

Case study – Land Rover BAR.

British America's Cup team sets its sights on success with sustainable technology from BT.



Advancing British catamaran's race-winning potential in real time.

Britain was the venue for the first America's Cup contest in 1851. America took the trophy away, and Britain hasn't won it back ever since. Four-time Olympic sailing gold medallist, Sir Ben Ainslie, has set out to change that. Leading the current British Challenge, Sir Ben says: "It's been a burning ambition of mine since childhood to be a part of a winning British America's Cup team."

BT, the team's Technology in Sustainability Partner, has helped create the Virtual Chase Boat. It's taken real-time performance monitoring off the water, a vital part of the continual refinement of the catamaran's design. And Land Rover BAR has become the first British sports team to achieve the ISO 20121 international sustainability standard. Game on.

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“The America's Cup is, and always has been, a design race as much as a sailing race. BT are really helping us in that technical contest.”

Sir Ben Ainslie
Principal, Land Rover BAR

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TECHNOLOGY IN SUSTAINABILITY PARTNER

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Land Rover BAR selects BT as Technology in Sustainability partner in Britain's America's Cup bid.

Bringing to bear an unparalleled track record of innovation, fixed and mobile networking credentials, and big data expertise, BT was welcomed on board by Land Rover BAR as Technology in Sustainability partner.

Before, engineers used to analyse sailing performance out on the high seas. Martin Whitmarsh, CEO of Land Rover BAR, explains: "To collect information you would hurtle behind on a power boat. But now, with the help of BT, we've got 400 channels of real-time data flooding in direct from a catamaran moving at 85 kilometres an hour."

Sir Ben Ainslie, principal and skipper of the British entry in the 35th America's Cup, adds: "Not only is BT technology helping bring the trophy home, they're also taking our message of sustainable sport to a wider audience."

Achieving an efficient and sustainable edge.

Today, as in other high-tech sports, yacht races can be won or lost on a team's ability to interpret vast amounts of data captured in real time. For Land Rover BAR, that meant finding an efficient and sustainable alternative to the traditional chase boat.

A BT professional services team helped develop a Virtual Chase Boat that's taken live performance monitoring off the water for the first time.

Richard Hopkirk, engineering manager at Land Rover BAR, explains: "Instead of our engineers chasing the catamaran in a difficult environment, using lots of diesel and generating too much CO₂, we transmit all the data from the boat back to base."

Fewer support boats and engineers are needed out on the water during testing and at the race itself in Bermuda. So the Virtual Chase Boat saves time and money, as well as helping Land Rover BAR honour its environmental commitments.

Enhancing results with on-shore analysis.

Every test day, 16GB of uncompressed data flows into a master database hosted in the BT cloud. Specialist software at mission control in Portsmouth analyses the data and displays it as actionable information for design engineers and team coaches. They can review the day's results and be ready with feedback when the sailing team comes off the water.

Gavin Patterson, CEO, BT Group, says: "We're enabling Land Rover BAR to deliver better performance from the boat. It's all to do with our ability to help the team make better decisions with better-quality data."

In fact, big data experts from BT professional services are working alongside Land Rover BAR – one software engineer is stationed semi-permanently at Portsmouth – to create the systems at mission control.

Those systems will operate during the development phase and the race itself, with BT people onsite throughout.



“That speed of analysis of the performance of the boat is where BT is having a huge impact on our campaign.”

Sir Ben Ainslie
Principal
Land Rover BAR

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400 
channels of sensor data

16 GB 
of uncompressed
data transferred daily

 **Massive**
reduction in CO₂

 **100TB**
of HD video data

How the Virtual Chase Boat works.

The Virtual Chase Boat uses advanced six-axis-motion and other sensors – 400 channels in all – and HD video technology to capture every nuance of performance. In the year to June 2017, when the 35th America's Cup comes to its climax in Bermuda, Land Rover BAR will have collected and scrutinised 100TB of HD video data.

Everything possible is powered by 100 per cent renewable energy. “While sustainable sport is the message, sustainable technology is the means,” says Sir Ben.

To bring the data from ship to shore, BT uses innovative military-grade technology developed with the Royal Navy. BT IP Connect Global will carry the data in microseconds from Bermuda to mission control in Portsmouth, and back again.

“BT is absolutely committed to the success of Land Rover BAR. Every directly-involved BT person – and over a hundred thousand across the company – will be there in spirit supporting the team as the flags go up in Bermuda.”

Gavin Patterson
Chief Executive Officer
BT Group

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Core services.

- BT IP Connect Global
- Military-grade ship-to-shore 4G LTE wireless technology
- BT professional services

About Land Rover BAR.

After success with Oracle Team USA in the 34th America's Cup, Sir Ben Ainslie launched a British bid to win the trophy. In 2014 he officially launched Ben Ainslie Racing (BAR), a commercial sporting team backed by private investors and corporate partners. Its members are some of the best British and international sailors, designers, builders and racing support specialists.

Offices worldwide

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