

Hortonworks Professional Services

Be First. Done Right. Higher Value with Hortonworks.



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Industry Trends

Be First. Done Right. AIM for Success.

Big data analytics is a critical component of most organizations' digital transformation initiatives. However, many fall short due to the challenges associated with implementing an open source solution. From lengthy implementations, to a lack of hands-on experience and talent, building and deploying an analytics solution can require more resources than most organizations are prepared for.

To help customers quickly realize the value in open source big data, Hortonworks employs the highest number of open source contributors, community members, and a global network of specialized experts to form the Professional Services group. The organization provides the expertise needed for a successful big data analytics adoption and progression to support the strategic use cases needed to maintain competitive advantage. Hortonworks Professional Services doesn't just work tactically to solve specific big data problems – they also help plan for and implement a long-term strategy to continue growth.

Having successfully completed thousands of engagements, Hortonworks Professional Services is built around three guiding principles to ensure big data success:

Be first

Speed is a critical success factor. With a smooth project engagement, the Professional Services team helps you seize quick and incremental wins, validate value propositions upfront, accelerate the time-to-value, and realize business objectives faster.

Done right

Companies need to insist on a “do right” mentality. The team can introduce you to the newest technology, implement the best practices, and train your employees to gain the right operating skillset.

AIM for success

By leveraging the advisory, implementation, and managed services (AIM) provided by the team, their domain knowledge and experience help you mitigate the challenges and risks associated with a DIY approach and maximize the return on investment.

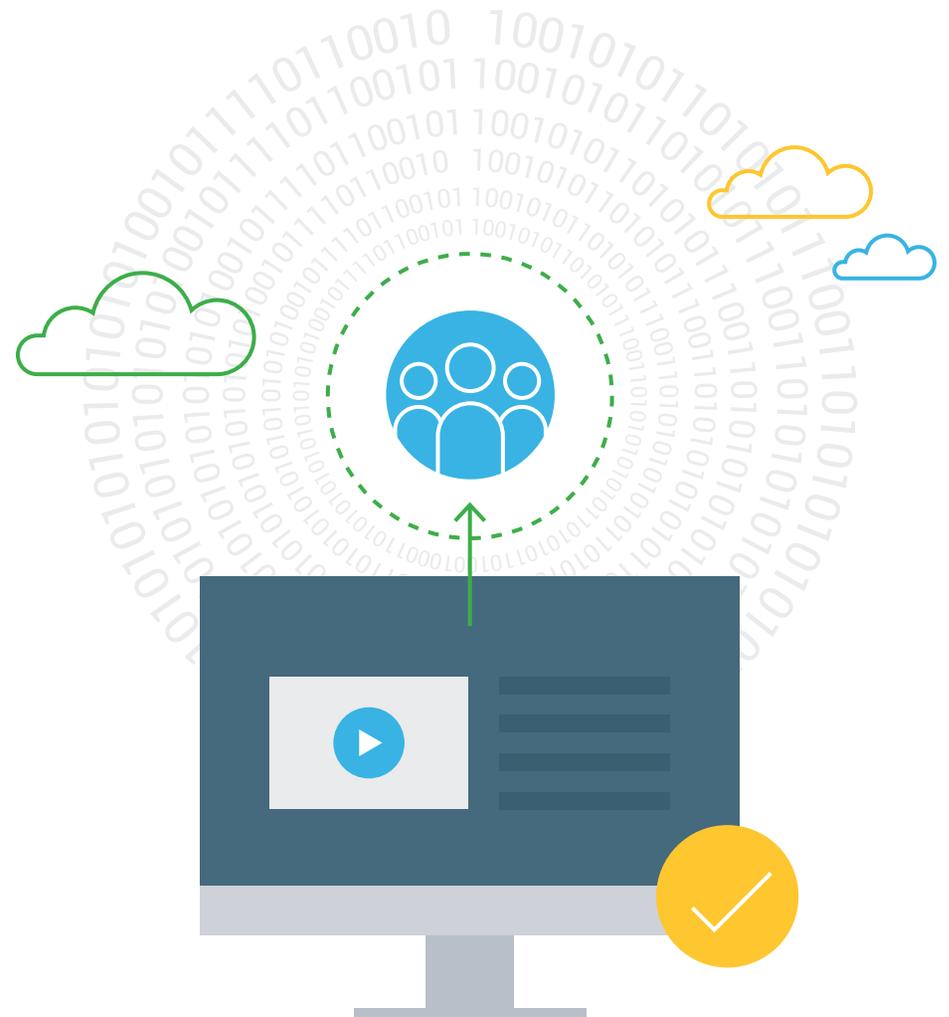
This eBook will guide you through the current Hortonworks Professional Services offerings and clearly define how your team can leverage the expertise of Hortonworks Professional Services to drive your digital transformation and rapidly gain actionable insights from your data.

