



ORACLE

PP Partnership Showcase

## Red Bull Racing Honda accelerates on and off the track with OCI



“Races are decided by the narrowest of margins, but when it came to deciding who we wanted to work with, no other cloud company came even close”

Christian Horner, Team Principal and CEO of Red Bull Racing Honda

# Red Bull Racing Honda accelerates on and off the track with OCI

**Founded in 2004, Red Bull Racing Honda is a Formula 1 team based in the United Kingdom with over 300 races, 194 podium finishes, and 4 Constructor's Championships.**

With speeds exceeding 225 mph and races often decided by milliseconds, Formula 1 teams have zero margin for error. Like other professional sports organizations, Red Bull Racing Honda began to look toward technology and data in order to leverage the edge it needed to continue as one of the top teams in Formula 1.

Oracle and Red Bull Racing Honda have come together in an exciting partnership that will enable the team to optimize the way data is used across its business at Red Bull's Technology Campus and during its on-track activities, whilst also boosting the team's ability to get closer to their fans through improved customer experience.



Red Bull Racing Honda crew members working on a vehicle in the race paddock

# Customer Profile and Goals

## Red Bull Racing Honda had the following goals for the 2021 racing season:

- Leverage cloud technology to drive efficiency and enable a wider range of data science projects and experiments.
- Expand the uses of machine learning and artificial intelligence across the business.

When looking for a cloud provider, Red Bull Racing Honda partnered with Oracle for its innovation, ability to handle the massive amount of data produced during races, its capacity to offer broader capabilities for learning and technical experimentation, and for its skill in making the team as efficient as possible allowing the team to focus on winning and improving overall fan experience.

### OCI-powered capabilities

This relationship, between two cutting-edge technology companies, will include the use of data to improve car performance for Red Bull Racing—both on and off-track engineering operations— fueled by the extensive artificial intelligence and machine learning capabilities of OCI, specifically Oracle Data Science and Oracle Analytics.

In Formula 1, teams can derive exceptional competitive advantage by being able to distill and analyze large volumes of data in short periods of time; this can inform car design, race strategy, driver development and many other elements of the business. From enabling Red Bull Racing Honda to experiment in more efficient ways to helping them push the boundaries of machine learning and artificial intelligence capabilities, Oracle is proving to be a perfect teammate as Red Bull Racing Honda battles for the F1 championship.





# Red Bull Racing's solution using OCI

**To achieve its goals, Red Bull Racing Honda employs Oracle Kubernetes Engine (OKE), High Performance Computing (HPC), and Artificial Intelligence to simulate races and provide an edge despite varying weather, track conditions, and competitor decisions.**

## **RBRH Simulation Models, Driver Evaluation, Vehicle Design, and Fan Engagement**

Red Bull Racing Honda will leverage the machine learning and data analytics capabilities of Oracle Cloud Infrastructure (OCI) to optimize the way data is used across its business; from on-track activities to putting more information in the hands of the team's global fan base. On any given race weekend, the team can generate over 400GB of data from the car alone, not to mention its simulations and driver inputs. Red Bull Racing Honda is aiming to get more from its data this season and Oracle is the ideal partner for the job.

Furthermore, the ability to experiment in an efficient way is of massive importance to Red Bull Racing Honda. As part of this experimentation the team is leveraging Oracle Kubernetes engine and Oracle cloud processors on exciting proof of concept projects with the potential to pursue a competitive edge.

Lastly, the Oracle CX suite helps Red Bull Racing Honda develop a true fan ecosystem, which gathers and unifies fan data from across all touchpoints, including email, web, social, loyalty, and live events, leading to an improved fan experience.



# Why Customers Choose OCI Overview



“..... As one of the industry’s most recognized and trusted names in database management and cloud computing, Oracle brings huge capability, innovation, and expertise to many of the world’s largest and most successful businesses. To be able to tap into that exceptional power and knowledge is a major step forward for our team.....”

**Christian Horner**

Team Principal and CEO, Red Bull Racing Honda



“Oracle Cloud was the obvious choice for Premier League to be able to give fans worldwide a game-changing new experience.”

**Richard Masters**

Premier League Chief Executive



Oracle gives us access to their incredible technology with artificial intelligence and machine learning, which allows us to access new insights much faster.”

**Russel Coutts**

CEO, SailGP

## Easier to Migrate Critical Enterprise Workloads

Many applications are difficult to move to the cloud as the architecture of most hyperscale cloud providers was built on a virtual machine model with shared networks and shared server architectures. OCI was designed with resources like off-box virtualization, custom security chips, non-blocking networks, L2 network virtualization, RDMA cluster networking, and flex infrastructure to help organizations address their enterprise application needs.

