Unlock the Value of AI/ML Quickly and at Scale with AWS and Teradata

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Predictive insights are the lifeblood of today's business. Imagine that your product team is coming up with new features, your operations team is investigating supply chain issues, and your marketing team is developing 360-degree profiles of customers. For a modern business operating in today's dynamic environment, all three are powered by predictive analytics.

Contents

Working behind the scenes, artificial intelligence (AI) and machine learning (ML) enable high-value predictions that lay the groundwork for better decision-making. AI/ML hold the power to sharpen your company's competitive edge, drive operational efficiencies, and maximize growth.

With AI/ML, your team of data scientists can streamline the way they make sense of ever-growing datasets. It allows them to automate tedious tasks like filtering and parsing huge volumes of data so they can draw out meaningful information.

Learn more about the common pitfalls around AI/ML workflows, how Teradata and Amazon Web Services (AWS) can break down barriers to predictive analytics, and how data scientists can benefit from an integrated AI/ML toolset.

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Top 5 ways AI/ML deliver business impact

1

Innovation
Foster new thinking and business disruptions.

2

Exploration
Explore unknown, transformative patterns in data.

3

Prototyping
Challenge the status quo with radical new solutions.

4

Refinement
Continuously improve existing in-production solutions.

5

Firefighting
Identify the drivers of disruptive business situations.

AI/ML has huge potential, but hurdles stand in the way

Although AI/ML hold immense potential, the truth is, many organizations struggle to put models into production and unlock the full value of their data. Not only is it challenging to access the data you need, but more importantly, it's difficult to make that data useful when you need it.

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Top 3 reasons why AI/ML projects fail

1

Time-consuming tasks slow down developers, data engineers, and data scientists. In a tight talent market, tasks that inhibit productivity can take a major toll on a company's bottom line. Many AI/ML projects entail tedious processes, from data ingestion and integration to data cleaning and feature engineering. These steps drain productivity, and if they're done manually or on an ad hoc basis, it can be challenging to reproduce results after an employee departs. Without a central place for experimentation, companies face hours of lost work if someone leaves the job.

