



Top 8 data use cases for startups

Drive better business outcomes by unlocking the true potential of your data



Why startups need a data-driven strategy

Gaining an early advantage with AWS Data solutions

Startups have access to more data today than ever before. When leveraged correctly, data has the power to transform outcomes for your customers, your business, and your bottom line. It's not an overstatement to say that the journey to innovation begins with data—or even that businesses lacking the means to utilize their data will be left behind as customer needs and business priorities evolve.

Ultimately, many startups are not utilizing their data to achieve the results they want. It is important to consider that more than 79 percent of business executives worldwide are looking to make better decisions based on data, while 61 percent are seeking a better understanding of their customers,¹ and 36 percent of chief data officers (CDOs) believe that focusing on a small set of key analytics or artificial intelligence (AI) projects can deliver the most value.

Unfortunately, many startups lack the infrastructure, tools, and resources to unlock the powerful insights buried in their troves of data. As the sheer volume of data keeps growing, founders may feel overwhelmed with how to integrate, manage, and make sense of it—or how to break down siloes that can hinder the ability to use data to inform decisions.

What's the solution? It's a combination of the right people, the right processes, and the right technology.

How startups are unlocking their data with AWS

By exploring eight critical data use cases for startup success, this eBook shows how you can unlock the potential of your data to drive your desired business and customer outcomes. Each use case provides a real-world example of how startups like yours are using Amazon Web Services (AWS) to extract value from their data to personalize their product offerings, develop new products, improve decision making, and more while securing a competitive advantage now and for the future.

USE CASE 1

Customer 360

As your startup grows, maintaining focus on meeting customer requirements at speed and scale becomes a challenge. But the necessities of understanding customer expectations and remaining agile are more critical than ever for businesses looking to remain innovative.

Consumers today are primed for marketing interactions that resonate on an individual level. According to a 2021 McKinsey report, 71 percent of consumers expect companies to deliver personalized interactions, and 76 percent get frustrated when that doesn't happen. The study also shows that personalization most often results in a 10–15 percent increase in revenue and that fast-growing companies derive 40 percent more revenue from personalization than their slower-growing (or shrinking) counterparts.²

Today, customers engage with your business across many channels—from social media and websites to email campaigns and targeted ads. Unifying data from all touch points and sources empowers you to deliver superior customer experiences, improve loyalty, and increase customer lifetime value. Simply put, you can better understand and build connections with your customers with a 360-degree view of their data.

That said, only 14 percent of organizations have achieved this 360-degree view. And of those that have achieved it, less than 5 percent use it to systematically grow their business.³



² "The Value of Getting Personalization Right—or Wrong—is Multiplying," McKinsey, November 2021

³ "Gartner Marketing Survey Finds Only 14% of Organizations Have Achieved a 360-Degree View of Their Customer," Gartner press release, January 2022



Drive deeper engagements with Customer 360

A Customer 360 (C360) strategy enables you to unify your customer data from multiple sources, such as applications, websites, and marketing channels, and create a single source of truth. Startups that implement C360 see greater improvements in customer churn, average order size, profit margin, and net promoter score.

Mastering C360 starts with data. Aggregating customer interaction data across various touchpoints throughout the entire customer journey enables your team to securely and efficiently make the best possible decisions—decisions that ultimately improve customer outcomes at scale.⁴

Maximize the business value of C360 with AWS

AWS allows you to keep up with customer expectations now and in the future by unifying customer data across disparate sources, including databases, third-party applications, and various external data sources, to gain a comprehensive profile of your customers' behaviors and preferences. With AWS services and partner solutions, you can unlock a C360 view that drives audience segmentation, ad targeting, and attribution.

Choose from the broadest capabilities of data lakes, databases, analytics, and machine learning (ML) of any cloud provider to create highly scalable, cost-efficient C360 solutions. Additionally, AWS enables marketers and publishers to accelerate adoption of first-party data platforms with dedicated partner solutions available through [AWS Digital Customer Experience Competency Partners](#) and the [AWS Marketplace](#).

A Customer 360 solution provides:

- A real-time, persistent, and precise view of customers at all touch points
- Enriched customer profiles from second- or third-party data
- Competitively differentiated customer attributes derived from data modeling techniques
- Personalized customer experiences at scale



⁴ "State of Building a Unified Customer Profile: Insights from a 2022 Customer 360 Benchmarks Study," APQC webinar, originally presented November 9, 2022

Three ways to drive C360 success with AWS

1.

