EBOOK

How AI Benefits Business Leaders:
Delivering ROI, Improved Time to Market, and Strategic Success

DataRobot

When General Electric ("GE") launched its Digital Wind Farm in 2015, their new wind energy ecosystem set out to boost the energy production of wind farms by up to 20 percent and help produce up to an estimated $50 billion in value for the wind industry.

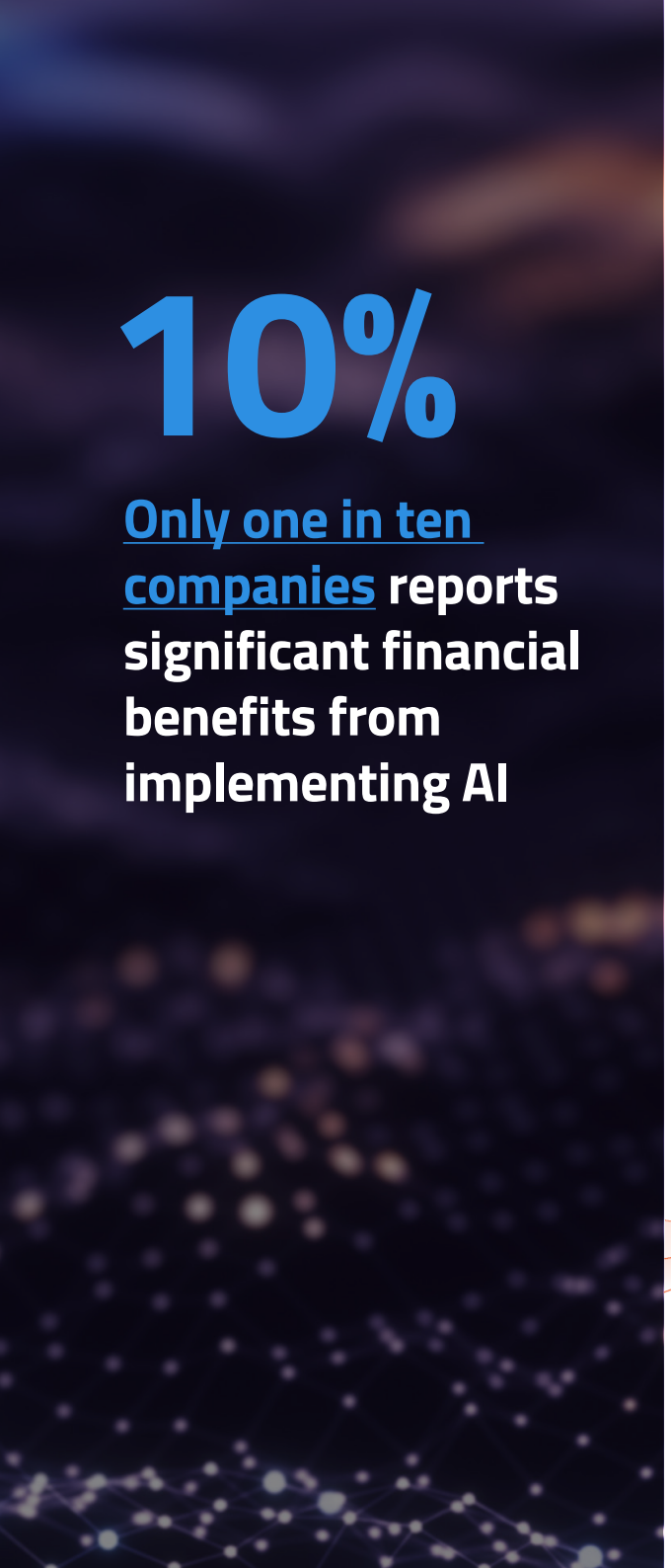
The global giant, however, faced substantial challenges if it wanted to meet these lofty goals. In order to properly analyze turbine operations in real time, boost operating efficiencies, and help deliver substantial operational savings, GE turned to AI.

GE first drew on a study they had authored with GE ServiceMax that surveyed 450 field service and IT decision-makers. The study, After The Fall: Cost, Causes and Consequences of Unplanned Downtime, found that unplanned downtime costs companies about $260K per hour.

GE countered this pricey rate of inefficiency by putting sensors into every one of its wind turbines, a move which let it continually stream operational data to the cloud. GE analysts could then adjust the movement of the blades to assure maximized energy retention. Intelligent learning algorithms also empowered individual turbines with the ability to replicate the behavior of nearby turbines that were running more efficiently.

The results? GE has become one of the global leaders in onshore wind energy, with over 49,000 onshore wind turbines installed in more than 35 countries and a total installed capacity of 62 gigawatts (GW). In the U.S. alone, GE Renewable Energy onshore wind turbines have produced enough power to have displaced 120 million tons of carbon dioxide (CO_2) in five years, or the equivalent of 12.9 million homes globally.

GE not only added sensors to its wind turbines but also added them in every one of their sectors—from aircraft engines to hospital scanners—to mitigate the loss of time and revenue. The new data not only improved operational efficiency for their own machines, it also enabled them to pass on their newfound proficiency to large customers such as hospitals, airlines, and power companies.



