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# Enterprise-grade AI and the associated challenges

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Artificial Intelligence in enterprises will change the definition of work, but companies must overcome several challenges to derive value from this powerful and rapidly evolving technology. Companies are integrating AI into their business operations with the aim of saving money, boosting efficiency, generating insights, and creating new markets.

There are AI-powered applications to enhance customer service, maximise sales, sharpen cybersecurity, optimise supply chains, free up workers from mundane tasks, improve existing products and point the way to new products. It is hard to think of an area in the enterprise where AI will not have a deep impact. The domain of artificial intelligence is changing rapidly because of the tremendous amount of AI research being done. To reap the value of AI, enterprise leaders must understand how AI works, where AI technologies can be easily used in their businesses and where they cannot.

## How AI Works

Many of the tasks done in an enterprise are not automatic, but require a certain amount of intelligence. What characterises intelligence, especially in the context of work, is not simple to pin down. Getting a machine to perform in this manner is what is generally meant by artificial intelligence, but there is no single or simple definition of AI.

At a basic level, AI programming focuses on three cognitive skills; learning, reasoning and self-correction. The learning aspect of AI programming focuses on acquiring data and creating rules for how to turn data into actionable information. The rules, called algorithms, provide computing systems with step-by-step instructions on how to complete a specific task. The reasoning aspect involves the AI's ability to choose the most appropriate algorithm among a set to use in a particular context. The self-correction aspect focuses on the AI's ability to progressively tune and improve a result until it achieves the desired goal. Modern artificial intelligence evolved from AI systems capable of simple classification and pattern recognition tasks, to systems capable of using historical data to make predictions. Propelled by a revolution in deep learning, this meant that AI that began to learn from data.

## Big Data

According to research firm IDC, by 2025, the volume of data generated worldwide will reach



175 zettabytes (175 billion terabytes), an astounding 430% increase over the 33 zettabytes of data produced by 2018.

For companies committed to data-driven decision-making, the surge in data will be a boon. Large data sets are the raw material for the vital in-depth analysis that drives improvements in existing business operations and leads to new lines of business. Companies cannot capitalise on these data stores without AI, as they play a symbiotic role in the success of 21st century businesses. Deep learning, a subset of AI, processes large data stores to identify the subtle patterns and correlations in big data that can give companies a competitive edge. Simultaneously, an AI's ability to make meaningful predictions to get at the truth of a matter, rather than mimic human biases, requires vast amounts of high-quality data.

## Labour

Labour gains realised from using an AI are expected to expand upon and surpass those made by current workplace automation tools. By analysing vast volumes of data, AI won't simply automate work tasks but generate the most efficient way to complete a task and adjust workflows quickly as circumstances change. AI is already augmenting human work in many fields, from assisting doctors in medical diagnoses to AI being used to automatically respond to cybersecurity threats and prioritise those that need human attention. Banks also are using AI to speed up and support loan processing and ensure compliance. The future of AI knows no bounds, and will continue to grow and develop.

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