

## Second Sea Lord – When is a box Not a box? The need to think differently

Two years ago, the Navy stood in this very building, at DSEI 2019 and outlined the need to change, to transform and to modernise in order to perform our role successfully in an ever-changing and more uncertain world. We set out an ambitious plan to address what we recognised was our diminishing operational advantage and to take the necessary leaps forward to deliver into the future. To do nothing would have meant almost inevitable decline in a world of accelerating technological change; expansion in state and non-threat state vectors; growing geopolitical instability; and increased challenge to the international rules-based order and recognised law of the sea.

Royal Navy transformation represents our largest change programme in a generation. And now, two years later, we have made significant progress across our strategic priorities. In the north Atlantic we have deepened our influence and strengthened our posture at maintaining the freedom of manoeuvre for our continuous nuclear deterrent by working ever closer with the RAF, our partners and allies in NATO and further beyond. In carrier strike we have deployed the Strike Group of over 9 platforms, 30 aircraft and 3700 personnel to the other side of the world where they are currently operating in the Indo-Asia Pacific region, alongside assets from NATO and other international partners. With our new Commando Forces, we have formalised this 5th generation warfighting concept as a Programme and we are now trialing new capabilities as demonstrated recently in the Autonomous Advanced Force 4.0 exercise. In Forward Presence we have deployed our Batch 2 Operational Patrol Vessels to West Africa, the Indo Asia Pacific, the Caribbean and our wider Fleet is more actively engaged across the globe than in recent memory.

We have established NavyX – our technology and innovation accelerator – now relocated to Winfrith in the new Innovation Centre in the Defence BattleLab – it is bringing military, industry and academia ever closer in a symbiotic and mutually supporting relationship – a testbed for the very latest in technology and experimentation.

More broadly, we are developing innovative crewing models and are further shifting the workforce balance to sea to maximise use of our platforms. We have developed the MyNavy application to better inform, understand and facilitate the lives of our personnel which proved invaluable during the peak of the Covid pandemic. We have accelerated the delivery of new ships through Type-31 and have established the Future Maritime Air Force as an uncrewed Programmes within the Service. We have launched the Future Maritime Support Programme to improve our ship and submarine availability and sustainability. We have continued to build Navy Digital capability by rethinking analogue processes and putting live data at the core of our decision-making and strategic prioritisation.

In 24 months this is some achievement...but frankly it is not good enough.

It has become increasingly clear that Underwater dominance, Commando Forces and autonomous Air are those areas where we must focus our greatest attention if we are to achieve true operational advantage. Simply, by applying our greatest thinking, resource and effort we will realise the greatest gain and the best Defence outcomes. This will require bold decisions – some of which will be unpopular – but these decisions will be fundamental to unlocking the potential these areas can deliver to our future force. Each is underpinned by the enabling need to modernise our culture – and an acceptance that this is about strategic prioritisation and a realisation that our resource will always be constrained. It is for us to make those decisions in order to deliver a better Service and the outcome of the IR provides us with an opportunity to realise our transformation ambition, and provide us with the road to follow where technology and capabilities are already available. We must take this opportunity.

But we must be honest that which we have delivered reality so far – however successful – has scratched the surface of our ambition. We are modernising but we have not truly transformed.

So the requirement to change remains absolute despite the opportunity that the Integrated Review has presented. We cannot, overnight, simply remedy the decades of under-investment, overcome the burden of maintaining legacy capabilities and bloated systems, or rewrite swathes of policy and processes and misdirected priorities. Nor must we dither.

We are attacking each of these with vigour but we must accelerate if we are to deliver what you all, justly, expect from your Royal Navy.

However, in an institution as old as the Royal Navy trying to effect large, meaningful and lasting change is incredibly difficult. Even as we drive the organisation forward two steps, we are pulled backward one step by the hand of tradition, organisational “sacred cows”, caution and censorship – all, regrettably, part of our culture. We must think differently.

For too long we have maintained the status quo, becoming comfortable with mediocrity, and resting on bygone victories and successes. We point to Trafalgar, to Saint Nazaire, to the Nile yet forget that they were enabled by: innovation, inspirational leadership, mission command, empowerment, diversity, competition and calculated risk taking.