Create unified customer profiles with CDPs

Having the correct user profile with all information consolidated is the measure of quality for your customer data. A customer data platform (CDP) creates a persistent, unified customer database that is accessible to other systems. Continuously collects transactional and interaction data with solutions such as Amazon Kinesis. Use AWS Lake Formation to build a data lake in days instead of months.

AWS enables organizations to build their **own CDP on AWS** and unify customer data to unlock C360 using services such as:

- **Amazon Kinesis** for data ingestion
- **AWS Lake Formation** for governance
- **Amazon Personalize** for data orchestration
- **Amazon Redshift** and **Amazon QuickSight** for data warehousing, analytics, and business intelligence (BI)

AWS also partners with leading CDPs and C360 technologies that run on AWS, including Salesforce CDP, Segment, Amplitude, Amperity, and Tealium.

2.

Enrich customer profiles with third-party data partnerships

On average, businesses use 28 different sources to gain insights on customer engagement.⁵ You can enrich customer profiles by accessing new information about your customers to deliver more personal and contextual experiences.

Enrich customer profiles with third-party data partnerships for additional content. **AWS Clean Rooms** allows collaboration with advertising and marketing partners to bring together disparate data from engagement channels and partner datasets to form a 360-degree view of your customers—without sharing or revealing underlying data.

3.

Offer personalized customer experiences

AWS allows your startup to improve customer engagement and conversion by enabling you to create personalized web experiences tailored to individual customer preferences and behaviors across channels. **Amazon Personalize** makes it easier to integrate personalized recommendations into existing websites, applications, email marketing systems, and more. With Amazon Personalize, you can elevate the customer experience with ML-powered personalization and quickly implement a customized personalization engine in days—not months—with no ML expertise required.



THRIVE — MARKET —

“The fact that we’ve been able to scale as fast as we have and use amazing tools like AWS and AWS Marketplace to make that possible has enabled us to really fulfill on that mission and to do so at a speed that wouldn’t otherwise be possible.”

Nick Green, Co-Founder & Co-CEO, Thrive Market



About Thrive Market

Thrive Market is a startup that gives members access to a catalog of healthy organic products at a discount. Its mission is to make healthy living affordable and accessible for every American family.

The challenge

For Thrive Market to effectively serve its customers, it needed the ability to collect and connect data from many different sources and scale that data quickly, maintaining a 360-degree view of its customers. It was using Microsoft SQL to load its enterprise data warehouse environment, which would take more than five hours to complete. To support its rapid growth, the company would need a highly scalable, flexible, and secure infrastructure.

The AWS solution

The startup chose to deploy Tableau on AWS infrastructure for its marketing analytics needs. Using Matillion ETL for [Amazon Redshift](#), it was able to aggregate data from multiple sources, including third-party sources, such as Facebook, and upload it every hour to create a 360-degree view of the customer. And with [Amazon Marketplace](#), Thrive Market was able to prototype different technologies with a single click and have them up and running in days.

The results

With a scalable data platform on AWS, Thrive Market grew from \$0–\$100 million in 14 months. The company now has the ability to move ten million records per hour to create its enterprise data warehouse (EDW) and choose, test, and deploy 100 licenses of Tableau in three days. And, it can consolidate its billing with all vendor fees on a single bill.

[Watch the video ›](#)

USE CASE 2

Data-driven decision making

For most startups, effective decision making is becoming more challenging. Gartner found that 65 percent of decisions made today are more complex than they were five years ago.⁶ The lack of end-to-end visibility into data and the inability to derive insights in a timely manner make decision making even more challenging.

Wherever you are in your startup journey, the key to better decision making is data. Successful founders rely on data to make informed decisions, drive meaningful outcomes, and attract new investors for their business ventures.

Data-driven decision making (DDDM) is the process of using data to inform and guide decisions. Many startups apply data-driven approaches such as predictive systems or AI-led automation, but these strategies are often siloed and sporadically spread throughout the business, leaving value on the table and creating inefficiencies. As a result, business problems are still being solved through traditional approaches, sometimes over months or years. According to Accenture, only 32 percent of companies report being able to realize tangible and measurable value from data, while only 27 percent say data and analytics projects produce actionable insights and recommendations.⁷

Drive smarter decisions with data on AWS

By giving your startup team easy access to data and insights, you can achieve your goals faster and improve business outcomes. Your team will make better decisions as it spends less time and resources digging through data and more time creating differentiated products and services for your customers.

