Marine Autonomy Challenge (MAChallenge)

Geraint West
Chair MASG Council

Society of Maritime Industries
MASG Council

- Maritime Autonomous Systems (MAS) are of increasing importance to a wide range of sectors, including marine scientific and survey, offshore resource exploitation, maritime transport and defence and maritime security operations. The UK is a technology leader in this area and the Maritime Autonomous Systems Group (MASG) Council aims to enhance this reputation and encourage development and take-up of MAS technologies in the UK.

- The Maritime Autonomous Systems Group (MASG) Council guides activities for this market area, utilising the extensive expertise of its council members.

- Activities include:
  - Facilitating outward and inward trade missions to create business opportunities through greater international co-operation
  - Arranging information briefings on key developments in the market
  - Organising networking opportunities with those who have a common interest in maritime autonomous systems
  - A regular programme of meetings on various aspects of MAS developments and operations with senior high calibre speakers. Some of these meetings are restricted to members only
  - Assistance with sourcing relevant contacts within the industry
Why are we launching MAChallenge?

- A key part of the MASG Council’s mission is to encourage young technologists to help them develop careers that contribute to the future of the UK’s MAS industry.
- The aim of the challenge is:
  - Focussed on autonomy (not platforms)
  - To get students thinking about how autonomy might address the problem of plastics in the ocean
  - To stretch the knowledge of the students and promote creative thinking
  - Encourage team working through a variety of individual skills
  - Connect the brightest young talent coming through the UK’s universities with the UK’s MAS Industry
Competition Scope

• Powered surface vessel (catamarans) provided to each team
  ▫ Including battery and thrusters
• Teams will need to:
  ▫ Design and install control and sensor systems
  ▫ Demonstrate controlled, safe manoeuvrability of vessels under challenge conditions
• Two phases:
  ▫ Phase I – Video Submission
  ▫ Phase II – On-water competition
Phase I – Video Submission

• Each team will need to make a 3 min video submission
• Full details are at: https://www.maritimeindustries.org/Video-Submission-Guidelines,
• but in essence, the video needs to include:
  ▫ Introduction to team
    • Individual skills
  ▫ Relevant experience/projects
  ▫ Competition strategy
  ▫ Views on what the key issues are likely to be
  ▫ What the team would do with the prize
• Videos must be submitted via Dropbox by 12.00 20 December 2020
Phase II

• Five teams will be selected to proceed to Phase II
• The successful teams will be announced during January 2020
• An ‘expert’ industry mentor will be assigned to each team
• Each team will be provided before the residential event with a common platform comprising:
  ▫ Catamaran GRP hull (ca. 2m long)
  ▫ Propulsion system built into the vehicle. This will consist of two Blue Robotics T200 thrusters and associated electronic speed controller (ESC) providing differential steering.
  ▫ Battery for propulsion including a charger.
  ▫ User supplied/funded components – max £500
• Phase II will culminate in an on-water competition:
  ▫ Calshot Outdoor Activity Centre
  ▫ 19-21 June 2019
  ▫ Accommodation and food will be provided (but not travel)
  ▫ Teams to bring their own tools
  ▫ Each team to complete a series of challenges – see next slide
  ▫ Prize of £2,000 to winning team
Phase II Challenges

A. Manoeuvring and Collision Avoidance
B. Identify “plastics” (buoys of specified colour)
C. Race between teams
We need industry to be involved

• Sponsorship – thanks to the companies who have already signed up!
• In-kind contributions
• Team mentoring
• Exhibit area during final competition weekend
Key Dates

- October 2019 – MAChallenge launch
- 20 December 2019 – Final date for video submissions
- 23 January 2020 – Announcement of finalists
- 19-21 June 2020 – On-water competition at Calshot
Thanks to our Sponsors

• Gold
  - Lloyd’s Register
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• Silver
  - Frazer-Nash Consultancy
  - Fugro
  - QinetiQ
  - Sonardyne

• Bronze
  - Aquaterra Group
  - AutoNaut
  - EcoSub Robotics
  - L3Harris
  - Lockheed Martin
  - Ocean Business 21
  - RS Aqua
  - Sea-Kit
  - Valeport
  - SeeByte
Thanks also to our supporters
Thanks for listening – any questions?

• Please visit https://www.maritimeindustries.org/Maritime-Autonomy-Challenge for up to date information, including the rules

• Please help advertise the competition!

• Please contact MACChallenge@maritimeindustries.org if you’re interested in participating or supporting MACChallenge 20