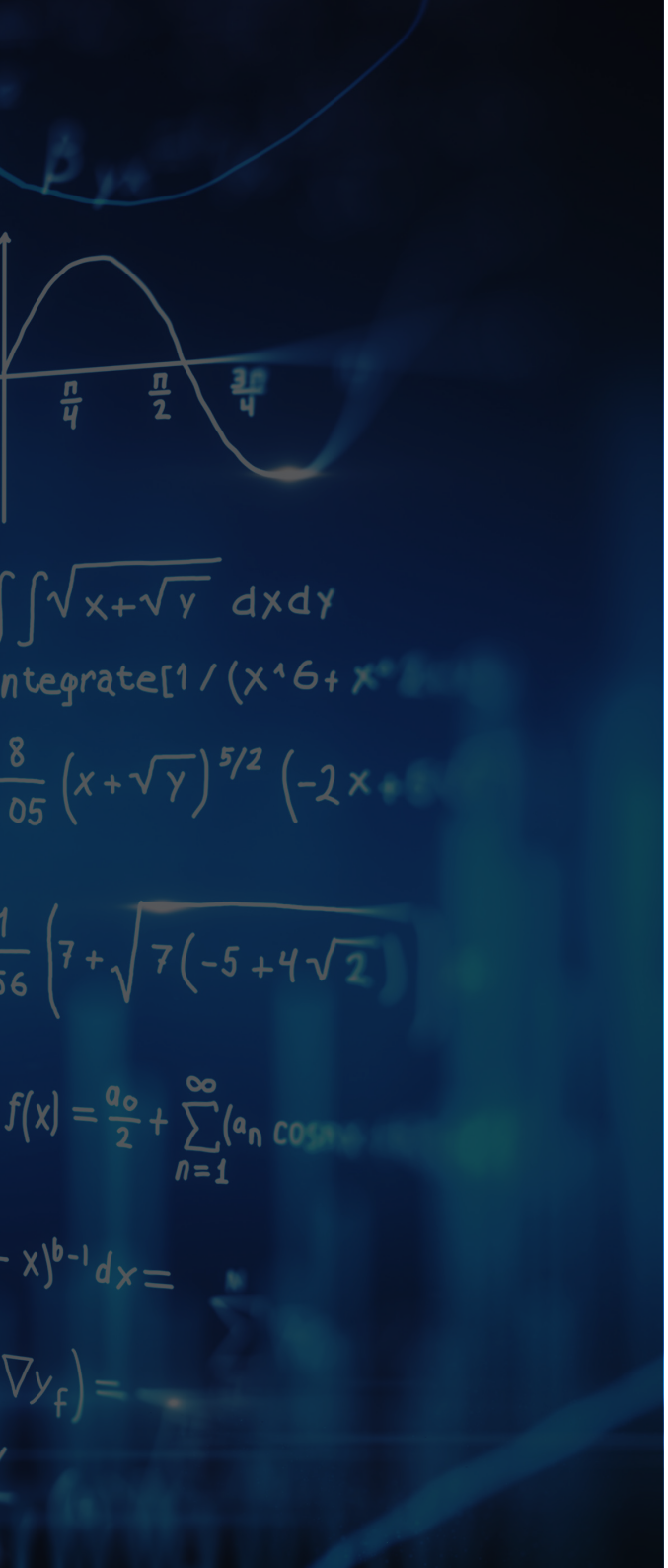
GE customers have greatly benefited as well. By 2020, Tampa General Hospital enjoyed the following benefits:

- The reduction of system-wide inefficiencies leading to savings of $40 million USD
- The elimination of 20,000 excess patient days
- The reduction of the average length of stay by half a day and the addition of 30 beds to their overall capacity

By becoming AI-driven, GE has made huge strides toward eliminating machine downtime, improving operational efficiency internally and for their client base, and showing the world how AI can revolutionize clean energy. Yet, these results are atypical among most large enterprises.Why? The answer lies in the myriad of challenges that are facing most deployments.

A new study by BCG GAMMA, the BCG Henderson Institute, and the MIT Sloan Management Review reveals just how deep the challenges run: only one in ten companies reports significant financial benefits from implementing AI.

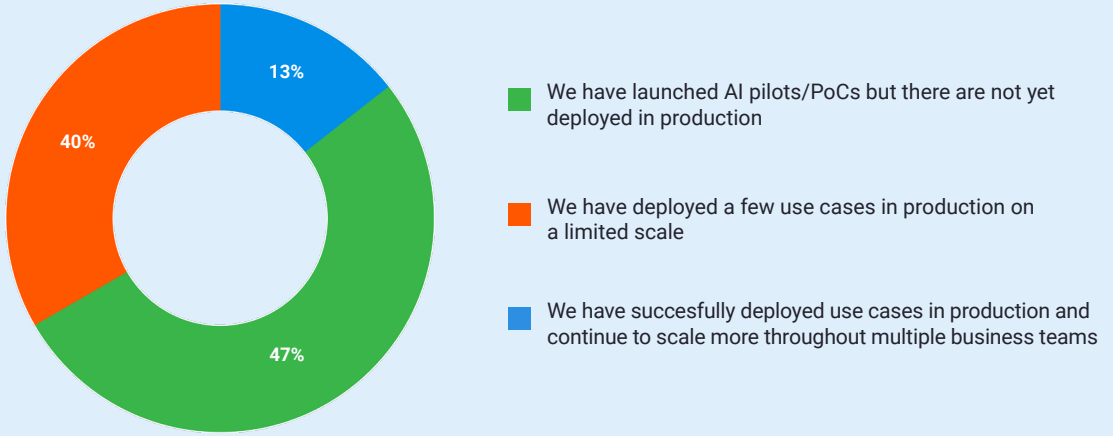
Let's take a look at some of the barriers businesses are facing along with one sign of hope.