AWS is equipped to provide you with the capabilities you need for an end-to-end data strategy now and in the future. We are investing across the entire data journey—from ingesting, storing, and querying data to analyzing, visualizing, and running ML models to end-to-end governance to make it easier for you to unlock the value of your data. And with intelligence and automation built into all of our data services, AWS makes the complexities of data management easier. The benefit? You spend less time managing data and more time getting value from it.

Four steps to building a data-driven startup with AWS

1.

Foster a data-driven culture

Investing in the data management infrastructure, tools, and processes necessary to capture data in real time through a variety of data feeds and devices is just the first step. If you aren't simultaneously creating a culture that allows your team to act on data, you're just creating frustration.

Being a data-driven startup means treating data as a strategic asset in regard to culture—and then building capabilities to put that asset to use. With a truly data-driven culture, your startup will use data not only for big decisions but also for everyday action on the front line.

2.

Democratize access to data

Startups are increasingly moving toward end-to-end data architectural constructs, such as data mesh and data fabrics, to provide seamless and efficient access to data and to govern data usage across business units. AWS offers two services that enable this:

- **Amazon Redshift**, a cloud data warehouse that lets you run and scale analytics in seconds
- **AWS Glue**, a serverless data integration service that makes it easy to discover, prepare, move, and integrate data from multiple sources

Another way to democratize access to insights is to avoid “reporting ghost towns” that require people to stop what they're doing and access a different tool for insights. Instead, you can build analytics capabilities directly into workflows, enabling your teams to apply insights easily to their daily activities.

3.

Make insights accessible

Empowering your team to make better decisions means not just giving them access to data but to insights as well. BI tools such as **Amazon QuickSight** allow your team and stakeholders to quickly and easily find the insights most useful to them and utilize ML to make predictions. Amazon QuickSight also makes it easy to embed interactive visualizations and dashboards and easy-to-understand natural language queries by leveraging AWS expertise in ML. In addition, **Amazon SageMaker Canvas** democratizes ML for business analysts. It provides an intuitive visual interface that allows teams and stakeholders to generate accurate ML predictions on their own, without requiring any ML experience or writing a single line of code.

4.

Share data easily with security and governance

Some startups are slow to open their data to more team members because they're concerned about data security and governance. With the right data governance strategy in place, you can move faster and empower the right people to quickly find, access, and share the data they need, when they need it. End-to-end governance on AWS provides you with control over where your data sits, who can access it, and what can be done with it at every step of the data workflow.



"We're now prepared to offer our services in all of Europe and to continue adding features to increase our ecosystem's reach. Building our products on AWS has helped us achieve a lot in a short amount of time."

Florin Bulgarov, Chief Data Scientist, Postis



About Postis

Postis is a fast-growing Romanian startup that provides a real-time digital platform for logistics automation, optimization, and tracking, helping retailers and delivery companies provide a great customer experience from ordering to receiving goods.

The challenge

To ensure customers were receiving the most efficient delivery options, Postis needed to collect data including how long deliveries take, the customer delivery preferences, and the performance of local couriers. However, Postis spent over a year collecting this data from customers and manually creating statistical formulas to produce useful insights. The model ran too slow and required a more efficient ML solution.

The AWS solution

Postis turned to Amazon SageMaker to build, train, and deploy its ML model for better and faster results. The organization uses Amazon Kinesis to collect, process, and analyze real-time streaming data for timely insights, using its simple dashboards to track the progress of deliveries in real time. These dashboards are shared with all internal departments to quickly identify bugs and to streamline customer service processes. To handle spikes in demand during busy shopping periods, Amazon Elastic Compute Cloud (Amazon EC2) and Amazon Relational Database Service (Amazon RDS) automatically and securely scale to meet variable demand.

The result

Using APIs built by AWS, Postis' real-time updates system provides consumers with direct access to tracking details, reducing calls to retailers by 25 percent. Speedy access to delivery data on the platform provides insights on the real-life behavior of their actual buyers helping to make better strategic decisions. With AWS infrastructure, Postis can scale to handle 7–10 times more orders during busy shopping periods.

[Read the full story ›](#)

USE CASE 3

Cost optimization

Startups must prioritize cost optimization as they work to make data-driven innovation and insight essential to their future. Cost optimization is a business-focused discipline for reducing spending and costs while maximizing business value.