## Everything You Need to Build Cloud Native Applications

Customers are able to move applications without re-architecture, optimize workloads leading to reduced manual work, and extend functionality with new interfaces and APIs. While OCI is designed to be better for enterprise applications, the same innovations in networking, compute, and storage make cloud native applications more performant, resilient, and scalable. OCI has the broad cloud services and partner ecosystem you need to build production cloud native apps.

## Built-in Security

In most public clouds, apps are built, and then as they become larger and more functional, security is added on the application. At OCI, security was designed into the core experience so it was built-into the application from the start and comes included free of charge.

## Autonomous Services Make It Easier to Manage Security, Performance, and Scalability

Autonomous services are designed to automate the patching and performance tuning of the operating system and the database. Autonomous services are designed to reduce risk and cost of human error by automating provisioning of new databases and compute instances, configuration of user access, encryption services, and more.

## Leading Price-Performance

OCI was developed with a consistent pricing model across all regions to simplify adoption. Compared to AWS, OCI private network connectivity charges cost 74% less, delivers >3x better price-performance for compute, and provides similar performance for HPC, but is 44% less expensive. All of these services are backed with the most comprehensive SLAs to guarantee availability, manageability, and performance of your cloud environment.

## Wide Range of Deployment Options

OCI is designed to support a wide range of deployment options for customers, including the ability to run an entire OCI region dedicated to a single customer from within their datacenter with Cloud@Customer to moving entire on-premises environments to the public cloud.

## Complete Support for Hybrid Cloud Strategies

Hybrid cloud and edge computing are transforming and expanding usage of the cloud. Requirements for data sovereignty, security, latency, and flexible deployment models have prevented adoption of public cloud for many mission-critical applications. Oracle Cloud’s hybrid and edge offerings address customer requirements for specialized deployment, disconnected and intermittently-connected operation, low latency and high performance, as well as data locality and security.



# Leveraging OCI to Enable Efficiency

Red Bull Racing Honda partnered with Oracle Cloud engineering to enhance the team's digital insight and create additional winning scenarios for its drivers. Across the business the team is examining the potential application of the following Oracle Cloud services:

## Oracle Container Engine for Kubernetes

An Oracle-managed container orchestration service that can reduce the time and cost to build modern cloud native applications

## High Performance Computing

A platform that includes bare metal compute instances, low latency cluster networks for RDMA, high-performance storage solutions and file systems, network traffic isolation, and the tools needed to automate and run jobs seamlessly in the cloud

## Artificial Intelligence

Build an intelligent enterprise using prebuilt AI, data-driven cloud applications, and a comprehensive portfolio of infrastructure and cloud platform services. Oracle's AI offering helps organizations automate operations, drive innovation, and make smarter decisions securely.

## Oracle Analytics Cloud

A service that empowers business analysts and consumers with modern, AI-powered, self-service analytics capabilities for data preparation, visualization, enterprise reporting, augmented analysis, and natural language processing.

## Oracle Data Science Platform

A fully managed and serverless platform for data science teams to build, train, and manage machine learning models using Oracle Cloud Infrastructure.

## Ampere A1 ARM Cores

ARM processors that can be found in mobile phones, IoT sensors, and other devices and have now evolved to support hyperscale data centers and cloud computing.

## Intel HPC Cores

Oracle Cloud HPC is powered by Intel Xeon processors designed to provide low latency cluster networking at a low price. For all benchmarks in applications used for CFD, Oracle's HPC Cluster Network can match the performance of on-premises environments.

## NVIDIA A100 GPUs

Running on OCI, NVIDIA A100 GPUs can run complex AI models and deep learning systems between two-and-a-half to six times faster than instances featuring previous generations of GPUs.

## Digital Transformation Made Easy with Oracle Cloud Lift Services

Red Bull Racing Honda utilized Oracle Cloud Lift Services to examine both simulation code and the pipeline for AI/ML models.

### *Dedicated Engineering Resources*



Oracle dedicates its top engineers to help customers with their adoption of Oracle Cloud, including guidance on business value and TCO analysis, architecture design, networking/security review, onboarding and migration assistance, training resources, and go-live support.

### *Support from planning through go-live*



A dedicated group of Oracle Cloud Infrastructure experts will assist customers from inception through go-live activities, including assessment, designing, and prototyping, migration, and management to accelerate your time to value.

### *Program access is included with tenancy*



The Oracle Cloud Lift program includes available services globally and is a part of the customer's tenancy on Oracle Cloud Infrastructure.