Training and Certification

With nearly 50 percent of companies reporting insufficient staffing for big data initiatives, it is clear that hands-on knowledge of Hadoop is very limited. By training existing employees with role-based, purpose designed courses, our team can help organizations close the Hadoop talent gap. Closing this gap also helps to eliminate the lengthy hiring process for someone with no knowledge of the company's processes and data environments.

Hortonworks University

A program that offers learning paths and certifications for every role, from entry level to developers and administrators, helping organizations better invest in its current employees. With flexible learning environments, users can choose between live, self-paced, and/or blended classes to meet their specific learning needs. The courses are designed to help employees dive into Hadoop, and teach them how to accomplish a variety of big data related tasks, expanding the depth and breadth of their job functionalities.



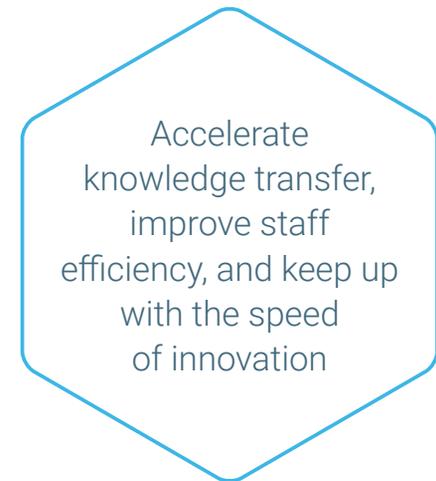


Customer Success Story: Discovery Workshop – Apache Spark Performance Tuning with HDFS

A financial institution in Canada took the opportunity to attend training through Hortonworks Professional Services to learn Apache Spark. At the end of the sessions, the team at the financial institution was able to share the code they were working on with the Hortonworks team and ask for additional guidance to make it run more efficiently.

The Hortonworks consultant worked directly with the team to identify each problem and develop a resolution. The team went from having 20+ tables in the Hadoop Distributed File System (HDFS) that were difficult to merge and create one data set from, to being able to run a script that merges the tables in 10 minutes. The Hortonworks Professional Services team also helped improve efficiency by simplifying a script that had previously been creating repetitive tables.

With the knowledge learned from a hands-on training session, the team at the financial institution is better equipped to address these problems on their own.



System Optimization

Many organizations improperly architect their Hadoop systems, which often leads to performance and latency issues. Hortonworks offers a variety of solutions to make data analysis easier and faster, including Hortonworks Data Platform (HDP) for establishing a data lake to gain insights from both structured and unstructured data, and Hortonworks DataFlow (HDF), a real-time streaming analytics platform.

For organizations already using Hortonworks, and those new to the offerings, the Professional Services team offers a variety of resources to help you optimize architectures and take full advantage of Hadoop:



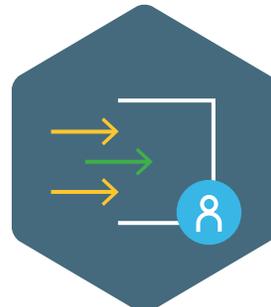
Health Check

A deep analysis of the HDP architecture, implementation, and configuration to identify technology gaps and provide a detailed report of findings and recommendations.



Hadoop Acceleration

A set of services from HDP design and implementation to security configuration and data scientist activities, designed to help organizations address their HDP resource needs, on a time and materials basis.