PEOPLE, PROCESS, AND POLICY GAPS PLAGUE COMPANIES FROM DELIVERING REAL AI SOLUTIONS?

PwC research recently predicted that AI will deliver economic growth of $15.7 trillion by 2030. Many large organizations, however, are not taking advantage of these huge returns and are lagging behind in their AI journey. The latest report from Capgemini Institute, The AI-powered enterprise: Unlocking the potential of AI at scale reports the following numbers on current state of AI adoption:

WHICH OF THE FOLLOWING STATEMENTS BEST DESCRIBES AI IMPLEMENTATION IN YOUR ORGANIZATION



Capgemini Research Institute, State of AI survey, March-April 2020, N=954 organisations implementing AI

If this nearly $16 trillion prize is ripe for the picking, why are only 13 percent of organizations currently deploying AI at scale successfully?

It starts with people.

O'Reilly's latest report, AI Adoption in the Enterprise 2021, declares that, "the most significant barrier to AI adoption is the lack of skilled people and the difficulty of hiring." This shortage had been predicted for years and is finally coming to fruition. The report lists the following shortages of skilled AI technicians and adopters:

52% **Respondents need machine learning modelers and data scientists**

49% **Require better understanding of business use cases**

42% **Lack data engineering skills**

PROPER DEPLOYMENT IS ESSENTIAL TO DEVELOP MATURE AI

On the technical side, the biggest problem hindering AI adoption is data quality (18 percent). O'Reilly was overjoyed to note that organizations are finally starting to realize the importance of data quality in AI projects, as “bad data yields bad results at scale.”

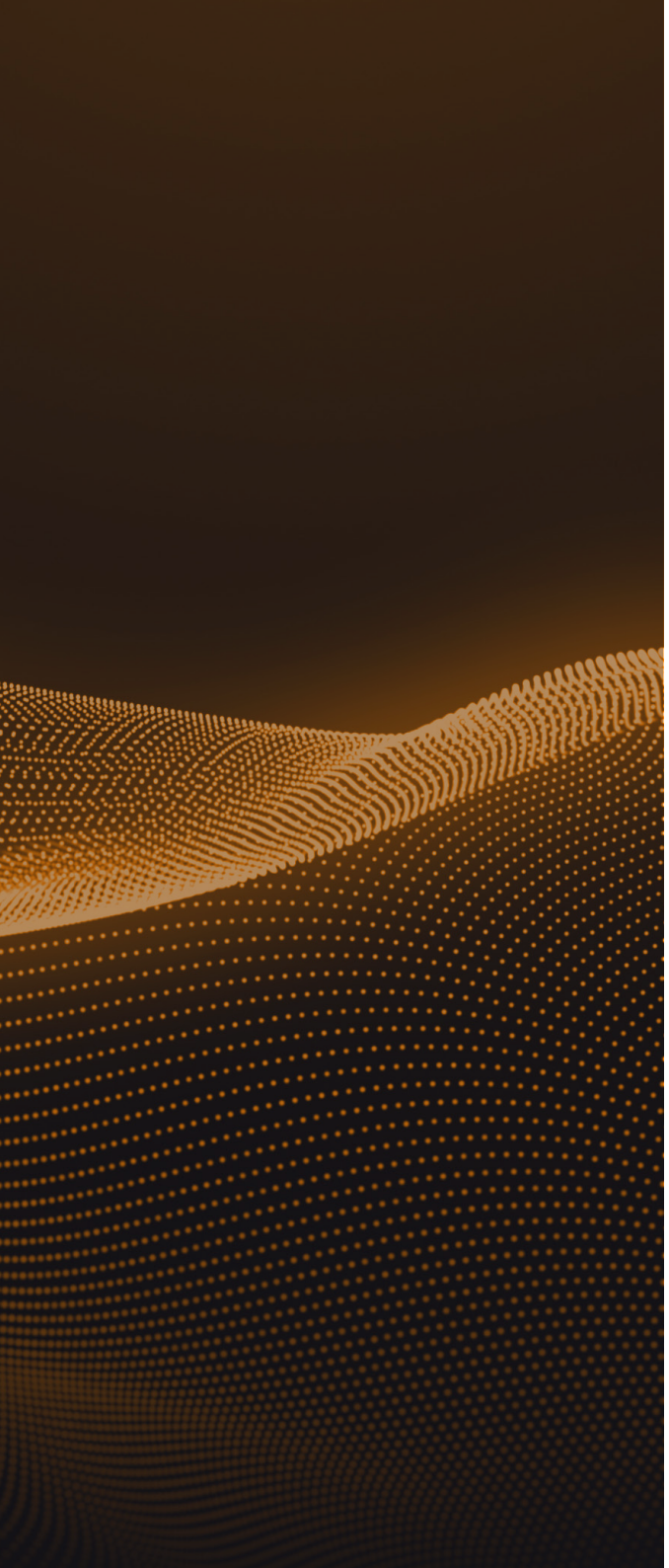
The report also discloses that “AI deployment is still largely unknown territory, dominated by homegrown ad hoc processes” and that teams are only starting to adopt third-party tools for deployment. Without proper deployment, all your efforts to align the right data, the right people, and the focus of your whole organization will be futile.