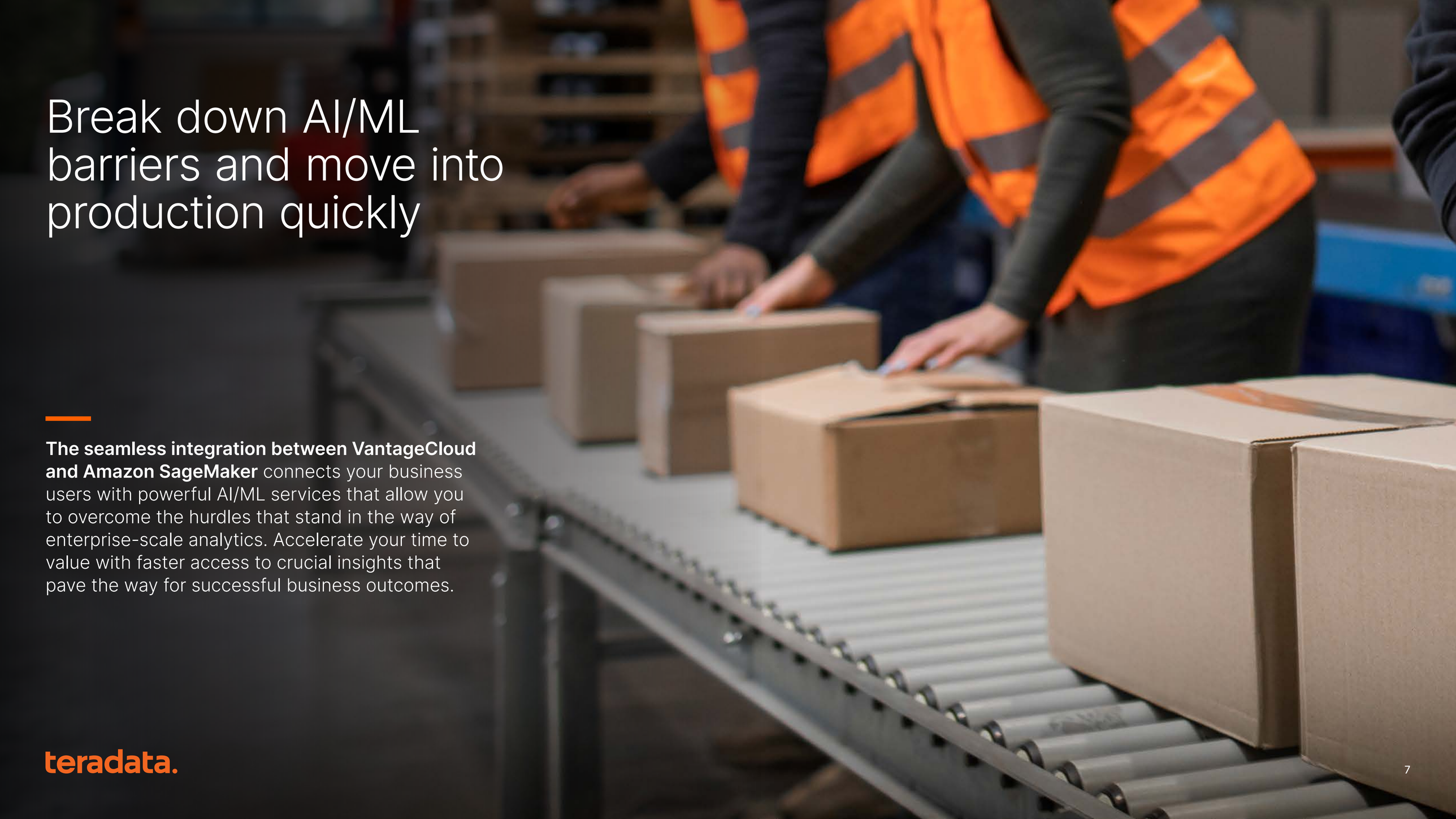
2

Effective analytics require massive scale that can be expensive. Analytics projects at enterprise scale call for large numbers of AI/ML models, tools, and queries, which can be difficult to maintain and expand. In addition, data scientists need the right systems and skillsets to seamlessly scale from a few models to a few million models. In many cases, scale becomes a question of cost and business, IT and data science teams need to align priorities to ensure effective resource allocation.

3

The feedback loop between data science and business operations is broken. Enterprises continue to struggle with the hand-off between data scientists and business analysts. Oftentimes, data scientists will build a successful AI/ML model, but they don't deploy it into production and therefore the output isn't integrated into the organization's day-to-day business operations. For AI/ML to be useful, the models have to be applied to a business problem in a way that other departments can understand and act upon it.

Break down AI/ML barriers and move into production quickly



The seamless integration between VantageCloud and Amazon SageMaker connects your business users with powerful AI/ML services that allow you to overcome the hurdles that stand in the way of enterprise-scale analytics. Accelerate your time to value with faster access to crucial insights that pave the way for successful business outcomes.

