Everest Group®

Unleashing the Power of AI for Business Transformation

Yugal Joshi, Partner
Nisha Krishan, Practice Director
Arpita Dwivedi, Senior Analyst

Contents

Introduction

The modern field of Artificial Intelligence (AI) dates back to 1956, when the term AI was coined. After years of persistent research, often along with repeated cycles of skepticism and renewed enthusiasm, we have entered an era in which AI has transitioned from a promising idea to a "future-defining technology." It is ushering in disruptive business models, new ways of working, and breakthrough product innovations. AI is powering new use cases such as autonomous vehicles, creative content creation, and dark factories, and introducing efficiencies and effectiveness to existing ways of working such as powering relevant search results, enabling better medical diagnoses, and spearheading hyper-personalized experiences.

These innovations in AI have resulted from advances in next-generation computing architecture and low-cost storage enabled by cloud vendors, the big data revolution, and improvements in deep neural networks, making the technology more accessible to everyone.

> " In our business, we talk about emerging technologies and how they impact society. We have never seen a technology move as fast as AI. This is by far the fastest moving technology that we have ever tracked in terms of its impact, and we are just getting started.
>
> – Former Chief Scientist, leading software company

While AI has progressed significantly, there is considerable untapped potential in terms of applications and possibilities. AI systems currently being adopted at scale are typically trained to specialize only in a specific task, often leveraging large amounts of data and computational power to achieve their objectives. Significant research and investments are underway to unlock AI's

"superhuman" possibilities by training lightweight, general AI systems so that a single algorithm can achieve multi-task expertise. This quest for "general intelligence" is being led by technology behemoths, which are at the forefront of defining new architectures and fueling investments in new AI techniques. Cloud vendors such as Google Cloud are building architectures like Pathways, the goal of which is to enable a single AI system to generalize across many tasks.

As we move to the era of "industrialization of AI," the trinity of cloud, data, and AI will continue to play a critical role in driving business transformation. Advances in cloud and data technologies will be the key driving forces in making AI invisible and intuitive for business users, democratizing access to AI across the enterprise, generalizing AI capabilities, and building trust in AI systems through responsible AI practices.

However, many enterprises today are stuck in the "scaling chasm" where operationalizing AI at scale is a challenge. A key obstacle for most of these enterprises is a fixation with technology. There is a dire need to move away from the general misconception of considering AI-adoption to be a "technology project" and start to view its role as the essential "business transformation enabler." For an enterprise to be able to seamlessly scale AI, it must adopt a comprehensive approach that re-imagines all the enterprise's foundational levers: people, processes, and technology. Softer aspects such as organizational change management, data & AI literacy, and interdisciplinary collaboration hold as much importance in scaling AI as selecting the right technology architecture or the ideal machine learning (ML) platform.

As enterprises embark upon their AI journeys, the burgeoning ecosystem of large cloud vendors, ISVs, global service providers, and niche AI vendors can help eliminate most of these barriers to AI adoption and assist in democratizing access to AI, providing scalable platforms and infrastructure, and enabling operating model redesign to transition from siloed to scaled AI-adoption.

Challenges in scaling AI

While these numbers are a testament to the power of AI to transform businesses, few enterprises have cracked the code to unleash the true potential of scaled AI adoption: Fewer than 10% of these enterprises have successfully scaled AI for business transformation. Most enterprises run only ad hoc pilots or are implementing AI in pockets.

Enterprise AI adoption is on the rise with more than 72% enterprises having embarked on their AI journeys in 2021[1].

1   Source: Everest Group 2022.

In this section we explore the key roadblocks hampering enterprises' ability to truly embrace AI. We have categorized these challenges across four buckets: strategic, structural, operational, and ethical, as described in the exhibit below.

EXHIBIT 1

Challenges in scaling AI

Source: Everest Group (2022)

STRATEGIC
- Lack of proven ROI
- Unrealistic expectations
- Over-reliance on technology

STRUCTURAL
- The data conundrum
- Lack of infrastructure to effectively handle the workload
- Integration and interoperability

OPERATIONAL
- Organization structure
- AI-talent readiness
- Change management

ETHICAL
- Explainability of the models
- Inherent biases in data and algorithms
- Security of AI systems

Strategic

- **Lack of proven ROI:** Fear of unknown coupled with a lack of proof points to demonstrate ROI
- **Unrealistic expectations:** Absence of due diligence in arriving at expected outcomes from these initiatives can result in unrealistic expectations
- **Over-reliance on technology:** A siloed technology-first approach that lacks focus on other key aspects of AI-implementation, often leads to sub-optimal results

Structural

- **Data conundrum:** Fragmented data systems across departments and the absence of an enterprise-wide data governance and management strategy, impedes enterprise's ability to drive AI transformation
- **Lack of infrastructure to effectively handle the workload:** Enterprises often struggle with provisioning a scalable underlying technology architecture and flexible storage and compute capacity, which is inherent to achieve transformation

- **Ensuring integration and interoperability:** Integration challenges stemming from lack of understanding of state-of-the-art systems, siloed adoption, and issues related to interoperability with related systems often hinder AI deployments

Operational

- **Organization structure:** Failure to define a fit-for-purpose organization structure and adoption model for AI results in challenges pertaining to siloed adoption, undesired sprawl of tools, ineffective processes, and inefficiencies in systems, all of which drive cost up and value down
- **AI-talent readiness:** 60-70% of enterprises are citing talent-shortage as a key impediment to scaled AI adoption[1]
- **Change management:** Initiatives introduced without taking the organization culture and traditional mindset into consideration could result in resistance and negative outlook

Ethical

- **Explainability of the models:** Leveraging AI to assist in decision-making or enabling fully autonomous systems may, theoretically, seem like an evolution; however, the opaqueness of internal decision-making process leaves enterprises vulnerable to unintended or unknown repercussions
- **Inherent biases:** As enterprises continue to scale AI systems across their operations, addressing the risks posed by ingrained human biases within data or algorithms has become critical. Biases can find their way into the solution through two broad avenues:
  - **Implicit biases within the data:** Biases within the training data sets either because of flawed data sampling (over- or under-representation of specific groups) or data sets reflecting social inequalities even if variables leading to biases (such as gender, race, or age) are removed
  - **Biases within the algorithm:** Assumptions made based on personal experience that does not apply in general, leading to blind spots or specific expectations in thinking
- **Security of AI systems:** As privacy and security increasingly gain importance, enterprises that fail to responsibly manage risks associated with AI systems that deal with sensitive consumer information will have significant financial implications, both in the form of regulatory fines and negative impact on market valuations

