



Artificial Intelligence

**Get Your AI Strategy
On Track**

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It's no longer some far off dream, AI is here and practical applications are available in every domain.

AI will change your company's economic model, strategy, culture, and the nature of how your company is run.

The time is now to understand how AI will enhance your company's market leadership.

"The business plans of the next 10,000 startups are easy to forecast: Take X and add AI." - Kevin Kelly

Artificial Intelligence: Background

In 1950 Alan Turing published his landmark paper outlining the creation of computer systems that would 'think' like a human. If you could hold a conversation with a machine that was indistinguishable from another human - *voila* proof of a 'thinking machine'. This description set the stage for what we know as the broad category: **Artificial Intelligence**.

It's been almost 70 years since Turing's publication, but this revolution isn't really about recreating a human's brain or intelligence. It's about taking our human capacity way beyond our native capabilities.

AI is not about one single emerging technology, rather it defines a completely new platform that will affect every aspect of the way we live, work and play. It marks what we are now calling the 4th industrial revolution. It will fundamentally change the way we interact with the world from now on.

You are likely already considering how AI will change your offerings, operations and ultimately affect your customers. This publication will help you to consider the possibilities for your business and why you need to consider working **with AI Innovators now**.

This 4th revolution is about augmenting human capabilities and; accelerating the customer journey to the speed of thought



How is AI different than Traditional Computing?

It's a different paradigm in computing – AI automates inductive learning. Traditional computers automate calculation, AI automates intuition. Traditional computers automate logic. With AI – the application gets input, it takes an action and gets feedback – it learns from the feedback. It perceives and acts based on learning from data and experience.

We are not trying to build a human brain with artificial intelligence no more than we were trying to build a mechanical horse with an automobile. The term “Artificial intelligence” is a misnomer. A better term is *Machine Learning*. This is what we are creating.

Vishal Chatrath, CEO Prowler.io defines AI activity in two general branches: *perception and decision making*. [Perception is sensing like a human](#). It represents the various ‘inputs’ we as humans get from sight, sound, smell, touch. Much of the AI work that we've been doing so far is on the side of sensing information and getting that information into a computer. That's about to change as more AI applications are built into our everyday experiences.

“AI is the craft of having computers make decisions without providing explicit instructions, thereby allowing the computers to pattern match complex situations and predict what will happen.” - Venkat Venkataramani



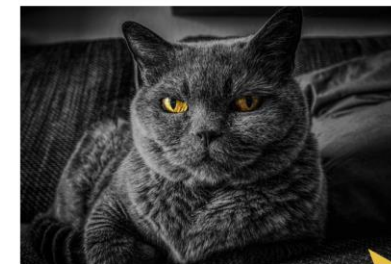
Traditional Computer

Focus: ‘calculation’
program, code, deploy



Artificial Intelligence

Focus: ‘intuition’
training, data science, bias



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The Core Concepts: Understanding the Basics

Machine Learning vs. Deep Learning?

Machine Learning is a subset of AI and the predominant way AI is used today. It uses very large data sets to train the machine about a topic you want it to understand. Could be detecting fraud from millions of credit card transactions to predicting your fastest route to work. The algorithms detect patterns and learn how to make predictions. This is different than following explicit programming instructions – its truly learning from the dataset and applying it. Like a child, *it* continues to learn over time but you have to dedicate training to make sure it makes the best decisions.

Deep Learning is a type of Machine Learning

Deep Learning can process a wider range of data resources and requires less data pre-processing by humans. In deep learning, interconnected layers of software based calculators called “neurons”, form a neural network. The network can ingest vast amounts of data and process them using these layers – like a brain. The network can make a determination about the data, understand if it is correct (by learning) and use what it has learned to make other determinations! Like a child, you train it, when it makes mistakes you retrain to help it learn and get smarter to make better decisions next time.

In 2019 AI ‘crosses the chasm’ from early Adopters to the early majority

The number of enterprises implementing [artificial intelligence](#) (AI) grew 270% in the past four years and tripled in the past year, according to the Gartner, Inc. [2019 CIO Survey](#).