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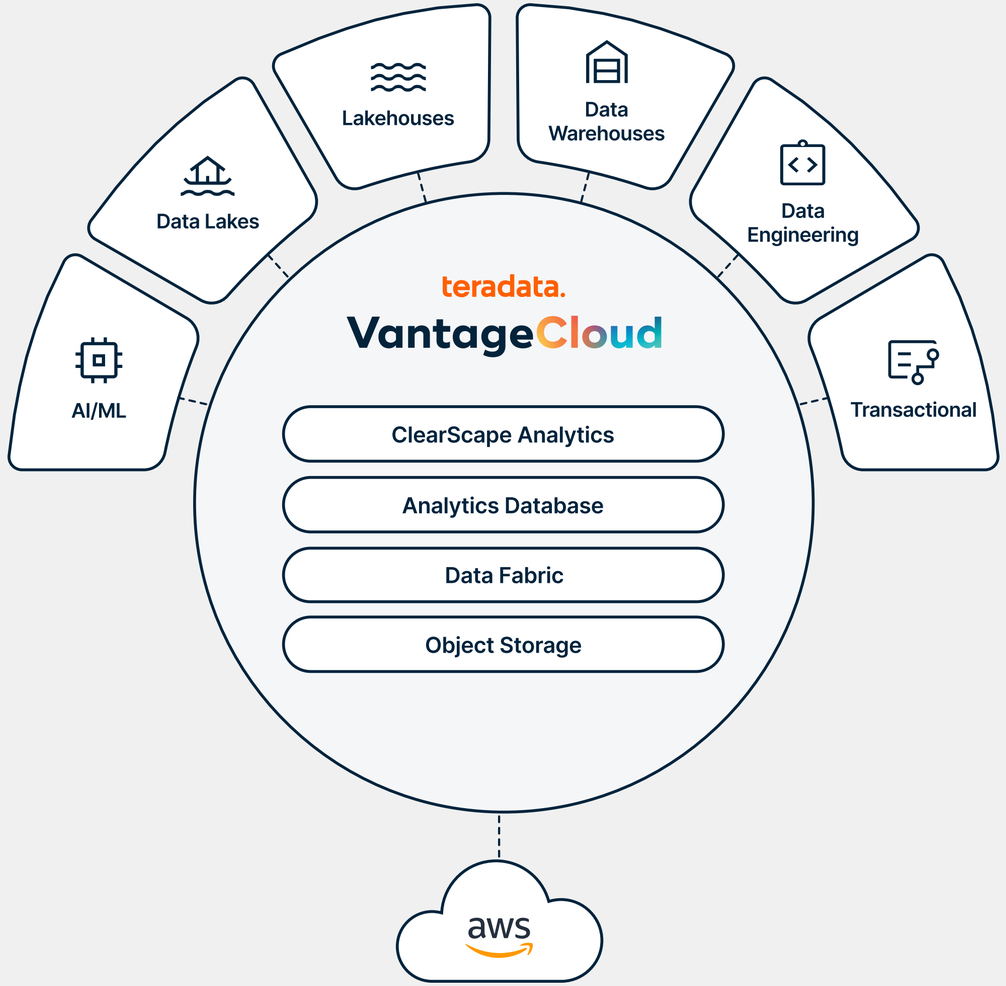
Teradata VantageCloud is the complete cloud analytics and data platform that allows you to democratize data access, operationalize analytics, and reduce waste through improved cost visibility and management. The cloud-native architecture scales elastically and cost-effectively to meet organizational needs and executes complex analytics with languages and data science tools such as Amazon SageMaker Studio. VantageCloud is available in two deployment options: Lake and Enterprise.

Teradata ClearScape Analytics™ is the powerful and connected portfolio of analytic capabilities embedded in VantageCloud Lake and Enterprise that accelerates data preparation and can be used to deploy and monitor models at scale.

Amazon SageMaker is a fully managed service that enables developers to create, train, and deploy ML models in the cloud, on embedded systems, and on edge devices. Amazon SageMaker is one of the fastest growing services in AWS history. It's used by hundreds of thousands of data scientists and tens of thousands of customers globally. Amazon SageMaker delivers both the preferred language and tools to develop ML models, as well as cloud infrastructure to scale model training.



Build on a lakehouse framework for scalable analytics

As a cloud-native solution, Teradata VantageCloud Lake™ provides lakehouse deployment patterns with the ability to run independent elastic workloads by leveraging an object store-centric design. This means each department can run its own lakehouse and analytics projects at will, while sharing data in cost-effective object storage. Not only does this bring autonomy to business analysts, but it simultaneously allows your data scientists to maximize experimentation.

VantageCloud Lake also delivers agility. It's designed to leverage elastic, fully isolated multi-compute clusters, as well as highly optimized low-cost object storage, enabling your team to easily respond and adapt to changing business needs. Launch new projects utilizing core data, align compute resources while maintaining governance and cost control, and try exploratory projects without the dependencies of shadow IT systems.

VantageCloud Lake provides both workload management and workload isolation, at scale. With policy-driven scaling, you can place guardrails on specific workloads and view comprehensive reporting and fiscal impacts. These differentiated capabilities make it easier to balance the needs of business autonomy with fiscal governance.

Empower individual departments to run discrete lakehouse and analytics projects while sharing data in cost-effective object storage

Benefits of VantageCloud Lake

Promote business user autonomy
Enable your teams to quickly launch new projects on their own. An easy-to-use console offers data scientists the analytics tools of their choice.

Accelerate business outcomes
Make it easy to build and deploy powerful analytics leveraging both governed enterprise data and the full array of data stored within the broader lake.

