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## BSA - Submission as part of the Strategic Defence Review 2024

### Introduction

The BSA brings together large and small businesses, professional services firms, charities, and social enterprises delivering service and infrastructure projects across the private and public sectors. The work of BSA members improves the lives of tens of millions every day across every region of the country; from building and maintaining our roads, energy supply, and digital ecosystem, to feeding school children and keeping our hospitals clean and safe. A membership list is attached for reference, alongside a summary of the BSA.

In Defence, members deliver a range of services, from construction, infrastructure and estates and facilities management services at UK and overseas military bases to equipment support, military training programmes, digital services, cyber, telecommunications, professional services and administrative services. We are an important part of Defence industry. The services provided by BSA members support not only the operational readiness of the Armed Forces but also the lived experience of Service Personnel and their families, and Defence's contribution to the UK economy.

In addition to this, the business services sector is key driver of growth, employment, innovation and productivity. It employs millions of people throughout every region of the country and is a significant contributor to our national economy. Our recent report, '*The Business Services Sector in the United Kingdom*', showed that even by the narrowest definition of 'business services' the sector accounted for at least 2.83m jobs throughout the UK in 2022, generated over £222.04bn in total turnover in 2021, and produced over £124.53bn in gross added value in 2021.<sup>1</sup>

There has been a notable shift in the nature of threats our national security faces in recent years, and these threats are now shared by the private sector. Cyber-attacks, especially those targeting critical national infrastructure, serve as a prime example. To anticipate and prepare for such future threats, it is crucial that the Government and private sector collaborate closely on areas including threat identification, bolstering resilience, and preparing response plans in the event of attacks.

This is particularly relevant to the business services sector, which provides crucial services to support the UK's critical national infrastructure, including transport, broadband, telecommunications, prisons and hospitals. This could potentially make the sector a target.

This therefore necessitates a novel degree of partnership between Defence and the private sector, extending beyond a simple commissioner-supplier relationship. This partnership must encompass shared intelligence, data residency, systems, control of crucial assets and systems, and procedures to safeguard our economy and citizens.

An evidence and risk-oriented sector-specific strategy could serve as an effective starting point, aiming to establish partnerships with the sectors most vulnerable or those where cyber-attacks could inflict the most damage. It also calls for enhanced cooperation with other government departments and agencies, especially the Department for Business and Trade, the Department Science, Innovation and Technology, National Cyber Security Centre, and Information Commissioner's Office.

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<sup>1</sup> [The-Business-Services-Sector-in-the-United-Kingdom-BSA-Report-Updated-June-2024.pdf \(bsa-org.com\)](#)



This collaborative approach can also be leveraged to uncover new opportunities alongside threats. With new technologies such as AI or green technologies emerging, the private sector is often ahead in their development and implementation. By engaging in genuine partnership, Defence can quickly identify and access promising new technologies and their potential applications to Defence, or collaborate with innovative and flexible private sector partners to develop its own technologies.

It is in this context that we make this submission, focusing on the areas in which members operate. In this paper, we focus on sections of the Strategic Defence Review that are of most relevance to our sector, particularly Proposition 10. This includes opportunities for modernisation and transformation, securing the best possible value for money, and the approach to recruiting, educating, training and retaining the people needed for One Defence. The answers contained here also build upon the points we have made in previous submissions relating to the call to shape the next Defence Command Paper (2023)<sup>2</sup> and the Integrated Review (2021)<sup>3</sup>.

We welcome the opportunity to feed into this review and are eager to hold further discussions on the points raised below.

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<sup>2</sup> <https://www.bsa-org.com/wp-content/uploads/2023/04/BSA-Response-Call-for-submissions-to-shape-next-Defence-Command-Paper-April2023.pdf>

<sup>3</sup> <https://www.bsa-org.com/wp-content/uploads/2020/09/BSA-submission-to-Integrated-Review-September-2020.pdf>



## Proposition 1: Describe the strategic, threat, and operational context for UK Defence 2024- 2050.

Projecting the strategic, threat, and operational context for UK Defence from 2024 to 2050 involves considering several ongoing and emerging trends. These projections are based on current trends and strategic documents like the Integrated Review of Security, Defence, Development and Foreign Policy (IRSDDFP) published in 2021.<sup>4</sup> Key areas of consideration include geopolitical shifts, technological advancements, climate change, and evolving military strategies.

### *Strategic Context*

1. **Geopolitical Competition:** The UK will likely continue to navigate a world dominated by geopolitical competition, particularly involving the US, China, and Russia. The UK's strategic partnerships, notably with the US, will remain crucial. Competition for global resources and heightened tensions in regions such as the Middle East will also have implications for UK Defence.
2. **European Defence and NATO:** Post-EU Exit and following Russia's invasion of Ukraine, the UK's role in European defence, albeit outside of EU frameworks, remains vital. Participation in NATO activities and potentially increased collaboration with European countries in defence projects will be significant.
3. **Global Britain:** The UK's ambition to assert itself as a "Global Britain", involves extending its influence and operations globally, not just in traditional areas of influence but increasingly in the Indo-Pacific region.