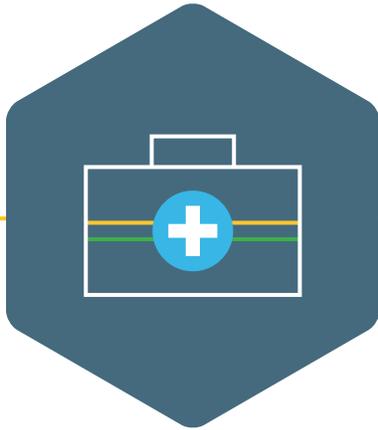
Migration to HDP

Support for customers moving from other platform vendors to HDP. This ensures the customers' Hadoop investments are fully supported by enabling a smooth transition to a production-ready big data environment.



Turn-Key Disaster Recovery

Recommendations for what the customers' disaster recovery plan should look like, and how it can be implemented within their HDP architecture.



Customer Success Story: Performance Tuning Results

After finishing the migration of a cost-of-care calculator from Relational Database Management System (RDBMS) to HDP, the healthcare division of a global consulting company was not seeing the results they expected. With the production deployment just a few months out, they sought the help of Hortonworks Professional Services. The team conducted an on-site review of the application, platform and hardware, and found opportunities for significant improvement.

The opportunities identified by the Professional Services team led to the following results:

20-30%

YARN parameter tuning for a performance improvement of 20-30%.

100%

Data de-normalization resulting in 100% performance improvement.

30%

Hive bucketing to achieve an additional 30% performance improvement.

90%

Hive query optimization to increase performance up to 90%.

Platform Architecture and Implementation

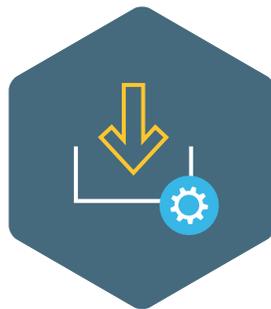
When evaluating the breadth of big data solutions, organizations are often concerned about licensing agreements and avoiding vendor lock-in. With 100% open source as the core element of Hortonworks, customers gain the flexibility and freedom to choose the storage and compute fabric that is right for their different workloads and applications. To further extend the value in community-based open innovation, Hortonworks Professional Services is focused on establishing a long-term Hadoop strategy, and changing the way you structure your big data strategy, including building a hybrid architecture to gain better visibility and control over your data across both on-premises and in the cloud.

Hortonworks Professional Services Platform Architecture and Implementation services include:



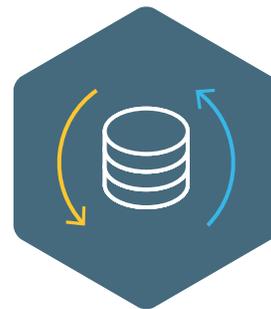
Pilot Design (POC)

A repeatable prototype designed to demonstrate the business value of the Hortonworks platforms by showing a closed-loop solution, from data ingestion to analytics.



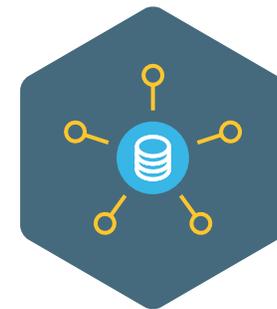
Platform Installation

A full infrastructure installation of HDP, HDF, and Hortonworks Cybersecurity Platform (HCP), as well as a knowledge transfer to operate and maintain the platforms.



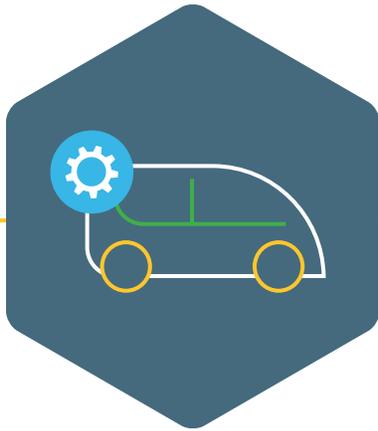
ETL Onboarding

Added ETL/ELT implementations to the platform installation and data ingestion offering by loading the ETL/ELT outputs to a pre-defined destination.