Framework for AI-led business transformation

Most transformation initiatives achieve success in small projects. The challenge lies in scaling this success across the enterprise. A scalable transformation approach requires enterprises to think of **AI as a key strategy pillar and means of competitive differentiation.** Taking this consideration as a central tenet, enterprises then need to fundamentally rethink their people, processes, and technology pillars to achieve sustained and scaled business outcomes from their AI initiatives.
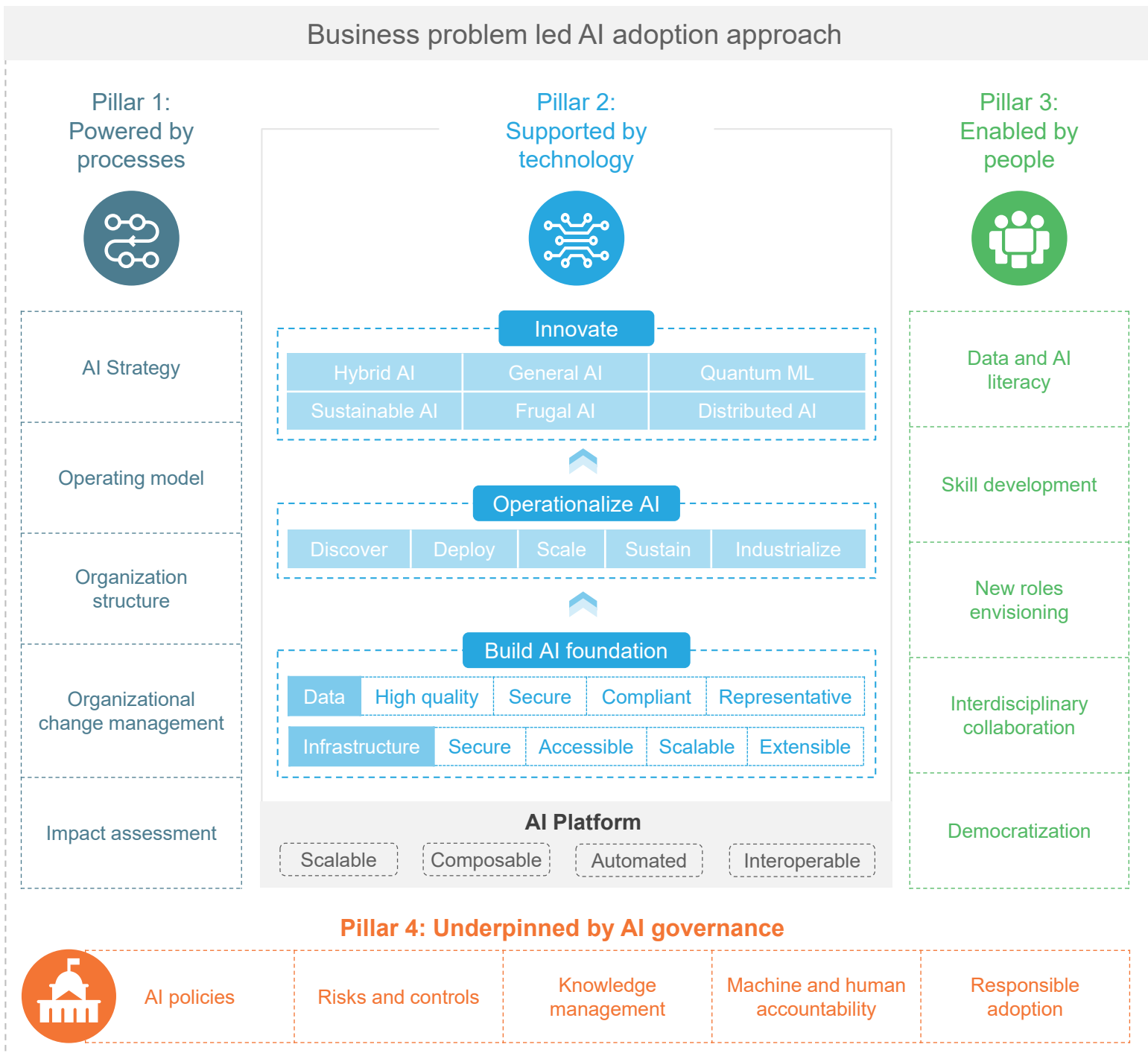
1   Source: Everest Group 2022.

In the following exhibit, we present a framework for a comprehensive approach to scaled AI adoption along with driving innovation.

EXHIBIT 2

Framework for scaled AI adoption to drive business transformation

Source: Everest Group (2022)

Business problem led AI adoption approach

Pillar 1: Powered by processes

- AI Strategy
- Operating model
- Organization structure
- Organizational change management
- Impact assessment

Pillar 2: Supported by technology

Innovate

Hybrid AI	General AI	Quantum ML
Sustainable AI	Frugal AI	Distributed AI

Operationalize AI

Discover	Deploy	Scale	Sustain	Industrialize

Build AI foundation

Data	High quality	Secure	Compliant	Representative
Infrastructure	Secure	Accessible	Scalable	Extensible

AI Platform

Scalable	Composable	Automated	Interoperable

Pillar 3: Enabled by people

- Data and AI literacy
- Skill development
- New roles envisioning
- Interdisciplinary collaboration
- Democratization

Pillar 4: Underpinned by AI governance

AI policies	Risks and controls	Knowledge management	Machine and human accountability	Responsible adoption

The first requirement in devising any AI implementation is **taking a business-first** approach (not technology-first), which requires a clear articulation of the problem statement supported by a business case for investment to build momentum in AI initiatives. This approach will both enable ideal use case discovery and enhance the credibility of these investments among stakeholders.

Armed with knowledge on the business problem that needs to be solved, enterprises will then need to orchestrate and operationalize four key pillars to unleash the power of AI, as described below.

