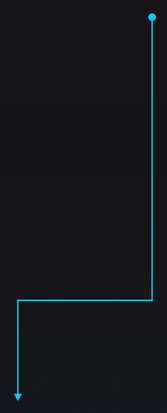
VISIUM

[A PRACTICAL ROADMAP]

The C-level guide to kickstart your AI journey

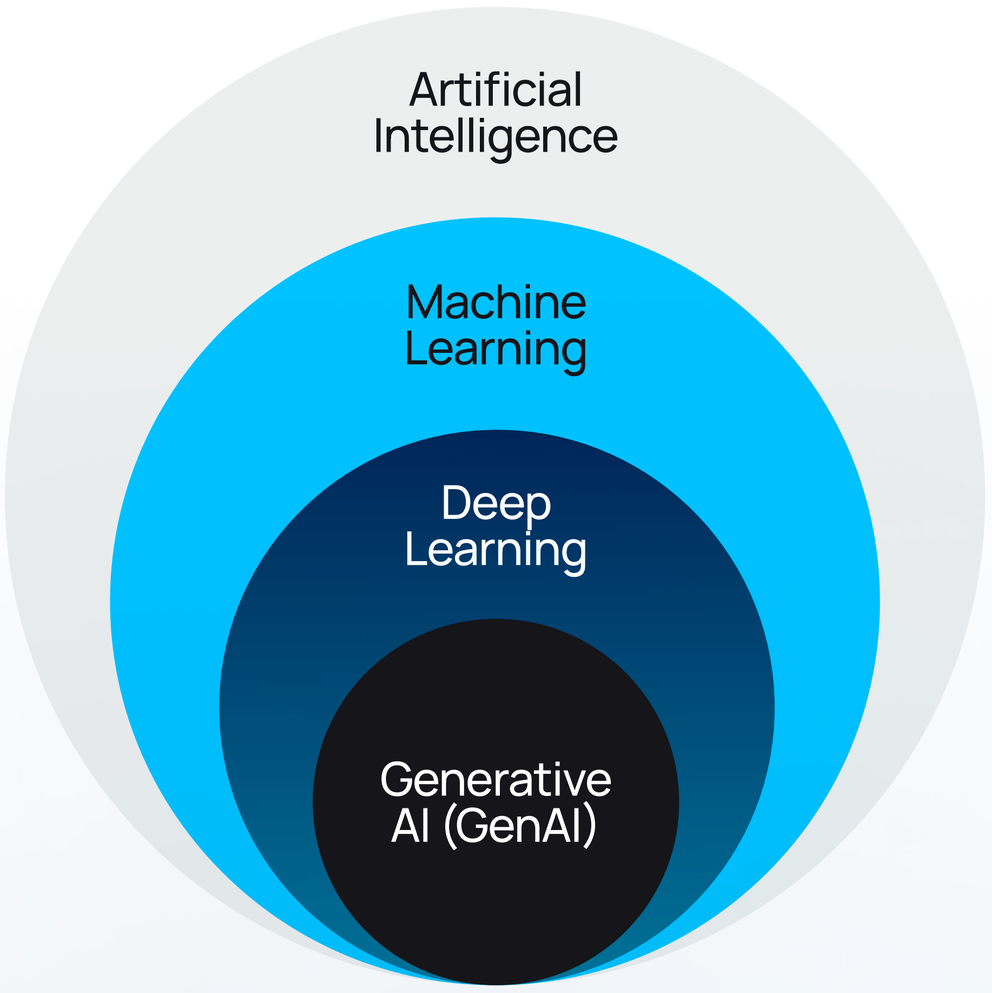
Content overview



Many companies feel overwhelmed when beginning their AI journey, and as a leader, you may feel the same amid a sea of information and recommendations.

This guide will help you cut through the noise and navigate your AI journey one step at a time.

AI glossary



Artificial Intelligence (AI)

Refers to a field of computer science that creates machines capable of human-like tasks, such as perception, reasoning, planning, learning, and decision-making.

Example: AI optimizes scheduling for tasks like employee shifts or transportation.

Machine Learning (ML)

A branch of AI where machines learn to solve problems by generalizing patterns from provided examples.

Example: ML detects patterns and anomalies to identify fraud.

Deep Learning

A specialized area within machine learning using brain-like neural networks to process complex data such as text or images.

Example: Neural networks process camera sensory data for autonomous driving.

Generative AI (GenAI)

A category of deep learning algorithms focused on creating realistic content from data such as text, images, or audio.

Example: Popular examples are ChatGPT (for text) and DALL-E (for images).

