being an exception, and the U.S. and China taking a more cautious approach to regulation.**

AI STOCKS TO WATCH IN 2025

SoundHound AI (NASDAQ: SOUN) - SOUN has seen an 800% stock surge over the past year, and despite initial scepticism, several factors suggest it could continue to outperform in 2025. Unlike text-focused generative AI (GenAI) models, SOUN's specialization in audio input sets it apart, with its innovative technology earning the backing of NVIDIA, validating its market potential. **Operating in a $140 billion total addressable market (TAM) with significant barriers to entry, SOUN enjoys a competitive edge.** A diversified customer base is driving a shift toward predictable, SaaS-like revenue streams, supported by strong financial momentum and high revenue growth. Its growing cumulative subscriptions and bookings backlog highlight sustained demand. We believe if SOUN continues to innovate and maintain its revenue growth trajectory, it could sustain its stock momentum and remain an outlier in the market.

C3.ai, Inc (NYSE: AI) - C3.ai leverages strategic partnerships with cloud leaders such as Microsoft, Amazon, and Alphabet, alongside consulting firms like Booz Allen Hamilton and Capgemini, accounting driving over 60% of its fiscal 2025 deal closures. Its involvement in defense and public sector projects, including USDOD contracts, underscores its ability to secure large-scale, long-term agreements. **While not yet profitable, the company has nearly tripled revenue growth in the past year. With 86% of its revenue derived from a subscription-based model, C3.ai benefits from a stable, recurring income stream, strong financial momentum, and expanding demand for its AI solutions.** C3.ai has gained around 25% in 2024 and we believe the company is well-positioned to thrive as AI adoption accelerates across industries in 2025.

NVIDIA (NASDAQ: NVDA) - NVIDIA has been a key player in the semiconductor segment. Demand for its Hopper chips has been extraordinary, with no signs of slowing down. Moreover, the upcoming launch of its Blackwell architecture is expected to elevate the company to new heights, fueled by immense customer interest. According to Chief Financial Officer Colette M. Kress, Blackwell demand is exceptionally strong, driving the company to ramp up supply. **In Q32024, NVIDIA achieved a 94% year-over-year revenue increase, and this growth trajectory is expected to accelerate further with Blackwell's market debut.** Additionally, the company enjoys robust profitability, boasting a 62% operating margin. NVDA saw remarkable growth in 2024, with its stock surging over 164% and trading near all-time highs. We believe that as businesses race to develop, invest in, and deliver AI-related services; NVIDIA will continue to stand out in 2025.

UiPath (NYSE: PATH) - UiPath is evolving from a robotic automation leader to an agentic AI pioneer, enabling AI agents to handle unstructured data and make autonomous decisions. Its strategic partnerships with SAP, Microsoft, and others aim to boost customer acquisition and strengthen its market position. **The company, at the October conference, has introduced Agent Builder, allowing customers to create AI agents, and Agentic Orchestration, which integrates humans, robots, and AI into seamless workflows**. Despite a 48% decline in stock price in 2024, we believe UiPath remains resilient, with strong revenue growth, a notable ARR increase, and attractive net dollar retention.

Palantir Technologies (NYSE: PLTR) - The stock skyrocketed around 300% in 2024, andwe believe it will continue to receive market attention in 2025. AI companies stand to benefit significantly from providing tools for border surveillance, intelligence gathering, and national security purposes, with the U.S. military actively embracing AI through various initiatives. Palantir Technologies has recently secured some notable government contracts and partnered with Anduril to accelerate AI capabilities for national security. It is also experiencing rapid growth driven by its Artificial Intelligence Platform (AIP). **Initially focused on government clients, AIP has expanded to attract commercial customers, fueling surging demand, particularly in the U.S. commercial market.** The company's latest financial results showcase strong revenue growth, while it continues to maintain profitability with consistently healthy profit margins.