Whilst we may talk of these crucial attributes, we rarely act like this – these very behaviours that catalyse organisational change are no longer a natural part of our DNA. But it once was – underpinning these greatest successes has always been an inherent desire to transform, challenge and not romanticise over the way things have been done in the past. Admiral Jackie Fisher was bold enough to claim over 150 of his ships were ‘too weak to fight’ and bold enough to act to shift the approach to the threat he faced. By utilising his resources and personnel in a smarter way, the Royal Navy became a stronger, more capable and efficient force by breaking an outdated culture...and with less resource. The principles and lessons remain of use

today.

Our current system must not be allowed to reinforce outdated cultural behaviours and constraining modern workplace approaches; diversity of thought; fail-fast behaviours; and challenge that are instinctive amongst world-leading organisations must be erased. We are not SpaceX, Amazon or MercedesF1 but we should learn from what makes them winners and add it to what already makes us successful. We need to refresh our training, our procurement, our doctrine, and our reporting to make organisational progress.

Whilst not decrying hierarchy, orders and direction – it absolutely has a place – the reality is that in the 21st century we must be smarter and more nuanced in our approach to gain the most from all our people – we must adapt. Our people are more talented and diverse than ever before: many have had prior work experiences or untapped skills which we are

unaware of, let alone use. We may not have the resource of the bigger nations, but our ability to think differently, to think smarter and to maximise the value of all of our people will be essential if we are to win, to be more effective, efficient and productive.

I am delighted that we are trying to get after this: we have launched the 1SL Fellowship to deepen our critical thinking across all our workforce; we have established the Percy Hobart Fellowship to promote digital innovation throughout all levels of the Service; we are about to commence the updated junior staff course that promotes critical-thinking and business skills; we have opened recruitment to consider people on the Autistic Spectrum; and we are building a tool to capture the hidden skills of our people – a true digital profile. Small steps in refreshing our approach and harnessing the talent of all our people.

And this really matters. We are at a generational inflexion similar to the shift from sail to steam. We overcame organisational inertia then and the digital, technological and conceptual leaps needed now require similar ambition and action. If we want to be at the vanguard of the transition from analogue to digital and from digital to quantum computing – we will need to think differently, innovate and take some risk, to be prepared to fail-fast and learn quicker if we are to maintain our operational advantage.

We must not forget that we are keen to state that we are in a period of constant (but often hidden) competition – if that is true then there is an imperative to do better to challenge each other routinely to ensure we push beyond our comfort zone, to embrace change, inculcate continuous improvement, accept risk, take a non-linear approach to procurement, doctrine, training and our operations – make that our cultural norm. This is when we are most successful.

In short we need to be serious about this, we must think 'Outside the Box' philosophically if we are to gain the edge. For this reason, I am glad to see that the Royal Navy is beginning to think beyond traditional interoperability between nations and branch out toward interchangeability. Strategically, this is about the way we think, the way we plan, the way we act and the means to

do it. It is about purchasing power, collective Research & Development, an assured supply chain, connected systems, big-data exploitation, and combining operational effect – not only acting alongside our partners but acting as one. This is about using our collective resource (conceptually and physically) to be more productive and deliver better security outcomes. We are on this journey...

Over the past two years, the Royal Navy has been working ever-closer with our US counterparts in developing the methodology building upon our historic and deep maritime relationship. USMC F35s are currently deployed onboard HMS Queen Elizabeth as part of CSG21 and we also have launched the London Tech Bridge which is adding multiple new pathways to accessing UK and US R&D funding through: challenges, Open Calls, Collaboration Events and Hackathons. And there is more. We are building industrial relationships: secondees are now critical to our workforce; we are reaching out to start-ups alongside the primes to access the very best from the breadth of the market; and we are promoting open dialogue and partnering with the market to build trust, certainty and understanding. We have similar ambition for academia and intend to do more including: student work placements, joint project collaboration to provide opportunity; maintain freshness; support Research and Development; and remain at the leading edge across numerous areas: digital and data, technology, media, engineering, and science as examples.