Startups can use data to discover cost-optimization opportunities—and ultimately drive decisions that improve productivity, drive efficiency, streamline processes, and maintain scalability. But these efforts must be balanced with measures that minimize the costs of infrastructure, pipelines, and initiatives that enable startups to make use of their data.

Optimizing data costs with AWS

AWS provides your startup with many ways to optimize data costs while still enabling you to get the most business value from your data. AWS offers the most scalable, highest-performing services for storing, querying, and acting on data. And we're constantly optimizing to give you the best price for performance.

AWS databases are designed for the best price and performance for your use case at scale. [Amazon Redshift](#) is the fastest and most economical data

warehouse in the cloud, with up to three times better price performance than any other cloud data warehouses.

Many AWS Data services enable you to run workloads on [AWS Graviton](#) instances with little or no code change to get better price performance. AWS Graviton delivers up to 50 percent better price performance for [Amazon RDS](#), up to 30 percent lower cost for [Amazon EMR](#), up to 15 percent improved performance for Apache Spark, and up to 20 percent performance improvement for [Amazon Aurora](#).

And, with the [AWS Nitro System](#), your Amazon EC2 instances can deliver more than 15 percent higher throughput performance on some workloads⁸—so applications accessing your databases could run even faster, improving time to insight for analytics.

[Serverless](#) architecture is another highly effective way to optimize costs. With serverless, resource utilization is automatically optimized, so you never pay for over-provisioning. Serverless technologies feature automatic scaling, built-in high availability, and a pay-for-use billing model—all contributing to your cost savings.



About Brave New Coin

Brave New Coin is a New Zealand-based data and research company serving cryptocurrency traders and financial institutions globally. Its product offering includes cryptocurrency market data, indices, and a digital wealth management platform.

The challenge

During an internal review on cost control, Brave New Coin required insight on its cloud resource consumption. As the organization was already using infrastructure as code and had a carefully constructed development environment, they were seeking out solutions that would allow them to easily pivot and revise its cloud footprint.

The AWS solution

Brave New Coin uses Amazon Simple Storage Service (Amazon S3) to store real-time trade and order book data from more than 200 cryptocurrency exchanges. This data is allocated to the most cost-effective access tier with Amazon S3 Intelligent-Tiering. Brave New Coin also explored the wider implementation of **Amazon Elastic Compute Cloud** (Amazon EC2) Reserved Instances for new workloads by buying unused capacity from other AWS customers on the **Amazon EC2 Reserved Instance** Marketplace.

The result

AWS billing tools has enabled a 30 percent reduction in monthly infrastructure spend. With intelligent tiering, data storage was optimized. Everyone across the organization can now gain visibility into costing and access useful data using the AWS console and its multiple billing tools. This inclusivity on costing decisions has created a cost-optimization mindset.

[Read the full story ›](#)

“Tools such as the AWS Pricing Calculator allow us to make the right resource decision upfront, which is key. Cost optimization has become part of our DevOps mindset.”

Knight Hou, Head of Market Data, Brave New Coin



USE CASE 4

Future-proof customer experience

AWS enables you to build intelligent, scalable, and future-proof applications that stay relevant for your customers today and tomorrow. With purpose-built databases powering end-to-end applications and added intelligence powered by AI and ML, AWS enables you to support your startup's growth, lower costs, and deliver better customer experiences.

The challenge

Keeping up with the scale of today's data is a big enough challenge. Meeting ever-changing, ever-demanding customer expectations will be even more challenging. Applications will need to be architected in a way to meet the expected growth in data volume and users as your startup scales over the coming years.

AI and ML are evolving to perform increasingly demanding and ambitious tasks. As they do so, they are becoming increasingly data-hungry. Managing data at scale is going to be incredibly demanding. Going forward, startups will need to prepare for further disruption with agile, resilient, and flexible constructs.

The AWS solution

By putting the right technical infrastructure in place today, startups can improve customer experiences, reduce costs, drive operational efficiency, while scaling their operations.

Support startup growth with scalable, cloud-based databases

With more scalable, purpose-built, cloud-based databases, you can support faster growth in your business by facilitating new customer offers.

Lower costs by migrating from a self-managed or on-premises database to a fully managed cloud database

With the right data strategy, you can optimize business processes and reduce operational costs. By migrating from a self-managed or on-premises database to a fully managed cloud database, you can save money associated with time-consuming administrative tasks such as provisioning infrastructure and software patching.

