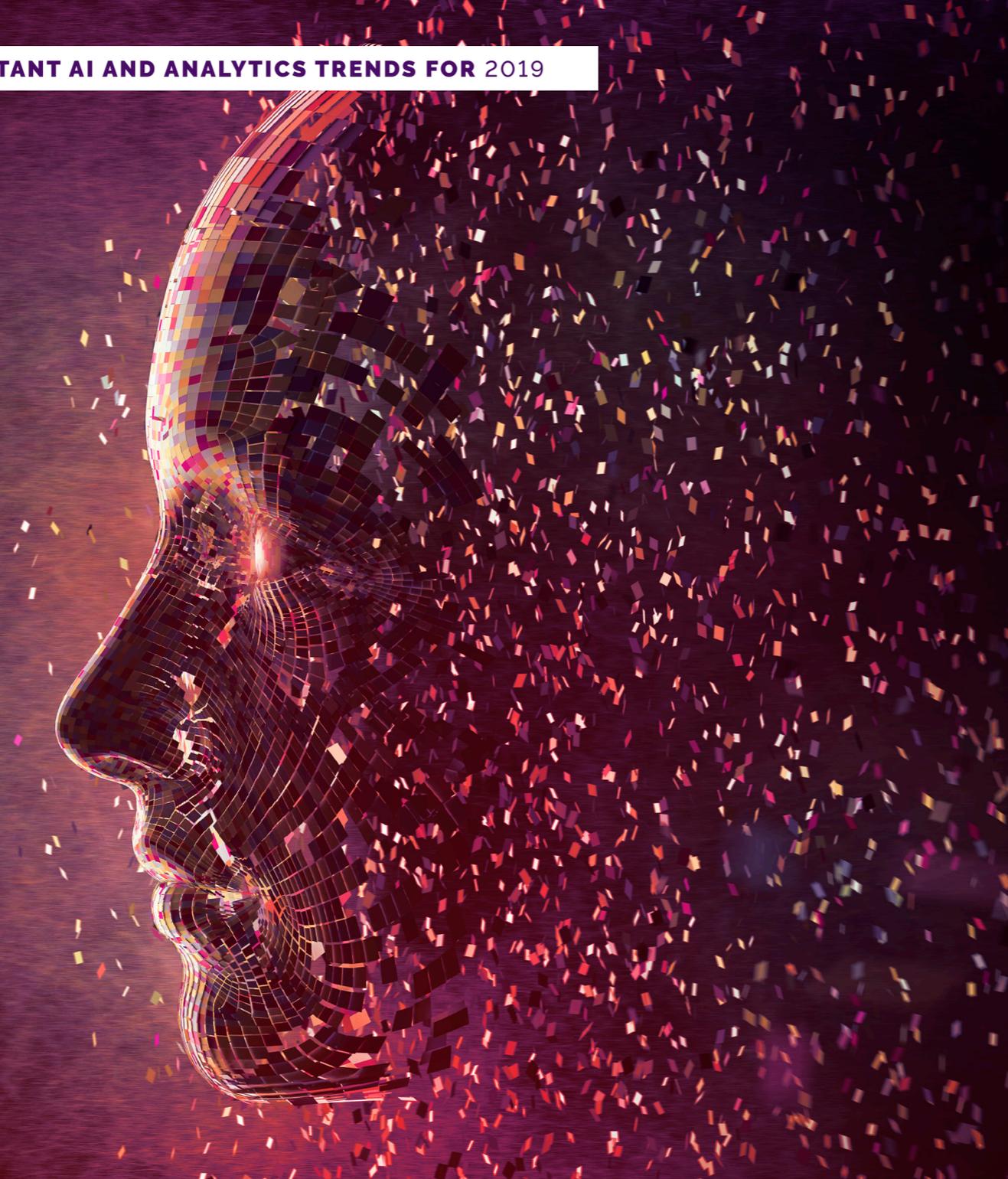


8 MOST IMPORTANT AI AND ANALYTICS TRENDS FOR 2019





Analytics and artificial intelligence use data science and advanced computing algorithms to automate, optimize and find value where the human eye will never see it.