Hybrid Big Data Architecture

Support for building a hybrid data architecture across on-premises and multiple clouds for optimal agility, cost-efficiency, and unified security.



Customer Success Story: Highly Personalized Real-Time Sensors

A leading vehicle and industrial engine manufacturer was driven to become a data-first organization, grow their business, and provide a better customer experience. To accomplish this, the company installed sensors in the vehicles to gather and analyze the diagnostic data of the vehicle's current status. The information analysis platform behind this initiative is supported by HDP on Microsoft Azure, while Professional Services provides a smooth implementation and stable operations.

In the end, the customer was able to roll out an advanced service that tele-diagnoses the vehicles' conditions and provides vital information to quickly address mechanical errors and operate more efficiently. This hybrid architecture not only serves as the backbone of the service, but also integrates data silos, significantly reducing company-wide information management costs.

Read the complete case study here: [Mitsubishi Fuso](#)

"Hortonworks is the largest contributor in the Hadoop community. For example, with Hortonworks' expertise, we can see immediate results in our monthly improvements. Finally, HDP is most compatible with cloud."

- Manager, IT Process Design and Innovation

Strategic Use Cases: IoT

A driving force behind digital transformation is the use of IoT devices. However, identifying, securing, managing, and creating value from IoT data propose a unique set of challenges. With the proliferation of IoT devices and their constant data streams, organizations need the ability to efficiently collect, process, and analyze large volumes of data-in-motion that legacy analytics solutions are unable to handle. Hortonworks Professional Services works to help implement an architecture that moves away from a historical data lake to a real-time data lake that accommodates large volumes of data streams. Some of the Hortonworks Professional Services supported IoT use cases include:



Real-Time Analytics of Connected Devices from Smart Homes

Set-up real-time data ingestion from smart devices residing in homes, hotels, and other facilities for energy-saving analytics.

Connected Cars – Vehicle Telematics

Analyze vehicle performance in real time, from raw telematics.

Connected Cars – Usage Based Insurance

Review driver behavior and identify at-risk drivers.

Remote Asset Monitoring & Predictive Maintenance

Collects and analyzes real-time data from industrial control systems to predict system failures before they happen, reducing the cost of maintenance while increasing equipment uptime for continuous, uninterrupted business operations.

Smart Resource Management for Environment Sustainability

Support the collection and analysis of measurement data from water sensors, helping manage and conserve natural resources at processing plants.

iOS and Android Integration

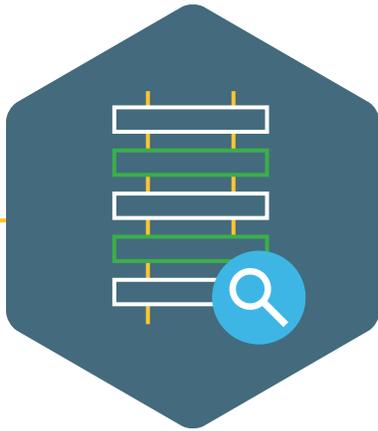
Use real-time data from smart phones to analyze user data.

Truck 360 View

Gain a unified 360-degree view of a truck at any given time by collecting real-time data from sensors.

Smart Meter Analytics

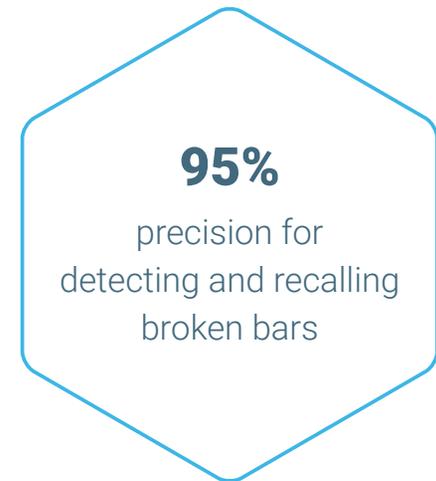
Leverage data collected from smart meters for usage monitoring and predictive maintenance.