The report notes that out of AI adopters and those with “mature” AI practices, 46 percent of respondents are not using a significant tool for deploying their AI. As the report states, they “can only assume that they’ve built their own tools and pipelines for deployment and monitoring.”

Given the abundant opportunity and urgency, only businesses that address these technical challenges and business obstacles properly will succeed in adopting AI successfully and cashing in on the endless benefits.

We’ve considered some AI bottlenecks. Now let’s dive deeper into three indispensable initiatives spurring companies towards tangible benefits of AI implementation:

- Focusing on the right value perspective
- Improving your time to market
- Instilling a strategic mindset with an eye on the democratization of AI



Deliver Real Value to Customers with AI-enhanced Compliance and Predictions

As GE was just starting to turn to AI to overcome machine downtime obstacles and improve operational efficiency, Anheuser-Busch InBev ("InBev") was completing its 2016 $100 billion-plus purchase of SABMiller PLC.

The enormity of the deal, which integrated compliance programs in over 25 countries, persuaded the company to use machine learning to make better predictions — starting with identifying potentially illegal payments and suspect business partners.

InBev — now the world's largest brewer — spent years developing its machine learning platform, BrewRIGHT, which draws on data from more than 50 countries and empowers employees to spot risks associated with anti-corruption, anti-money-laundering, and antitrust laws.

A recent Coalition For Integrity report, Using Machine Learning for Anti-Corruption Risk and Compliance, illustrates that InBev is not only becoming a global leader in compliance and anti-corruption measures but also is saving money by nipping potential corruption in the bud. For example, the report notes that an investigation into a specific type of third-party vendor in three countries cost InBev around $1.8 million, whereas another investigation into the same kind of vendor in six countries — which used BrewRIGHT's machine learning abilities — only cost around $250,000.

InBev is showing the world how AI can amplify the data-driven decision-making ability of your business, generate a model that changes the world for the better, and get it all done for a fraction of the cost.