Improve customer experiences with artificial intelligence and machine learning

If you have control of your data, you will be better placed to understand customer behaviors. Leveraging AI or ML, you can find new ways to increase the value you provide and transform the customer experience. AWS offers a suite of pretrained AI services, providing ready-made intelligence for applications and workflows for common use cases such as modernizing customer support, reducing fraud, adding personalized messaging, computer vision (CV), and intelligent document processing (IDP).



aizon

“Thanks to AWS, we have greatly improved the scalability of our platform. We can deploy our full platform for customers of every size in just minutes, and replicate and escalate it without any problems in any country.”

Toni Manzano, PhD, Chief Scientific Officer, Aizon



About Aizon

Aizon offers a software-as-a-service (SaaS) AI platform aimed at helping pharmaceutical manufacturers optimize their processes and maximize efficiency.

The challenge

A multinational pharmaceutical company producing promising drugs based on human blood plasma experienced an unexplained decrease in product yield coupled with an unwelcome increase in process variability over several years. To determine the root cause of these problems, the company turned to Aizon for help. To solve the problem, Aizon needed a way to create a learning model to identify patterns among plasma composition origins in thousands of its client's drug batches over the years.

The AWS solution

Aizon leveraged an AI-enabled, GxP-compliant platform built on AWS Cloud architecture. Using **AWS Internet of Things** (AWS IoT), a serverless architecture that can collect, analyze, and store data for billions of devices, the company was able to connect individual bioreactors within its manufacturing facility to one another and the cloud. **AWS Lambda**, a serverless compute service, was used to execute an ML operation in **Amazon SageMaker**. It also created a supervised learning model to predict yield for each upcoming batch and coupled it with real-time dashboarding.

The results

Aizon identified two critical process variables and found that optimizing just those variables was sufficient to improve product yield by double digits, resulting in potential gains of tens of millions of dollars for its pharmaceutical customer. Using AWS serverless architecture, it was also able to reduce compute costs by up to 80 percent, identify process improvements that could boost yield by more than 10 percent, and enable international platform deployment and scalability.

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USE CASE 5

Meet regulations and customer demand

Today's startups amass large amounts of consumer data, including personally identifiable information (PII). This data contains a wealth of information that can be used to improve business offerings—yet the sensitive data contained within must be protected to retain customer trust and comply with privacy regulations and mandates. This grows more complex as startups expand globally because data governance laws differ across countries and regions. By putting the right technical infrastructure in place, businesses can improve customer experiences, reduce costs, drive operational efficiency, and support business growth.

With complex data environments, the typical one-size-fits-all command-and control-based governance cannot keep up with the demand for startup agility and fast decision making. In a 2021 Gartner survey, 61 percent of respondents said their governance objectives included optimization of data for business processes and productivity.⁹ According to 2022 research from AWS and MIT CDOIQ, data governance is the top priority for 45 percent of CDOs, followed by adopting a data product approach (38 percent) and building and maintaining advanced analytics and AI projects (36 percent).¹⁰

A data classification process allows you to distinguish between and properly handle confidential data and data intended for public consumption. By categorizing your data, your startup can operate more efficiently and confidently navigate compliance laws, such as the European Union's General

Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), and quickly adapt to upcoming changes in regulations.

Balance governance and performance with AWS

Amazon DataZone allows you to share, search, and discover data at scale across organizational boundaries. Its unified data analytics portal provides a personalized view all of your data while enforcing your governance and compliance policies. You can search for published data, request access, and start working with your startup's data in days instead of weeks. It also enables collaboration among teams through data assets and lets you manage and monitor data assets across projects.

The recently introduced **Amazon Security Lake** automatically centralizes security data from cloud, on-premises, and custom sources into a purpose-built data lake stored in your account. Security Lake gives you a more complete understanding of your security data across your organization while improving the protection of your workloads, applications, and data.

With your data infrastructure on AWS, software-based security tools monitor and protect the flow of information in and out of your cloud resources on a cost-efficient pay-per-use basis. There's no need to purchase or maintain physical servers or storage devices.



“From security and databases to configuration, deployment, and caching, AWS is critical to developing our biometrics technology. Our solution relies on it.”