Customer Success Story: Defect Detection

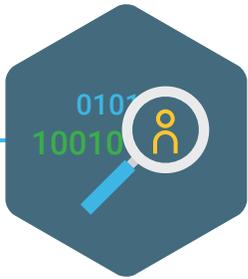
A national railroad company was looking for a more efficient way to detect defects in rail joint bars. This is especially important as these defects resulted in higher costs to the company, slower train speeds, and increased risk of accidents. With the help of Hortonworks Professional Services, they were able to develop two deep learning solutions that could detect defects in real-time.

After creating a successful POC, the company requested additional work to build out the full production version of a real-time analytics solution. With their new deep learning solution, they have achieved 95% precision for detecting and recalling broken bars. This will allow the company to run trains at higher speeds and reduce the hours needed to regulate tracks, while ensuring public safety.



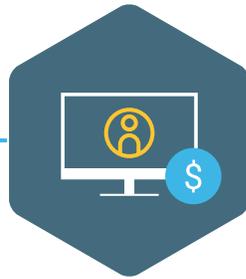
Strategic Use Cases

In addition to the many IoT-based use cases, Hortonworks solutions help support other strategic use cases including project planning, eliminating data silos, and understanding organizational patterns. Hortonworks Professional Services will work with internal teams to support use cases such as:



Single View of Customer

Eliminate data silos to get a single point of view of customer data.



Point of Sale Data Ingestion

Better understand buying patterns and drive other insights streamline operations and deliver better customer experiences.



Project Plan Alignment

Build more accurate schedules, understand and react to scope changes, and identify project faults and failures early on to apply proper remediation.



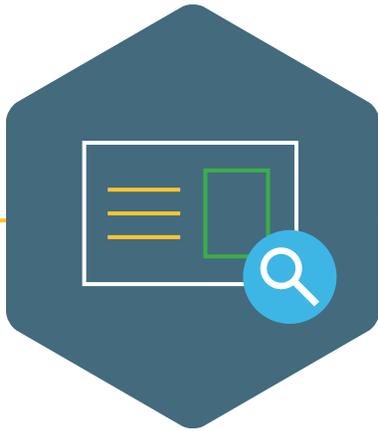
Cybersecurity Detection

Build data science modules to gain a single view of enterprise risks and efficiently detect cyber threats with precision.



Image Classification

Detect defects in manufactured products with a neural network that properly analyzes images.



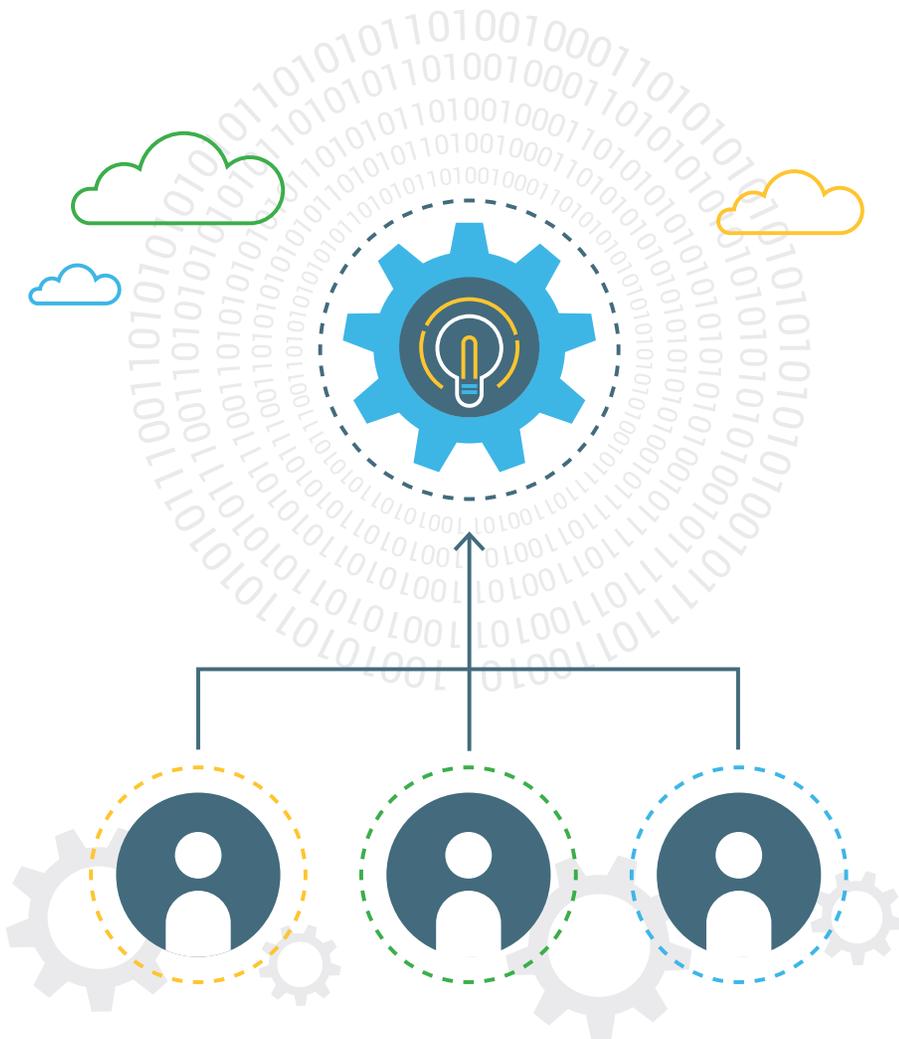
Customer Success Story: Using Diverse Datasets to Derive New Insights

