



INEOS TEAM UK Selects AWS in its Quest for the America's Cup Trophy

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Elite America's Cup sailing team names AWS as its official cloud provider and uses AWS high performance computing to build and test the UK's most advanced sailing boat

LONDON, July 13th 2020 – Today, Amazon Web Services (AWS), an Amazon.com company (NASDAQ: AMZN), announced that elite sailing team, INEOS TEAM UK, has selected AWS as its official cloud computing provider and is leveraging AWS's high performance computing (HPC) capabilities to design, test, and optimize its 'AC75' challenger boat. Using HPC on AWS to run computational fluid dynamics (CFD), INEOS TEAM UK engineers carried out up to 1,200 detailed performance simulations a day, 20 times more simulations than was possible with their previous on-premises HPC infrastructure at a fraction of the cost. By relying on AWS's highly performant, scalable infrastructure, INEOS TEAM UK reduced its computational turnaround time from months to days, gaining valuable time to refine and optimize its boat designs and ultimately enhance its prospects for victory in the America's Cup.

INEOS TEAM UK uses CFD to model the aerodynamics of its boat while racing, simulating the impact of air and liquid on objects such as the boat's keel, rudder, hull, and sails. These simulations allow the team to quickly test hundreds of possible racing variables, from changes in wind direction and speed to the flexing and twisting of sails made of different materials. This method of testing has become especially critical to the team following the introduction of new rules for next year's 36th America's Cup that restrict all physical testing, meaning that no team is permitted to test multiple boats, or components of boats, in controlled environments such as a wind tunnel or water test tank.

Working on AWS, INEOS TEAM UK has reduced the upfront capital expenditure, lengthy procurement cycles, and regular hardware refreshes needed to run HPC on-premises by only paying for the resources it consumes in AWS. Using Amazon Elastic Compute Cloud (Amazon EC2) Intel-powered C5 instances built on the AWS Nitro System, INEOS TEAM UK was able to ensure the fastest simulation time possible for its hull design, which required hundreds of servers for every simulation. The team also used Amazon EC2 Spot instances, which take advantage of unused Amazon EC2 compute capacity to achieve the lowest cost per simulation, resulting in a 65% cost saving versus on-demand. In addition, to ensure fast disk performance for the tens of thousands of simulations it ran each week, INEOS TEAM UK used Amazon FSx for Lustre to provide a fast, scalable, and secure high-performance file system. Finally, the team worked with AWS solutions architects to design a cloud strategy that took advantage of multiple AWS Availability Zones in multiple AWS Regions to maximize efficiency and resilience.

"In recent months, due to the COVID-19 pandemic, the team has spent less time on the water than usual, meaning our simulation work with AWS has become more important than ever," explained Sir Ben Ainslie, INEOS TEAM UK's Team Principal and Skipper. "Working with AWS for the first time this year has given us access to more and faster computational resources, which has proven crucial in developing the fastest race boat possible. It has helped the team push ahead as we continue to design and develop our race boat for the America's Cup."

"They say that 'time cannot be bought', but by working with AWS, we are able to do just that," said Nick Holroyd, Chief Designer, INEOS TEAM UK. "Much of the external shape of the INEOS TEAM UK boat will have gone through CFD simulations created using the AWS Cloud. By leveraging AWS's virtually unlimited compute power, scalability, and resilience, we believe we're in a strong position to design the boat that can bring the America's Cup home to Britain."

"INEOS TEAM UK is using AWS to transform the race boat design process and chart a new course for nautical innovation," said Andy Isherwood, Vice President and Managing Director of Amazon Web Services EMEA. "The America's Cup represents the pinnacle of engineering and the work that INEOS TEAM UK is doing with CFD is the pinnacle of cloud innovation applied to competitive sailing. We are pleased AWS is supporting the INEOS TEAM UK as its official cloud computing provider, and to be working with them to use AWS HPC to design the most technologically advanced boat in America's Cup history."

The America's Cup is the oldest international sporting trophy in the world. The Cup originated in 1851, pre-dating the modern Olympics, to showcase the best of British technology and excellence to the world. INEOS TEAM UK is backed by INEOS Founder and Chairman, Sir Jim Ratcliffe. Sir Ben Ainslie, a previous America's Cup winner (AC34) and the most successful Olympic sailor of all time is Team Principal and Skipper.

About Amazon Web Services

For 14 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud platform. AWS offers over 175 fully featured services for compute, storage, databases, networking, analytics, robotics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 70 Availability Zones (AZs) within 22 geographic regions, with announced plans for 15 more Availability Zones and five more AWS Regions in Indonesia, Italy, Japan, South Africa, and Spain. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—trust AWS to power their infrastructure, become more agile, and lower costs. To learn more about AWS, visit aws.amazon.com.

About Amazon

Amazon is guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. Customer reviews, 1-Click shopping, personalized recommendations, Prime, Fulfillment by Amazon, AWS, Kindle Direct

Publishing, Kindle, Fire tablets, Fire TV, Amazon Echo, and Alexa are some of the products and services pioneered by Amazon. For more information, visit amazon.com/about and follow [@AmazonNews](https://twitter.com/AmazonNews).

About INEOS TEAM UK

INEOS, one of the world's largest manufacturing companies, has formed INEOS TEAM UK to challenge for the 36th America's Cup to be held in New Zealand in 2021. INEOS has partnered with Sir Ben Ainslie, the most successful Olympic sailor in history, to skipper INEOS TEAM UK. The team will represent the Royal Yacht Squadron's affiliated club, Royal Yacht Squadron Racing, to take on the greatest challenge in sport. INEOS TEAM UK will use its world class technologies and manufacturing know-how to develop an internationally competitive race boat, giving the best possible chance to bring the oldest international sporting trophy and sailing's premier contest back to Britain for the first time.