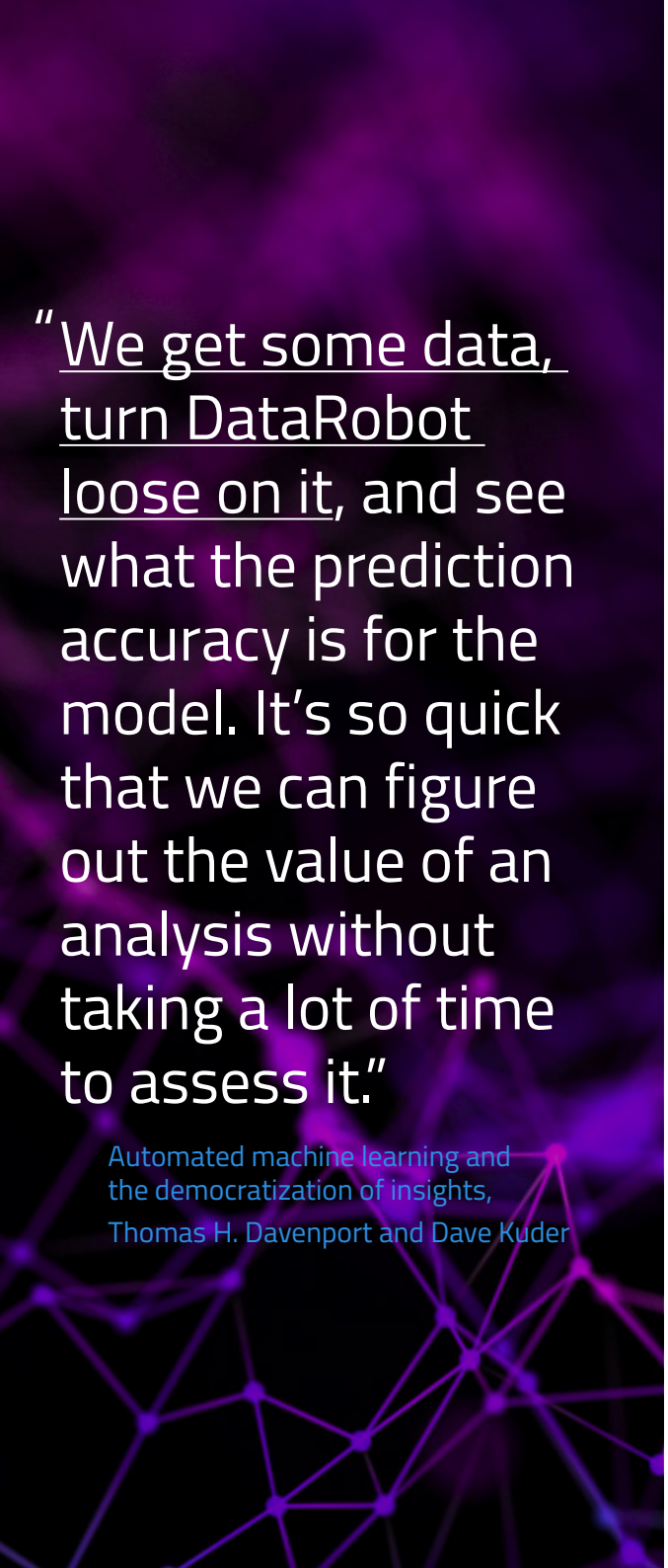
DEMAND FORECASTS IMPACT THE BOTTOM LINE, BUT MODELS NEED TO STAY ACCURATE

Nathan Patrick Taylor, current CIO for post-acute care provider Symphony Care Network, received a text from a colleague back in 2016 suggesting he take a look at a DataRobot booth at a conference. Soon Symphony Care Network gave a few readmission use cases to DataRobot and within only a few days, a model was up and running.

Readmission rates are a key indicator for healthcare providers like Symphony, Taylor notes, as each readmission costs Symphony $13,500. Even a 1 percent change can impact the bottom line significantly. Taylor states that after deploying DataRobot, readmission rates dropped from 21 percent to around 18.8 percent. "That's a significant improvement," he says. "That won over our CEO."

Symphony has also used DataRobot to build models that predict demand forecasts for knee and hip replacements and the times when patients are most likely to fall. Not only does this help vulnerable patients, but it also can help reduce readmission rates.

When COVID-19 hit Symphony hard and disabled many other AI models, Symphony again implemented DataRobot to determine how various treatments influence COVID-19 patients.



DataRobot Machine Learning Operations (MLOps) has also empowered the healthcare provider to monitor, manage, and govern all their models in production while also keeping their models up-to-date and overcoming volatile conditions not encountered in the training data. With the luxury of MLOps, organizations can now keep an eye on all their models, regardless of how they were created or when and where they were deployed. MLOps also allows Symphony to identify data drift in its models, a problem many sitting in the C-suite might not be unaware of.

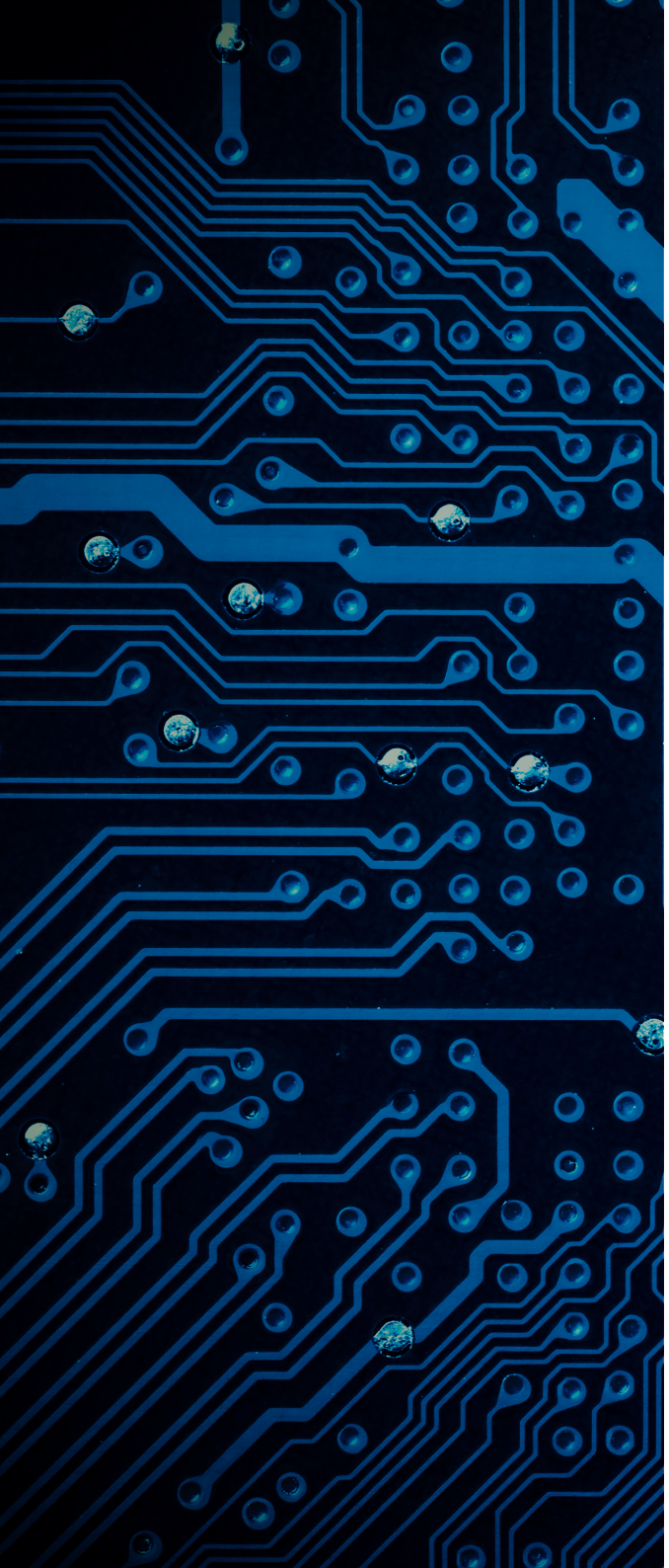
By turning to an enterprise AI platform, Symphony has been able to improve their patients' lives, add real business value in the face of uncertainty, and move one of their core metrics in the right direction. Symphony's application of AI in many areas of their business demonstrates to executives and analytics leaders how AI can have real business impact and how automated machine learning can help create models faster.

