

The All Party Parliamentary Engineering Group

Engineering a British victory in the America's Cup

Chairman

Professor the Lord Broers

Speakers

- Sir Ben Ainslie CBE, the most decorated Olympic sailor of all time.
- Andy Cloughton, one of the world's most accomplished America's cup engineers.

Introduction

Lord Broers welcomed the guests and the speakers, highlighting the role that the All Party Parliamentary Engineering Group plays in promoting the importance of engineering skills among young people.

Lord Broers went on to pay a tribute to Sir Keith Mills, a guest at the dinner, focussing on the role he played in the London 2012 campaign and the eventual organisation of the games.

Following on from this, Lord Broers described how he has noticed a revolution in sailing, citing the vast differences between the old fashioned finn boats he saw as a boy, and the yachts which will be competing at the America's Cup. Lord Broers also noted the continued importance of athleticism in sailing. Finally, Lord Broers voiced his support for Sir Ben and his team in their bid to bring the America's Cup to British shores for the first time.

Sir Ben Ainslie CBE:

Sir Ben Ainslie began by contextualising the history of the America's Cup, speaking of his admiration for the contest. He continued by voicing his frustration that the America Cup hadn't been won by a British team and stated that he was inspired to compete in the 2017 America's Cup in order to right this wrong.

Sir Ben went on to acknowledge the hugely significant role that engineering plays in forming a successful sailing team. He noted that it is not always the case that the team with the best crew wins, nor is it the case that the team with the best boat wins – it's about successful collaboration. Sir Ben commented that he feels by working alongside Andy Cloughton, that they were on the right path to deliver a "very special" Auld Mug team.

Following on from this, Sir Ben drew attention to the work being done by the 1851 Trust, a charitable foundation which Ben Ainslie Racing supports. He commented that the Trust was dedicated to inspiring a new generation of engineers and technicians. He also commented on his delight that their America's Cup team was able to help the local economy of Southampton.

Sir Ben closed by speaking of excitement at the challenge that lies ahead of him and his team. He mentioned that the 2 world series events scheduled prior to the America's Cup would be the perfect preparation for the America's Cup.

Andy Cloughton

Andy began by explaining the role he plays in the bid to bring the Auld Mug to British shores. He spoke of his experience as a naval architect and how he had been involved in the industry his entire working life. Andy also paid tribute to the facilities available to him at the Wolfson Unit in Southampton, claiming that its engineering facilities provide the perfect foundation from which a successful yacht can be launched.

Andy seconded Lord Broers point about the evolution of sailing, noting the shift towards hydraulic technology which can be utilised to control and stabilise racing yachts. Playing into this, Andy commended Sir Ben and his crew for the physical aspect of boat racing, an aspect which Andy admits, will still be pivotal in determining whether the crew would be successful in 2017.

Andy went on to explain some of the technical challenges he and his team of engineers face when designing Sir Ben's yacht. He made the point that the main play off is between speed and structural integrity, a play off which forces his team to be as innovative and dynamic as possible.

Following on from this, Andy spoke of just how enjoyable he is finding working towards the America's Cup, a competition which he feels represents the pinnacle of the naval engineering industry. His parting point emphasised the symbiotic nature of his job in relation to the crew who actually go out on the water.

Questions and Answers

Ellie Prosser (Young Engineers) How do you make the boats fly?

Andy Cloughton responded saying that it is a delicate act between hydro-foiling as well as considering the density of the water. Andy explained that because of the speed at which the boats travel, the water acts more like a solid than a liquid and that it's because of this that the boats often appear to glide in such a way.

Ed Straiton (Vodafone) Oracle (the American team) have two boats that they will be using, how do you compensate for that?

Andy Cloughton said that while it may initially appear that having 2 boats is beneficial, it also throws up its own set of management problems.

Sir Ben Ainslie made the point that he was more concerned with developing one brilliant boat, than having the confusion of developing and practicing with two.

Stephanie Alexander (Bosch) Why do you think that Britain is only able to enter one team into the tournament?

Sir Ben agreed that Britain has had a troubled history in relation to the America's Cup, whether it be due to lack of funding or poor gamesmanship from opposition teams.

Andy Cloughton also felt that Britain had a disappointing record in the America's Cup. However, he said that the right team culture was in place to bring the trophy to Britain in 2017.

Lord Davies of Coity CBE asked how wary Andy and Sir Ben felt that they needed to be of Oracle.

Andy Cloughton stated that due to the prevalence of social media, there really was no reason to even think about what the other team are doing, as it is there on the internet if you want to see it. Nevertheless, Andy joked that they would still enforce an old fashioned 200m perimeter around the Wolfson Unit.

Sir Ben made the point that you can become too obsessed with what your rivals are doing. Whilst it's natural to be inquisitive, you mustn't follow their progress to the extent that it's to the detriment of your own performance.

Helena Lucas MBE asked how the team had to adapt in order to cope with a saltwater environment.

Andy Cloughton cited the team's focus on saltwater engineering. Expanding on this, Andy commented on the time and effort that had gone in to developing the appropriate electrical systems. Andy agreed that saltwater offers different challenges but that all races have their own unique requirements, so this is nothing new.

Mark Broers: What measures were taken to ensure the safety of the crew?

Sir Ben said that whilst they are incredibly competitive, he has never felt unsafe while training for the America's Cup.

Andy Cloughton went on to explain that a team of divers follow the crew at all times, just in case the boat ran into trouble. He also made the point that they look to design out failure via structural integrity, noting that in spite of this, it is crucial to plan for the worst case scenario.

Heather Wheeler MP: How do you ensure that your project encourages a new wave of engineers?

Sir Ben commented on his high hopes for the 1851 trust as well as voicing his belief that by having a visual presence off the south coast of Britain, the

Vote of thanks

Lord Broers thanked the speakers for their contribution to the event. He then thanked the guests for their attendance and thoughtful questions.