Łukasz Łyczba, CTO, PayEye

About PayEye

PayEye is a Poland-based biometrics payment startup that uses a person's iris and face to authenticate purchases. Consumers can use the technology to make biometrically authenticated purchases at shops, restaurants, and sports clubs via a mobile application using point-of-sale devices called eyePOS devices.

The challenge

The company needed to demonstrate its technology for biometric payments quickly in order to secure funding, gain regulatory approvals, and win over retail partners before launching its solution. It also faced the challenge of quickly finding and hiring talent. Speed was key to its success.

The AWS solution

PayEye built its platform on AWS and completed a proof of concept for its biometric authentication technology in five months. Assisted by AWS tools and services, it navigated security and data protection regulations and launched a complete and secure payment ecosystem soon after the initial proof of concept.

The results

PayEye sped up the development process and began production within just a few months using out-of-the-box AWS services. It is now able to ensure a high level of security for its customer data and analyze customer and device performance in real time. The company has just launched the next generation of its eyePOS devices and plans to launch its new biometric technology internationally in the coming months.

[Read the full story ›](#)



Fraud and risk reduction

Along with the rise in digital technology, there has also been a dramatic rise in fraud incidents. According to the Federal Trade Commission, US consumers lost \$5.8 billion to fraud in 2021—a 70 percent increase from 2020.¹¹ Bad actors exploit different tactics, such as creating fake accounts, taking over existing accounts, or compromising payment instruments (e.g., stolen cards).

Proactively detecting and addressing online fraud or suspicious activities helps your startup avoid revenue loss and brand damage and provides a frictionless customer online experience. But detecting and preventing fraud is a complex challenge. In a report from PwC, 46 percent of companies surveyed reported experiencing fraud in 2022, and nearly 70 percent of those companies said that the most disruptive incident was an external attack or collusion between external and internal sources.¹²

Many startups continue to rely on rule-based fraud detection applications. These tend to lack accuracy and can't keep pace with the ever-evolving tactics of fraudsters. Data can be the weapon that turns the tide. Thanks to big data analytics, purpose-built databases, and ML, startups can now analyze large volumes of data to identify fraud and mitigate risks. In addition, this processed and analyzed data can be used to develop algorithms that improve fraud prevention over time and speed up decision making.

Predicting and preventing fraud with AWS

AWS fraud detection solutions leverage our 20 years of experience preventing fraud and abuse at AWS, Amazon.com, and subsidiary businesses. These solutions are continually enriched by our deep knowledge of fraud patterns.

With **AWS Fraud Detector**, you can accurately and proactively detect and prevent online fraud. It helps reduce revenue losses and avoid brand damage while providing a frictionless online customer experience that adapts to changing threat patterns.

Regardless of your level of ML experience, you can use Amazon Fraud Detector to add ML-based fraud detection capabilities to your business applications in minutes. Or, if your startup has a dedicated team of data scientists, you can use **Amazon SageMaker** to develop highly specialized fraud detection solutions in days.

Graph databases are also useful for fraud detection and analysis because they natively show relationships between accounts, customers, businesses, transactions, and other network elements. **Amazon Neptune** is a fast, reliable, fully managed graph database service that makes it simple to build and run applications that work with highly connected datasets. A fraud graph built on Amazon Neptune can store the relationships between transactions, actors, and other relevant information—resulting in a highly connected and complex network of information that can be queried, visualized, and analyzed to detect fraud.

Providing further protection against threats, **Amazon GuardDuty** continuously monitors your AWS accounts and workloads for malicious activity and delivers detailed security findings for visibility and remediation.



About ICONY GmbH

ICONY is a rebranded dating platform based in Germany (the acronym stands for “I connect with you”).

The challenge

Maintaining the trust of users is of critical importance for online dating platforms. Initially, like many other online platforms, the ICONY support team relied on abuse reports to identify fake users and scammers and then added internal rules and had members of the team review sign-ups. Recognizing and adjusting to the changing strategies by bad actors was a constant struggle, however. Each time a new type of fraudulent behavior appeared, the support team needed to manually create a new rule to address it—a time-consuming endeavor that could not be scaled up and sustained.

The AWS solution

ICONY decided to take a more sophisticated approach to fraud detection using ML. **Amazon Fraud Detector** was an ideal solution because it provided everything needed to build, deploy, and manage fraud detection models. Historical data of legitimate accounts and the fraudulent accounts the support team had previously identified were used to train the ML model. Together with other AWS services, ICONY was able to create a bespoke fraud detection solution that did not require in-house ML expertise. The coding and integration of fraud detection on the platform were completed in just two days.