AI glossary

Understand AI - from data to decisions

Unlike programming that operates on deterministic rules and predefined instructions, AI, particularly Machine Learning (ML), uses a probabilistic approach. Instead of following rigid rules, AI systems learn patterns from data, make predictions, and adapt over time based on feedback and observed outcomes. This adaptive, data-driven method allows AI to handle uncertainty and continuously improve, making it fundamentally different from the static, rule-bound nature of traditional computing.

AI's data dependency - balancing data and expert knowledge

The data needs of AI projects vary based on the specific problem and algorithm used. While having large amounts of labeled data can reduce the need for some types of expertise, expert knowledge remains key in building relevant and usable AI solutions. Experts provide the domain-specific insights needed to structure data, define meaningful objectives, and interpret results accurately. When data is limited, expert involvement becomes even more critical to ensure that AI models are not just technically sound but also tailored to the needs of end users.

Harnessing AI - key metrics for model performance and business value

The true measure of an AI model's success is measured by its technical performance but also by the business value it creates. To effectively assess AI models, it's important to distinguish between model-specific metrics and those that reflect broader business impact. For example, in a classification task like defect detection in quality control, model-specific metrics such as false positives (detecting a defect when none exists) and false negatives (missing an actual defect) are crucial for understanding model performance. However, the ultimate goal is to connect these technical metrics with business-relevant outcomes like operational efficiency and key financial outcomes like cost reduction, revenue growth, and improved profitability.

AI glossary

Humans AI - augmentation, not replacement

While AI can mimic specific human tasks, it is still just one tool in the broader toolbox for creating value. AI can assist in thinking, planning, and decision-making processes, but it relies on human guidance to define, refine, and apply these capabilities effectively. This distinction is crucial for leaders to understand; AI accelerates and amplifies what humans can achieve but does not replace the nuanced judgment, creativity, and contextual understanding that only humans bring.

Scaling AI - the need for full pipeline support

Unlike traditional software, AI cannot be separated from its data, making it hard to break the system into smaller modules that can be easily managed or updated separately. This challenge is amplified by the lack of specialized tools for managing AI workflows, often turning simple AI pilots into unexpectedly complex scaling efforts, sometimes costing 10-20 times more than the pilot phase. Scaling AI requires continuous management of the entire so-called ML pipeline — a process that oversees every step from data preparation and model training to deployment and user interaction. Mastering AI at scale remains one of the biggest hurdles in business today.

Ownership of AI - make vs. buy

The decision to develop AI in-house or purchase an external solution isn't straightforward due to factors like strategic value, data ownership, customization, performance of external solutions, and total cost of ownership. In-house development offers control and tailored solutions but requires substantial investment in expertise, infrastructure, and continuous maintenance. External solutions provide quicker access to advanced capabilities and ongoing vendor support but may involve compromises on data privacy, integration complexities, and adaptability to specific needs. These implications, especially with their strong financial component, must be carefully considered to align with your business strategy.

Navigating AI ethics - mitigation bias

Ethical AI goes beyond compliance; it's about building systems that are fair, transparent, and aligned with your company's values. Addressing bias is crucial, as AI decisions are deeply tied to the quality and biases of its training data. Principles like 'equal treatment' require human intervention to define fairness, making us rethink whether treating groups 'on average' is sufficient. This underscores the critical role of human judgment as a safeguard, but also as an active guide in ensuring AI decisions are contextually aware and aligned with the broader ethical goals of the organization.

The AI opportunity

Most companies are still experimenting with AI, facing challenges in strategy and execution.

However, its impact is clear. AI can boost EBITDA by 20-30%, according to McKinsey and Accenture.

AI isn't just a technical upgrade; it transforms businesses at every level. Tools like LLM chatbots (e.g., ChatGPT) are changing how we work and learn. For companies, AI drives efficiency, sparks innovation, and reshapes operations, enhancing competitiveness. At the industry level, AI optimizes processes from R&D to distribution, redefining whole value.

To keep in mind

AI projects differ from traditional IT initiatives due to their experimental nature. The outcomes are not always guaranteed, and success often hinges on iterative experimentation and adaptation. Effective AI adoption requires significant data science expertise, strategic planning, and a shift in how leaders engage with data science.

Implications for the CEO function

Implications for the CEO function

Core responsibilities

01 Leadership

The CEO sets the tone for the entire organization through their actions and priorities, shaping the management team and how they work together. Drawing from Kotter's Change Management framework, successful transformation begins with creating a sense of urgency around why AI is essential for your company's future. Engaging the organization in open discussions about market shifts and competition helps build the momentum needed for transformation.