Pillar 1: powered by processes

Defining, standardizing, simplifying, and harmonizing underlying processes and the adoption framework at the enterprise level is the bedrock of AI success. The key aspects of processes and adoption framework comprise:

- **Holistic organization-wide AI strategy:** AI strategy must embed AI into the fabric of the company's approach to business and must be aligned across all levels and departments within the enterprise. It should present the path to acquire, organize, analyze, and deliver insights to ensure scaled and comprehensive adoption.

- **Operating model:** Organizations must shed the mindset that an idea needs to be fully baked before it is deployed. For an evolving business environment, a test-and-learn mentality enabled by agile operating models provides the necessary speed and flexibility for teams to experiment, fail fast, and move forward with successful initiative.

- **Organization structure:** As AI adoption scales and matures, it is essential to establish an organizational model that can effectively sustain growth in the long run, which entails defining a holistic organization-wide AI strategy and governance mechanism under the purview of a central AI team while at the same time empowering business units with decentralized AI teams that can independently explore, ideate, and implement use cases specific to their need.

- **Organizational change management:** Enterprises must propagate an AI vision that rallies everyone around a common goal. Creating this vision entails rethinking, rearchitecting, and fortifying a change management strategy to ensure early and active involvement of internal stakeholders, manage resistance proactively, leverage technology to smooth the change curve, and create an ecosystem that embraces change. Staff must understand why AI is important to the business and how they will fit into a new, AI-oriented culture. They need to be reassured that AI will enhance their roles by promoting effective human machine collaboration.

> " Transformation is more of a culture shift than it is a company-wide memo. When managers and leaders follow empathetic change management processes and source inputs from across the company, this transformation can really take root.
>
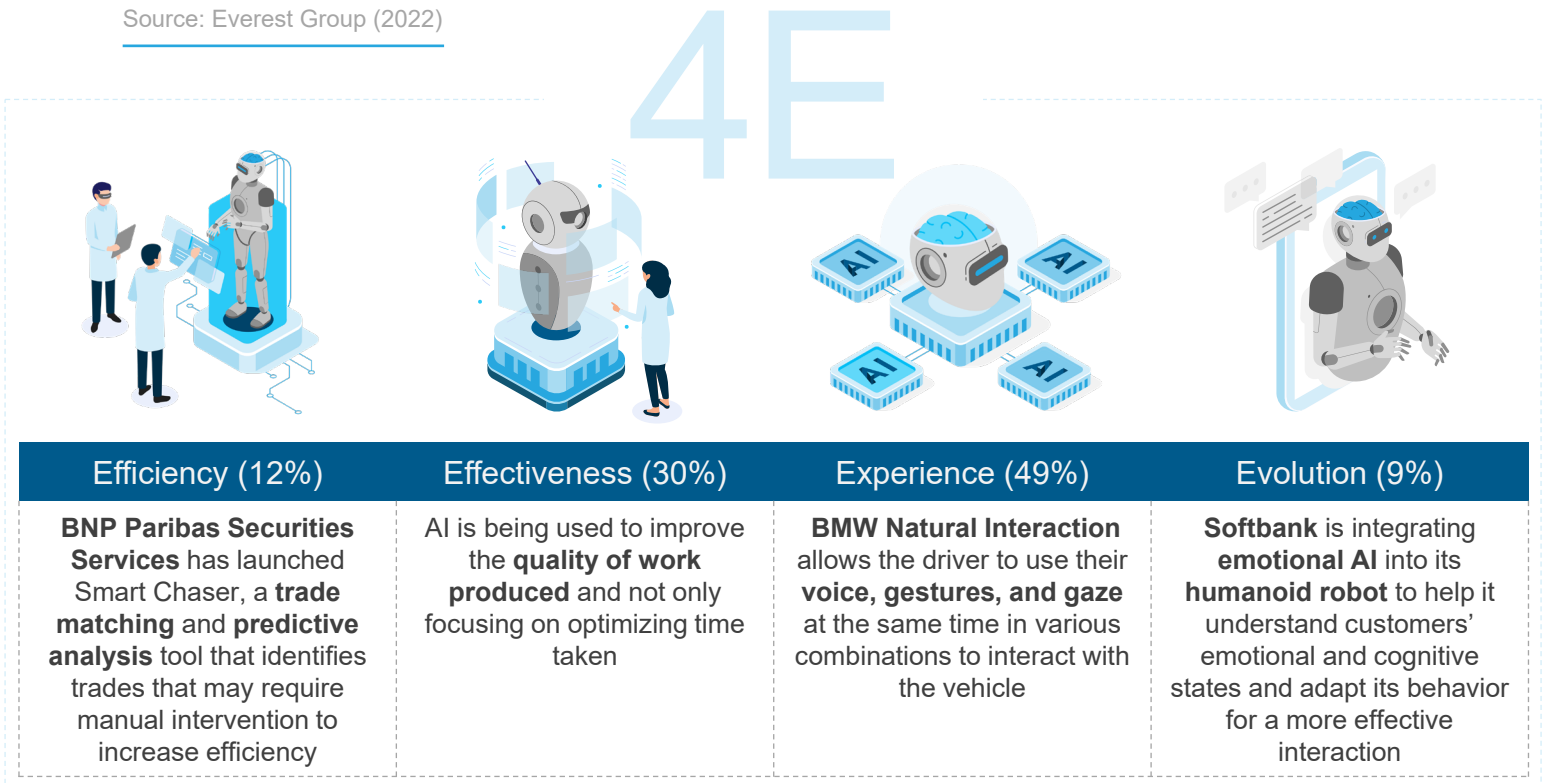> – VP of Customer Success, leading technology company

● **Impact assessment:** Quickly after starting business transformation, the next essential element is continually measuring the impact created by these initiatives. We define AI for business impact in four broad categories depending on the kind of value the AI system delivers, efficiency, effectiveness, experience, and evolution, as depicted in Exhibit 3.

