

Machine intelligence ascending

How robotic process automation, machine learning, and artificial intelligence will help define tomorrow's kinetic enterprise

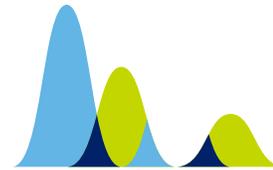
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New digital technologies, including Internet of Things (IoT) devices, promise to revolutionize your business—and to overwhelm it with data. How do you sift through the expanding ocean of data to glean actionable insights and turn bits into value? The short answer is that you don't always have to. You can let the machines do the work for you.

Mature machine intelligence technologies that include robotic process automation (RPA), machine learning, and artificial intelligence are providing today's organizations with critical tools they can use to make sense of data and to leverage it to generate new value—to automate insights, business processes, transactions,

customer engagement, and more. As machine intelligence helps transform today's enterprise into a kinetic enterprise—one that can quickly adapt and overcome organizational inertia—what opportunities emerge? And how do existing solutions such as SAP® applications align with new intelligent technologies? Here are a few things to know.

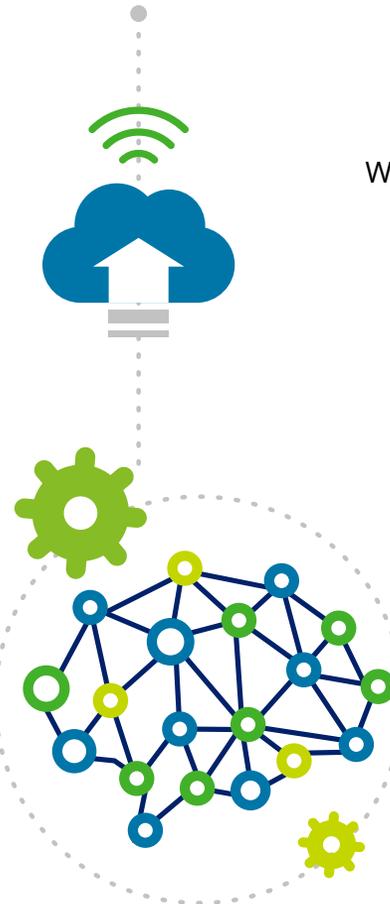


These machines aren't robots with arms, but they are doing some heavy lifting.

There's still a lot of work you have to do.

Keep your sights set on the potential benefits.

Where do we go from here?