### *Threat Context*

1. **State and Non-State Actors:** Traditional state-based threats will persist, with Russia's invasion of Ukraine being the immediate focal point as well as heightened tensions in the Middle East. Non-state actors, including terrorist groups and cybercriminal organisations, will continue to pose significant and asymmetric threats.
2. **Cybersecurity and Information Warfare:** As warfare becomes increasingly digital, cybersecurity will be a critical concern. The UK will need to defend against cyber-attacks and influence operations.
3. **Space and Emerging Technologies:** The militarisation of space and the development of emerging technologies like artificial intelligence (AI) and autonomous weapons systems will create new frontiers in defence. The UK will need to invest in capabilities to protect its assets and interests in space and develop ethical frameworks for AI use in military contexts.

### *Operational Context*

1. **Integrated Operating Concept:** Following the trends set out in the Integrated Review, the UK military will likely continue to evolve into a more integrated force.<sup>5</sup> Joint operations across army, navy, and air force, incorporating cyber and space operations, will be crucial.
2. **Climate Change and Humanitarian Operations:** Increasingly, the military might be called upon for humanitarian assistance and disaster response as climate change leads to more frequent and severe natural disasters both domestically and overseas. Operations may extend to dealing with intra-state conflicts triggered by resource shortages.

<sup>4</sup> [Global Britain in a Competitive Age: the Integrated Review of Security, Defence, Development and Foreign Policy - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/96222/Integrated_Review_of_Security_Defence_Development_and_Foreign_Policy.pdf)

<sup>55</sup> *Ibid*



3. **Technology-Driven Modernisation:** UK Defence will continue to focus on technological modernisation, incorporating next-generation combat systems, enhanced surveillance capabilities, and networked communications. Investment in unmanned systems and AI-driven technologies will reshape operational doctrines.

In summary, from 2024 to 2050, UK Defence will need to be dynamic, responding to rapidly changing global conditions and threats. The focus should include technological innovation, strategic alliances, and flexible, multi-domain operational capabilities to address both traditional and non-traditional threats effectively.

**Proposition 2: Propose, in order of priority, the roles UK Defence must be capable of fulfilling 2024-2040.**

As outlined above, the strategic environment from 2024 to 2040 is likely to be influenced by a range of factors including geopolitical shifts, technological advancements, and evolving security threats. Considering these, UK Defence must be capable of fulfilling a variety of roles, prioritised as follows:

1. **National Defence and Deterrence:** The primary role of UK Defence is the protection of the UK and its overseas territories from external threats. This includes maintaining and enhancing deterrence capabilities, as well as conventional forces ready to defend national sovereignty.
2. **Contribution to NATO and Collective Defence:** As a leading member of NATO, the UK must continue to meet its commitment to collective defence. This involves not only maintaining the required military spending but also ensuring that UK forces are interoperable with those of other NATO members and capable of rapid deployment in support of alliance obligations.
3. **Counterterrorism and Domestic Security:** The threat of terrorism, both from international and homegrown actors, necessitates robust and agile counterterrorism capabilities. This includes close collaboration between the military, intelligence services, and civilian law enforcement to prevent attacks and manage incidents that occur.
4. **Cyber Defence and Information Warfare:** In an era increasingly dominated by digital technology, cyber threats pose a significant risk to national security, economic stability, and public safety. Enhancing cyber defence capabilities is crucial for protecting critical infrastructure and countering cyber-attacks and disinformation campaigns.
5. **Global Stability and Peacekeeping Operations:** The UK should maintain its role in international peacekeeping and stability operations under the auspices of the United Nations and other international bodies. This includes humanitarian assistance and disaster response (HADR) capabilities, which are critical in responding to international crises and natural disasters.
6. **Protection of Maritime Interests:** Given the UK's status as an island nation with global economic interests, protecting maritime trade routes and ensuring freedom of navigation are critical. This includes anti-piracy operations, maritime surveillance, and the protection of undersea cables and infrastructure.
7. **Support for Allies and Partnerships:** Strengthening global partnerships and supporting allies, particularly in regions critical to UK interests such as the Indo-Pacific, is essential. This involves not only military support but also training, capacity building, and joint operations.
8. **Technological Innovation and Adaptation:** The MoD must invest in research and development to stay at the forefront of military technology. This includes autonomous systems, AI, and



space capabilities. Equally important is the ability to quickly adapt to and integrate new technologies into existing forces.

9. **Support for Civil Authorities:** In emergencies, the military often supports civil authorities, whether in response to pandemics, severe weather, or significant public events. Ensuring readiness to support civilian needs in a range of scenarios will remain a vital role for UK Defence for 2024- 2040.

These roles reflect a balanced approach to addressing both traditional and emerging security challenges, ensuring that the UK remains capable of both defending its interests and contributing positively to global security.

**Proposition 3: Propose in order of priority what defence capability (as a function, not defined as equipment or organisation) UK Defence requires to deliver the roles required of it 2024-2050.**

*This should distinguish between:*

- *The capability required for enduring, standing commitments and tasks, or to be held at high readiness.*
- *The capability required on mobilisation in times of crisis.*

To effectively propose the defence capabilities required by UK Defence from 2024 to 2050, we must consider a broad spectrum of functions that align with both enduring tasks and crisis mobilisation needs.

These capabilities have been separated into two distinct groups: capabilities required for enduring, standing commitments or to be held at high readiness, and capabilities required on mobilisation in times of crisis. These are set out in order of priority.