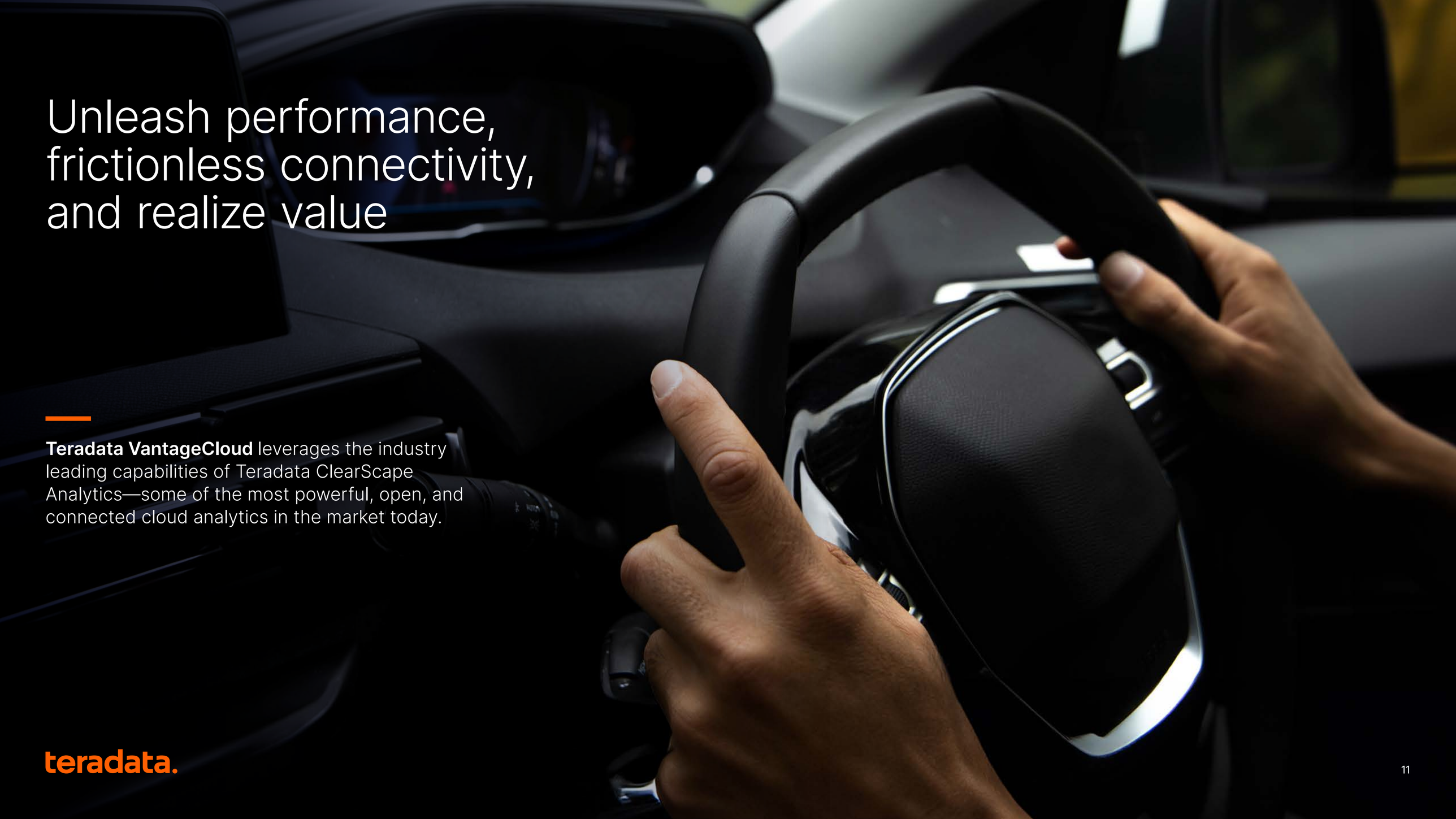
Guarantee critical SLAs
Ensure Service-Level Agreements for business-critical workloads with automatically elastic independent compute clusters and tiered storage options.

Drive down costs
Enjoy the best of both worlds. Built on centralized shared object storage, customers benefit from both decreased costs and superior price performance.

Maintain financial visibility
Deploy governance policies to minimize sprawl and costs of shadow IT. Policy-driven scaling and unit pricing enable smarter scaling and granular chargebacks.

Unleash performance, frictionless connectivity, and realize value

Teradata VantageCloud leverages the industry leading capabilities of Teradata ClearScape Analytics—some of the most powerful, open, and connected cloud analytics in the market today.