THE 2025 SEMICONDUCTOR LANDSCAPE: AI-DRIVEN GROWTH AMIDST GEOPOLITICAL UNCERTAINTIES

The semiconductor industry is poised for significant growth in 2025, driven primarily by the increasing demand for AI computing chips. According to the **Semiconductor Industry Association (SIA)**, global semiconductor sales hit $57.8 billion in November 2024, +20.7% YoY, and we believe this will provide a good starting point to enter into 2025. The industry's growth in 2024 was largely driven by the insatiable demand for AI accelerator chips and high bandwidth memory (HBM), which nearly doubled revenue for major players like Micron, SK Hynix, Samsung, and Nvidia. The strength of AI, networking, leading-edge manufacturing, and advanced packaging also propelled Taiwan Semiconductor Manufacturing Company's (TSMC) growth, with the company expected to achieve ~30% growth in 2024. On the fabless side, Qualcomm's 10% YoY growth was a notable highlight, driven by new phone and AI PC launches. However, the automotive and industrial sectors faced significant challenges, with growth turning negative in 2024 due to inventory oversupply. In contrast, the logic and memory chip sectors, which are closely tied to AI, are expected to experience double-digit growth, outpacing other semiconductor segments. The trend is evident in the downstream markets, where AI servers are leading the charge with strong double-digit growth, while smartphones and notebooks are expected to see more modest single-digit gains. Industry leaders like TSMC and Nvidia are well-positioned to capitalize on this trend, given their expertise in producing high-quality AI computing chips. **The World Semiconductor Trade Statistics (WSTS) projected the global semiconductor market to grow by 19% YoY in 2024, followed by an estimated 11.2% increase in 2025, further solidifying the importance of AI in driving industry growth.**

Chart 1: Semiconductor Industry Forecast 2025 and Indicators

		2024		2025
		Full year	Q4 2024	Forecast
Semiconductor forecasts	Overall market[1]	🟢 15% to 19%	🟢 3% to 7%	🟡 6% to 16%
Demand indicators	Global GDP / China GDP	🟡 3.1% / 4.9%		🟡 3.2% / 4.5%
	AI accelerators	🟢 41%		🟢 28%
	Smartphones & PCs	🟡 4.3%		🟡 3.5%
	Light vehicles[2]	🟡 2.8%		🔴 1.7%
Inventory	Days inventory[3]	🔴 110 d	🔴 <110 d	🟡 100 d
Lead-times	Weeks delivery time	🟢 14 wks	🟢 <12 wks	🟢 10 to 15 wks
Capacity	% Utilization foundries	🔴 70%	🟡 75%	🟡 75 to 80%
	% Wafer capacity growth[4]	🟢 6.5%		🟢 7 to 10%
Avg. sales price	Leading edge/ mature % change	🔴🟢 15% / -12.5%		🔴🟢 8 to 12%/-5 to 0%

Source: Intro-act, IMF, Semiconductor Industry Association, WSTS, TechInsights, IDC, Future Horizons, Cowan LRA, Supply Chain - IQ, S&P Global, SPDB International

The semiconductor industry's cyclical patterns are still evident, with the current recovery phase, which began in Q2 2023, driven by surging demand for AI computing fueled by GenAI. We think that the demand for AI servers will continue to rise, with cloud training and inference AI chips experiencing rapid growth. As AI extends from the cloud to edge computing, it will fuel demand for consumer electronics like smartphones and PCs, while simultaneously driving cloud infrastructure development growth. Leaders in advanced manufacturing like TSMC, Nvidia, AMD, Qualcomm, and MediaTek are projected to sustain robust growth in their cloud training chips and mobile System-on-a-Chip SoC products through 2025. We think that the industry's growth in 2025 will be influenced by factors such as capex for AI, tariffs on non-U.S. manufactured chips, and their potential impact on companies like Nvidia, Apple, and AMD. The former chairman of TSMC, Mark Liu, has downplayed the potential impact of tariffs on Taiwan, but the industry remains cautious.

As the industry looks ahead to 2025, we believe that AI will continue to dominate, with capex expected to exceed 2024's levels. Companies supplying chips to the automotive and industrial sectors are taking a more pragmatic outlook, forecasting flat to slightly lower growth in 2025. We think 2025 will mark a year of balanced growth in the semiconductor industry, with AI maintaining its dominance as a key growth driver. Equipment sales to China are expected to decline, but advanced packaging and logic chips will likely emerge as critical contributors to the industry's expansion.