TURN AUTOML LOOSE TO BOOST MODELING PRODUCTIVITY

Another example of AI in action is a large U.S. property and casualty insurance company that adopted AutoML to boost modeling productivity for their data scientists. The insurance giant's head of data science support notes the progress thus far: "We get some data, turn DataRobot loose on it, and see what the prediction accuracy is for the model. It's so quick that we can figure out the value of an analysis without taking a lot of time to assess it."

The insurance firm can ascertain the key parameters for the model, which algorithm is the best match for the problem, and what the most probable ceiling is on model accuracy.

Businesses striving to join the list of firms reporting significant financial benefits from implementing AI can also operationalize their business with the DataRobot Use Case Value Tracker, a tool that allows you to manage the project lifecycle and the ability to discern the value connected with each step.



Bring Better Products to Market Faster, Reduce Lead Time with AI

We've seen how AI can improve key business metrics and people's lives, reduce corruption and machine downtime, and increase savings. Now let's examine how AI is able to help further streamline your operations.

The COVID-19 pandemic increased awareness of the importance of getting a product to market as quickly as possible. With those lessons in mind, let's look at AI efficiency through the lens of pharmaceutical drug discovery.

The Global AI in Drug Discovery Market is expected to reach $485 million by 2026 and is predicted to grow at a compound annual growth rate of 39 percent from 2020 to 2026. A new study, Artificial Intelligence in Drug Discovery and Development, also underscores the importance of AI in drug discovery and declares that the world can imagine "involvement of AI in the development of a pharmaceutical product from the bench to the bedside." The report, authored by the US National Library of Medicine, National Institutes of Health, details how AI can help with the following:

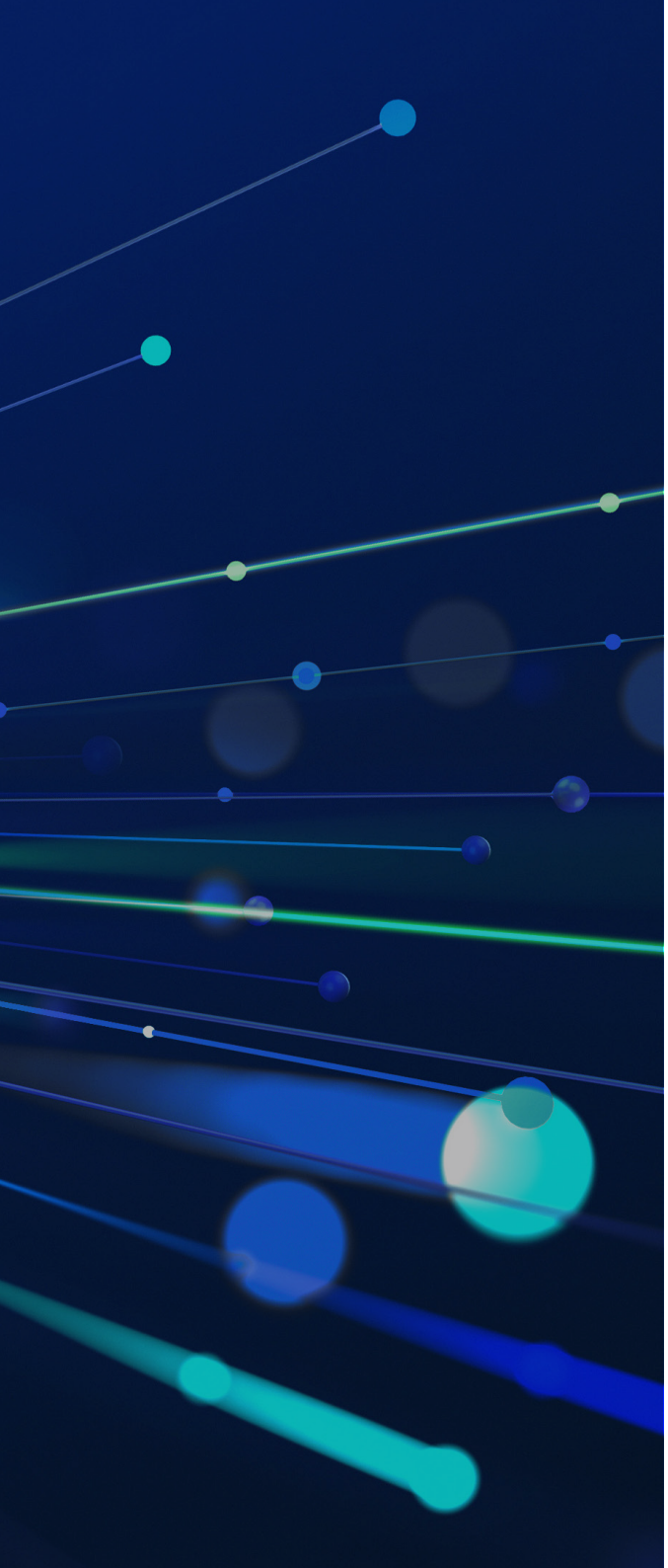
- Rational drug design
- Determination of the proper therapy for a patient
- Personalized medicines
- Management of clinical data generation for use in future drug development

A recent article from JPMorgan Chase & Co., How AI Can Reduce the Time and Cost of Drug Discovery, delves deeper into the business details and states that the streamlining measures for drug discovery start by providing targeted data.