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ClearScape Analytics offers

Powerful in-database advanced analytics

Deliver complex AI/ML use cases with scale, speed, and zero data movement with Teradata's high performance in-database analytics library.

Open and connected tools of choice

Leverage languages and tools of choice with embedded Python/R, API integrations, and the ability to bring your own model. Tap into the ecosystem of machine learning tools you already love, including Amazon SageMaker and Amazon Forecast for timeseries forecasting.

Deploy at scale to drive transformative results

Operationalize AI/ML models by integrating them within the business process, along with end-to-end monitoring and governance of the models.

Confidence in compliance

ClearScape Analytics delivers the traceability and governance necessary for compliance with industry standards such as General Data Protection Regulation (GDPR).

ClearScape Analytics™

Highly optimized in-database analytic functions

- Descriptive Statistics
- Data Cleansing/Transformation
- Feature Engineering
- Hypothesis Testing
- Multivariate Statistics
- Machine Learning
- Time-Series Forecasting
- Digital Signal Processing
- Pathing Analytics
- Geospatial/Temporal

Leverage languages and tools of choice

Languages
Use preferred languages R, SQL, Python, SAS

Partner integrations
Best ML/AI tools with tight integration and execution with Vantage

Bring your own analytics
Open analytics framework containers and model sharing

Operationalize at scale to drive transformative results

Deploy models at scale
Real-time or batch scoring

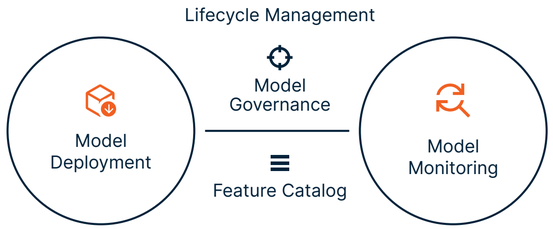
Score models trained in-database, imported with BYOA/BYOM or external models via API. Enable open ecosystem access to features or data

Access
REST, SQL, SAS, PYTHON, R, Java

Orchestration
QueryGrid, NOS

Replication
TPT, DSA, SFTP, Native API'S

Integrated ModelOps
Model governance, lifecycle management, and monitoring extensions



*Not all logos are represented

The seamless integration between Amazon SageMaker and Teradata VantageCloud enhances the day-to-day experience of data scientists by delivering greater efficiency and flexibility with the technology, languages and frameworks they love.

An Easy Approach to AI/ML

1

Accelerate data preparation
Quickly connect disparate datasets with VantageCloud, spanning a diverse environment of third-party systems, data lakes, and object stores. Using the powerful capabilities of Teradata ClearScape Analytics, you can transform data into rich, reusable analytic datasets using SQL or Python/R that can automatically land in Amazon Simple Storage Service (Amazon S3) at scale.

2

Train models without cost overruns
Build and train high quality ML models fast with Amazon SageMaker, which leverages the analytic datasets from Amazon S3. With a broad set of ML components and capabilities, Amazon SageMaker is designed to reduce effort, lower costs, and get ML models into production as quickly as possible.

3

Deploy models at enterprise scale
Operationalize models in VantageCloud once they are trained. The VantageCloud API integration with Amazon SageMaker offers VantageCloud users direct, transparent, real-time access to the Amazon SageMaker models. By deploying these models to conduct live data scoring, VantageCloud delivers the crucial insights needed to drive business outcomes.

Unlock the Value of AI/ML Quickly and at Scale with AWS

We recognize that one size does not fit all. We partner with the world's leading providers to deliver the technology, resources, and knowledge that you need.

The combination of Teradata VantageCloud, Teradata ClearScape Analytics, and Amazon SageMaker delivers a new level of intelligence. You can optimize performance and costs by scaling compute or storage as needed, plus integrations with Amazon S3, Amazon EMR, AWS Glue, and Amazon QuickSight allow your teams to be more nimble, experimental, and innovative with the tools of their choice.

About Teradata

At Teradata, we believe that people thrive when empowered with trusted information. That's why we built the most complete cloud analytics and data platform for AI. By delivering harmonized data, Trusted AI, and faster innovation, we uplift and empower our customers—and our customers' customers—to make better, more confident decisions. The world's top companies across every major industry trust Teradata to improve business performance, enrich customer experiences, and fully integrate data across the enterprise.

Learn more at Teradata.com.

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