*Capabilities for Enduring, Standing Commitments and Tasks, or to be held at High Readiness:*

1. **Cyber Defence and Resilience:** As cyber threats continue to evolve rapidly, the capability to defend against cyber-attacks and secure national infrastructure must be maintained constantly.
2. **Maritime Security and Naval Power Projection:** Given the UK's island status and global interests, a strong naval presence to protect sea lanes and deter maritime threats is critical.
3. **Air Defence and Aerospace Control:** Control of airspace and readiness to respond to aerial threats, including the interception of hostile aircraft and missiles, is essential for national security.
4. **Intelligence, Surveillance, and Reconnaissance (ISR):** Consistent ISR capabilities are necessary to maintain situational awareness and support decision-making both in peacetime and conflict.
5. **Rapid Response Forces:** The capacity to deploy forces quickly, at home or overseas, is critical to the UK's ability to respond to emerging threats and crises, including humanitarian missions.
6. **Strategic Deterrence (Nuclear and Conventional):** Maintaining a credible deterrent to protect against existential threats, and to back diplomacy.

*Capabilities Required on Mobilisation in Times of Crisis:*



1. **Mass Mobilisation and Logistic Support:** The ability to scale up military operations rapidly and sustain them over time is crucial in a major conflict or prolonged national emergency.
2. **Ground Combat Capability:** Robust ground forces remain a feature of modern combat during major conflicts, requiring effective mobilisation systems.
3. **Chemical, Biological, Radiological, and Nuclear (CBRN) Defence:** Depending on the nature of the crisis, having specialised units ready to deal with CBRN threats may be necessary, given the potentially catastrophic impacts.
4. **Reserve Forces Integration and Expansion:** The ability to integrate and expand reserve forces swiftly into active duty is vital for bolstering manpower and capabilities in a crisis.
5. **Civil-Military Cooperation and Support:** Coordination with civilian authorities and infrastructure is essential in crisis scenarios, particularly with regards to natural disasters to homeland security threats.
6. **Information Warfare:** Effective communication strategies to counter misinformation, maintain public morale, and destabilise adversary coherence are increasingly critical in modern conflicts.

These priorities reflect an adaptable and balanced approach, ensuring that the UK maintains a spectrum of capabilities to address both conventional and emerging threats. Each category should be continuously evaluated and adjusted in response to changing global and technological landscapes to ensure operational effectiveness and strategic deterrence from 2024 to 2050.

**Proposition 4: Describe how existing UK Defence capability and the current 10-year programme match the demands of the roles and capabilities identified for 2024-2040, highlighting and prioritising critical gaps.**

*Identify areas that require urgent attention to ameliorate immediate strategic level risks or vulnerabilities, including in logistic support and medical capability.*

As with previous propositions, responding to this proposition requires consideration of the UK's strategic defence outlook, technological advancements, geopolitical challenges, and the evolving nature of warfare. The analysis also has to factor in the Defence Command Paper and the IRSDDFP, which provide the strategic framework for future capabilities.

*Existing UK Defence Capabilities and the 10-Year Programme Alignment:*

#### **1. Cyber Defence and Resilience:**

- **Existing Capabilities:** The UK has invested in cyber defence through initiatives such as the National Cyber Force and cyber resilience is a clear priority for government.<sup>6</sup>
- **Alignment and Gaps:** While advancements have been made, the rapid evolution in cyber threats necessitates continuous enhancement in offensive and defensive capabilities. The UK needs to further integrate these domains into traditional military operations and ensure resilience against cyber threats.

#### **2. Naval Power:**

- **Existing Capabilities:** The UK has focused on pragmatic solutions to complement its longstanding status as a naval power. This includes partnering with other states as seen in the trilateral AUKUS partnership.

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<sup>6</sup> [Force Explainer 20211213\\_FINAL\\_1\\_.pdf \(publishing.service.gov.uk\)](#)



- **Alignment and Gaps:** Investment in the naval fleet, including the new Type 26 and Type 31 frigates, aligns with the need for power projection and maritime security. In spite of this, naval warfare is adapting at a not incomparable pace to land-based warfare as evidenced by the deployment of maritime drones in the conflict between Russia and Ukraine. Efforts should be taken to ensure that the UK remains at the forefront of naval combat capability in collaboration with global partners.

### 3. Air and Space Capabilities:

- **Existing Capabilities:** The procurement of F-35 Joint Strike Fighters proposed by the previous government would, if followed, significantly bolster the UK's Air capabilities along with the development of the Tempest programme (Future Combat Air System).<sup>7</sup> The UK has also taken steps to enhance its space capabilities, including the establishment of Space Command.
- **Alignment and Gaps:** There is a need to ensure integration of next-generation air systems with allied forces and to maintain superiority in electronic warfare and stealth technology.

### 4. Land Forces:

- **Existing Capabilities:** Modernisation of armoured vehicles and investment in autonomous systems are underway.<sup>8</sup>
- **Alignment and Gaps:** Rapid deployability and modular logistics capabilities are areas needing urgent attention.

#### *Critical Gaps and Areas Requiring Urgent Attention:*

##### 1. Emerging Technologies:

- **Issues:** The UK must address gaps in AI, robotics, and quantum technologies to maintain a competitive edge.
- **Recommendation:** Increase funding for R&D, collaborate with academia and the private sector, and ensure ethical considerations in the deployment of AI and autonomous systems.