AI can accelerate discovery by categorizing and cross-referencing data, and firms can anticipate clinical design difficulties and develop drugs for specific diseases by mining and querying historical data. AI also has the ability to assimilate and streamline data, and — after it is incorporated across different processes — makes the entire operation faster and more efficient, thereby reducing operational costs.

DataRobot's use case for Drug Delivery Optimization affirms that pharmaceutical firms spend significant amounts of their budget on producing and shipping drug samples to medical practitioners to acquire new adopters. To avoid unnecessary costs, the delivery and supply chain processes must be optimized using models based on real-time requests.

Using DataRobot as a solution allows business analysts to build model automation and historical drug delivery data. With DataRobot, that same analyst can build a model that accurately predicts whether a given drug sample order could be consolidated with another upcoming order to the same location or department. They can then minimize shipping costs on those orders predicted to be consolidated by retaining them for a few days at the warehouse.



Better Predictions Refine Supply and Demand Balance, Accelerate Supply Chain Logistics

AI isn't just for the biotech industry. Let's look at how it has helped Lenovo, a Fortune Global 500 company with $60 billion in revenue. Gartner reports that Lenovo has increased its lead in the global PC market with a 27.1 percent market share.
An essential aspect of Lenovo's successful ability to penetrate 180 markets around the world has been the end-to-end control the company has over its supply chain — a unit Gartner also ranks number 16 in its latest annual global Supply Chain Top 25 ratings.

As Lenovo ramped up its push into top emerging BRIC (Brazil, Russia, India, and China) markets such as Brazil — a nation whose $1.87 trillion GDP is the 9th largest in the world — it explored the ways machine learning could help get ahead of the game by predicting sellout volumes.

Predicting sellout volumes was critical for many business areas — including supply chain logistics to marketing efforts — as Lenovo was building its niche among Brazilian customers and retailers. Lenovo Brazil, however, had trouble getting the right support to predict sellout volume at scale and automating the necessary modeling and forecasting stages.

Their organization found the resource they needed when they turned to DataRobot. Previously, Lenovo Brazil had to go through the laborious process of choosing an algorithm, running the clean datasets through the model, fiddling with parameter optimization, retraining and scoring the model, and adapting it to make it more accurate.

By running DataRobot Cloud on AWS, the Lenovo Brazil team transformed its formerly backbreaking model-building process. Now, data scientists of any skill level can quickly build and deploy accurate, world-class predictive models in minutes. By producing precise sellout volume predictions nearly four weeks ahead of time, Lenovo Brazil can work with internal stakeholders as well as local retailers to make the best plans and avoid excess inventory or not having enough products on hand to meet demand.

After turning to a DataRobot solution, Lenovo Brazil achieved a better balance of supply and demand and has reaped the following tangible benefits:

- Model creation time has plummeted from four weeks to three days.
- Model production time has dropped from two days to five minutes.
- Prediction accuracy has improved from less than 80 percent to 87.5 percent.

Draw Up a Clear AI Road Map Linked to Business Value

Every successful organization needs to be able to get desired results in unpredictable environments. Hence, when the latest McKinsey Global Survey, The State of AI in 2020 listed six sets of practices helping companies see the highest bottom-line impact from AI, they started by highlighting a few of the strategic methods of AI high performers:

- 55 percent of AI high performers have a road map clearly prioritizing AI initiatives linked to business value across organizations — as opposed to 29 percent of all other respondents.
- 43 percent of AI high performers have an active program to develop and manage an extensive range of AI ecosystem partnerships (e.g., with companies, academia), in contrast to 28 percent of all other respondents.
- 60 percent of the senior management of AI high performers is fully aligned and committed to their organization's AI strategy, as opposed to 34 percent of all other respondents.

One company that adopted many of the strategic methods of AI high performers is Beacon Street Services, an organization that was looking for a "single source of truth" for their data. Beacon Street used the extensive volumes of data they compiled using Snowflake to help their sales and marketing teams with a classic business problem: improving its selling strategies — particularly for subscriptions.

Starting in 2019, Beacon Street found their source when they began loading their Snowflake data into DataRobot. DataRobot helped Beacon Street build a clear road map with models that pinpointed buying criteria and facilitated the marketing team to run more targeted and effective campaigns.

David Kline, vice president of engineering at Beacon Street Services, has reported the following results since implementing DataRobot's enterprise AI platform:

- A 30 to 35 times return on investment in revenue gains and cost decreases.
- A 10 percent increase in sales and headed toward $15 million in additional annual sales directly attributable to the AI platform.
- A plummet of model development time from six weeks to just one.

"Our marketing and sales teams saw an opportunity to improve on sales processes by applying a data science approach," says David Kline. "With this approach, we hoped to better identify buying criteria to help the marketing team run more effective campaigns."