THE RISE OF AI AGENTS: REVOLUTIONIZING CUSTOMER EXPERIENCE AND B2B SOFTWARE

The year 2025 is poised to be a pivotal moment for AI agents, with marketers and businesses increasingly adopting this technology to improve customer engagement and drive revenue. We believe that the use of AI agents will become more widespread, delivering better experiences and more insights for marketers. As Jay Patel, SVP & GM, Webex Customer Experience Solutions, Cisco, notes, "*2025 will be the year where we really start to see the profound impact*" of AI on customer interactions. With the introduction of new AI-powered tools, such as Salesforce's Agentforce and SAP's shopping assistant agents, marketers will have several options to integrate AI agents into their customer experience strategies. We think that this shift will drive efficiency, personalization, and satisfaction to unprecedented levels, making AI an indispensable tool in the customer service arsenal. The advancements in AI agents will also enable brands to create personalized AI models that operate on individual devices, powering highly personalized virtual assistants. These assistants will seamlessly interact with brands and service providers, offering a level of convenience and customization previously unattainable. Is it possible that this shift toward personalized AI will not only empower users with more efficient and tailored communication but also anticipate their needs, making interactions more intuitive and proactive. Further, AI agents can reflect core brand values, engaging with customers in ways that are deeply aligned with the brand's ethos, ensuring interactions are authentic, meaningful, and memorable. By leveraging AI to reflect their core values, brands will create more consistent and emotionally resonant customer experiences, fostering stronger customer loyalty and trust.

The rise of AI agents is expected to be a major trend in 2025, with companies like Microsoft already making significant strides in this area. The fact that nearly 70% of Fortune 500 companies are using Microsoft 365 Copilot to perform routine tasks is a testament to the potential of AI agents. We believe that the next generation of AI agents will be even more advanced, with capabilities such as memory, reasoning, and multimodal technologies, enabling them to perform complex tasks. The ability to create and use agents without extensive technical skills would also be a major breakthrough, making them more accessible to a wider range of users. As AI agents become more prevalent, we think that companies will be able to reimagine processes, freeing employees from tedious tasks and enabling them to focus on high-value activities. The potential applications of AI agents are vast, ranging from creating HR reports to solving problems with devices and answering customer questions.

As businesses commit to AI investments in 2025, we think that the use of AI agents will increase foot traffic and loyalty, with brands able to have a local extension of their store manager trained and ready to assist digital customers 24/7. AI agents will also provide a new stream of data that marketers can draw on to improve experience and drive revenue. By analyzing conversations with customers, marketers can gain a holistic view of the customer journey, identify patterns, and proactively suggest solutions or personalized offers. We believe that this will lead to more effective and relevant campaigns, highlighting customer areas of interest and proactively addressing issues in their communications. With the help of AI agents, marketers will have a new streamlined process for improving campaigns, and businesses will have to implement retraining programs to ensure that human employees can work effectively alongside AI agents, overseeing and supporting them in complex or emotionally charged interactions.

Another trend to watch in the AI space is the rise of Vertical AI Agents, emerging as a game-changer in the industry. These purpose-built systems are designed to automate entire processes, bringing precision and efficiency to tasks that have long relied on human effort. That the future of AI may well belong to these specialized agents, which are engineered for impact and can save companies millions in labor costs. Tom Biegala, co-founder of Bison Ventures, notes that the AI hype cycle will give way to the rise of domain-specific, specialized AI and robotics, which will deliver immediate, tangible value compared to general-purpose solutions. The rise of Vertical AI Agents is reminiscent of the SaaS revolution, which transformed the software world by making tools accessible and scalable. However, Vertical AI

goes a step further by automating entire workflows, rather than just enabling better management. We think that this shift will have a profound impact on industries, allowing companies to scale operations without expanding headcounts excessively.