##### 2. Personnel and Training:

- **Issues:** Retention and recruitment challenges persist, affecting operational readiness.
- **Recommendation:** Revamp recruitment strategies, invest in veteran services, and adapt training for multi-domain operations.

While the UK's defence strategy and current programme are robust in many respects, focused attention on emerging technologies, personnel, and training is crucial to mitigate strategic risks and vulnerabilities. Continuous assessment and adaptation of strategies will be key to maintaining operational effectiveness and securing national interests from 2024 to 2040.

**Proposition 5: Propose how UK Defence's contribution to NATO should be enhanced as a driving requirement of capability and activity, including through prioritising defence export potential.**

The UK, as a founding member of NATO and one of its most influential participants, has played a pivotal role in the alliance's mission to ensure peace and security. Enhancing the UK's contribution to NATO not only involves increasing military capabilities and readiness but also supporting the broader strategic objectives of the alliance through defence exports and industrial cooperation. Strategies that could be adopted include:

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<sup>7</sup> [Plans for Britain's F-35 fleet \(ukdefencejournal.org.uk\)](https://ukdefencejournal.org.uk)

<sup>8</sup> [State-of-the-art armoured vehicle fleet supported under new contract - GOV.UK \(www.gov.uk\)](https://www.gov.uk)



### *1. Strengthening Force Readiness and Interoperability*

- **Joint Exercises and Training:** Increase the frequency and complexity of joint exercises with NATO forces to enhance interoperability and readiness.
- **Technology Harmonisation:** Work towards technology standardisation and systems interoperability among NATO members, particularly in communication and information sharing, to ensure seamless joint operations.

### *2. Expanding Rapid Response Capabilities*

- **Enhanced Infrastructure:** Invest in strategic airlift and sealift capabilities, and support infrastructure development both within the UK and at strategic points across NATO territories to facilitate rapid deployment.
- **Special Forces and Cyber Capabilities:** Increase the size and capabilities of the UK's special forces and cyber warfare units, ensuring they are equipped to support NATO operations swiftly and effectively.

### *3. Focusing on Emerging Threats and Domains*

- **Space and Cyber Defence:** Develop and expand capabilities in space surveillance and defence, as well as in cyber defence, and offer these technologies and expertise to NATO partners where appropriate.
- **Hybrid Warfare Capabilities:** Enhance capabilities to counter hybrid threats, including misinformation, cyber-attacks, and other non-conventional threats, aligning with NATO's broader strategic concepts.

### *4. Leveraging Defence Export Potential*

- **Defence Export Controls:** Streamline export controls to facilitate easier sharing of defence technology and equipment with NATO allies, fostering greater interoperability and standardisation.
- **Co-development and Co-production Initiatives:** Encourage UK defence companies to enter into co-development and co-production agreements with companies in other NATO countries, spreading development costs, and increasing the export potential.
- **Focus on Innovation:** Invest in R&D in cutting-edge technologies like artificial intelligence, unmanned systems, and quantum computing. Position the UK as a leader in next-generation defence technologies within NATO, making UK products more attractive on the international market.

### *5. Diplomatic and Strategic Outreach*

- **NATO Policy Leadership:** Take a more active role in shaping NATO policies and initiatives, particularly in areas such as cyber defence, hybrid warfare, and strategic communications.
- **Enhance Defence Diplomacy:** Use defence diplomacy more effectively to strengthen alliances within NATO, including leveraging defence exports to enhance bilateral relationships.

### *6. Public and Alliance Communication*

- **Transparency and Reporting:** Enhance transparency regarding the UK's contributions and capabilities within NATO, building public and international trust.
- **Strategic Communications:** Use strategic communications to highlight the UK's role and contributions to NATO, reinforcing the UK's position as a leading member of the alliance.

By implementing these strategies, the UK can enhance its contribution to NATO, ensuring that it not only meets but exceeds its obligations to the alliance, thereby reinforcing its position as a central player in European and global defence.





**Proposition 6: Describe how the current support to Ukraine is integrated into UK Defence programmes and activities and propose measures in priority order to sustain and enhance this support to at least 2027.**

The UK has been actively involved in supporting Ukraine against Russian aggression. This support has been integrated into UK Defence programmes and activities through various channels, including military aid, training initiatives, and strategic partnerships. To sustain and enhance this support through at least 2027, a structured approach focusing on long-term commitments and adaptability to evolving military and geopolitical landscapes is crucial.

#### *Current Integration of Support to Ukraine in UK Defence Programmes*

1. **Military Aid and Equipment Transfers:** The UK has provided a range of defensive and offensive weapons systems, including anti-tank missiles, air defence systems, and the sending of Challenger 2 tanks used in Ukraine's recent incursion into Russian territory.<sup>9</sup>
2. **Training and Capacity Building:** Under Operation ORBITAL, initiated in 2015, the UK has been involved in training Ukrainian armed forces. This programme, now Operation Interflex, has expanded to include more comprehensive training packages post-2022 invasion.<sup>10</sup>
3. **Intelligence Sharing and Strategic Communications:** The UK has shared real-time intelligence and has cooperated with Ukraine in the realm of cyber defence and counteracting Russian disinformation campaigns.<sup>11</sup>
4. **Economic and Humanitarian Aid:** Alongside military support, the UK has provided economic assistance and humanitarian aid to support the civilian population affected by the war.<sup>12</sup>
5. **Multilateral Coordination:** The UK works closely with NATO, the EU, and other allies to coordinate and amplify the support provided to Ukraine, ensuring that efforts are synergistic and effective.