02 Competitive strategy

CEOs must craft the company's overall strategy, staying alert to emerging opportunities and threats. A crucial part of this role is to demystify AI to create acceptance, reduce fears and lead a real transformation, with value adding use cases. AI allows companies not only to outpace traditional competitors but also to redefine their markets. Ignoring AI's disruptive potential may arguably be one of the most critical strategic missteps a CEO can make.

03 Value & ethics

CEOs bear ultimate responsibility for upholding the company's mission and values with respect to all stakeholders. As such, this requires not only an understanding of AI's potential but also the ability to interpret data and anticipate the broader implications of AI-driven decisions. CEOs must ensure that AI initiatives align with ethical standards and regulatory compliance, especially in areas like talent management, where avoiding biases such as discrimination is critical. To achieve this, CEOs need to foster a culture of continuous learning and invest in the right expertise.

04 Organization

Lastly, the CEO plays a pivotal role in shaping the company's structure in conjunction with the board as a whole. During AI transformations, it's essential to drive cross-functional collaboration, as AI reshapes key processes like demand forecasting, production planning and pricing. Siloed teams risk creating fragmented and unscalable AI initiatives. Yet, companies like Roche demonstrate that even decentralized structures can succeed, when underpinned by strong collaboration and decisive leadership. CEOs must actively engage with their management teams and align efforts to fully leverage AI's potential for scalable growth.

Implications for the CEO function

Example of AI in action: Use cases

Use cases	Description
AI strategy	For CEOs, AI isn't just about technology or specific use cases, but about driving a people-focused transformation. This use case sets the focus on empowering employees to use AI in their daily work, driving better decisions and efficiency across the organization.
Smart product innovation	AI can fundamentally transform a business by turning traditional hardware into smart, connected systems with embedded predictive maintenance and performance optimization. This enables companies to shift to offering uptime and reliability as a service, creating new revenue streams through data-driven services.
Demand forecasting	AI forecasts future demand by analyzing internal historical and external data, including market and economic trends, to help align strategic planning, investment decisions, and capacity adjustments with anticipated market needs.

AI-driven negotiation strategy

The challenge

Our client struggled with complex, unpredictable negotiations with industry authorities, where securing approvals was critical. Their preparation process for these meetings relied on analyzing past decisions and sifting through hundreds of internal documents, which was time-consuming, prone to bias, and ultimately jeopardizing favorable outcomes.

The solution

We developed an AI model using Natural Language Processing (NLP) to automatically tag and extract key topics and sentiments from past committee transcripts, highlighting what's important to different members. Alongside this, we built an analytics platform that lets users quantify topic importance and track trends over time through a user-friendly interface designed for strategic analysis.

The outcome

- The company increased its chances of success by facilitating favorable negotiations.
- Access to better insights helped reach higher reimbursement prices during negotiations, directly improving the top line.
- Adopting a data-driven approach in strategic decision - making advanced their AI maturity.

AI-powered business model shift

The challenge

The challenge our client faced was transitioning from a traditional hardware business model to a software-driven approach to generate recurring revenues. Their reliance on one-off hardware sales limited opportunities for sustained revenue and weakened their market competitiveness.

The solution

We identified factors affecting component lifespan and installed sensors to predict Remaining Asset Life (RAL). Accessible through dashboards, our system allowed our client's teams and their customers to monitor the health of all equipment in use and proactively intervene to increase uptime. Our services also involved advising on the data infrastructure and acquisition strategy - to ensure an efficient and seamless connection to all equipment in the field.

The outcome

- Enabled a shift to a recurring revenue model, generating stable, predictable income.
- Strengthened competitiveness by offering service-based solutions alongside hardware, setting the company apart from traditional competitors.
- Scaled failure detection across multiple use cases, enhancing operational efficiency.

About Visium

Visium is a leading Swiss AI & Data consultancy helping enterprises turn their most strategic AI initiatives into measurable business outcomes. Since 2018, we've delivered over 250 solutions for global leaders like Roche, Novartis, Nestlé, and dsm-Firmenich; helping them drive efficiency, unlock new revenue streams, and scale solutions that deliver long-term value.

Built on a foundation of ethical innovation, our mission is to make AI work for business, people, and long-term impact.

70+

Engineers and consultants throughout Europe

50+

Happy enterprise clients

250+

AI & data engagements

Pan-European presence

Recognized leaders

2nd fastest growing company in Europe by Financial Times

Our partners

Academia

Technology

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AI initiatives delivering real impact at scale

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