A mobile advertising company was looking for ways to become the industry leader with faster, more targeted ads. This required an agile, scalable platform that could keep up with the volume, velocity, and variety at which mobile data was being collected. After choosing HDP to host their data lake on, the company collaborated with the Hortonworks Professional Services team to optimize their architecture and batch and streaming analytics. The deep expertise of the Professional Services team helped the company quickly launch its HDP cluster and gain a single view of user behaviors across multiple mobile devices.

Read the complete case study here: [Pinsight Media](#)

Ingest **60+** TB of data
daily from **30** unique
sources and **65**
million devices

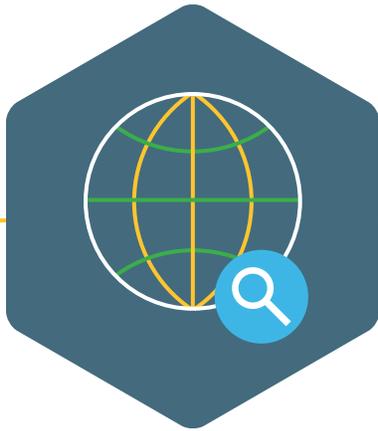
Data Engineering



With Hortonworks data engineering functions, organizations can normalize and convert their data into a usable format. The Hortonworks Professional Services team will help develop key use cases and the specific business objectives that drive them. From there, organizations can build out an architecture that supports those objectives and implement processes that support a data-first strategy.

Furthermore, equipping data engineering teams with the right skillset is a key component to unlocking more insights from data. The data engineers will be building and maintaining the environment in which data scientists operate, meaning they need to have an understanding of the data being collected and how it's being used.

Through Hortonworks Professional Services, organizations will receive recommendations on how to efficiently optimize the design of their HDP and HDF architectures. These architectures will be designed to support data scientists and their ability to perform specific data modeling, ingestion, processing, and consumption functionalities, allowing them to better explore and analyze batch, interactive, streaming, and IoT data.



Customer Success Story: Asset Detection

A geospatial intelligence company wanted to add additional features and services to enable the detection of specific objects in satellite imagery. The organization worked with Hortonworks Professional Services to develop a plane detection system capable of detecting large aircraft and validating that each proposed object is an actual aircraft. The updated detection system allows the organization to give users more features for analyzing and working with geospatial imagery. From there, users can create artificial intelligence (AI) systems that automatically process and track changes daily, streamlining the analysis process.

