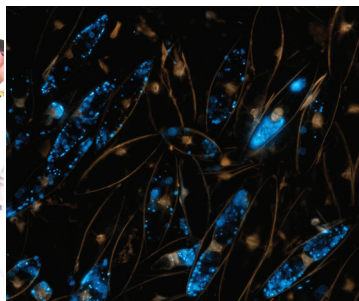


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# Defence

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The National Oceanography Centre (NOC) works collaboratively with government, industry and academia across the four main pillars of ocean security:

- Maritime Defence
- Maritime Homeland Security
- Marine Environmental Security
- Maritime Cyber Security.

## Opportunity and value

The NOC has a long established record for delivering applied marine science and technology to meet maritime defence needs and our capability in supporting maritime defence missions continues to evolve to meet new challenges.

This evolution has seen us investing in maritime cyber security in respect of the operation of our two global class

research vessels the RRS *James Cook* and the RRS *Discovery*. The growth in the ownership, development and deployment of Marine Autonomous Systems (MAS) by the NOC has also seen NOC seek to establish research to understand risk to missions from cyber-attack.

The NOC has led the way for changes in several areas of research now being made by the maritime defence community; an important example being the Centre's novel work in the area of Marine Autonomous Systems (MAS), presaging the trend towards Off Board Systems in today's navies. The NOC has a Memorandum of Understanding around MAS with both the Royal Navy (RN) and the UK Defence Science and Technology Laboratory. An example of the success of this relationship saw the NOC



train RN personnel to set up and operate underwater gliders.

The NOC co-ordinates the only large-scale annual MAS demonstrator missions in the UK, for the benefit of external stakeholders across UK government, industry and research. These missions, called Marine Autonomous Systems in Support of Marine Observations (MASSMO), have been undertaken since 2014, and have leveraged funding from the Ministry of Defence (MoD). Industry partners can then use this infrastructure to demonstrate and trial their own MAS platforms and sensors, as part of collaborative field programmes.

The NOC is a member of the National Partnership for Ocean Prediction (NPOP), and works closely with the UK Met Office on ocean modelling and on new ways of gathering data, as well as disseminating relevant and timely products to users.

The UK Met Office marine meteorological unit is co-located on the NOC Southampton site.

## Collaborative Opportunities

The NOC engages in a number of defence related initiatives, collaborates with industry and academia on MoD funded opportunities and regularly engages key decision makers in the RN.

Through collaborating with the NOC on a defence project you will have:

- Access to NOC facilities resources, expertise and data
- Access to efficient, authoritative and rigorous science research services, responsive to changing industry needs
- Opportunities to test software and data-products and access licences to use the NOC information products
- Access to powerful tidal modelling software and extensive data sets.