So thinking differently allows us to act differently and deliver physical capability differently. We must think from first principles about outcomes and the best way to deliver, with logic, using the means available – a fresh approach to our physical as well as our conceptual capabilities.

If I was to ask you to characterise a physical naval fleet, you would propose carriers, air defence destroyers, anti-submarine frigates, mine hunters, patrol vessels, and submarines – they will have their historically-defined appearance, they would be employed according to their roles, each would need the other to truly work together as a fleet. Yet in our modern Navy we value adaptability, system commonality, federation, simplicity, interchangeability, sustainability, and utility, not the traditional way we think about such capabilities.

We are already introducing and valuing these themes in some of the emerging classes including: the T26, the T31 brigades and they will be fundamental attributes expected in any future ship procurement. But we do need to go further – this is about a first principles approach to delivering platforms and capability. We have traditionally associated them as one and the same – but why? Because the capability – the missiles, the sensors have always been hard wired, fixed into the ship. The refresh rate for our capability does not support an agile and adaptable response to threat so they have become fixed in their role and used, inconveniently and inefficiently for other roles when needed.

An anti-submarine frigate can't become an air defence destroyer – but why not? This is a prime example of us allowing traditional thinking to dictate, cloud and consequentially restrict our ability to be creative or innovative. The development of the submarine fundamentally changed the maritime

battlespace and added the underwater to warfare – what is the next submarine? What is the next ‘game changer’?

Whilst we can’t say for certain, the Royal Navy has a bold lethality ambition and a desire to increase mass and complexity through modularity, digitisation and the exploitation of autonomy. Our vision is to move on from platform-based approaches to provide enhanced: mass; range; flexibility of deployment; quantifiable advancement.

If we are to achieve some of this intent and the technological ambition we set out in the Future Autonomous Fleet 2050 vision, we need to make progress now to deliver towards that goal. To do so, will: inspire the next generation of sailors, scientists and engineers to pursue a career in the maritime domain; to realise our STEM skills ambition; to stimulate creative thinking and novel ideas; to provide a platform for dialogue with other leading maritime nations; to highlight UK investment and to support the UK’s prosperity/export agenda; and finally to plot a path to 2050.

So today, we challenge you to think differently, with us, to deliver this ambitious vision. We have always sought modularity as the nirvana of capability flexibility but have never been able to afford it. So, rather than ‘design modularity in’ we have chosen to design it out. Our concept is to simplify the ship: utilitarian, adaptable, common, cheaper. Capability is defined by the modules you add to or remove from that ship, based upon the operational demanded at that time. A series of modules

to deliver a spectrum of systems and capabilities – ‘PODS’ – Persistent Operational Deployment Systems. These PODS will be containers housing existing and emerging capability: precision strike, uncrewed air systems, directed energy, communications, minehunting, survey, communications, medical aid and more. The possibilities for industry are endless.

By placing the capability in the POD, the fleet is fully flexible, adaptable to mission, easily upgradeable and maintainable. Exploiting the standardisation of components through a podular design and utilising modern digital and open architecture networks affords the opportunities to develop a new mindset and approach to capabilities. Fundamentally, the deployment of platforms with podular connected capabilities will offer enhanced lethality, sustainability and availability and drive a new prosperity of possibility for the United Kingdom.

Royal Navy PODS will promote a sustainable system built to accommodate new and next generation capabilities whilst complementing our ambitious Shipbuilding pipeline. They will: represent a value for money investment; accelerate capability insertion periods to hours not months; facilitate upgrades; be interchangeable with allies; enable short-notice repurposing; be a physical representation of multi domain integration. The opportunities are endless and offer an opportunity to regain the operational ‘edge’ in an era of constant competition.

The principle is simple – ‘Pioneer, Prove, Procure, Plug and Play’.

Development is already underway and we are working at pace – you will see further details under your chair for those of you in the room and a POD is at the RN stand for you to visit and find out more. We want this to be a partnership: with industry, academia and our international partners. Join us in not only thinking outside the box but in helping us to think inside the box – there are endless possibilities here which we can all share.