#### *Proposed Measures to Sustain and Enhance Support to Ukraine (2024-2027)*

##### **Priority 1: Expand and Diversify Military Aid**

- **Increase Supply of Advanced Weaponry:** Continue the trend of providing more complex systems such as armoured vehicles, advanced air defence systems, and other assets.
- **Establish a Long-term Military Aid Programme:** Formalise commitments over a multi-year horizon to provide clarity and assurance to Ukraine.

##### **Priority 2: Strengthen Intelligence and Cyber Cooperation**

- **Enhanced Real-Time Intelligence Sharing:** Establish more robust mechanisms for sharing intelligence, including satellite imagery and signals intelligence.
- **Cyber Defence Initiatives:** Increase support for Ukraine's cyber defences by providing technology transfers, training, and joint monitoring of cyber threats.

##### **Priority 3: Economic and Infrastructure Support**

- **Long-term Economic Aid Packages:** Commit to multi-year economic packages focused on rebuilding the Ukrainian economy to support resilience and recovery.
- **Infrastructure Development Projects:** Partner in rebuilding critical infrastructure.

<sup>9</sup> [UK-donated tanks used in Kyiv's Russia incursion - BBC News](#)

<sup>10</sup> [30,000 Ukrainian recruits trained in largest UK military training effort since Second World War - GOV.UK \(www.gov.uk\)](#)

<sup>11</sup> [UK boosts Ukraine's cyber defences with £6 million support package - GOV.UK \(www.gov.uk\)](#)

<sup>12</sup> [UK support to Ukraine: factsheet - GOV.UK \(www.gov.uk\)](#)



#### Priority 4: Diplomatic and Legal Support

- **Advocacy for Ukraine in International Forums:** Use diplomatic channels to ensure Ukraine's interests are represented in international decisions, particularly in the UN.
- **Support for War Crimes Accountability:** Assist in the investigation and documentation of war crimes to support international legal efforts.

#### Implementation Framework

- **Regular Review and Adjustment:** Establish a bi-annual review process for UK support strategies to adapt to changing circumstances and feedback from Ukrainian partners.
- **Coordination with Allies:** Ensure that all efforts are coordinated with allied initiatives to maximise impact and resource utilisation.

By prioritising and structuring support as outlined, the UK can play a crucial role in supporting Ukraine and contribute to the stability and security of the wider European region.

#### Proposition 7: Describe what advancing UK Defence from a multi-domain to an integrated force concept means and identify the key characteristics of each, including the relationship with non-kinetic means and resources.

Advancing UK Defence from a multi-domain to an integrated force concept involves a strategic shift towards a more cohesive and streamlined approach in the deployment and coordination of military resources. The key distinction between both concepts lies in the level of interconnectivity and interoperability of various defence components.

In a multi-domain concept, the UK Defence operates across different domains - land, sea, air, cyber, and space - independently, and each domain often has its own set of strategies, tactical operations, and resources. While there may be coordination and cooperation between these domains, they operate relatively separately.

In contrast, an integrated force concept fosters a more holistic and interconnected defence strategy. It focuses on the seamless integration of all domains to create a unified and comprehensive defence network. The integrated force concept recognises the changing nature of modern warfare, where threats can emerge across multiple domains simultaneously, and effective response requires fluid coordination between all domains.

Non-kinetic means and resources, such as cyber operations, information warfare, and electronic warfare, play a significant role in both concepts. However, their role becomes more pronounced in an integrated force concept. In a multi-domain approach, these non-kinetic means are typically deployed in isolation or in support of kinetic operations in a specific domain.

On the other hand, an integrated force approach recognises the potential of these non-kinetic means to disrupt, degrade, or destroy an adversary's capabilities across multiple domains simultaneously. This can include disrupting communication networks, spreading disinformation, or launching cyber-attacks against critical infrastructure. Consequently, the integrated force concept leverages the synergistic effect of combining kinetic and non-kinetic means effectively to achieve strategic objectives.

#### *Key characteristics*

##### **Key characteristics of a multi-domain approach:**

1. Independent operation of different domains.
2. Specific strategies and operations for each domain.



3. Coordination and cooperation between domains, though they operate separately.

**Key characteristics of an integrated force approach:**

1. Seamless integration of all domains.
2. Unified and comprehensive defence strategy.
3. Recognition of the potential of non-kinetic means to operate across multiple domains.
4. A holistic approach that leverages the synergistic effect of combining kinetic and non-kinetic means.

**Proposition 8: Describe and recommend how the UK Defence homebase is made secure and resilient in confrontation, crisis and conflict, including in enabling full mobilisation and campaign endurance when needed.**

The UK Defence homebase is strategically prepared for crisis situations, providing a robust system of protection and resilience. These measures are designed to ensure the operational readiness and resilience of the armed forces and the security of the nation during times of confrontation, crisis, and conflict.