“[The State of AI: Divergence, 2019](#),” the U.K. venture capital fund MMC Ventures claims that “one in seven large companies has adopted AI; in 24 months, two thirds of large companies will have live AI initiatives.



CIOs have realized that sustainable [digital transformation](#) and task automation using AI go hand in hand - Gartner

Getting Your Company Ready for AI

By now you understand that AI is mainstream. We carry it around in our phones, it's installed in our automobiles and household appliances. But how should you be thinking about using AI in your business? Start by considering the data managed by your company. What can your data teach you about your business? What can you automate or streamline using your data? If there are repetitive processes in your business, AI can be used to automate those processes.

For example, if you have large customer data sets, it is likely you can use machine learning to let the data tell you more about those customers, give you intelligent insights that will help you to create a more customer focused offering. Examples: Retail banks use AI to offer appropriate banking products tailored for individual customers. Insurance companies use AI to verify identity, assess risk profiles and recommend coverage. Companies are using ML to sort through massive resumes to find the best matches for new employees.

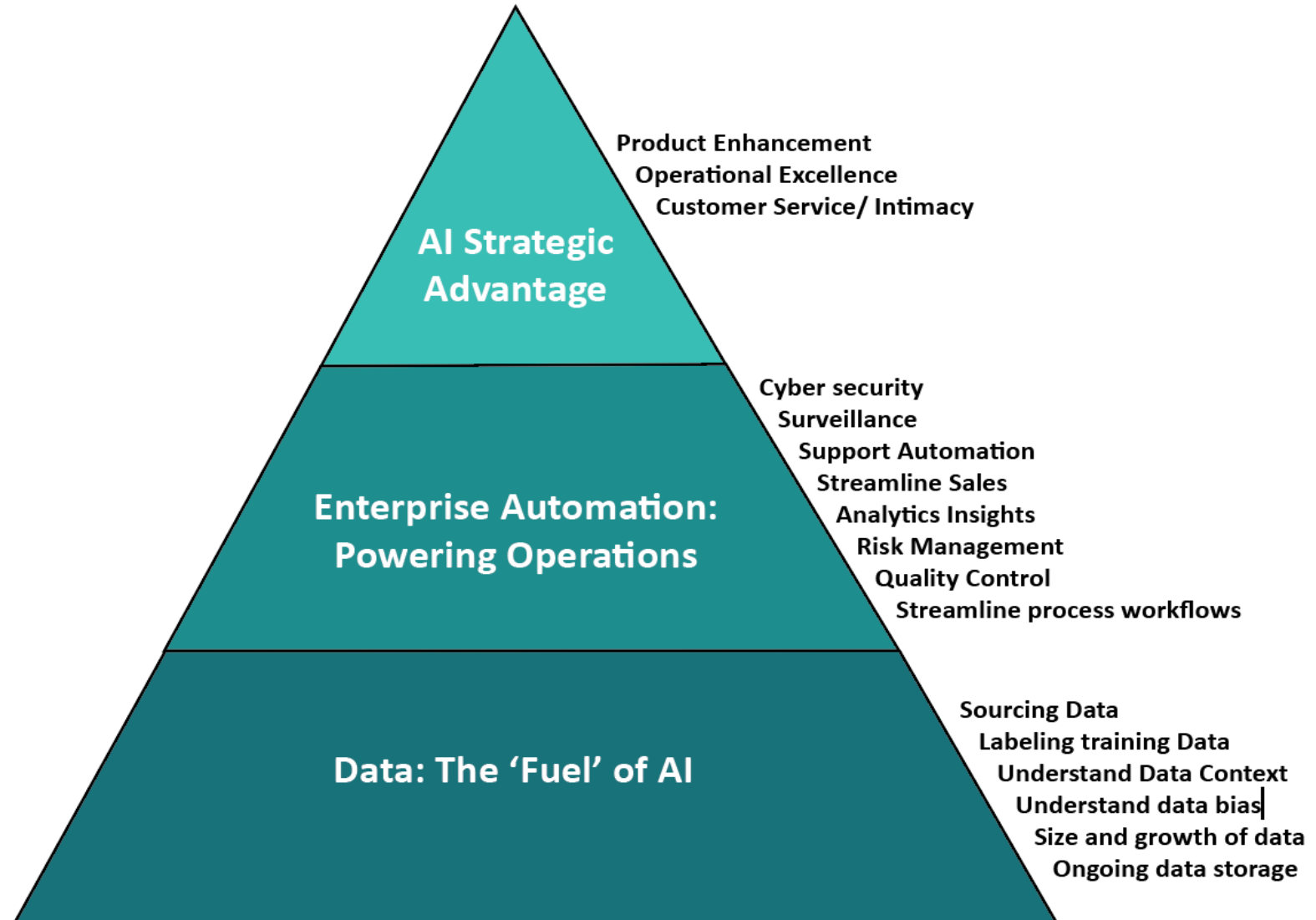
To keep pace; find the automations that will save on operations. **To win**; consider the ways to leverage AI in enhancing the unique value you bring to market. **To disrupt**; explore where AI can help you re-shape the customer journey and the surrounding market ecosystem. To further explore how strategy can be enhanced by AI - see the [Value Disciplines](#) model on slide #13.