By one estimate, artificial intelligence will drive nearly \$2 trillion worth of business value worldwide in 2019 alone. That's an excellent incentive to grab a slice of the AI bounty. Fortune favors those who get an early start. The laggards might not be so fortunate.

"Those who do not adopt AI will be the losers going forward," predicts Srinivasa R. Vegi, executive vice president for data analytics and artificial intelligence at DMI, the leader in enterprise mobile solutions. "Some industries may even be wiped out."

It'll take more than a year to displace entire industries, of course. Nevertheless, forward-looking organizations cannot afford to overlook emerging trends in AI and analytics. This ebook provides a quick look at eight of the most crucial trends that will be driving forces in 2019.

1

AI AND ANALYTICS CONVERGE

Analytics dashboarding and business intelligence already require a sophisticated command of information technology, mathematics and statistics. AI and machine learning algorithms can automate and optimize analytics processes, creating transformative business insights.

The complexity of merging AI and analytics requires a roadmap to guide the transition, Vegi says. "Most companies do not have these roadmaps," he says. More companies will create them in 2019.

DMI advises early adopters of AI and analytics to create pilot projects in one segment of their business.

"Most people adopting AI and analytics use it for customer interaction," Vegi says. Applying AI algorithms to analytics insights from chatbots, ecommerce platforms and other sources can elevate the customer experience. Insights gleaned there can lay the groundwork for using AI and analytics across the business.

2

SMART APPLICATIONS AND DECISION AUTOMATION DRIVE COST SAVINGS

Enterprises use advanced applications for enterprise resource planning (ERP), customer relationship management (CRM) and other mission-critical functions. Updates to these platforms will fold in more AI and machine learning capability in 2019, built around the principle of decision automation.

Vegi predicts rapid growth in decision automation via robotic process operation, or RPA. "With RPA, you'll be able to change business processes as needed without human intervention."

RPA can produce costs savings of about 2 percent now, "but it'll be 20 percent in one to two years," Vegi says.

Moreover, a system integrator like DMI can combine AI with APIs and other connective technologies to help these platforms collaborate. Thus, AI, analytics, ERP and CRM can work together to anticipate marketplace demand and untie logistical logjams, driving measurable business value.

