# ATMOSPHERICS

EMERGING TECHNOLOGY

Bottom Line Up Front:

- The emergence of modern-day technologies will have a compounding and profound impact on society, and in a way that effects both the private and public sectors at an unprecedented pace. Adapting organizational decision-making processes, including public policy, will be crucial to preserving not only security, but also trust.

- Emerging technologies are more than mere objects or applications - they represent an ever-evolving, self-learning, and seemingly conscious set of capabilities with exponential implications that extend beyond the traditional realms of technology and innovation.

- Unsurprisingly, the ostensibly boundless possibilities associated with these technologies brings a large amount of fear and skepticism around both the known, unknown, and the unknown-unknown.

- The AI market alone is poised to become a $190 billion industry by 2025, with spending on cognitive and AI systems expected to reach over $57 billion globally in 2023.

INFORMATION
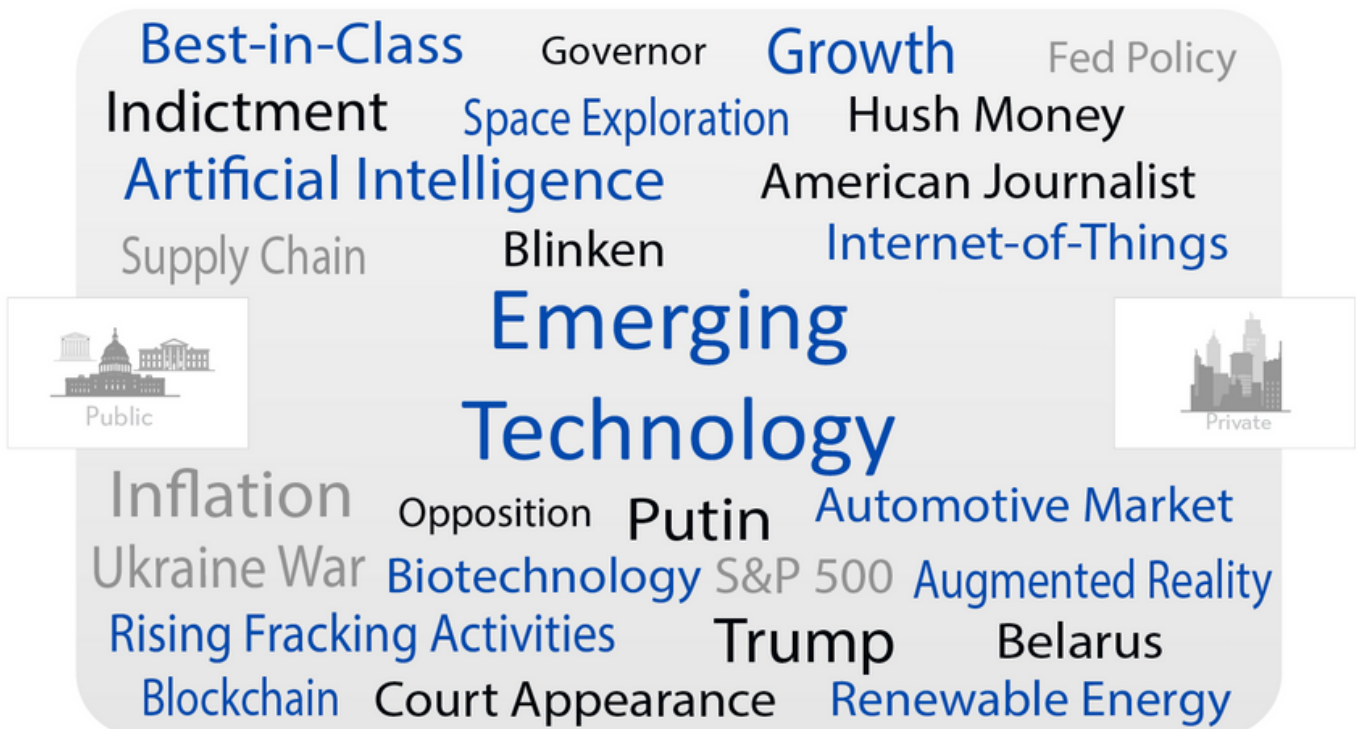
Blue terms are connected to the word of the week via news outlets and searches, whereas black and gray terms are not directly related, but still dominate the social space.

Emerging Technology defined: Emerging technologies refer to new and rapidly developing technologies that are not yet fully established or widely adopted in society. They involve cutting-edge research, novel applications, or disruptive innovations that can significantly impact various fields and industries. Examples include artificial intelligence, blockchain, quantum computing, 3D printing, nanotechnology, gene editing, and renewable energy. The term is often used in discussions related to innovation, investment, and policymaking, and they represent opportunities for growth, disruption, and potential transformation. However, not all emerging technologies will necessarily achieve widespread adoption or success, and some may face significant challenges or ethical considerations.

Why this topic is important right now: The emergence of technologies over the past decade has given rise to a whole host of considerations, especially considering the rate at which these technologies have evolved. These considerations are critical not just for the private sector but also for the public sector, including government agencies and military organizations. Regardless of the sector, the challenge will be how to integrate emerging technologies in a way that allows providers and users to keep up with changes and ultimately deliver meaningful value. The government's role in this scenario will be to develop appropriate policies and programs that strike a balance between promoting responsible growth and use of emerging technologies while also limiting exposure to risks such as national security and privacy. Downstream from all of this is the potential impact emerging technologies will have on the nature of "information" (i.e., what's true, what's credibility, etc.), and the challenges this puts on both individuals and organizations.