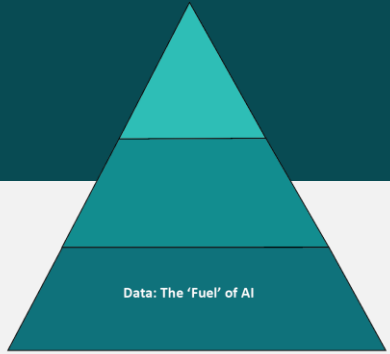
Which business activities or processes could we accelerate, augment, or replace with Artificial Intelligence that would impact outcomes, i.e.; Operational, Customer, Product.

A Framework for Artificial Intelligence Planning

Artificial Intelligence Enables:

- Cost reductions through automation
- Better and faster analysis and decision making
- A deeper, more useful picture of your customers
- Faster understanding of market threats
- New opportunities for competitive advantage





Data is the Fuel of AI

The quality of data defines the quality of the Artificial Intelligence

Data excellence is essential for any AI strategy. It is data that ‘trains’ and fuels Artificial Intelligence algorithms. The quality of the data determines the quality of the AI implementation. It’s essential to get data labeling correct. If the AI is trained to recognize dogs from photos will not be able to recognize cats. If data is not labeled correctly, your AI can be misinterpreted and deliver the wrong results. Considering data sources, and data growth is a key factor in your AI strategy.

You will need to consider how to:

- Find relevant data
- Grow relevant data
- Label relevant data (for training)
- Store and protect growing data sets

Getting started with data, consider:

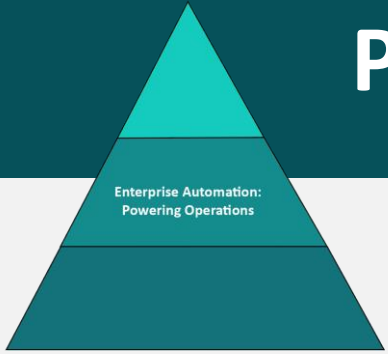
What decisions do you want AI to make? Why?

What data will the AI algorithms need?

Do you have a source for this data now or will you need to acquire the data?

Can we be certain the available data isn’t skewed around the topic?

How can we ensure the data will not present a bias?



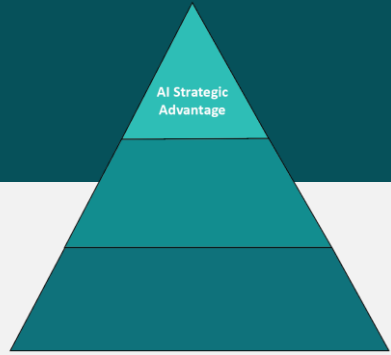
Powering Operations With Enterprise Automation

Artificial Intelligence making Corporate Operations more efficient

According to a recent [Deloitte study](#), the top 3 use cases for AI in the enterprise today are in the IT function.