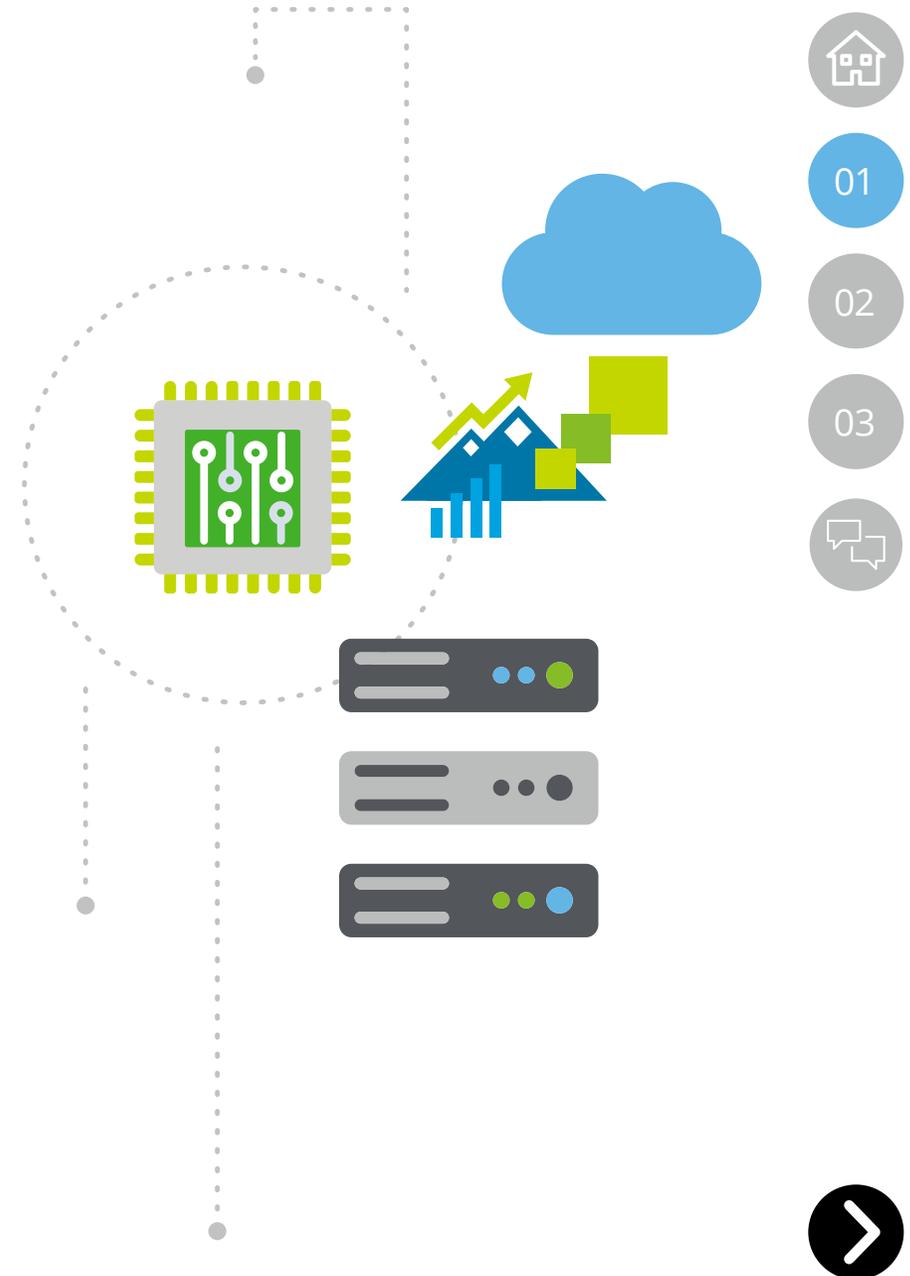


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RPA involves business processes that are automated by means of robotic software—software that can act robotically on high-volume, objective processes, and structured data. RPA is not a truly “smart” technology. RPA capabilities can help you automate traditionally human-involved processes such as invoice processing, taking on rote processes that require straightforward, objective actions. Machine learning and artificial intelligence (AI) capabilities can do even more. At its core, machine learning is the process of automatically discovering patterns in data and then using patterns to make predictions. AI takes things a step beyond—applying more humanlike intelligence to “think” about patterns, to anticipate possibilities, and

to perform more complex tasks such as natural language processing, visual identification, and other activities that involve learning or problem solving.

Ultimately, machine intelligence capabilities can help create automated systems of transaction and interaction—in which smart software gets smarter, providing actionable data-driven insights and executing decisions. And these systems can get smarter over time. Possibilities include applications that engage with customers to anticipate needs and provide answers, or a set of image-recognition and natural-language-processing tools that serves effectively as a smart digital assistant for workers in the field.



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“At the same time, many leaders across the utilities space see such technology as key to enabling new business models and innovative capabilities”

Machine intelligence empowers people.

Across many organizations, there's a rising concern that new cognitive technologies will replace workers. To some extent and within some organizations, technologies can render some jobs obsolete. But the real power and potential of machine intelligence is its ability to free up human workers from mundane, tedious, or time-consuming activities—simple tasks such as routing information or complex challenges such as spotting business trends or opportunities hidden within piles of data. With machine intelligence tools, humans can spend less time on traditional support and maintenance activities and spend more time on strategy—to support a kinetic enterprise that can respond proactively to market forces.

Expect modern enterprise solutions to be front and center.

What does machine intelligence mean for organizations that run SAP solutions or that want to leverage SAP technology to get ahead of disruption? First, the recently launched SAP® Leonardo digital innovation system can

provide a portfolio of solutions, including SAP® Leonardo Machine Learning and SAP® Cloud Platform, to help you rapidly deploy cognitive capabilities. Second, adding machine intelligence to the mix does not require you to alter solutions such as SAP S/4HANA®, the modern digital core ERP. It is minimally invasive—external software that work with SAP solutions, not changing it. Rather, machine intelligence enhances what you can do with SAP S/4HANA and other enabling SAP solutions.

Machine intelligence owes its maturity to a few big enablers.

Cognitive technologies aren't exactly new, but what they can do today is—thanks to a handful of enablers. For one, solutions such as the SAP HANA® in-memory database can support the type of computing power required for evolving needs. With SAP HANA, for example, machine intelligence tools can rapidly process data to generate insights and take action.

Second, the amount of data available today is a game-changer. Big data brings lots of data—to detect patterns,

to identify trends, to self-learn. By processing millions of online images of cars, for example, or millions of recordings of a language being spoken in different accents, these technologies can self-learn. They can improve their ability to identify a specific model of car on a crowded highway. They can improve their ability to understand human speech. Thanks to big data, they can get smarter. And cloud computing has helped significantly, too—enabling organizations to store the vast amounts of data that fuel machine intelligence.