# Optimizing Data Usage Across the Business

Red Bull Racing Honda will leverage the machine learning and data analytics capabilities of Oracle Cloud Infrastructure (OCI) to optimize the way data is used across its business; from on-track activities to putting more information in the hands of the Team's global fan base. The OCI-powered capabilities will help the team sharpen its already formidable competitive edge. The Partnership will include work to optimize and elevate the use of data in improving car performance for the team. This comes in the form of a multi-year roadmap, touching on both on and off-track engineering operations, leveraging the extensive artificial intelligence and machine learning capabilities of Oracle Cloud Infrastructure.

The partnership will leverage Oracle's extensive customer experience portfolio including Oracle Unity Customer Data Platform, Oracle Cloud Twist Loyalty and Engagement, and Oracle Responsys Campaign Management to give fans easy access to statistics and insights, so they can feel closer to the action on the track. Together, the two businesses hope to provide the best possible fan experience, delivering greater insights and engagement opportunities during race weekends and opening up the world of -Red Bull to new fans globally.

Red Bull Racing Honda requires a cloud infrastructure platform with the highest levels of performance, scalability, and security. Oracle Cloud Infrastructure brings unique capabilities enabling Red Bull Racing Honda to expand its use of data science and analytics, so it can accommodate the growing and diversifying engineering work undertaken on the Red Bull Technology Campus.



“  
We're excited to bring a major partner such as Oracle into Formula 1, and with a focus on pushing the limits in everything that we do, finding the right partner for our journey to the Cloud was absolutely crucial.”

Oliver Hughes, Red Bull Racing Honda Chief Marketing Officer

# Results

Red Bull Racing's partnership with Oracle Cloud Infrastructure (OCI) has resulted in the team's increased capability to run simulations every weekend. Furthermore, Oracle enables Red Bull Racing Honda to easily provision more resources as the models and numbers of conditions that it simulates increases. Lastly, Oracle is also proving to be the perfect teammate by enabling Red Bull Advanced Technologies to push boundaries with the capability of Machine Learning and Artificial Intelligence with Oracle data consultancy being key to these developments.



## Next Steps



Running simulations on Oracle Cloud Infrastructure is just the first step in Red Bull Racing Honda's race toward the top of the F1 leaderboards.

Oracle is also proving to be the perfect teammate by enabling Red Bull Advanced Technologies to push boundaries with the capability of Machine Learning and Artificial Intelligence with Oracle data consultancy being key to these developments. These emerging technologies are being put to great use across diverse engineering projects away from Formula 1 proving that Oracle can bring performance to any industry.

By **Faye Hutsell**  
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## Additional Resources



### Learn more about the solution

- [Explore Oracle Cloud Infrastructure \(OCI\)](#)
- [Zero Trust Security with OCI](#)
- [OCI Customer Successes](#)
- [Oracle Cloud Lift Services](#)
- [Oracle Support Rewards](#)
- [Oracle Cloud Infrastructure Platform Overview](#)
- [Top 10 Reasons to Adopt Oracle Cloud](#)
- [Oracle Cloud Economics](#)



### OCI Video Series + Virtual Summits

- [Built and deployed on OCI video series](#)
- [Oracle Cloud Platform Virtual Summit](#)
- [Oracle Live Labs](#)
- [Hello virtual workshop](#)
- [Oracle Live Webpage](#)



### OCI Solutions and Services

- [Run HPC Workloads on OCI](#)
- [Migrate Custom Apps to OCI](#)
- [Migrate On-Premises Oracle Applications to OCI](#)
- [Migrate VMware workloads](#)
- [Oracle Bare Metal Servers](#)
- [Oracle Cloud Native Services](#)



### Training resources

- [Oracle University](#)
- [OCI Certification Paths](#)
- [Oracle Learning Explorer](#)



### Competitive Information

- [Oracle Cloud vs. AWS](#)
- [Oracle Cloud vs. Microsoft Azure](#)
- [Oracle Cloud vs. Google Cloud](#)



### Industry Reports

- [IDC Spotlight: OCI for Heterogeneous Workloads](#)
- [Oracle Dedicated Region Cloud@Customer: Experience the cloud anywhere](#)
- [Omdia Cloud Report: Matching the workload characteristics to the cloud's capabilities](#)
- [Omdia Report – Cloud Platform: Why all clouds are not the same](#)



### Technical Resources

- [OCI Architecture Center](#)
- [Oracle Developer Tools](#)
- [Technical Whitepapers](#)
- [Oracle Cloud Adoption Framework](#)
- [Oracle Partner Network](#)

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