Enterprise software and cloud services give companies many options for adopting AI, without the headaches of having to build everything from scratch. “Artificial Intelligence-As-A-Service” is all the rage from cloud technology companies. Many of these services are aimed at specific business solutions such as fraud detection, security or HR. Subscription services will allow you to take advantage of AI to get things moving faster and more cost efficiently. IBM’s Watson, Salesforce Einstein, and Microsoft’s Cloud-based AI offer solutions ‘out of the box’. Amazon’s AWS services offers free training and powerful downloadable algorithms across a wide spectrum such as computer vision and machine learning matching. Chatbot software is now widely available for anyone to create sophisticated customer interactions.

AWS wants to democratize AI so that programmers without specific AI training can use it. Google and [DataRobot](#) also offer automated machine-learning. Every day implementation will get easier because cloud services are making powerful algorithms readily available. This can lead to quick wins, lower initial investment, and momentum.



Using AI for Strategic Advantage

Empower offerings and engage customers

We are seeing an explosion of focused solutions by industry. AI is about **augmenting human capabilities and accelerating the customer journey**. A recent [PwC report](#) found that 80% of US CEOs believe that AI will significantly change the way they do business in the next 5 years! How to capitalize on AI is top of mind for CEOs.

How do you get moving?

Support Strategy: Understand what you want to accomplish and why it fits with strategy; **Start Small:** Start learning with AI algorithms that can be download mostly for free – they are not intelligent and won't have any value until you train these algorithms to learn whatever it is you want to automate. **Learn Fast:** running a series of pilots that help the team to prove a particular concept will be important.

AI Use Cases:

- John Deere's new tractors rely on AI to apply micro-squirts of pesticides, replacing crop dusters
- Bloomberg's AI software writes thousands of routine articles churning out earnings reports
- Amazon Alexa and Google Home provide Voice controlled AI assistance products for the home
- Mattel incorporated AI into Barbie to respond to children's play
- Mayo Clinic uses Robots in the operating room, to enhance precision, flexibility and control during an operation
- Walmart is using robots to monitor price tags and missing items on shelves
- Kroger is trying driverless grocery delivery
- Shell Oil uses AI to extract gas at a greatly reduced price, and at the pump visually- to spot smokers
- Coca-Cola uses AI to manage inventory of soft drinks across geographies (using Salesforce Einstein)
- Delta Airlines uses the first facial recognition for flight check-ins with its all-biometric terminal
- Disney uses AI to keep track of visitors to their theme parks

Companies Defining AI Infrastructure

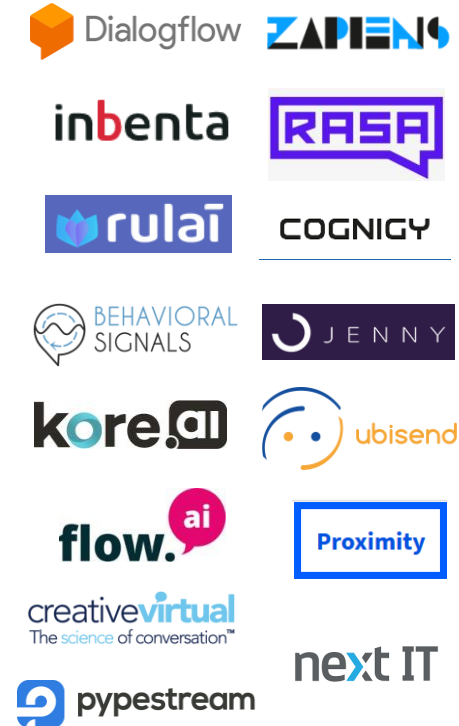
Data Annotations Data Training



Enterprise Machine Learning



Conversational Interfaces



Computer Vision



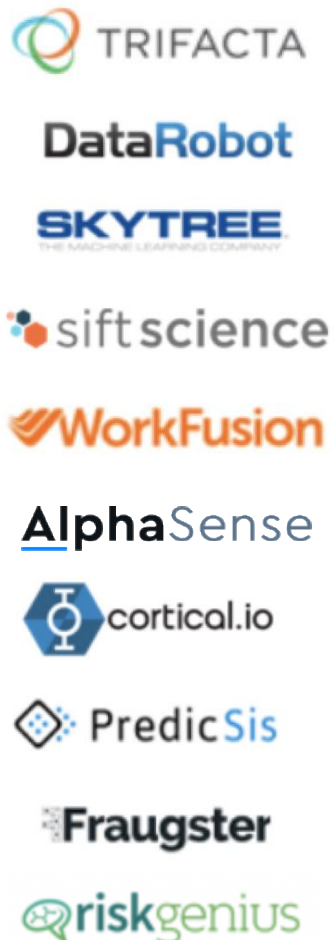
Large Players



Startups Defining New Offerings Using Artificial Intelligence

(by vertical business)