1. **Physical Security:** The UK Defence homebase involves not only military installations but also communication networks, transport systems, and supply chains. Physical security measures include CCTV surveillance, security personnel, perimeter fencing, access controls, and intrusion detection systems.
2. **Cybersecurity:** The UK's military infrastructure is increasingly reliant on digital technology, making it a potential target for cyberattacks. Measures such as robust firewalls, encryption, intrusion detection systems, and regular security audits are crucial.
3. **Intelligence and Early Warning Systems:** The UK Defence homebase utilises sophisticated intelligence and early warning systems to detect potential threats. This includes satellite surveillance, SIGINT (Signal Intelligence), and HUMINT (Human Intelligence).
4. **Training and Drills:** Regular training exercises and drills are carried out to ensure that personnel are ready to respond to any situation. This includes training in crisis management, disaster response, and combat operations.
5. **Redundancy and Backup:** The UK Defence homebase ensures that there are redundant systems and backup resources in place. This ensures continuity of operations even if one part of the system is compromised.
6. **Partnership and Collaboration:** The UK Defence homebase works closely with NATO and other allies to share intelligence, coordinate responses, and provide mutual support in times of crisis.
7. **Public Awareness and Preparedness:** The UK Defence homebase also works on educating the public about potential threats and how to respond in a crisis. This includes running public awareness campaigns and providing information on emergency preparedness.
8. **Legal and Policy Framework:** The UK has a robust legal and policy framework in place to manage crises. This includes laws on emergency powers, crisis management structures, and rules of engagement.
9. **Resilient Infrastructure:** The UK invests in making its infrastructure resilient to both physical and cyber-attacks. This includes hardening structures, improving network security, and ensuring the resilience of supply chains.



10. **Regular Reviews and Updates:** The UK regularly reviews and updates its security and resilience measures to keep pace with evolving threats.

These measures collectively ensure that the UK Defence homebase is secure and resilient, capable of withstanding and effectively responding to crises. Maintaining and continually enhancing these measures is critical to ensuring the ongoing security of the UK Defence homebase.

**Proposition 9: Propose how UK Defence rapidly becomes a global pacesetter in how Digital Age technology evolves equipment, organisation and method across all aspects of capability, identifying the first major steps to be taken in each domain, how quickly this can be achieved, and recommend what legacy capability currently in service and in the extant future plans should be modified or dropped.**

To position the UK as a global leader in the integration of Digital Age technology across its defence capabilities, a comprehensive strategy that encompasses equipment modernisation, organisational reform, and methodological innovation needs to be adopted.

Below is an outline of the first major steps to be taken in each domain, the potential timeline for these steps, and recommendations on which legacy capabilities should be modified or phased out.

#### *Equipment Modernisation*

##### **1. Autonomous Systems Development:**

- **Step:** Accelerate the development and deployment of autonomous and remotely operated vehicles across the Army, Navy, and Air Force.
- **Timeline:** Initiate projects within 1 year with field deployments starting within 3-5 years.
- **Legacy Modifications:** Gradually reduce reliance on manned platforms that have high operational risks and costs.

##### **2. Cybersecurity Enhancements:**

- **Step:** Invest in cutting-edge cybersecurity technologies, including AI-driven threat detection systems.
- **Timeline:** Immediate investments with ongoing development, first rollouts within 2-3 years.
- **Legacy Modifications:** Upgrade or phase out older IT systems and platforms not capable of supporting advanced cryptographic measures.

##### **3. Space Capabilities:**

- **Step:** Expand capabilities in satellite technology, particularly for communication and surveillance, incorporating more resilient and smaller, deployable satellites.
- **Timeline:** Begin development within the next year, with deployment in 4-6 years.
- **Legacy Modifications:** Reassess large, vulnerable satellite systems in favour of distributed satellite networks with enhanced survivability.

#### *Organisational Reform*

##### **1. Digital Integration Units:**

- **Step:** Establish dedicated units responsible for the integration of digital technologies across different branches of the military.
- **Timeline:** Start within 1 year, fully operational within 2-3 years.
- **Legacy Modifications:** Streamline command structures to reduce redundancy and promote faster decision-making enabled by digital tools.

##### **2. Training and Education:**



- **Step:** Overhaul existing training programmes to include modules on cyber warfare, data analytics, and technology maintenance.
- **Timeline:** Curriculum development within 1 year, implementation in 2 years.
- **Legacy Modifications:** Transition from traditional combat training to scenarios that incorporate hybrid warfare including cyber elements.

### *Methodological Innovation*

#### **1. AI-enabled Warfare:**

- **Step:** Develop AI strategies for predictive analytics in logistics, threat assessment, and operational planning.
- **Timeline:** Begin AI integration in pilot programmes immediately, with broader implementation in 3-5 years.
- **Legacy Modifications:** Reduce reliance on static, pre-set tactical plans in favour of dynamic, AI-supported decision-making.

#### **2. Virtual and Augmented Reality (VR/AR):**

- **Step:** Implement VR/AR solutions for training, equipment maintenance, and field operations.
- **Timeline:** Start pilot projects within 1 year, expand usage over the next 3-5 years.
- **Legacy Modifications:** Decrease physical training setups and environments, shifting towards virtual simulations.

### *Recommendations on Legacy Capabilities*

- **Phasing Out Older Aircraft:** Older fighter jets and transport aircraft should be gradually replaced by newer, more fuel-efficient manned aircraft and unmanned aerial vehicles (UAVs).
- **Reducing Tank Numbers:** As warfare becomes more asymmetric and reliant on drones and cyber capabilities, the traditional role of tanks should be reviewed, particularly the deployment of older and less tech-compatible models.
- **Streamlining Naval Forces:** Older surface ships, particularly those not suited to retrofitting with new technologies, should be phased out in favour of multi-role ships and submarines that can better utilise digital systems for stealth and combat operations.