EXHIBIT 3

4E AI business impact framework

Source: Everest Group (2022)

Efficiency (12%)	Effectiveness (30%)	Experience (49%)	Evolution (9%)
BNP Paribas Securities Services has launched Smart Chaser, a **trade matching** and **predictive analysis** tool that identifies trades that may require manual intervention to increase efficiency	AI is being used to improve the **quality of work produced** and not only focusing on optimizing time taken	**BMW Natural Interaction** allows the driver to use their **voice, gestures, and gaze** at the same time in various combinations to interact with the vehicle	**Softbank** is integrating **emotional AI** into its **humanoid robot** to help it understand customers' emotional and cognitive states and adapt its behavior for a more effective interaction

While AI's focus has historically been improving the efficiency (employee productivity, automation, etc.) and effectiveness (improved work quality, accuracy, etc.) of enterprise operations, there has been a visible shift toward leveraging AI to improve stakeholder experience. AI-mature enterprises across industries are leveraging AI for not only better stakeholder experience but also for their overall evolution to create new revenue streams, drive product launches, target new customer segments, and more, including projects like opening retail branches with no human staff or new use cases such as autonomous cars.

Pillar 2: supported by technology

As technologies enabling AI become mainstream, they have the opportunity to play a pivotal role in driving a scaled and coherent enterprise-wide adoption, enabling them to move from a manual to a more automated and modular approach that can address the entire AI life cycle. To make the most of the advances in technology, enterprises need to invest in an end-to-end technology architecture that provides a strong AI foundation and introduces tools and processes that autonomously manage the discover-to-implementation cycle.
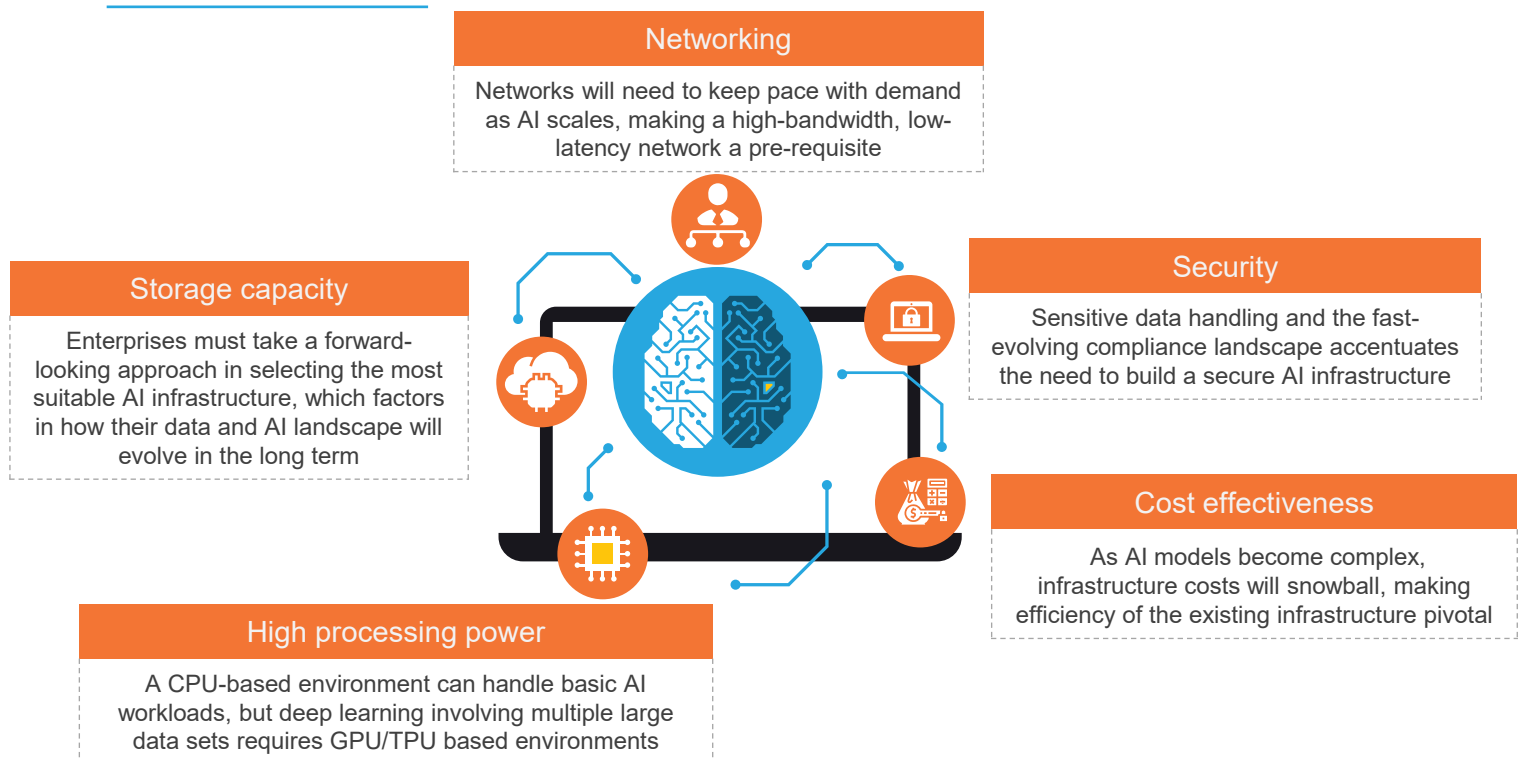
Build an AI foundation

- **Infrastructure:** As AI moves beyond experimentation toward scaled adoption, it will demand significant computing resources and infrastructure costs. Overheads will continue to escalate as the technology becomes more complex and resource-demanding, making adoption of cost-effective environments to run these intensive processes both a necessity and a competitive advantage. Exhibit 4 shows five things to consider when evaluating the infrastructure that is best suited to serve as the foundation of your AI program.