FinTech/Insurance



Healthcare



Manufacturing

Robotics & Cobots

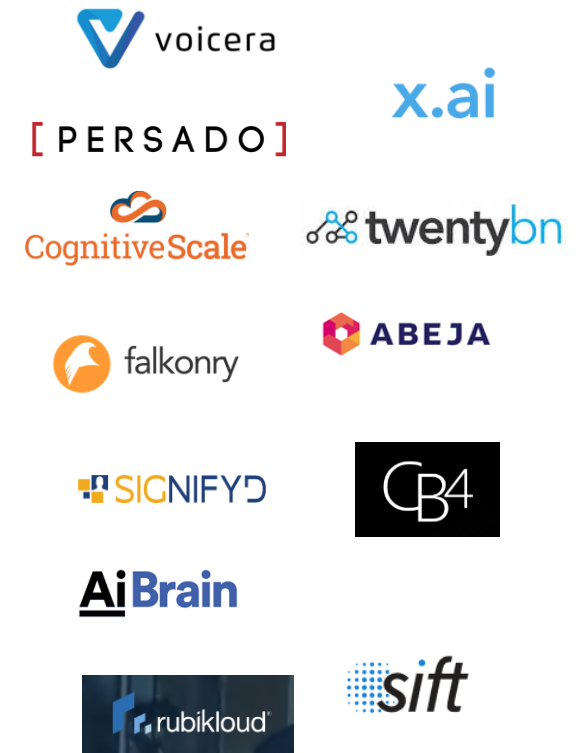


Predictive Maintenance



Re-Thinking Enterprise

Sales, Security, Fraud, HR



The Value Disciplines

Incorporating AI In To Your Business: *Start with Strategy*

The introduction of AI powered solutions will help businesses to compete in many more ways than previously possible. Why? The technology will enable less cost prohibitive implementations in the various disciplines. While Nike, a company that exhibits product excellence, will be able to churn out new design possibilities, they will also be able to personalize experiences by customer. There are any number of companies like Salesforce for example, already down the path incorporating AI as strategy into their offerings. For your business it will be important to determine how you can leverage AI to enable your competitive advantage. Starting with the basics, consider the [discipline of market leaders](#) as a good lens to think about your unique advantage. Then ideate around areas where AI could be used to extend your advantage or enable your business to excel in an adjacent discipline.



AI and Operational Excellence

Founded in 1962, Walmart operates 5,358 stores across the US. It's location strategy has been an important advantage to maximize market reach. They make it exceedingly convenient for shoppers to get to their stores. Their approach is to win at operations and the supply chain game.

Enter AI: The retailer is using AI technology to track everything that goes on in each store. Walmart wants to use AI technology to explore both store associate-facing and customer-facing applications. including the ability to track and replenish low supplies of inventory and detect numbers of shopping carts available at the store entrance. Some of the ways Walmart is using AI to push their strategy include:

- Flight Deck, an internal AI analysis platform that tells them what drove business results and what they can do about it. Problems that used to take several days to find now take minutes with this AI platform
- Self Driving delivery vehicles
- Personalized shopping on their website
- In store AI lab in Levittown, NY for on-site learning
- Nightly store cleaning with robots



AI and Product Leadership

McCormick's was founded in 1889. Known for seasonings and spices products they are actually leveraging 40 years of their consumer data to drive new products to the market. They lead the consumer packaged spice market, and continue to drive profits by inventing new products.

How? Using AI to mine consumer tastes with over 4000 ingredients. AI helps them to quickly figure out which tastes work together, and how their consumer base may react.