TECHNOLOGY

AI Generated Image

"Adopting emerging technologies requires a delicate balance between embracing innovation and not becoming overly reliant on them, lest we risk the loss of our own agency and the potential for unintended consequences to take hold."

-Linguistic Luminary (aka ChatGPT) 2023

Over the past decade, emerging technologies have rapidly evolved and diversified, with significant advances in areas such as artificial intelligence, blockchain, quantum computing, 5G connectivity, virtual and augmented reality, gene editing, and renewable energy. These technologies are not only disrupting traditional industries but also enabling new applications and services that were once impossible. The development of emerging technologies has been driven by a combination of factors, including the increasing availability of data, the growing processing power of computers, and the emergence of new business models and funding mechanisms. Despite the significant potential benefits of these technologies, they also pose challenges related to ethical and regulatory issues, cybersecurity, privacy, and their potential impact on employment and inequality. Some of these challenges are already being experienced as emerging technologies continue to advance and permeate further into society, highlighting the need to proactively address these issues while ensuring that the benefits of emerging technologies are realized.

We prompted ChatGPT to provide us with a technically plausible worst-case scenario of emerging technologies getting out of hand due to a lack of human judgment:

A technically plausible worst-case scenario, in which emerging technologies spiral out of control due to an absence of human judgment, might encompass the convergence of an AI-driven global surveillance apparatus, autonomous weaponry, and the ubiquity of mass-produced deepfakes. This confluence of factors precipitates pervasive surveillance, the erosion of privacy, the deterioration of trust in institutions, and the potential for international conflicts. As a result, societal stability is undermined, privacy becomes increasingly scarce, institutional trust collapses, and AI-driven autonomous weapons jeopardize global security. To avert such a scenario, it is imperative to formulate comprehensive ethical frameworks, establish international regulations, and devise robust oversight mechanisms that will guide the development and implementation of these nascent technologies in a responsible and ethical manner.

SENTIMENT

1	District of Columbia	100	
2	Mississippi	56	
3	Virginia	33	
4	West Virginia	31	
5	Ohio	26	
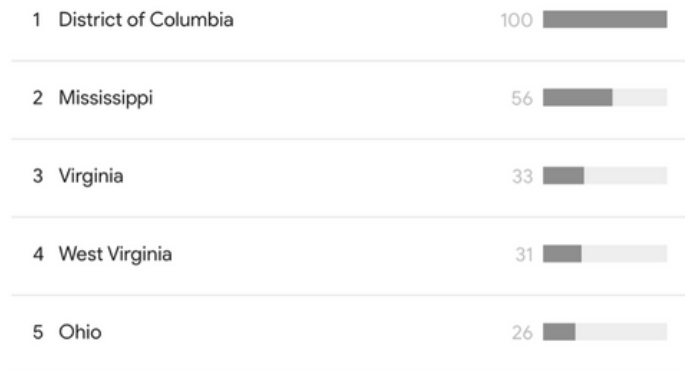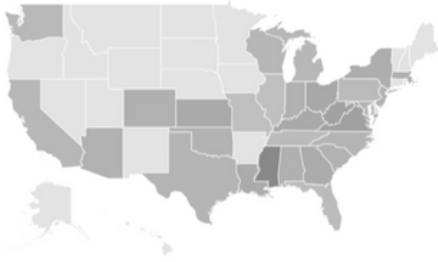
As Americans make judgments about the potential impact emerging technology, AI, and human enhancement applications, their views are varied and, for portions of the public, infused with uncertainty.

Less than half of the public believe new and emerging technologies would improve life beyond the way it is now. One of the factors tied to this largely cautious take stems from doubt that these potential human enhancements would make life better than it is now or that reliance on AI would improve human judgment or performance. For example, 32% of Americans think that robotic exoskeletons with built-in AI systems to increase strength for manual labor would generally lead to improved working conditions, while 36% think their use would not make much difference and 31% say they would make working conditions worse. Broader public sentiment feedback is highlighted here:

1. Ethical concerns: People may worry about how emerging technologies are being developed and used, particularly in terms of their potential impact on privacy, security, and human rights. Examples: facial recognition technology, genetic editing, and autonomous weapons.
2. Economic concerns: Emerging technologies may lead to job displacement and economic inequality. Example: replacing repetitive or low-skilled jobs with automation as AI becomes more advanced.
3. Safety concerns: There may be worries about the safety of emerging technologies, particularly if they are not fully tested or regulated. Examples: self-driving cars and drones.
4. Environmental concerns: Emerging technologies may have a negative impact on the environment, particularly if they rely on non-renewable resources or create waste that is difficult to dispose of. Example: harmful production and waste related to electronic devices.
5. Social concerns: Emerging technologies may exacerbate existing social problems, such as inequality or discrimination. Example: algorithmic bias in hiring or lending decisions may perpetuate discrimination against certain groups.

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2. Neeva. (2023). [NeevaAI response to prompts about emerging technology].
3. OpenAI. (2023). [ChatGPT response to prompts about emerging technology].
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SENTIMENT:

1. Multiple social platforms and proprietary listening tools.

NEPTUNE