Startups leveraging their domain expertise to tackle repetitive administrative tasks that larger companies often overlook seem to thrive in this vertical. Companies like **Outset**, **Apriora**, and **Salient** are already making waves in their respective industries, using Vertical AI Agents to transform surveys and insights, recruitment, and loan servicing. We believe the potential of Vertical AI Agents is vast, with the ability to outpace the SaaS in market size. Early adopters will gain a critical competitive edge, as these agents redefine efficiency and scalability across sectors. While challenges like adoption resistance and the need for deep expertise remain, the opportunities are significant.

Chart 2: Key Attributes of Agentic AI vs Generative AI

Agentic AI		Generative AI
Autonomous action and decision-making	MAIN PURPOSE	Content creation based on training data in response to user prompts
High; acts independently to set and pursue goals	AUTONOMY	Low; reacts to user input and cannot set its own goals
Can adjust its behavior in response to changing conditions of real-world or virtual environments	ADAPTABILITY	Shows some adaptability, but cannot independently adapt to fully new or unstructured environments
Capable of setting its own goals	GOAL SETTING	No independent goal setting; operates within predefined constraints
Minimal; able to function with little to no human intervention	HUMAN OVERSIGHT	Necessary; operates based on user-provided prompts

Source: Intro-act, Tech Target

THE EVOLVING CYBERSECURITY AND AI LANDSCAPE

The cybersecurity and AI landscape is evolving at a rapid pace, with associated risks snowballing due to the cybersecurity workforce gap and the increasing reliance on single vendors or systems. We believe that this dependence heightens the risk of a cascading global denial-of-service event triggered by a single vulnerability. Managing resilience is far from simple, and those working on the front lines understand the immense practical and financial challenges involved. The solution may lie in investing heavily in complex backup systems or shifting focus toward identifying, reacting to, and resolving issues faster. Agility in some situations, being able to adapt and fix swiftly, may be a more practical and sustainable approach than over-engineering complex redundancy. We think that another large-scale event, similar to what was experienced in 2024, is almost certain to happen, and it may not be CrowdStrike next time, but rather another security vendor's vulnerability.

The 2025 National Defense Authorization Act (NDAA) has allocated ~$30 billion to the U.S. military for cybersecurity efforts, highlighting the growing importance of this domain in national security. This significant investment is likely to have far-reaching implications for the development of AI-driven cybersecurity solutions, as well as the protection of critical infrastructure from increasingly sophisticated threats. The NDAA's provisions, such as the establishment of an Artificial Intelligence Security Center and the creation of a risk framework for foreign mobile

applications, demonstrate a clear recognition of the need for proactive and adaptive cybersecurity measures. As the U.S. military seeks to enhance its cybersecurity posture, we think that the private sector will also need to prioritize cybersecurity as a core aspect of their business operations, rather than approaching it primarily as a cost consideration.

We believe that the development of AI-powered cybersecurity solutions will be a key area of investment and innovation in the coming year, as organizations seek to leverage machine learning (ML) and other AI techniques to improve their threat detection and response capabilities. The establishment of an Artificial Intelligence Security Center within the National Security Agency's Collaboration Center is a significant step in this direction, as it will provide a dedicated hub for the development of AI-driven cybersecurity solutions and the sharing of best practices across the U.S. military and other government agencies. Furthermore, the NDAA's provisions related to the protection of critical infrastructure, such as the designation of ransomware actors and nation-states who harbor them as hostile foreign cyber threats, demonstrate a clear recognition of the need for proactive and adaptive cybersecurity measures to safeguard national security.

As we look ahead to 2025, we think that the convergence of governance and technology will be a key theme in the cybersecurity landscape. Organizations that invest in AI-driven cybersecurity solutions and prioritize proactive and adaptive cybersecurity measures will be better positioned to navigate the evolving threat landscape and maintain the trust of their customers and partners. The plateauing of AI models amid a decade of integration will also require organizations to focus on creative operational integration, rather than only relying on technological innovation.