3

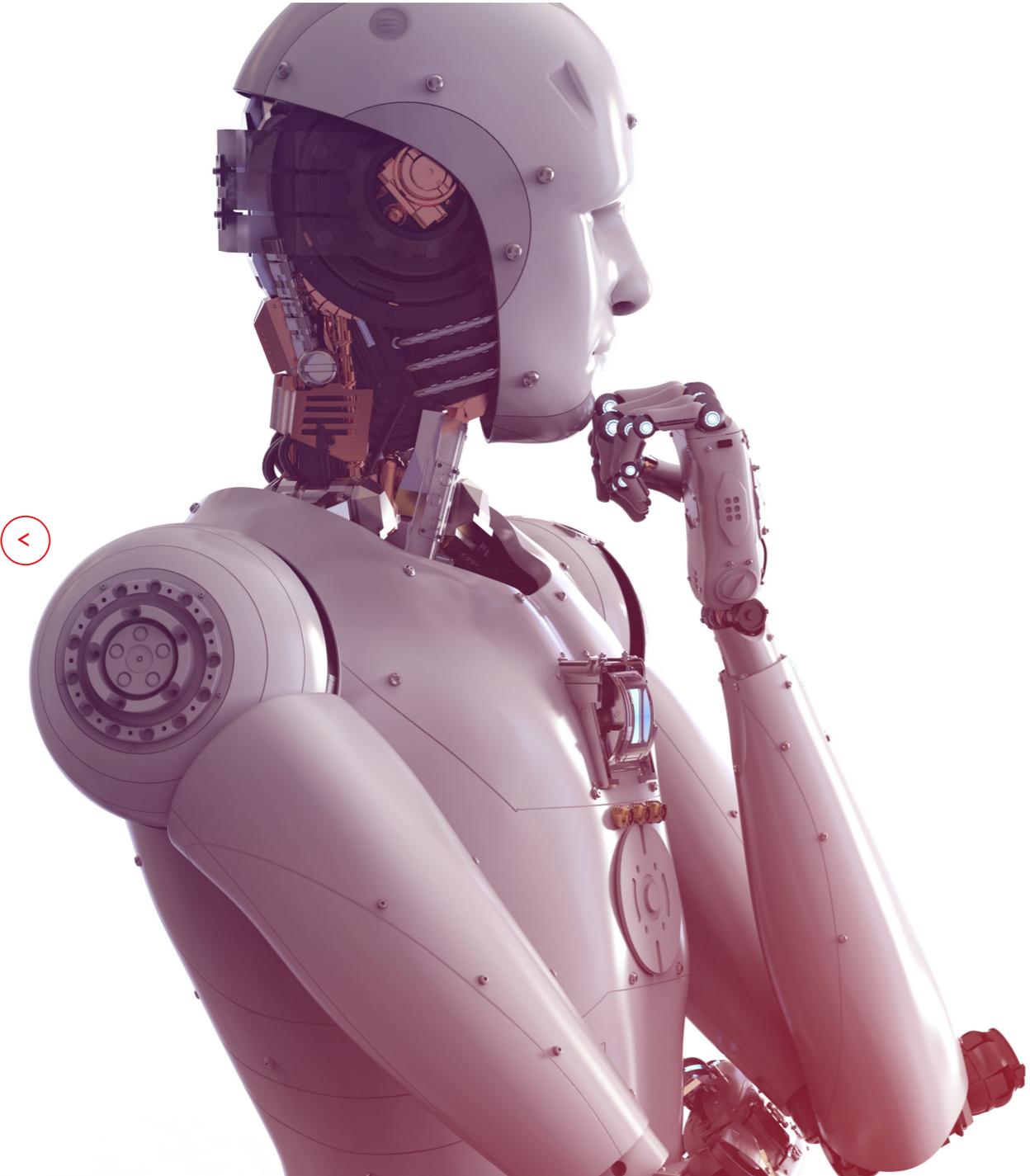
DIGITAL TWINS AND IOT OPTIMIZE COMPLEX ENVIRONMENTS

AI and analytics are crucial to the development of digital twins — computerized facsimiles of physical processes like a production line in a factory.

“The digital twin concept brings together the connected world of sensors,” Vegi says. These sensors document the activities of hardware and software and network them via Internet of Things (IoT) technologies.

Thus, an automaker can deploy a fabric of IoT sensors that feed streams of production data to an AI-enhanced analytics platform. That platform generates a digital twin that models the data flowing from all the IoT sensors. Thus, digital twins let humans interact with IoT sensors to automate asset management.

The rise of digital twins in 2019 means more companies will generate predictive insights that allow them to anticipate problems and fix them before breakdowns send costs spiraling.



4

EDGE COMPUTING ENABLES REAL-TIME INTELLIGENCE

As more digital twins enable real-time modeling of production environments in 2019, organizations in remote areas will need high-powered processors nearby. A coal mine operator, for instance, can use a digital twin to detect a buildup of gases and avoid a catastrophic explosion. 

But if the mine's IT operation relies on remote servers hundreds of miles away, a small data lag could be a major disaster. The solution lies in edge computing — deploying powerful data center technologies closer to end users.

With edge computing, mine owners collect data in real time near their location. "Applying advanced analytics and artificial intelligence algorithms means they can create predictions that can help to prevent failures that cost millions of dollars," Vegi says.