Yet another enabler involves today's APIs. Solid APIs for speech recognition and machine learning, for example, mean that you don't have to be an expert to build cognitive apps. Many of the pieces you will need are readily available—just waiting for you to use a solution such as SAP Cloud Platform to bring the pieces together and to extend the natural boundaries of your core ERP.

These enablers—as well as continued investment from commercial sources, not just government—means that machine intelligence has become far more relevant than it was just a few years ago.





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There's still a lot of work you have to do.

No single technology can magically solve the challenges that come with digital business disruption. Getting value from machine intelligence will require you to roll up your sleeves and work through some big questions. Here are some key steps for moving forward:

Get imaginative. Machine intelligence enables business models and applications that weren't previously possible. It's your responsibility to create them and to understand how they can work within a modern SAP landscape.

Machine intelligence could help a utility company identify and act on customer fraud or service theft, for example—to save humans the work of poring over reports to find patterns and anomalies. The technology also could streamline customer service by analyzing text in customer messages and directing requests and complaints to the right employee. A media company could

leverage machine intelligence to gauge individuals' sentiments about a movie, for example, and then automatically generate hyper-relevant targeted marketing campaigns.

University educators could analyze text essays to accelerate the grading process or to flag plagiarism. Medical specialists could employ machine intelligence to speed up diagnostic work as they search for patterns among growing volumes of medical imagery and data. Fleet mechanics could simply take a picture of a broken part in the field and have a cognitive backend system automatically identify the broken part

and order a new one—without the need for the mechanic to key in a part number or browse through a catalog.



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“No single technology can magically solve the challenges that come with digital business disruption.”

Get smart. Understand what solutions are available. Many major technology companies today have some sort of intellectual property in the cognitive space. Smaller players have plenty to offer, too. Learn how the various technologies can work within an SAP environment to unlock value.

Get aligned. Work to get the workforce and leadership focused on the power of machine intelligence. Educate employees on its value to free up their capacity, so they can channel it to more subjective and strategic tasks. Clearly identify bottom-line benefits and build a business case that can show your top leaders the ROI potential and win their buy-in. Involve all the right practices and manage expectations.

Get organized. Document your processes. For cognitive technologies to be effective, you have to know what process you can automate, what processes you need to automate, and what processes you can improve. Know also where your data resides and strive to develop a common repository for supporting consistent results.

Get going. Choose a sensible market, business model, or app to start with—one that can serve as proof-of-concept, providing lessons and inspiration for other projects. Understand that the project methodology for machine intelligence projects won't follow the typical “input to output” path. You will need to embrace a more dynamic methodology—one that can adapt to the evolving outcomes of the project.

Get strong. Build a talent pool focused on bringing new cognitive capabilities to your organization. Know your plan for bolstering those capabilities—whether you decide to build them on your own, “buy” them from vendors, or rely on software-as-a-service solutions.

Get connected. Start building relationships with your suppliers and other partners, as they will be critical players in providing data—possibly new types of data—that can drive machine intelligence and help generate new value. Think also about business and customer privacy issues that can emerge as you connect with partners and collaborate with a systems integrator—because these third parties might end up with access to sensitive information



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Keep your sights set on the potential benefits.

Why deploy more machine intelligence tools such as RPA, machine learning, and AI? It's all about the potential bottom-line benefits that your organization can see—not simply because machine intelligence sounds futuristic. Here's what new cognitive tools can deliver:



Increased efficiency, including greater speed of work, processes, transactions, and customer service



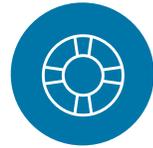
Improved customer satisfaction



Higher employee productivity and fulfillment, through the removal of menial tasks



Cost savings



Greater service-level availability



Improved information accuracy and process outcomes



Savings on employee training



Business simplicity, thanks to features such as natural-language search

“The vision is a powerful one—and one that can help set you apart in the market.”



Where do we go from here?

Machine intelligence is just one trend that will likely shape the future of your enterprise. New cognitive technologies will significantly influence what it means to create the next-generation kinetic enterprise. How will your organization move forward with cognitive tools? How will you unlock the potential that they bring? What's your plan?

Understanding how machine intelligence integrates with SAP solutions and how you can proactively respond to ongoing disruption requires more than vision. It requires a business-focused implementation strategy, extensive SAP experience, and a rich set of tools and accelerators that can help you move fast along the digital transformation path. We can help.

With a network of more than 16,000 business and technology professionals focused on SAP

solutions around the globe, we can provide a full spectrum of resources you will need for meeting tomorrow's challenges—from business strategy to systems implementation and ongoing support.

Ready to put your machine intelligence plans in motion and take the next step toward becoming a next-generation kinetic enterprise? Contact us to get the conversation started and begin exploring the art of the possible.

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