Chart 3: A Hypothetical Cyberattack Augmented by AI at every stage

Source: Intro-act, Dark Trace

THE FUTURE OF WARFARE: THE PIVOTAL ROLE OF MILITARY ARTIFICIAL INTELLIGENCE

The integration of AI in military operations is transforming defense strategies and operations, marking a critical frontier in national security. This growth is driven primarily by increased government defense spending, which is a response to rising geopolitical tensions around the world. The Pentagon's Replicator initiative, aiming to deploy thousands of autonomous systems across different domains by August 2025, is a direct response to the evolving landscape of warfare and the need for innovative military capabilities that leverage AI. **The FY2025 Defense Budget allocates $1.8 billion specifically for Artificial Intelligence initiatives, highlighting the U.S. government's commitment to advancing military capabilities through technology.** We think that this budget underscores a broader emphasis on technological advancements, with significant amounts earmarked for research, development, testing, and evaluation as well as procurement. Current applications of AI in the military include autonomous vehicles, decision support systems, and enhanced cybersecurity measures, illustrating the military's recognition of the importance of AI for enhancing operational capabilities. Further, the development of autonomous drones that can undertake reconnaissance missions without

human intervention exemplifies how AI is reshaping military operations by providing real-time intelligence and reducing risks to personnel.

The military AI market indicates strong growth driven by the increasing integration of AI in various military applications. Indications are that AI's role in enhancing data processing, pattern recognition, and decision-making capabilities will continue to expand, making it a vital tool in modern warfare. Future applications are likely to encompass logistics, battlefield healthcare, and training systems, reflecting the versatility of AI technologies in supporting military objectives. The U.S. industrial base remains essential for advancing AI and autonomous systems, necessitating guidance on priority mission areas for investment. Notably, China is rapidly advancing its military AI capabilities, which drives the need for increased investment from U.S. firms to maintain a competitive edge.

We believe that the recent surge in the stock market, particularly in the tech sector, signals an expectation of a promising business climate under the second Trump Administration, which is expected to fuel the growth of defense tech. The incorporation of new technologies such as AI, cyber, autonomy, and space for military applications is becoming increasingly important, and the defense tech sector has already seen significant venture investment, totaling over $100 billion since 2021. That the combination of extended rate reductions, a lighter regulatory environment, and potentially lower interest rates should create a positive economic outlook, providing fertile ground for gains in the defense tech sector. The rising geopolitical tensions, including the first large-scale land war in Europe since World War II, renewed fighting in the Middle East, and China's actions in the South China Sea, highlight the need for modernizing and strengthening the U.S. military.

The war in Ukraine has demonstrated the power of commercial technologies such as AI, autonomy, and cyber, which have enabled Ukraine to achieve significant military successes without a conventional regular navy. We think that the shift in the drivers of military technology from government labs to consumers and businesses will continue, with venture funding becoming an increasingly important financing mechanism. **The Defense Innovation Unit, created to deliver more commercial technology to the Pentagon, now has a $1 billion budget, and the Office of Strategic Capital has the authority to make up to $1 billion in loans for component technologies important for national security.** The U.S. Space Force's commercial acquisition strategy and the U.S. Army's autonomy program are also expected to drive growth in the defense tech sector. Further, the use of fixed-price contracts, such as those used by SpaceX, is expected to become more prevalent, and the incorporation of private sector incentives will help to drive innovation and efficiency in the defense tech sector. The growth of the defense tech sector will not only benefit the U.S. military but also contribute to the development of new technologies and capabilities that will have far-reaching implications for the economy and society as a whole.

While AI will continue to play a role in peaceful uses, such as increasing organizational productivity and enhancing knowledge for humanity as a whole, its continuing impact on warfare cannot be ignored. This is why we have given a significant amount of attention to the military domain in this report.

Chart 4: Summary of Recent Contributions of Seven Patterns of AI in Innovations and Military Techs

Patterns of AI	Modern-day innovative equipment/tech
Goal-driven systems	Autonomous drones (e.g., MQ-9 reaper)
Autonomous systems	Self-driving military vehicles (e.g., KF51 panther)
Conversational/human interactions	Chatbots for military communication (e.g., US Army's Sgt. Star)
Predictive analytics and decisions	Predictive maintenance for military equipment (e.g., F-35)
Hyperpersonalization	GANs for personalized soldier training
Decision support	AI-assisted decision-making in military operations (e.g., SAGE)
Pattern and anomalies recognition	Object detection in military surveillance (e.g., Raven drone)

Source: Intro-act, Wiley Online Library

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