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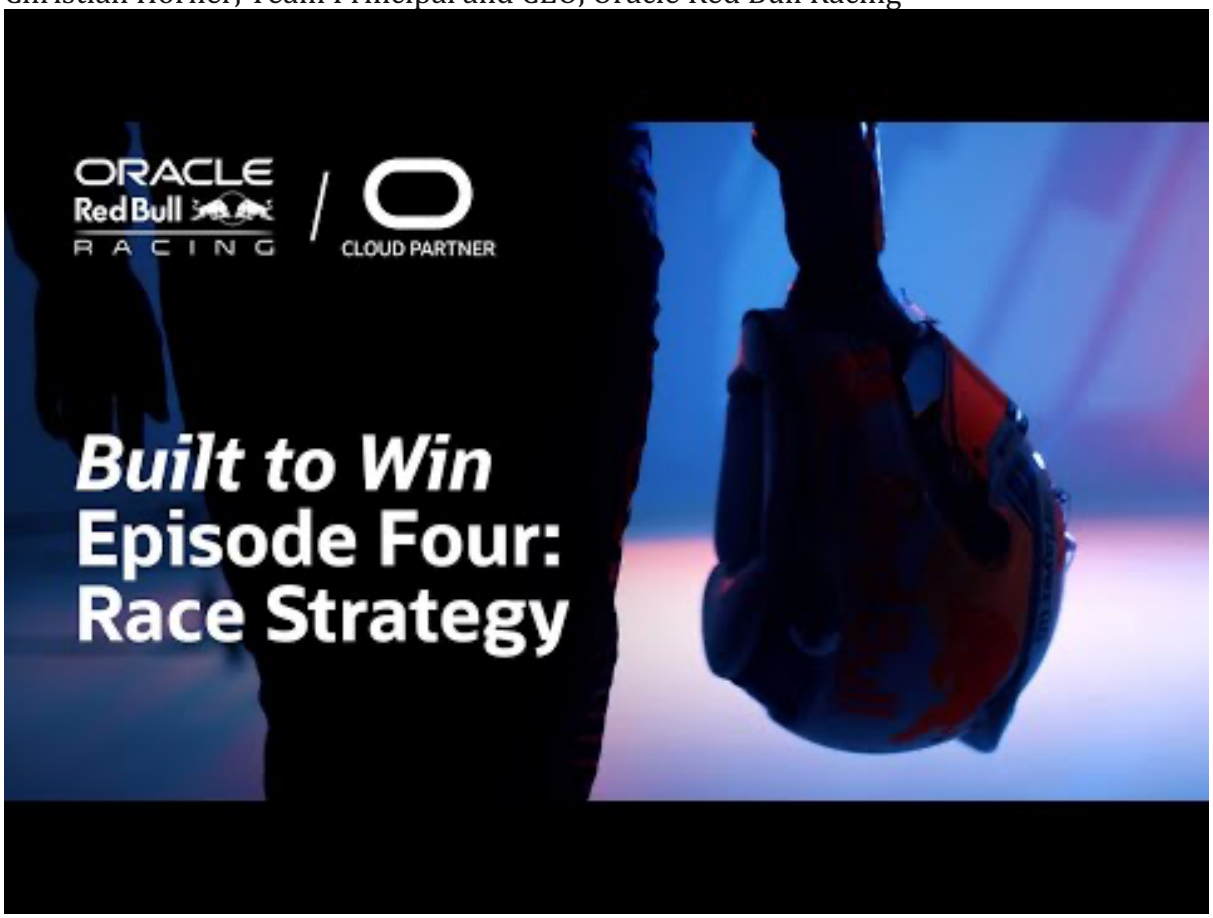
# Oracle Red Bull Racing achieves record-breaking F1 season with Oracle Cloud

On the way to a new Formula One record for most wins in a season, the team uses Oracle Cloud for race simulations, fan engagement, engine development, and more.

“Oracle Cloud played a critical role in helping our team deliver the most dominant performance in F1 history, and I can’t wait to see what we accomplish next.”
Christian Horner, Team Principal and CEO, Oracle Red Bull Racing




**World-class driving and tech-powered strategy**

The glamor. The theatrics. The drama. Formula One’s inaugural Las Vegas Grand Prix had all of that, but the lasting memory consists of one incredible day of racing.

Teams set out determined to shake the dominance that Oracle Red Bull Racing's Max Verstappen had shown throughout the 2023 season. Chaos ensued as Verstappen battled a five-second penalty, a damaged front wing, and difficult track conditions, leaving him halfway down the leaderboard at one point. Yet, the team calculated an aggressive race strategy to take advantage of the circuit's four straights and low-speed corners, and Verstappen overtook driver after driver to win his 18th race of the season. He would go on to set the record with a win in the season's final Grand Prix, a week later in Abu Dhabi.