**Proposition 10: Propose how UK Defence builds and sustains a relationship with technology providers and industry (major primes and SME) that enables the technology choices that will drive globally pace-setting modernisation and transformation.**

Building and sustaining a relationship with technology providers and industry is vital for UK Defence to drive globally pace-setting modernisation and transformation. The following proposals would support this relationship:

1. **Establishing Partnership Agreements:** UK Defence should establish strategic partnerships with technology suppliers and industry. These partnerships could involve joint research and development initiatives, technology transfer, and collaborative projects. Partnership agreements will help to foster long-term relationships and mutual trust.
2. **Regular Dialogue and Consultation:** Regular communication and market engagement is crucial for understanding the capabilities of technology providers and industry partners. This should involve periodic meetings, workshops, and consultations to discuss current and future technology trends, challenges, and opportunities. Industry bodies such as the Business Services Association (BSA) are key to enabling this engagement.



3. **Industry Events and Expos:** Participation in industry events, expos, and trade shows will provide opportunities to interact with technology providers and industry partners. These events can serve as platforms for networking, knowledge exchange, and showcasing of new technologies.
4. **Research and Development Collaboration:** Collaborating on research and development projects can help the UK Defence to leverage the expertise of technology providers and industry partners. This can lead to the development of innovative technologies that can drive modernisation and transformation.
5. **Technology Testbeds and Demonstrators:** The creation of technology testbeds and demonstrators can allow technology providers and industry partners to showcase and test their technologies in realistic operational scenarios. This can help to evaluate the suitability of these technologies for military use.
6. **Training and Education:** Providing training and education opportunities to personnel from technology providers and industry partners can help to build their understanding of the defence sector. This can foster a better understanding of the requirements and constraints of the defence sector.
7. **Procurement Processes:** Streamlining procurement processes can make it easier for technology providers and industry partners to work with the defence sector. This could involve capitalising on the opportunity presented by the Procurement Act 2023 and ensuring that pipelines are clear and regularly updated to ensure that suppliers have up to date information when engagement with UK Defence.
8. **Feedback Mechanisms:** Establishing feedback mechanisms can help to ensure that the needs and concerns of technology providers and industry partners are heard and addressed. This could involve regular surveys, feedback sessions, and other forms of engagement facilitated by industry bodies such as the BSA.

**Proposition 11: Propose how UK Defence acquisition and support (for all classes of equipment) continues to modernise to: maintain pace with key technology, enable the transition to an integrated force, advance interoperability in NATO, and deliver agile, cost-effective acquisition and support at optimum value for money.**

The UK Defence acquisition and support strategy faces the dual challenges of keeping pace with rapid technological advancements and ensuring that the armed forces remain capable and interoperable in a fast-evolving geopolitical landscape. To address these challenges, UK Defence needs to modernise its approach across several key areas:

### 1. Adopting Advanced Technologies and Innovation

- **Embrace Emerging Technologies:** Integrate AI, robotics, cyber technologies, and quantum computing into defence capabilities. Establish partnerships with technology companies and industry partners through initiatives such as the Defence and Security Accelerator's Defence Technology Exploitation Programme to scout and integrate cutting-edge technologies.<sup>13</sup>
- **R&D Investment:** Increase funding in research and development, particularly in areas like space capabilities and cyber defence.

### 2. Transitioning to an Integrated Force

- **Joint Force Integration:** Develop and implement joint doctrines that enhance the interoperability of the Army, Navy, and Air Force, leveraging shared platforms and systems.

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<sup>13</sup> [DTEP funding helps foundry business heat up - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/dtep-funding-helps-foundry-business-heat-up)



- **Network-Enabled Capabilities:** Invest in secure and resilient communication and data-sharing infrastructures.

### 3. Delivering Agile, Cost-Effective Acquisition

- **Overhaul Procurement Processes:** Simplify and expedite the procurement process to reduce lead times and costs. This includes empowering Front Line Command leads with the authority to adjust delivery dynamically with an approved budgetary limit. Defence must reduce the sequential repetition of business case detail and seek a simpler approach, potentially leveraging from more detailed Outline Business Cases to streamline the Full Business Case stage and removing the need for a 'Develop Preferred Options' stage when requirements are most straightforward.
- **Outcome-Based Approaches:** A longer-term shift from a platform-centric to a capability-centric approach in procurement, focusing on the outcomes and performance rather than specific systems or technologies.
- **Long-Term Partnerships and Alliances:** Build strategic alliances with industry partners through mechanisms like the Defence Growth Partnership (DGP) to co-develop and co-innovate solutions.

### 4. Ensuring Optimum Value for Money

- **Lifecycle Cost Management:** Emphasise total lifecycle cost management from the initial acquisition phase. Integrate support and maintenance considerations early in the design and procurement stages.
- **Ensure the publication of timely and accurate Pipeline data:** Regularly updating pipelines, and ensuring that the market is prepared for upcoming opportunities, will enable suppliers to ensure that their bids and supply chains are in good order ahead of invitations to tender.
- **Audit and Review:** Establish regular audit and review mechanisms to assess the effectiveness and efficiency of acquisition programmes. Utilise market feedback to refine and improve processes.