The results

After implementing this fraud detection solution, the ICONY support team saw the time it spent dealing with fake and spam accounts fall by 77 percent. This freed up the team to deal with individual user checks, which immediately improved quality on the platform and caused fraud reports from the community to drop by 63 percent. And the number of registered users returning to the platform has increased by 4.13 percent—a testament to an improved level of user comfort and trust.

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“[The results] highlight just how effective Amazon Fraud Detector can be in reducing the burden on the support team and improving the overall user experience, allowing ICONY to provide the best possible platform to its business partners.”

Uwe Thomas, CEO, ICONY GmbH



USE CASE 7

Discover new products, markets, and segments

With a trail of data connecting every online activity and device, startups are discovering new ways to use data for transactional, informational, and analytical purposes. And with so much data—and all the insights it can uncover—innovative startups are discovering new ways to monetize it. Data monetization is the practice of generating measurable business value from data and insights. “Business value” refers to revenue generated by increasing top-line or bottom-line results. These results can be tangible or intangible, internal or external.

Drive new revenue with data on AWS

With the help of BI tools such as [Amazon QuickSight](#), your startup can create reports, views, and dashboards of customer data, which in turn helps you identify trends, patterns, and insights. BI reports can unlock new segments and upsell, cross-sell, or advertising opportunities.

According to Gartner, a common data monetization mistake is looking only at readily available, existing data for opportunities.¹³ Filling gaps in organizational data with third-party datasets can unlock new potential. AWS Data Exchange is the only data marketplace that allows startups to ingest and manage data from more than 3,500 datasets across more than 300 data providers—directly to the data lakes, applications, analytics, and ML models that use it.

Monetizing customer data for product discovery

Product discovery is critical for a startup, and customer reception of a nascent idea can go a long way in determining its long-term prospects. For some founders, it's tempting to tinker with their idea until it's perfect. That's a noble goal, but the journey to perfection is often long and costly, and it means forgoing the chance to gain vital feedback from early adopters. As many entrepreneurs have found, these first customers are some of the best sources of honest feedback.

So, how can you get your product or service in front of customers quickly and in a way that will help your startup build a stronger product over time?

Whatever choices you make, remember that your minimum viable product (MVP) is a test run that will only yield results if you can pull together customer responses. This can include gathering statistical data, such as the number of users and how long they spend using the MVP and customer insights from comments, feedback forms, and sentiments shared on social media. Ultimately, an MVP is a great way to test out an idea and receive actionable feedback to apply to future iterations.



About Insilico Medicine

Insilico Medicine is a biotechnology startup that develops AI platforms for drug discovery. The company combines expertise in ML, bioinformatics, and chemistry to save cost and time at multiple stages of drug development.

The challenge

The drug development process is simultaneously urgent and laborious—as of 2010, it took an average of 4.5 years and cost an average of \$674 million to bring a single drug from target hypothesis to candidate validation. Insilico needed to develop a robust suite of ML-powered tools to aid in target identification, molecule design, and lead optimization.

The AWS solution

Built on AWS, Insilico's drug discovery engine uses millions of data samples and multiple data types. Advanced AWS AI and ML capabilities perform analyses and support all steps of the pharma research and development process, helping discover disease biomarkers and identify the most promising targets. AWS provides the flexibility and scalability to meet the extremely high graphics processing unit (GPU) requirements. Using [Amazon S3](#) as an object storage service, the platform provides accessibility for more than 150 collaborators worldwide.

The results

The collaborative element of the platform architecture proved helpful for the company's COVID-19 project. By interconnecting each Insilico platform, bottlenecks are eliminated. The platforms' ease of use democratizes access to sophisticated bioinformatics, making it simpler for different parties to use the same tools and coordinate analyses.

[Read the full story ›](#)

“Using our PandaOmics and Chemistry42 platforms built on AWS, we were able to bring a fibrosis drug candidate from target discovery to compound validation in under 18 months for just \$2.6 million.”