The success in Las Vegas epitomized the combination of tech-powered strategy, teamwork, and stellar driving by Verstappen and fellow driver Sergio Pérez that defined the most dominant season ever for a Formula One team. It helped Oracle Red Bull Racing garner a second successive Constructors' World Championship, a third successive Driver's World Championship for Verstappen, victory in 21 of 22 races, a first one-two in the Driver's World Championship and a multitude of other records.

Oracle Red Bull Racing's accomplishments reflect the team's commitment to innovation and its embrace of data and technology. The team has a close technology partnership with Oracle, including running billions of Monte Carlo simulations

using Oracle Cloud Infrastructure (OCI) to explore the different scenarios and outcome probabilities before and during every Grand Prix.
In addition to simulations for on-track performance, Oracle technology supports The Paddock, Oracle Red Bull Racing's award-winning fan engagement platform; analytics for Oracle Red Bull Sim Racing, its Esports team; and the development of Red Bull Ford Powertrain's new race engine, through some of the most advanced simulations, set to debut in 2026.

"The simulations and the tools—working with technology like AI, ML, and all these other technologies that are available to us—are really starting to produce answers on a continual basis," says Christian Horner, Team Principal and CEO of Oracle Red Bull Racing. "It's enabling and empowering people, so they don't freeze at big pressure points, and I think as a team we've had tremendous consistency and stability that is absolutely fundamental to success."

**How OCI Supports Oracle Red Bull Racing on race weekends**

Claiming the top spot is difficult but keeping it can be even harder. "As soon as you're in that winner's position, you can't let that complacency in any way set in because you know you're the target of the opposition," says Horner.

On race weekend, success hinges on understanding and planning for the what-ifs with the right race strategy. Nowhere was this more evident than at the Dutch Grand Prix in Zandvoort. The race was plagued with tumultuous weather, so choosing the right tires for the conditions was particularly difficult.

"During the race, we had to come up with different kinds of strategies, and we had to make really quick decisions," Verstappen says. "That's where our team, together with Oracle, is very strong." The team blends the drivers' feedback and instincts with its data-driven strategy to make the best decisions. Paired with Max's skills and poise, it earned the win.

In much the same way supply chain operations run Monte Carlo simulations to spot bottleneck risks, or Wall Street investors use them to model portfolio risk, the team uses OCI—both before the race and in real time as events unfold—to run simulations that gauge the probability of maximum point totals from various strategy choices, such as when to pit and which tires to use. "Using Oracle Cloud is enabling us to run up to 25% more simulations compared to what we could previously do," Horner says. "That's giving us not only more, but better information to make our decisions." Verstappen won the 2023 Driver's World Championship by a 290-point margin—the largest ever—and Pérez came in second.

**Putting fans at the heart of the team**

Oracle Red Bull Racing also pushed the envelope of performance off the track, bringing fan engagement to new heights with this season's Make Your Mark campaign. The contest attracted tens of thousands of fans who submitted a design for the team's car liveries, one of which was chosen for each of the three US races. "Fans are what this business is all about and what this team is all about," Horner says.

Fans submitted their Make Your Mark design via The Paddock, Oracle Red Bull Racing's fan engagement platform. Built using Oracle Advertising and Customer Experience applications, The Paddock lets people earn points for various activities such as watching videos or joining contests, and it provides the team with data and insights about fans' interests. The data helps the team refine its customer segments, personalize fan email, and strengthen relationships with members. More than 250,000 fans joined The Paddock during last year alone.
"It is the Oracle platforms that have enabled us to get closer to fans, to understand more about what they want, and to provide them with more that they want," says Kelly Brittain, the team's Brand and Communications Director.

**Building a Formula One engine from scratch**

Oracle Red Bull Racing made the bold decision to develop its own engine for the 2026 season, when F1 regulations usher in a new era of hybrid engine design and sustainable fuel requirements. It's a daunting and complicated effort—especially since the organization didn't previously have an in-house engine development team. "We've become, effectively, a startup to produce our own Formula One engines," Horner says. "You're talking about 6,500 individual components within one engine."

The team established a strategic partnership with Ford Motor Company, which is contributing its expertise in the hybrid elements of the design.
Red Bull Ford Powertrains laid out the vision, hired the talent, and relied on Oracle for the technology to rise to this engineering challenge. The team is using OCI for the high performance computing required to run complex simulations, such as computational fluid dynamics models to design the optimal spray pattern of fuel onto the engine's cylinders. "Oracle has worked with us on the powertrain side—where we had no environment whatsoever—to build an environment from the ground up," says Matt Cadieux, CIO for Oracle Red Bull Racing, who leads the computing team behind the development.

Having cloud-based high performance computing has been critical to the group's development speed. "The Oracle technology has allowed us to have class-leading, high performance computing. And high-performance computing is critical to doing high-quality simulation," says James Taylor, the Head of Thermodynamics for Red Bull Ford Powertrains.

In 2023, Oracle Red Bull Racing had the car, the drivers, and the strategy that proved hard to beat. Every person on the team knows how hard it is to stay on top—and how hard they're all willing to work to do so.
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**Products list**

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