Thank you for your letter of 11 September regarding the Type 26 Global Combat Ship (T26 GCS). Your overarching question on the potential of the platform to adapt to changing future threats and adapting technologies is key, and I can assure you that the T26 GCS has been designed with flexibility and adaptability at its core. Indeed, so fundamental is this to the design that adaptability is one of 17 Key User Requirements (KUR) that define the high level shape of the design: the User shall be able to adapt the system functionalities to deliver capabilities that meet the future needs of the maritime environment.

As you know, the T26 GCS is in the Assessment Phase of the Concept, Assessment, Demonstration, Manufacture, In-Service, Disposal cycle. The KURs were approved by the Ministry of Defence (MOD) Investment Approvals Committee in May 2012 and the capability requirement has remained stable since then, allowing a mature and detailed design to be developed by the joint BAE Systems and MOD Project Team.

I have answered each of your questions in turn, in the attached annex. I hope that these answers are of sufficient detail to ameliorate your concerns. Further detail can of course be provided on request, at an appropriate classification, if the Select Committee wishes.

I welcome the interest and engagement of the Committee in the procurement of the T26 GCS, and I look forward to your continued support.

THE RT HON MICHAEL FALLON MP

Rory Stewart MP
Chairman, House of Commons Defence Committee
House of Commons
London
SW1A 0AA
Q. What is the intended lifespan of the Type 26 Global Combat Ship and how does the MOD plan to develop the Type 26 to meeting changing threats over its lifespan?

The T26 GCS will replace the T23 Frigates, which have already been extended to more than twice their original design life of 18 years. The current planning assumption is for the 13 Type 26 Ships to have a planned service life of at least 25 years, with the final T26 GCS not expected to leave service before the end of the 2050s. Unlike the T23 Frigate, which was primarily designed for Cold War Anti-Submarine operations in the North Atlantic, the T26 GCS has global deployability, flexibility and adaptability at the core of its design. As a result, appropriate margins have been included in the design for space, weight, stability, hull life (corrosion), network architecture and power generation to allow it to meet changing threats over its lifespan. A large Flexible Mission Bay, hangar and flight deck were incorporated in the design at Main Gate 1 to enable the platform to meet evolving and future threats in the maritime environment. Conceptual documents are being developed on how we might use the Platform and Mission Bay, informed by the work undertaken by the Defence Concepts and Doctrine Centre to describe the strategic Defence and security context out to 2045 on the predicted future operational environment.

How these margins will be utilised over the life of the platform will be actively managed by the MOD through its ongoing capability management process. This incorporates lessons identified from in-service operation, updates from Defence Intelligence on developments of potential threats, and science and technology research that identifies threats and opportunities from new technologies and scientific developments. These are evaluated through force development and testing activities against illustrative scenarios and vignettes. Where deemed necessary, capability upgrades or insertions will be made to the T26 GCS to meet emerging threats and fill potential capability gaps.

Q. What level of adaptability does the Adaptable Mission Bay concept have to cope with threats in the short term?

This concept is key to the flexibility of the platform, providing the adaptability to counter both short term and long term threats to our Nation’s interests. The Mission Bay and adjacent hangar and flight deck provide a significantly larger and more adaptable space than is currently available in the T23 Frigate. The T26 GCS Flexible Mission Bay can accommodate four 12-metre boats for boarding operations for the insertion of Royal Marines or other forces. Alternatively, it can host a range of manned and unmanned surface, subsurface and aerial vehicles. Such is the flexibility and capacity of the space that it could even hold ten 20-foot containers or mission modules containing anything from disaster relief stores to specialist medical or Command and Control facilities. The spacious hangar can easily accommodate a single Merlin Helicopter or two Wildcat; in extremis, for short surge operations, the Mission Bay could even accommodate a second Merlin. The large flight deck is sized to accept a CH47 Chinook (ramp down) for troop embarkation and disembarkation and can operate a range of smaller helicopters and unmanned aviation vehicles (UAVs) and in concert with the Mission Silo this makes the T26 GCS a truly mission-tuneable platform.
Q. What adaptability is there in the armament packages to cope with the changing threats and missions the Type 26 will undertake?

The Single Statement of Need for T26 GCS is for: An interoperable, survivable and adaptable capability that is operable globally within the Maritime Battlespace to contribute to Sea Control for the Joint Force and to contribute to Maritime Force Projection with the flexibility to operate across and within the range and scale of operations.

The programme is in its Assessment Phase, and details on the intended armament have yet to be confirmed or announced formally; however, I can confirm that flexibility and future-proofing is key to the design. The table below outlines the armament packages to be integrated onto the T26 GCS, and their adaptability.