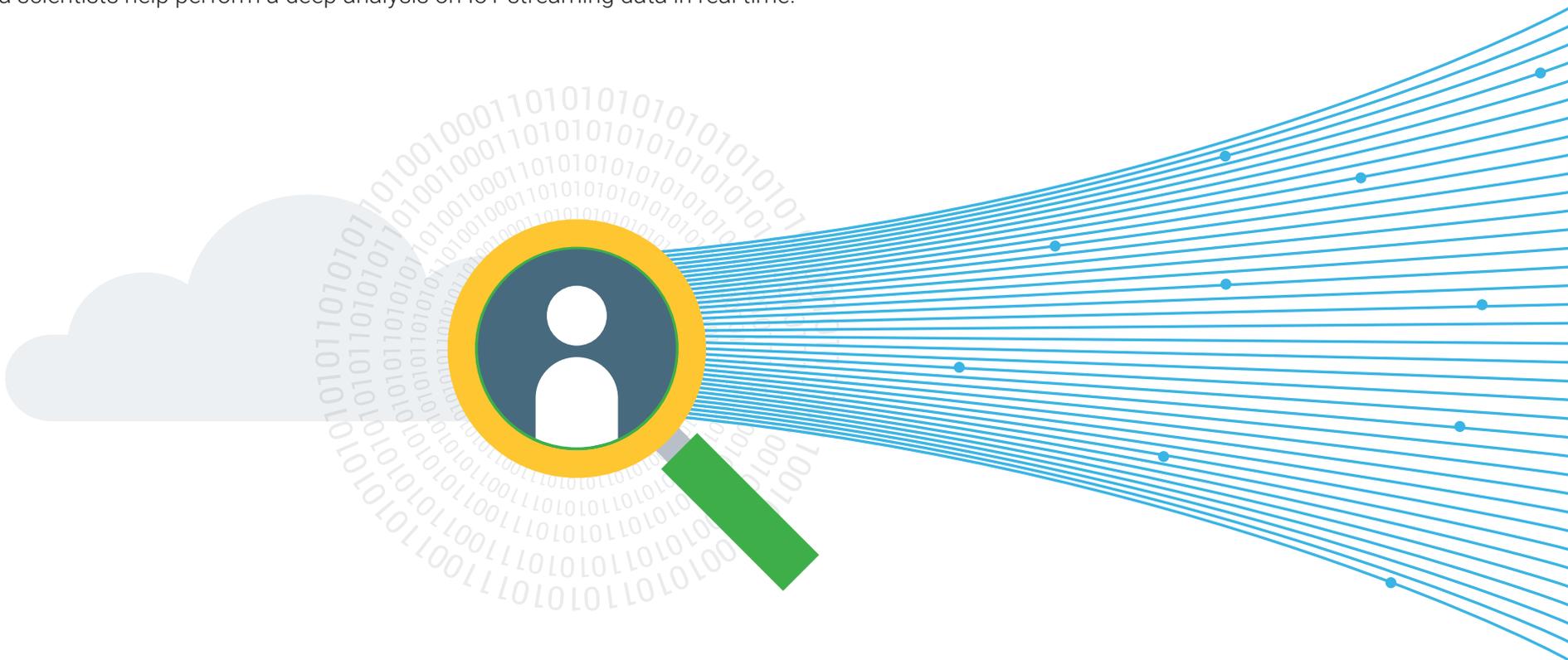
AI Systems

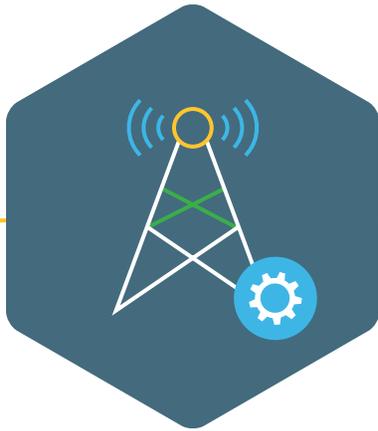
to better analyze
data and work with
geospatial imagery

Data Science

When collecting large volumes of streaming data, organizations often run into difficulties unlocking the full potential of time-sensitive data before it becomes irrelevant. Hortonworks data science offerings help develop actionable insights through statistical analytics, model development, data mining, as well as AI/machine learning methodologies. The Hortonworks Professional Services team will work with organizations to establish a data lake and create logical data streams moving in and out of it.

By providing expertise in numerous data science methodologies such as predictive modeling, clustering, anomaly detection, data exploration, and visualization, Hortonworks data scientists help perform a deep analysis on IoT streaming data in real time.

