

# Royal Navy outlines future vision

Led by a design challenge for young engineers from UK Naval Engineering Science and Technology (UKNEST), the Royal Navy will develop a Future Autonomous Fleet programme that could shape how it operates over the next 50 years.

Stemming from the design challenge, the future vision envisages drones based in the stratosphere to be launched at a moment's notice; uncrewed fast attack crafts housing smaller autonomous boats; aircraft carriers propelled by both sea-based biofuels and wind power; and an underwater flagship at the centre of the fleet. Other conceptual ideas include the increased use of artificial intelligence to assist with low-level planning and underwater transport units carrying anything from munitions to food.

Although in the conceptual phase, the Royal Navy is on track to implement one of these futuristic visions into reality over the coming decade – The Persistent Operational Deployment Systems (PODS).

PODS are interchangeable modules that can be fitted to the surface fleet. Similar in design to a shipping container, the PODS create the idea of a 'plug and play' warship and will enable Royal Navy ships of all sizes to be more adaptable and versatile when deployed.

Delivered using innovative technology such as heavy-lift drones or autonomous boats, a ship will be able to receive the equipment it needs to be re-tasked quicker without the need to go into a port to collect it.

Large in size, the PODS will house assets vital to supporting Royal Navy operations. These may include an autonomous boat for surveillance and reconnaissance, quadcopter drones to deliver supplies, humanitarian aid and disaster relief stores or medical equipment. Versatile in their approach, they have the capacity to become an additional medical room for service personnel at sea or a control centre for Royal Marines' operations.

**Second Sea Lord, Vice Admiral Nick Hine said:**

“In a future scenario if we find ourselves unable to compete traditionally in terms of mass, we must think differently if we are to regain operational advantage.

“The young engineers who worked on this project are thinking radically and with real imagination and reflects how the Royal Navy is thinking too.”

Outlined in the recent Defence Command Paper, the Royal Navy is focussed on investing in a more innovative and automated fleet. Enhanced by the £24 billion increase in spending across four years as announced by the Prime Minister last November, the Royal Navy will improve the sustainability,

lethality and availability of its vessels.

**UKNEST young engineer, Fiona McIntosh said:**

“The collaborative nature of the project, coupled with us being unconstrained in the ideas and technologies we discussed, really helped us base our concept on technologies we thought would be key to innovation over the coming decades.

“The sessions were really interesting and it was great to see all of the concept designs in a presentation to senior Royal Navy Officers at the end.

“It was encouraging to see that the designs had some similar features and the groups had envisioned similar technologies being utilised by the future fleet. Hopefully we’ll see some of our ideas incorporated into future platforms.”

Supported by the future conceptual ideas, the Royal Navy continues to be at the forefront of maritime technology as it adapts to meet future threats and maintain competitive advantage.