<table>
<thead>
<tr>
<th>Armament Package</th>
<th>Description</th>
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<tr>
<td>Maritime Indirect Fires Systems</td>
<td>Installation of a 5&quot; Medium Calibre Gun will enable the UK to buy into developing technologies in terms of range, precision and payloads that were not possible with the UK developed 4.5&quot; Gun; this enhances our ability to deliver effects and support land forces ashore at far greater range from the sea and with greater accuracy.</td>
</tr>
<tr>
<td>Flexible Strike Silo fitted with Mk41 Launchers</td>
<td>The Strike Silo will be fitted at build, which was not the case for the T45 Destroyer where the design instead accommodated the space weight and power requirements. The 24 cell Flexible Strike Silo will be able to accommodate a range of missiles from long range strike weapons (such as the Tomahawk Land Attack Missile) to Anti-Ship Missiles and Anti-Submarine Rockets with the weapon payload being reconfigured to meet changing threats and missions. When it has a Wildcat helicopter embarked, T26 GCS will be able to deploy both the heavy (Sea Venom) and light (Martlet) variants of the Future Anti-Surface Guided Weapon.</td>
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<tr>
<td>Sea-Ceptor anti-air missiles</td>
<td>The provision of 48 Sea Ceptor missiles will provide the platform with considerable defensive armament, with a local area capability to protect consorts (unlike the Sea Wolf missile it replaces in the T23).</td>
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<tr>
<td>Close Range Weapons</td>
<td>T26 GCS will have two automated 30mm Mark 44 Bushmaster II cannons, two Phalanx Close in Weapons Systems, and a range of small calibre upper deck weapons.</td>
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<tr>
<td>Merlin Helicopter</td>
<td>Merlin will provide Maritime Force Protection and airborne Anti-Submarine Warfare when embarked in T26 GCS. Its integrated sonics suite includes the 2089 dipping sonar which uses a FLASH expanding array and it can also deploy and process a full range of sonobuoys, which in combination complement the passive and active sonar capabilities of the T26 GCS to hunt submarines and sanitise the water ahead of a Task Group. Armed with Stingray Torpedoes and the Mk11 Depth Charge in its Anti-Submarine-Warfare role, and when fitted with the M3M .50 Calibre Machine Gun, Merlin can undertake a range of roles including round-the-clock maritime patrol and interdiction, troop carrying, casualty evacuation, medium lift under-slung loads, Search and Rescue, and other contingency tasks.</td>
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Lynx Wildcat Helicopter HMA

Wildcat will provide anti-ship, anti-submarine, ship protection, casualty evacuation, battlefield reconnaissance and general utility when embarked it T26 GCS, but it will bear the suffix HMA, which stands for 'Helicopter Maritime Attack'.

Cutting-edge targeting systems, similar to the Apache gunship, and a 360° full-colour surveillance radar, will help crew pick out their targets. In addition to carrying the Stingray Torpedoes and the Mk11 Depth Charge, two new missiles are being specifically developed for use on Wildcat:

Sea Venom: At 100kg it is a subsonic, over the horizon missile with an Infra Red seeker designed to defeat the most demanding maritime and land targets ranging from Fast Attack Craft and Fast Inshore Attack Craft, up to the traditional Corvette, as well as static targets on the land.

Martlet: At 13kg it has multi-mode guidance and a laser proximity fuse that provides the Royal Navy with a short range versatile, rapidly-deployable and highly-effective capability to defeat challenging fast moving asymmetric and non-asymmetric threats in the littoral.

Q. What is the long term plan for UAV operation in context of the Type 26?

A. A trial of the Scan Eagle UAV has been conducted in the T23 Frigate HMS SUTHERLAND in the Gulf. The trial established that a system like Scan Eagle should be operated from a vessel of this size in a range of roles from surveillance to targeting. The lessons identified from the trial have been incorporated into the T26 GCS design and the aspiration is that the Flexible Mission Bay will be used to accommodate a range of manned and unmanned surface, air, and underwater vehicles, adapted on a tailored mission basis to the changing needs of its deployment.

Q. What level of interoperability with the RAF, Army and foreign Navies has been built into the Type 26 and how does the MOD expect this to be adapted as Navies of close allies develop?

A. A high level of interoperability is considered to be intrinsic to the design and alongside Adaptability, Interoperability is another one of the 17 KURs\(^1\) that has shaped the design in demanding that: *The User shall be able to employ core capabilities in Joint and Multinational Operations*. At a multinational level the requirement to operate with coalition partners from the US, NATO, EU, France, Australia, Canada, New Zealand and United Nations forces has been at the forefront of the design effort, as has the requirement to operate jointly with other elements of the UK Armed Forces and, more specifically, all of the elements that contribute to Future Force 2020 (Queen Elizabeth Class Aircraft Carriers, Military Afloat Reach and Sustainability Tankers, T45 Destroyers, ASTUTE Class Submarines, Typhoon and Joint Combat Aircraft and Crowsnest).

\(^1\) T26 GCS KURS provide high level requirements in the areas of: Maritime Fires, SF Operations, Anti-Air Warfare, Anti-Surface Warfare, Anti-Submarine Warfare, Coastal Suppression, Maritime Interdiction Operations, Interoperability, Survivability, Readiness, Reach, Intelligence, Standing Commitments, Concurrency, Flexibility and Availability.
Having consulted across a broad spectrum of potential users, the needs of embarked Joint Forces and Royal Marines forming a Preliminary Landing Force are firmly captured in these requirements. The communications fit provides a step change in capability over and above that in the T23 Frigate where numerous systems have effectively been bolted on over time; almost all Command, Control and Communications systems can be accessed in T26 GCS via a single screen using a shared computing environment. Dependencies upon other developmental programmes across Defence, such as Defence Core Network Services for the Defence Information Infrastructure replacement and the Land Environment Tactical Communications & Information System for the Bowman Radio replacement, are being actively managed to ensure that they can be incorporated into the design at service entry. In this sense, interoperability primarily deals with the provision of adequate and secure voice and e-mail communications, web access, and secure data-links, but interoperability is also being applied to the Flexible Mission Bay where the UK has taken the lead within NATO to develop a common set of mission module interfaces so that a variety of foreign mission modules or containers could be hosted in the T26 GCS.