CITIZEN DATA SCIENTISTS CAN PERFORM SOPHISTICATED ANALYSES, NURTURE AI SUCCESS

As the essence of strategy is also choosing what not to do, it's noteworthy that one common data strategic initiative can potentially veer you off the path of AI success. Many firms have been starting internal centers of excellence and hiring the best available data scientists who then concentrate their efforts where most of the data lies.

A recent Harvard Business Review ("HBR") article supporting the democratization of AI urges more companies to instead "consider strategic data science" by clearly defining the problem and "analyzing what 'small data' is available."

The piece gives an example of a large company — Moderna Therapeutics, the creator of a COVID-19 vaccine — that found strategic value by pushing many small data projects forward and limiting their moonshots. The HBR paper, which defines AI project success as "delivering business benefits of equal or greater value than its proponents promised," also emphasizes the importance of initiating internal transformation.

The problem with transforming a company is that employees naturally resist change inside their organization. But since humans also have a tendency to mirror those around them, strong leaders have the opportunity to inspire their teams to embrace new technologies. These leaders can foster an understanding of the benefits that democratization of AI would bring to their business.

Companies such as Royal Bank of Canada, Canada's largest financial institution, have championed internal transformation by developing citizen data scientists who use business intelligence and automated machine learning tools to perform sophisticated analyses.

Foteini Agrafioti, RBC's chief science officer and head of their Borealis AI, has seen how AI has revamped RBC's customer banking experience and helped keep up with the constant evolution of customer expectations: "When we're analyzing client records on our personal-banking side, which is our largest business with millions and millions of client records, you can perform an analysis of a model within 20 minutes or an hour of an entire client base.

INVEST IN THE TEAM YOU ALREADY HAVE IN PLACE BY DEMOCRATIZING AI

DataRobot CEO Dan Wright recently gave an interview with VentureBeat where he extols the virtues of "a new era of democratization of AI that eliminates dependencies on data science teams." Wright also asserts that manual machine learning operations (MLOps) processes won't be able to keep up with ever-evolving business conditions.

"What I'm trying to drive is the democratization of AI. In the past, AI has been some kind of buzzword. It's been mainly experimental. You had data scientists who are working on different data science projects. But a lot of the models that they were working on never actually made it in production or added any value. What we're doing now is allowing our platform to be used by people who are not data scientists, as well as [by] data scientists, to create business insights and make better decisions on an ongoing basis."

The demand for data scientists outweighs available supply and finding excellent data scientists is hard. DataRobot knows this and helps you usher in your own era of data science democratization with a comprehensive roadmap and ample support with the following:

- You can start by investing in the team you already have in place — a team that already understands your business and your data. They want to work with AI and automation and are situated perfectly to heighten your data science operations. Their ambition, however, requires the right training and tools.

- Next, your journey continues with Automation-First Data Science. Your team can work free from repetitive tasks with DataRobot automation and built-in best practices for machine learning efficiency. Your data scientists will have more time to focus on demanding and complex AI challenges or on mentoring and guiding others.
- DataRobot knows that succeeding in AI requires support from knowledgeable partners who have done it before — people who have seen all the common blockers and solutions. That's why we have an entire Success Team with experienced AI professionals on your side. Together with our support and training, you get unmatched levels of transparency and collaboration.
- Our Success Team also has the largest team of customer-facing data scientists (CFDS) in the industry. Each CFDS has ample working experience with practical data science and helps your team get started with DataRobot to deliver immediate value.
- To expedite the process, DataRobot University also delivers comprehensive training to get the most from DataRobot. With training in multiple languages, DataRobot University has the ideal combination of streamlined overview courses and specialized training to help your team stay continuously educated.

Empower your team with DataRobot.

Move Ahead Confidently in Your AI Journey

We have seen the myriad ways AI can deliver real solutions for classic business challenges like increasing subscriptions, streamlining supply chains, and decreasing the burdens of machine downtime. This cutting-edge technology can also reduce corruption, revamp healthcare, and ensure that organizations are better for the next unexpected global crisis. In short, AI helps customers, empowers businesses to save time and money, and provides proof of solving pressing problems around the world. Instead of simple mouthing flowery platitudes and empty promises, you can move ahead confidently and strategically — focusing on the right value perspective and improving your time to market.

We also know that — despite all of these striking wins and the $15.7 trillion predicted growth by 2030 — a mere ten percent of firms are reporting substantial financial benefits from implementing AI.

Executives who wish to finally throw their hat into the exclusive arena of AI success need to build a corporate culture that openly accepts and promotes AI, focuses on people, and develops the best AI strategies to achieve transformational growth.

Democratize AI. Enable your existing employees to become citizen data scientists. Hire the best data scientists and data engineers to fill any skills gaps. Give everyone in your company the best chance to succeed with the DataRobot enterprise AI platform.

Move ahead with DataRobot.

DataRobot

DataRobot is the leader in enterprise AI, delivering trusted AI technology and enablement services to global enterprises competing in today's Intelligence Revolution. DataRobot's enterprise AI platform democratizes data science with end-to-end automation for building, deploying, and managing machine learning models. This platform maximizes business value by delivering AI at scale and continuously optimizing performance over time. The company's proven combination of cutting edge software and world-class AI implementation, training, and support services, empowers any organization – regardless of size, industry, or resources – to drive better business outcomes with AI.

Learn more at **datarobot.com**