Petrina Kamya, Global Business Development Director
for Chemistry42, Insilico



USE CASE 8

Sustainability: Improving long-term environmental, economic, and societal impact

Today's startup founders face increasing pressure from employees, customers, and investors to act decisively on environmental issues. This imperative is also becoming an enormous business opportunity within the startup ecosystem. Startups in the climate and energy space, for example, drew in a significant share of venture capital (VC) funding in the third quarter of 2022. Further, climate tech companies claimed five of the 10 biggest deals secured in the third quarter of 2022, including the top two spots.¹⁴

It can be difficult to assess the true picture of your impact on the environment with legacy tools. Data-driven innovation is key to achieving sustainability goals. Sustainability challenges from decarbonization to water conservation can be addressed through technologies that minimize carbon footprint, optimize operations, and measure and mitigate impact to the environment.

Improve sustainability with AWS

AWS enables you to build sustainability solutions ranging from carbon tracking to energy conservation to waste reduction by helping you to ingest, analyze, and manage sustainability data. You can measure your sustainability and responsible operations efforts, such as **carbon tracking**, energy conservation, and waste reductions, and achieve sustainability goals with the broadest and deepest set of capabilities in AI and ML, and data analytics.

With AWS startups can make environmental, social, and governance (ESG) data available to their customers. This includes weather, air quality, satellite imagery data, and much more. Data represents a major step along the path toward ESG compliance. By leveraging data, your startup can understand, quantify, and improve the long-term environmental, economic, and societal impact of your activities. The process starts with gaining a better grasp of your own data use.

The **Amazon Sustainability Data Initiative** (ASDI) seeks to accelerate sustainability research and innovation by minimizing the cost and time required to acquire and analyze large sustainability datasets. And AWS Data Exchange makes it easy to find, subscribe to, and use third-party sustainability-related data in the cloud.

AWS also makes it easier to measure and report your carbon footprint. **The customer carbon footprint tool** provides an overview of the carbon emissions associated with your usage of AWS products and services. You can leverage easy-to-understand data visualizations to report on emissions from your AWS usage following greenhouse gas (GHG) Protocol standards. You can also analyze changes in your emissions over time as you migrate workloads to AWS, rearchitect applications, or deprecate unused resources. And you can plan and forecast how your emissions will change as Amazon progresses toward powering operations with 100 percent renewable energy.

Finally, AWS can help you build a sustainable, cloud-based data architecture. Reference **Sustainability Pillar - AWS Well-Architected Framework** to discover design principles, operational guidance, best practices, potential trade-offs, and improvement plans you can use to meet sustainability targets for your AWS workloads.

Ultimately, sustainability is closely linked to efficiency, which in turn is linked to business performance. A major impact of any business' ESG performance is waste. Using data to cut waste can go a long way to reducing costs, boosting productivity, and minimizing waste at the same time.





 GeoPard Agriculture



About GeoPard

GeoPard is an agriculture intelligence platform that enables crop farming agribusinesses to increase their return on investment (ROI). Collaborating with Corteva, it integrates data-driven sustainable agriculture practices using cutting-edge spatial data analytics and AI algorithms.

The challenge

GeoPard's physical products (seed and crop protection) are augmented with smart recommendations on a new app called Granular™ Link App. Launched by Corteva, they required an engine to generate consistent variable rate application (VRA) maps at the scale of millions of hectares in minutes. Timelines were critical to avoid skipping a single crop season.

The AWS solution

Corteva partnered with GeoPard to access and utilize high-quality, powerful, scalable data analytics that were built with AWS infrastructure and services. Using AWS Data Lake approach, there are no limitations linked to data size or read/write capacity. [Amazon API Gateway](#), [AWS AppSync](#), and [Amazon Cognito](#) are leveraged to create secure interfaces for interaction with GeoPard as well as enabling seamless communication with internal and external applications and platforms.

The results

Working together and powered by AWS, GeoPard and Corteva are improving crop production, integrating precision agriculture and enabling remote crop monitoring and the transition to data-driven, sustainable agriculture.

[Read the full story ›](#)

Unleash startup growth and innovation with AWS

In this eBook, we explored how the most innovative startups from a variety of industries leverage data to transform their business outcomes—make informed decisions, develop new products, and enable fraud and risk reduction.

As showcased in this eBook, with the right data strategy, the right skills, and fostering a data-driven culture, your startup can improve innovation, enhance customer experience, allow for operational performance, and to stay ahead of the competition now, and in the future. Ultimately, it's all about having the necessary experience and the right cloud partner with the right tools and services to make it work. AWS has helped many startups to transform, accelerating innovation and optimizing business outcomes. It all starts with an end-to-end data strategy. Build yours on AWS and take your startup into the future.

**Learn more about how you can become
the next startup success story ›**