EXHIBIT 4

Five essential considerations for AI infrastructure

Source: Everest Group (2022)

Networking

Networks will need to keep pace with demand as AI scales, making a high-bandwidth, low-latency network a pre-requisite

Storage capacity

Enterprises must take a forward-looking approach in selecting the most suitable AI infrastructure, which factors in how their data and AI landscape will evolve in the long term

Security

Sensitive data handling and the fast-evolving compliance landscape accentuates the need to build a secure AI infrastructure

Cost effectiveness

As AI models become complex, infrastructure costs will snowball, making efficiency of the existing infrastructure pivotal

High processing power

A CPU-based environment can handle basic AI workloads, but deep learning involving multiple large data sets requires GPU/TPU based environments

> " The development of ML algorithms combined with large decline in prices for data storage and improvements in computing power has allowed firms to address challenges from vision and speech to prediction and diagnosis. The fast-growing cloud computing market has made these innovations accessible to smaller firms.
>
> – AI research, Stanford University

For the last several years, evolving cloud technologies have served as a backbone to facilitating enterprise AI. From enabling a basic infrastructure for AI to providing a platform to seamlessly build and scale next-generation AI applications, cloud has firmly established its place as an indispensable technology for driving AI innovation. The current advances in AI have been primarily led by breakthroughs in cloud technologies, including affordable high-performance computing power, large-scale storage, massive parallel processing supported by cost effectiveness, and security. For instance, Google Cloud recently launched TPU v4 Tensor Processing Units that significantly increase the compute power available and reduce deployment time for ML models

That next big shift in the fusion of AI and cloud is making AI more accessible through no-code/low-code technologies and built-in ML capabilities. Leading public cloud vendors are at the forefront of enabling customized rapid prototyping, faster proofs of concept, simplified development-to-deployment cycles for ML models, and built-in intelligence for leading AI use cases such as trend predictions, text classification, object recognition, sentiment analysis, and other features. Leading enterprises are extensively capitalizing on these cloud capabilities for competitive advantage through accelerated adoption of AI at scale.

Another key adoption trend is that AI on hybrid cloud becoming the go-to approach for enterprises as AI's use of substantial amounts of data increases. With the hybrid approach, enterprise always have the resources to scale while ensuring effective data governance and incorporating real-time responsiveness when needed.

- **Data:** There is a growing, mutually beneficial interrelationship between data and AI: While AI depends heavily on the data for success, it can also play a critical role in simplifying and automating data management processes for enterprises to help unlock true potential in their data stores in ways that previously seemed impossible. Advances in cloud-based computing and storage technologies have been the key enablers in sustaining this virtuous data and AI cycle. Leading data warehouse solutions such as Google Cloud's BigQuery ML, increase the speed of model development and innovation by eliminating the need to export data from the data warehouse, instead bringing ML to the data.

  – **AI for data:**
    Augmented data management, powered by AI, has the potential to make the data transformation process much less intimidating. It will play a key role in the enterprise shift from selective to democratized data access, both by simplifying data management and bringing the data closer to the consumer by building trust and transparency. AI can help transform the role of data practitioners by intelligently automating mundane repetitive tasks, thus allowing them to spend

Based on a recent Everest Group study, data scientists spend 70% to 80% of their time in data preparation for training, testing, and fine-tuning their ML models.

more time on validation. Based on the nature and complexity of the processes, data quality, data engineering, master data management, and metadata management have the highest potential for AI adoption.

– **Data for AI**
Once on-demand accessibility to high-quality data has been taken care of, the next step is to ensure the readiness of the data to be used for training algorithms. Two key elements need to be considered to get your data in order:

◆ **Data enrichment:** The purpose of data enrichment is to get the data into the best format to train, validate, and fine-tune the AI model. Most state-of-the-art AI models require large volumes of labeled data for this purpose. Data labeling refers to tasks such as data tagging, annotation, classification, and transcription to help the model understand the data as well as you do. For most organizations, this process is highly manual and cost-intensive, as well as highly prone to inherent biases. Fortunately, there is an evolving ecosystem of technology vendors and service providers that can help in automating these activities. In addition, these tools and services can also enable easier collaboration and quality control for the overall dataset creation process.

◆ **Identifying the data threshold:** Many factors are in play when determining how much training data is enough. The consensus is that the more data we put through the models, the better they get. However, there is a point at which the marginal gains of adding more data become insignificant. Enterprises need to carefully set the threshold for success, depending on the level of accuracy required based on use case outcomes, identifying the trade-off between cost/effort and consequences of a faulty output. For instance, a recommendation engine for an apparel website that achieves 85-90% accuracy is more than enough for most organizations' needs and a false positive or negative here or there will not substantially impact user experience. However, for a drug-discovery model or a self-driving car algorithm, high accuracy is, of course, non-negotiable.

