

Industry

- [High Tech](#)

Customer application

Bicycling computer

NoSQL Solution

- [Mobile & Edge](#)

Use case

- Mobile data management
- IoT data management
- User profile store

Product

- [Couchbase Server](#)
- [Couchbase Mobile](#)

Key features

- Bi-directional syncing
- In-Memory/Caching

Cloud provider

- AWS

HAMMERHEAD

Hammerhead launched in 2013, Hammerhead's mission is to inspire and empower all people to unlock their athletic potential through cycling. With this in mind, they have developed Karoo 2, an advanced cycling computer with unique features such as predictive path technology, powered by Couchbase. With Couchbase, Hammerhead can ensure high performance and scalability, offline availability, and seamless data syncing for a smooth, reliable cycling experience for their users.

In January 2022, Hammerhead proudly joined the SRAM community of brands. Hammerhead remains a stand-alone brand within the SRAM portfolio and continues to focus on innovation and product advancement.

CHALLENGES

- Scale quickly and provide a reliable user experience regardless of internet connectivity
- Provide seamless and uninterrupted syncing capabilities across devices
- Maintain version management throughout rapid, frequent software releases

OUTCOMES

- An always-fast and always-on experience for cyclists anywhere, anytime
- Seamless data syncing and bidirectional syncing via the cloud
- Highly resilient and error-free version management control

“Couchbase is at the center of what we do. I’m lucky to work at a place I love that is also a hobby I love, and Couchbase really is at the center of it. It is fundamental to our business.”

— **Brian Oberholtzer**
VP of Software, Hammerhead



“We have a lot of devices and as we continue to grow, we are going to have a lot more out there. An overwhelming benefit of Couchbase is not having to worry as we scale. And having the support team behind us if we need anything has really helped us grow our internal expertise as well.”

Brian Oberholtzer,
VP of Software, Hammerhead

THE CHALLENGE: CREATE A TOP TIER CYCLING EXPERIENCE

When Hammerhead CEO and founder, Pieter Morgan, embarked on a cross country bike ride after graduating college, he quickly realized that the cycling computer he was using wasn't quite cutting it. He saw an opportunity in the technology that hadn't been explored yet and cut to a few years later, Hammerhead was born. With a mission to inspire and empower all people to unlock their athletic potential through cycling, Hammerhead sought to provide users in the cycling community with an ergonomic, highly functional, and extremely customized data-driven experience with their latest product, [Karoo 2](#).

THE SOLUTION: SEAMLESS SYNCING REGARDLESS OF INTERNET CONNECTIVITY

Karoo 2 is packed with a plethora of sensors that track and record what riders are doing on a second-by-second basis. Through Couchbase Mobile and Karoo's sensor features like GPS, speedometer, heart rate monitor, and barometric sensor, users can view a detailed report following each ride that syncs to their unique account in the cloud. Additionally, the offline capabilities of Couchbase Mobile enable Karoo to provide precise navigation including turn-by-turn directions and maps for riders to follow the routes of their choice regardless of internet connectivity, which is critical as typically cyclists are not connected to the internet during rides. Couchbase Mobile and its Sync Gateway feature enable Hammerhead to stand out amongst the competition. “The syncing nature is the heart of it. The simplicity of getting a route onto Karoo is what makes us unique. None of that would be happening if it wasn't for the syncing nature of Couchbase,” says Brian Oberholtzer, Hammerhead's VP of Software.

Bidirectional Syncing with Couchbase Through the Cloud

There are many different types of cyclists using Karoo, ranging from road cyclists to competitive athletes and everything in between, all using the data collected by Hammerhead to amplify their cycling experience. With Couchbase at the center, Hammerhead was able to create bidirectional syncing through AWS cloud and create a uniquely connected experience where cyclists can link their Karoo account to various third-party platforms. These platforms leverage the data from Karoo to evaluate cyclists' rides, provide feedback throughout their fitness journey, or allow them to engage with other individuals in the cycling community.



Couchbase + AWS Better Together for

- Versatility
- Performance
- Scalability
- Value
- Global Availability

Scaling with Confidence

As Hammerhead has continued to scale, it's become increasingly important to have a reliable database. As Brian explains, "we have a lot of devices and as we continue to grow, we are going to have a lot more out there. An overwhelming benefit of Couchbase is not having to worry as we scale. And having the support team behind us if we need anything has really helped us grow our internal expertise as well."

Over the last year, the Hammerhead Karoo has continued to grow in popularity and is empowering new riders all across the globe. Ensuring that the user experience is seamless and that the data is reliable is a top priority of Hammerhead's as they grow. "We are very agile oriented, that is a key part of our culture. We do software releases every two weeks and thanks to Couchbase's incredibly resilient version management, we've been able to add data incrementally as we've put out releases and have not run into version management problems. I can't think of a single time that we've had a problem with moving our data forward," says Brian.

And this is only the beginning. As Brian explains, "there are additional benefits still to be discovered for us through Couchbase."



At Couchbase, we believe data is at the heart of the enterprise. We empower developers and architects to build, deploy, and run their mission-critical applications. Couchbase delivers a high-performance, flexible and scalable modern database that runs across the data center and any cloud. Many of the world's largest enterprises rely on Couchbase to power the core applications their businesses depend on. For more information, visit www.couchbase.com.