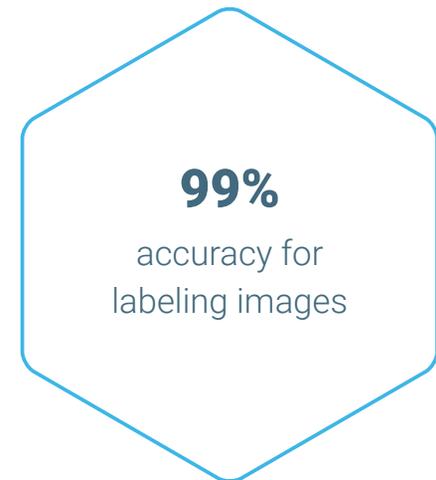




Customer Success Story: Equipment Classification

A telecommunications organization had inspectors taking pictures of their fiber optic equipment for cataloging and analysis purposes. However, they found the thousands of images they captured to be unusable, because they were unorganized. The organization was looking for a way to automate the categorization process, making it easier to find the images for analysis.

The Hortonworks Professional Services team worked with the organization to manually label 600 images and use a pre-trained network to transfer their learning. With this approach, the organization achieved 99% accuracy after having worked with an external data scientist for two weeks, allowing them to easily search for images in an efficient manner.



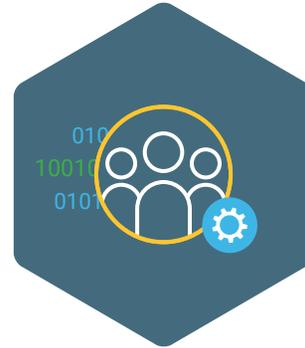
Resident and Remote Services

Hortonworks consultants emphasize the importance of fully understanding the customer and embedding themselves in the customer's processes. This allows them to provide specific recommendations to optimize the customer environment, while fostering an environment in which the customer can learn from watching and working alongside the resident architects. Additionally, Hortonworks offers the option to offload administrative tasks to better focus on the new HDP and HDF implementation.



Resident Architect

A Hortonworks consultant will work with the customer's team to provide leadership and expertise for the HDP and HDF implementation. The goal of the architect is to transfer knowledge and best practices to ultimately accelerate the customer's HDP and HDF development and set them up for long-term success.



Administration Offload

A Hortonworks expert will remotely administer clusters, allowing the customer to offload administration services and focus on developing their HDP and HDF architecture.



Customer Success Story: Securing Cloud-Based Clusters

A leading mortgage lender based in the U.S. was shifting their focus from refinancing to loan origination in order to capitalize on higher customer retention. To achieve this, they needed to become more data-driven, with a platform that could combine, enhance, and aggregate disparate data sources. The lender worked with Hortonworks Professional Services to develop a secure cloud-based HDP/HDF cluster that would allow them to bring data into the cluster and across stages of the data transformation. With the external team's support, the lender was able to create a system in which they could spin up and down task or purpose-based clusters, increasing processing efficiencies and ROI.

Increased Efficiency

with the ability to spin up and down task or purpose-based clusters as needed

Getting Started

Forrester White Paper: [Partner Strategically to Accelerate Your Insights-Driven Business](#)

Blog: [Be First. Done Right. AIM for Success with Hortonworks Professional Services](#)

Blog: [Accelerated Path to the Value of Data with Hortonworks University](#)

Data Sheet: [Hortonworks Professional Services](#)

Services URL: [Hortonworks Professional Services](#)

About Hortonworks

Hortonworks offers enterprise-ready open source data platforms and modern data applications with support to drive actionable intelligence. With extensive Hadoop expertise, training, and services, organizations have the support needed to transform their data processing and analysis methodologies. From open source Hadoop distributions solutions (HDP) to scalable, real-time streaming analytics solutions (HDF), Hortonworks has the tools necessary for organizations to govern, secure, and manage their data, any time, from anywhere.

With engagements across all industry verticals, Hortonworks has proven expertise and experience with managing the entire data lifecycle. Learn how you can get started with the Hortonworks Professional Services team to drive digital transformation by unlocking new insights.



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