> " Throughout the business world, every company these days is basically in the data business, and they are going to need AI to civilize and digest big data and make sense out of it – big data without AI is a big headache.
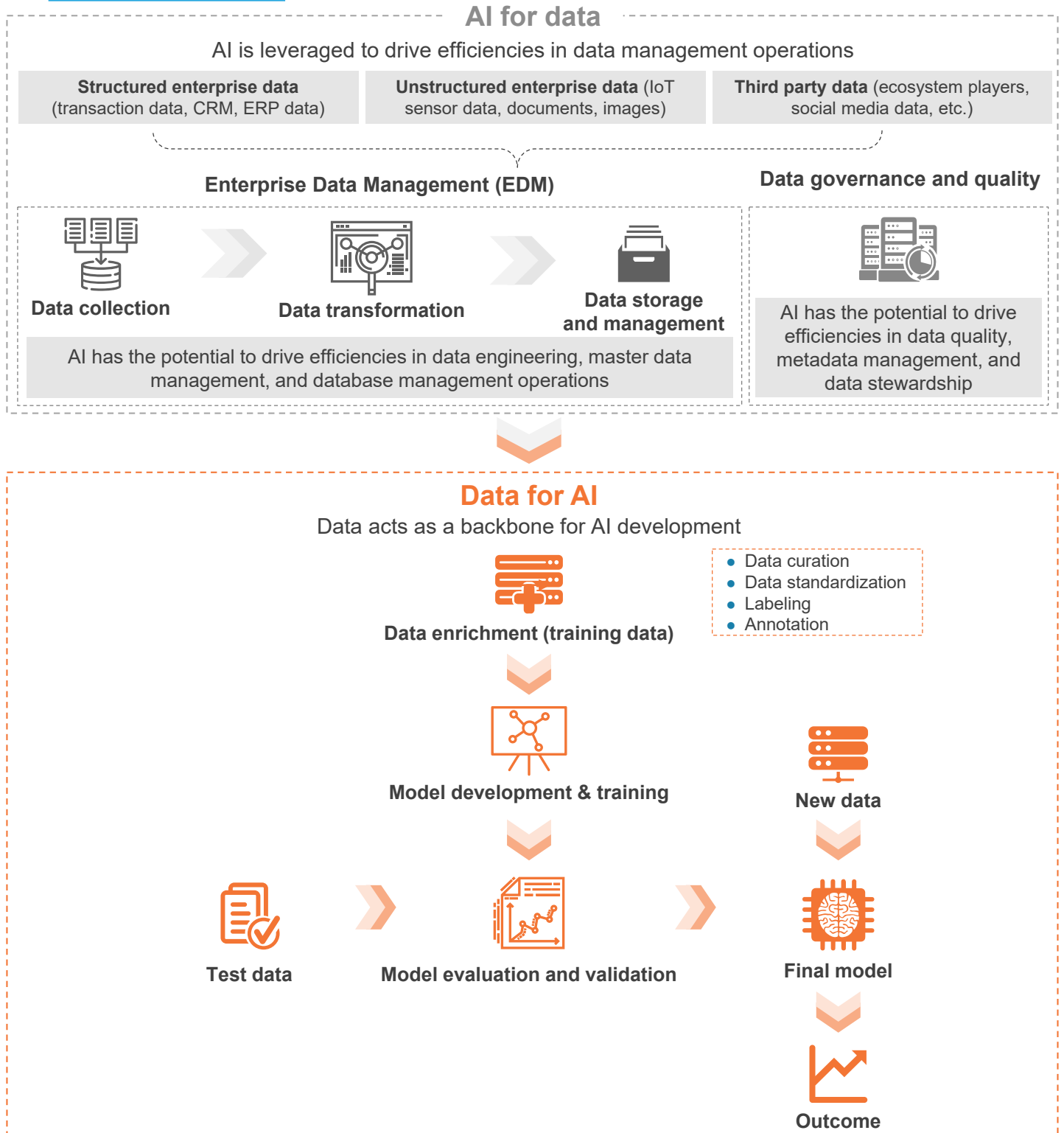>
> – Co-founder, leading American media and publishing company

Exhibit 5 depicts the end-to-end data value chain.

EXHIBIT 5

Building an end-to-end data value chain

Source: Everest Group (2022)

AI for data

AI is leveraged to drive efficiencies in data management operations

Structured enterprise data (transaction data, CRM, ERP data)	**Unstructured enterprise data** (IoT sensor data, documents, images)	**Third party data** (ecosystem players, social media data, etc.)

Enterprise Data Management (EDM)

Data governance and quality

Data collection → **Data transformation** → **Data storage and management**

AI has the potential to drive efficiencies in data engineering, master data management, and database management operations

AI has the potential to drive efficiencies in data quality, metadata management, and data stewardship

Data for AI

Data acts as a backbone for AI development

Data enrichment (training data)

- Data curation
- Data standardization
- Labeling
- Annotation

Model development & training

New data

Test data → **Model evaluation and validation** → **Final model**

Outcome

- **Operationalize AI:** With the advent of platformization, there is a significant shift happening for AI – moving away from a model-centric approach to a production-centric approach enabled by MLOps and DataOps. Instead of focusing development efforts on a specific AI model, mature AI adopters have shifted their focus to implementing an end-to-end AI platform that can support multiple AI models across the model lifecycle, from testing, training, and deploying the models to scaled adoption yielding sustained value. In addition to shortening the discover-to-scale path, a production-centric approach facilitates a constantly scaling AI implementation, unperturbed by evolving business requirements and data landscape. Solutions such as Vertex AI from Google Cloud are enabling a unified platform for end-to-end AI implementation for enterprises to accelerate experimentation, reduce coding with almost 80% fewer lines of code with custom-built ML libraries, and move more models into production.

  Key advantages of implementing end-to-end AI platforms include:

  – Constantly monitored solutions undergoing continuous learning to adjust the model to the new data or business requirements

  – Version control and deployment support to add and replace models without significant overhead

  – Adding a human in the loop to provide valuable feedback to continuously improve the prediction outputs

> " There is still a long way to go before we are truly an AI-first world, but the more we can work to democratize access to the technology – both in terms of the tools people can use and the way we apply it – the sooner everyone will benefit.
>
> – CEO, leading global technology firm

- **Innovate:** At the current pace of AI advances, it is imperative for enterprises to continuously innovate and transform to build a truly AI-powered organization. Mature AI adopters ingrain innovative AI adoption methods to serve a two-fold purpose:

  – Advocate for and adopt methods that can help to increase the efficiency and effectiveness of existing AI solutions through increased use of automation and discovering synergies across functions

  – Identify possibilities to expand existing AI solutions through adoption of new technologies and ways of working

For instance, distributed AI offers the possibility of enabling model training in cases of data silos, data sensitivity, or heterogeneous data while lowering communication and infrastructure costs. Similarly, frugal AI supports AI use cases in low data environments.

Pillar 3: enabled by people

People will form the centerpiece of a firmwide AI strategy as AI-led business transformation ushers in the need to prepare and deploy talent while empowering them with the right set of tools, technologies, and enabling processes. People enablement will be made possible through the following four tenets:

- **Data and AI literacy:** Data literacy is defined as the ability of an organization's key decision makers to make data-driven decisions by providing them access to the tools/technologies to access/manipulate data and training them in how to know, speak, and argue with data. AI literacy, on the other hand, enables effective machine-human collaboration by enabling people to understand the black box phenomenon of AI and inner workings of the system for trust and effective decision making. Both are necessary ingredients to drive real change through AI.

- **Skill development and roles envisioning:** To address "the great resignation" and skills shortage, enterprises will have to turn inward to upskill their current workforces through investments in robust training programs supported by learning platforms and mobility solutions to drive change. This process will involve charting skilling journeys and building skills passports to cross-leverage talent. While doing that, enterprises should not get caught in the "certifications" race. Focus should be on preparing talent with the right technology skills and domain expertise to resolve business problems through effective use of AI.