Hamed Faridi, McCormick chief science officer said artificial intelligence makes the process of developing new products up to *70% faster!* A product developer simply presses a button, and minutes later generates a dozen new recipe formulation ideas.



McCormick expects to launch its first AI-enabled product platform, "ONE," by mid-2019, with a set of initial one-dish Recipe Mix flavors including Tuscan Chicken, Bourbon Pork Tenderloin and New Orleans Sausage.

AI and Customer Intimacy

Research shows that [customers are willing to pay more for a personalized experience](#). Companies that win by providing superior custom service can use AI to strengthen those relationships. At the center of these AI implementations are recommendation engines, chatbots, personalized ad and product recommendations.

Stitch Fix uses AI and data science to offer personalization at scale. Their core offering uses a mix of personal stylists and algorithms to select five clothing and accessory items to ship to a customer at a time. The selection that a customer gets is based on their preferences and those of a million others like them. 100% of revenues come from their recommendation engine results.



When Shoppers are served [product recommendations based on their previous behaviors](#), , 58% of consumers are more likely to buy from a retailer that does so according to Accenture.



“By 2020, 85% of customer interactions will be managed without a human” – [Gartner](#)

Core Concepts: Getting Your Company Ready for AI

- ✓ Decide where to automate and where to augment
- ✓ Consider your current operations and technology programs. Can AI automate or augment these initiatives?
- ✓ Clarify why AI the right choice for solving this problem and what are the alternatives?
- ✓ Get a clear understanding of your data, what do you have now that can be used for AI? What data might you need to add and why?
- ✓ Assess the potential financial value of these implementations. How fast will savings pay off for automation?
- ✓ Understand your company's capability gap with skills in AI design, data science and change management
- ✓ Pilot projects using agile techniques, bring in experts to help
- ✓ Think big, start small, scale fast

AI will have a substantial impact on economic growth over the foreseeable future. Some projections estimate that AI will lead to \$15.7 trillion increase global gross domestic product (GDP), with \$7 trillion predicted to go to China and \$3.7 trillion to all of North America.

Getting to the AI Economy: Netting It Out

You are likely considering how artificial intelligence will change your business now. When the Internet was first introduced we heard how every company needed to become a 'digital' company. The same can be said about AI: *Every company needs to become an Artificial Intelligence based company*. If you aren't going there soon, someone else will and become a threat to your business.

Steps to Get Your AI Strategy On Track :

1. Know that everything starts and ends with *Data* when it comes to AI. The first order of business is to understand what data your enterprise can contribute. What it continues to collect, and what data will you need to get access to in the new AI economy.
2. Realize that every supporting vendor to your enterprise is likely already offering AI with their services (i.e. Salesforce Einstein to improve customer insights). For HR, Travel, Security, only purchase from those who consider AI their strategic advantage.
3. Finally, its time to consider your own business offerings. How will you use AI to dramatically lower costs, create unique products, and delight your customers in new ways.

Learn from The Innovators – young companies that know how to leverage these technologies. Those that can get you in the game fast. Working with startups is the way to quickly pilot test new ideas and onboard the best that AI can bring to your enterprise. The [Innovation Scout](#) can help you to stay on top of the best AI players for your needs. Pilot with them, invest in them or even acquire them to get your AI operations moving quickly this year.

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About The Innovation Scout™

The Innovation Scout works with global corporations to enable the creation and execution of their innovation programs and processes. At our core is an artificial intelligence platform built with proprietary machine learning algorithms and big data. We match corporate business challenges with relevant startups and available research. This speeds their pathway to solutions and key learnings that make them more efficient, extend their offerings and grow their business with innovations. Our work helps corporations understand the impact that emerging technologies and business models will have on their company and what they can do about it.

Our offerings include our [SaaS platform for Innovation](#), together with programs to ‘[Fast Track](#)’ ideas (Lean Innovation), scale innovation across the enterprise ([Innovation Playbook](#)), as well as Ongoing [Innovation Scouting \(RADAR\)](#), Assessment and Working with Startups.

www.theinnovationscout.com



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