5

AUGMENTED, VIRTUAL AND MIXED REALITIES GAIN STRENGTH

Virtual reality brings to mind techies wearing huge goggles to play video games. Augmented reality, by contrast, imports critical data and multimedia into mobile apps to enrich our experiences, whether we're touring a museum or shopping for holiday gifts.

Mixed reality combines elements of virtual- and augmented-reality technologies. It allows a furniture brand, for example, to show people what a new sofa looks like in their home — no showroom required.

And, of course, all of these technologies provide massive reams of data for analytics and AI.

"The rise of augmented reality, virtual reality and mixed reality is leading to augmented analytics, using natural language processing and machine learning," Vegi says.

"2019 will be a strengthening phase of this trend," he adds, "but growth will probably pick up in the next two or three years."

6

BLOCKCHAIN IMPROVES SECURITY

“Blockchain is a very secure and transparent platform,” Vegi says. “You cannot modify or breach the data.” That will make blockchain one of the most-watched technologies of 2019.

Blockchain relies on a shared digital ledger that's functionally impossible for hackers to break into, making it attractive for organizations that protect sensitive data. The core challenge is that blockchain's ledger requires complex interactions and processes that are time-consuming or labor-intensive.

These complications create a strong incentive to deploy AI and analytics to accelerate blockchain operations.

“Blockchain adoption is picking up in many industries” beyond its early adopters in finance, Vegi says. Healthcare organizations and government agencies also want to combine AI and analytics to leverage blockchain's security and transparency advantages.

“Thus, we expect to see more blockchain adoption in 2019,” Vegi says.



7

CLOUD MATURITY ACCELERATES

More government agencies and healthcare organizations will embrace the cloud in 2019. These are two of the most cautious constituencies for cloud services because they require robust security, privacy and data governance.

“Cloud adoption is picking up big-time,” Vegi says. State and federal governments are moving computing workloads to the cloud, signaling a new phase of cloud maturity. Public cloud providers like Amazon and Microsoft Azure have addressed the major sticking points.

“The compliance is there. Security is taken care of,” Vegi says. Organizations with rigid compliance rules like HIPAA can implement hybrid clouds. Storing apps, workloads and data in the cloud generates vast datasets that are the prerequisite for advanced machine language functions.

As Vegi puts it: “Analytics tools and artificial intelligence go hand-in-hand in the cloud.”

8

NEW IT ROLES REQUIRE FULL-STACK ENGINEERS

Merging AI and analytics puts data science at the forefront of IT operations. In years past, experts in data ETL (extraction, transformation and loading) worked in a separate department. In 2019, IT departments will face more pressure to integrate data ETL into their AI and analytics operations.

"IT teams are going to need more full-stack engineers — experienced consultants who have the skills required to do analytics and AI, from data collection to data processing to insights building," Vegi says.

"There is a huge shortage of people who can do this," Vegi says. DMI collaborates with university graduate programs to help address the AI and analytics skills gap.

"Training people for these new IT roles is an opportunity to help clients who need these kinds of full-stack engineers," Vegi says.



THE RIGHT PATH FORWARD FOR IT, ANALYTICS AND AI

Organizations looking to embrace AI and analytics trends in 2019 should start with a well-thought-out roadmap. There's no need to adopt a big-bang approach.

"Think slow and steady," Vegi advises. "Go with some pilots, understand how to do it, get some short-term benefits and develop confidence in the business."

The next stage — monetization, optimization and much more — can transform your organization. When you need a technology partner to make that happen, DMI's Analytics and AI team will be there.



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At DMI, we help our clients navigate this revolution by taking a human-centric, mobile-first approach to disrupt their markets and evolve their business models. We're a new breed of partner that brings together the design-thinking of a digital agency with the rapid and iterative delivery of a modern IT services partner. With 21 offices worldwide, and over \$400M in revenue, we've been continually recognized by both Gartner and Forrester as a leader in mobile IT services.

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