- **AI democratization:** AI democratization is primarily concerned with making AI accessible to a wider set of users leveraging the concept of AI for all. Democratization relates to educating business users in the basic concepts of data and AI and giving them access to data and tools that are intuitive and leverage low-code/no-code and automation capabilities to empower business users.

- **Interdisciplinary collaboration:** AI has the biggest impact when it is developed by cross-functional teams with a mix of skills and perspectives and initiatives are strongly advocated for by the leadership. Having business, data science, and IT teams work side-by-side will ensure that initiatives address broad organizational priorities, not only isolated business issues.

Pillar 4: underpinned by AI governance

As enterprises adopt AI systems to leverage and deploy AI at scale, they must address a number of questions:

- Is the data used to train the algorithm complete, accurate, and free of human bias?
- Is the model being tested with a diverse set of data to ensure reliability in all cases?
- Are there algorithmic biases in the system that compromise sound decision-making capability of the system?
- Are the results reliable to the extent that critical decisions can be made based on the algorithms' recommendations?
- How can we detect exceptions and outlier situations where the model may fail?

Furthermore, the final AI must be responsible, so enterprises will have to invest in solutions that are:

- **Explainable**, that is, there should be a logical interpretation for the predictions/decisions the model makes and how different variables influence these outcomes, such that it incorporates transparency in the results and can be repeated to ensure every individual's right to know when an algorithm is making decisions about them, how it works, and what data are being used.

- **Ethical**, that is, the predictions/decisions the model makes must be justifiable and eliminate the possibility of negative consequences to the planet (ensuring sustainable use of resources) and people (incorporating the principles of human safety as well as Diversity, Equity, Inclusion, and Belonging (DEIB)).
- **Secure**, that is, solutions that are continuously monitored, adhere to regulatory mandates, respect consumer privacy, and can be trusted with sensitive information, and to always stay one step ahead of the potential risks associated with powerful technologies such as AI.

These governance expectations will require organizations to formulate AI policies, identify potential risks and establish controls, define key tenets of machine and human accountability, to ensure responsible adoption.

Exhibit 6 describes the key tenets of responsible AI

EXHIBIT 6

Key tenets of Responsible AI
Source: Everest Group (2022)

Explainable
- Transparent
- Repeatable
- Accountable
- Traceable

Secure
- Governed
- Compliant
- Private
- Reliable

Ethical
- Unbiased
- Justifiable
- Sustainable
- Inclusive
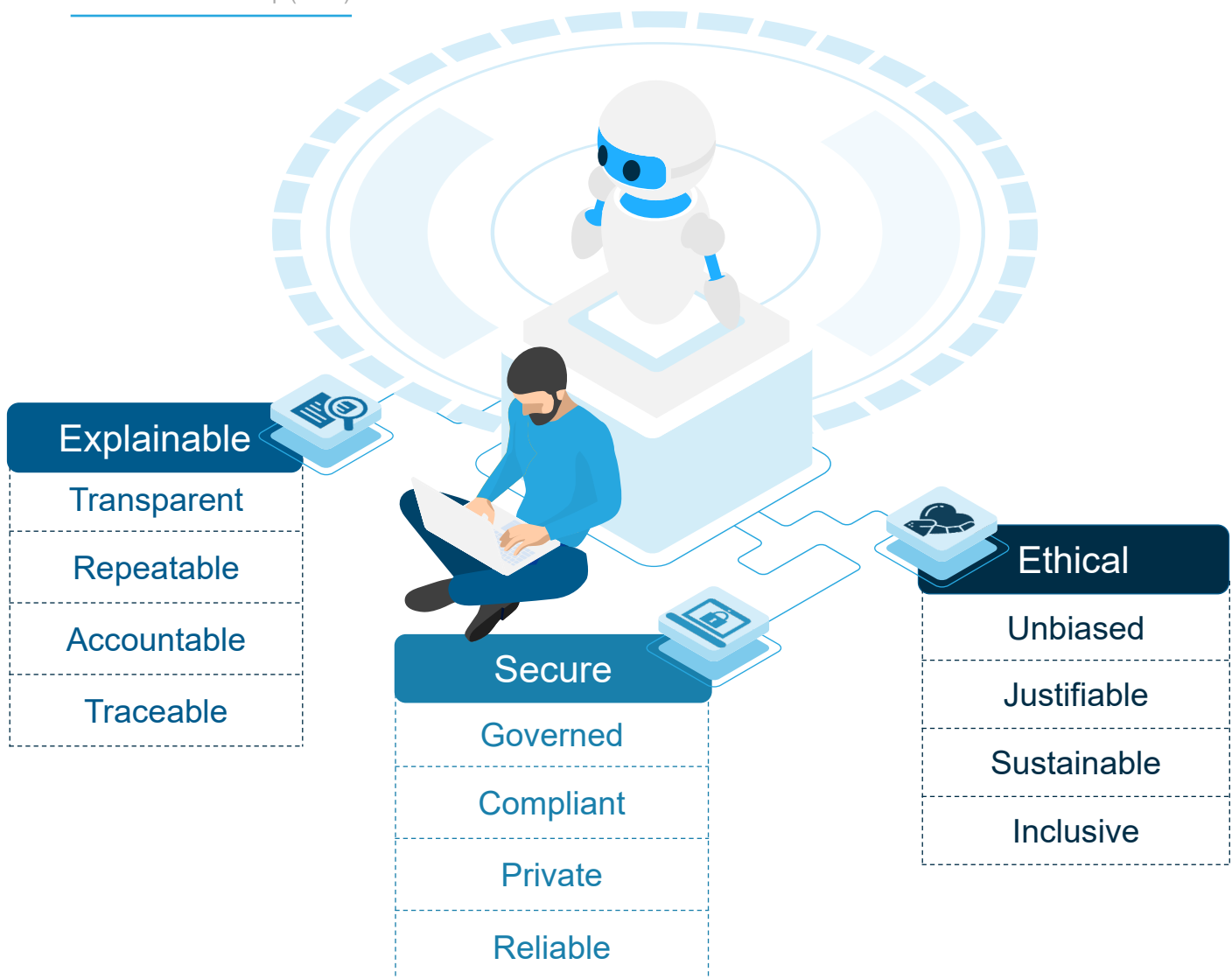
What lies ahead? Fast-paced changes in the regulatory environment

A bill passed by the New York city council in November 2021 would ban employers from using AI-based solutions for hiring unless a yearly bias audit can show they are not discriminating based on an applicant's race or gender. It would also force vendors to enhance the transparency, explainability, and credibility of these solutions, and give candidates the option of choosing an alternative process, such as a human, to review their application.

> " As more and more Artificial Intelligence is entering into the world, more and more emotional intelligence must enter into leadership.
>
> – Amit Ray, Author, Compassionate AI

AI-led business transformation in action

While the pace of AI-adoption is accelerating across industries, Banking, Financial Services, and Insurance (BFSI), Healthcare & Life Sciences, Consumer Packaged Goods (CPG) & retail, and manufacturing industries have been at the forefront of AI adoption.

BFSI

BFSI enterprises are making significant investments in AI for intelligent risk management, predicting cash flow/liquidity, trade reconciliation, wealth management, reducing customer churn, improving lending processes, and driving operational efficiency through hyper-automation of routine day-to-day business operations. For instance, BFSI firms are particularly interested in adopting contact center AI that can seamlessly manage customer inquiries without human intervention, augmented by capabilities that predict customer intention for improved CSAT scores. Another key use case is intelligent document processing: automating data extraction and processing from scanned documents, PDFs, and unstructured text to improve accuracy and speed movement across business processes.

Impact Activity   Limited   Medium   High

China Construction Bank
中国建设银行

The bank opened a branch in Shanghai that has no human staff and instead uses facial recognition, AI, and virtual reality (VR) to provide banking services. Robots, via voice-recognition are able to address customer needs, while several automated machines assist customers with services such as account opening, money transfers, and wealth management solutions. On future visits, the branch leverages facial recognition alone to gain entry and call up customer information.

Efficiency	Effectiveness	Experience	Evolution

Healthcare & Life Sciences

AI-enabled solutions in the life sciences industry are providing some immediate returns through hyperautomation, drug discovery and development, care management (faster diagnosis, prevention, and recovery), and better patient engagement. Drug discovery and development is one of the key use cases showing the evolutionary impact of AI, facilitating augmented clinical trial study design, improved understanding of disease mechanisms, and faster identification, validation, and lead optimization for ideal target drug candidates.

Impact Activity   ■ Limited   ■ Medium   ■ High

AstraZeneca partnered with BenevolentAI to use ML and AI to discover potential new drugs for chronic kidney disease and idiopathic pulmonary fibrosis. Under this partnership, AstraZeneca is combining its expertise in diseases and its datasets with BenevolentAI's AI and ML capabilities to improve its understanding of complex disease biology and develop the ability to quickly identify new potential drug targets

Efficiency   Effectiveness   Experience   Evolution

CPG and Retail

The CPG and retail industry is seeing the most dynamic, fast paced adoption of AI, largely due to the increasing shift toward e-commerce and change in consumer buying patterns accelerated by the pandemic. CPG and retail enterprises are extensively adopting AI to transform customer experiences, gain operational efficiencies, digitalize supply chains, and improve targeted marketing with hyper-personalization.

Impact Activity   ■ Limited   ■ Medium   ■ High

Nike has created a Nike Fit tool integrated within app to find the right fit for its customers by combining computer vision, ML, and Augmented Reality (AR). It renders hyper-accurate sizing suggestions for shoes by scanning customers' feet through a smartphone. Through Nike Fit, the company aims to improve the way it designs, manufactures, and sells products, contributing to better shipping and fewer returns, as well as improved customer experiences

Efficiency   Effectiveness   Experience   Evolution

Manufacturing

Enterprises in the manufacturing industry are focusing on digital initiatives to build operational resilience and ensure business continuity. Process improvement, asset management, and better customer experience through improved product quality are some of the major enterprise use cases

driving AI adoption. Investments in AI-driven sustainability initiatives such as scrap minimization, energy management, assurance of employee health and safety, and responsible procurement are also gaining significant traction.

Impact Activity ■ Limited ■ Medium ■ High

RENAULT

Renault deployed AI-enabled collaborative robots, or cobots, in its plants. Repetitive work that requires physical exertion is allocated to cobots. These intelligent robots collaborate with humans by utilizing computer vision and analytics to detect movements and react accordingly

Efficiency	Effectiveness	Experience	Evolution

What does the future of AI look like?

AI-evolution is perhaps one of the most important issues currently impacting humanity and will continue to do so for the foreseeable future. While innovators and science fiction enthusiasts are optimistic about super intelligence and singularity, massive research and investments are still needed for that vision to become a reality. However, what the near future certainly promises is a seamless collaboration between humans and AI such that AI pervades every aspect of human existence, deeply integrating in our day-to-day lives, yet remaining invisible. Use cases such as emotional bots – embedding "consciousness" in robots, AI-powered brain-computer interfaces – translating brain activity and thoughts to control apps and devices, hybrid workforce – digital avatars of employees created in the metaverse, have already allowed us a sneak peek into this scenario.

With enterprises keen on harnessing the power of AI to transform their business, an expanding ecosystem of AI technology vendors as well as service providers are enabling enterprises to realize this vision by providing fit-for-purpose strategic, technology, as well as consulting expertise at each step of their journey. Leading technology vendors have been at the forefront of not just envisioning what our collective AI future will look like, but also bringing it to life for their clients through practical industrial application. For instance, through its end-to-end AI platform Vertex, Google Cloud is facilitating the much-needed abstraction that takes care of the technical and arduous bits of AI, so that enterprises can focus more on innovation and value realization.

With the world ushering into the AI age of humanity, it is fairly evident that only those companies, countries, societies will fare best in this era that are able to embrace and influence these changes rapidly to their advantage.

Everest Group®

With you on the journey

Everest Group is a research firm focused on strategic IT, business services, engineering services, and sourcing. Our research also covers the technologies that power those processes and functions and the related talent trends and strategies. Our clients include leading global companies, service and technology providers, and investors. Clients use our services to guide their journeys to maximize operational and financial performance, transform experiences, and realize high-impact business outcomes. Details and in-depth content are available at **www.everestgrp.com**.