### 5. Policy and Organisational Reform

- **Workforce Development:** Invest in training, retaining, and recruiting skilled personnel who can manage modern defence technologies and complex acquisition processes.
- **International Cooperation:** Enhance cooperation on international defence projects to share costs and benefits, reduce duplication, and leverage economies of scale.

By implementing these strategies, the UK can ensure its defence acquisition and support framework remains robust, agile, and capable of meeting the challenges of modern warfare and strategic commitments. This approach will not only bolster national security but also ensure that the defence spending delivers maximum value for the taxpayer.

**Proposition 12: Propose measures in priority order that establish how UK Defence transitions to the optimum balance of regular, reserve, civil servant, and industry people across all standing tasks and commitments and on mobilisation. Recommend the recruitment, education, training and retention measures required to achieve this.**

To establish an optimal balance of regular, reserve, civil servant, and industry personnel within the UK Defence framework, it is crucial to implement a strategic, comprehensive approach that not only addresses current gaps and inefficiencies but also anticipates future needs and challenges. Recommendations, in priority order, include:

#### 1. Strategic Workforce Assessment



- **Conduct a Comprehensive Audit:** Review current workforce distribution across regulars, reserves, civil servants, and industry partners. Assess skills, capabilities, and readiness levels relative to current and projected tasks and commitments.
- **Future Requirements Forecasting:** Utilise defence strategy documents, threat assessments, and geopolitical analyses to forecast future personnel needs.

## 2. Recruitment Strategies

- **Targeted Recruitment Campaigns:** Develop recruitment campaigns tailored to fill gaps identified in the workforce audit, emphasising the unique value and opportunities in each area (regular, reserve, civil service, and industry).
- **Diversity and Inclusion:** Focus on broadening the recruitment base to include more diverse backgrounds, enhancing cultural competence and operational effectiveness.

## 3. Education and Training Frameworks

- **Integrated Training Programmes:** Establish joint training programmes that include regulars, reserves, civil servants, and industry personnel to foster interoperability and mutual understanding of each domain's roles and challenges.
- **Continued Professional Development:** Implement continuous learning and upskilling opportunities, particularly in areas like cyber defence, artificial intelligence, and other nascent technologies.

## 4. Retention Measures

- **Career Development Paths:** Clearly outline career progression opportunities for all personnel categories including moving between regular, reserve, and civil servant roles.
- **Benefits and Incentives:** Enhance benefits packages and introduce new incentives to retain top talent, such as flexible working arrangements, competitive pensions, and health benefits.

## 5. Reserve Forces Enhancement

- **Increased Integration:** Enhance the role of reserves, ensuring they are an integral part of the defence strategy, not just supplementary forces.
- **Employer Partnerships:** Strengthen partnerships with private sector employers to facilitate employees' participation in the reserves.

## 6. Civil-Military Fusion

- **Public-Sector Collaboration:** Expand collaborations between the military, civil sectors, and academia to foster innovation and resource sharing.
- **Legislative Support:** Advocate for laws and regulations that support the seamless integration and cooperation among military, civil servants, and industry personnel.

## 7. Adaptability and Resilience Building

- **Scenario Planning:** Regularly update and practice different deployment scenarios to ensure all sectors can effectively work together and adapt to changing circumstances.
- **Health and Wellbeing Support:** Provide comprehensive support systems for mental health, physical health, and family support to enhance resilience among all personnel.

## 8. Monitoring and Continuous Improvement

- **Feedback Mechanisms:** Implement and maintain robust feedback systems to continually gather insights from all levels within the defence workforce.
- **Agile Policy Making:** Ensure policies and strategies are adaptable and responsive to feedback and changing global defence landscapes.

## 9. Communication and Transparency





- **Open Communication Channels:** Maintain clear, open lines of communication across all sectors to ensure that everyone is informed, engaged, and aligned with the defence objectives.
- **Public Engagement:** Increase public awareness and understanding of the roles of different personnel groups within UK Defence through outreach programmes and media engagement.

By implementing these measures, UK Defence can transition to a balanced and cohesive workforce, capable of effectively meeting current and future challenges.

**Proposition 13: Propose the digital enablement required by an Integrated Force across all domains and to recommend and prioritise the steps to accelerate this transformation to place UK Defence as a global pacesetter in this area.**

Digital enablement in an Integrated Force involves the application of innovative technologies and advanced digital solutions to enhance efficiency, effectiveness, and interoperability across all domains. The following would help UK Defence establish a leading role in the global military digital transformation:

1. **Connected Forces:** Enable robust, secure, and real-time data sharing across all domains - land, sea, air, space, and cyberspace. This could be done by investing in secure cloud-based platforms, advanced communication systems and data fusion technologies.
2. **Digital Training:** Implementing digital tools such as VR and AR in training programmes can help personnel to better understand complex scenarios and improve their decision-making skills.
3. **Autonomous Systems:** Invest in AI and machine learning technologies to support unmanned systems and robotics for surveillance, reconnaissance, and combat operations.
4. **Cybersecurity:** Strengthen cybersecurity measures to protect sensitive data and systems from cyber threats. This includes the development of advanced encryption technologies and intrusion detection systems.
5. **Data Analytics:** Leverage big data analytics to support strategic decision-making, operational planning, and intelligence activities.
6. **Interoperability:** Ensure that all digital systems and technologies are interoperable to allow seamless data exchange and cooperation between different forces and allies.
7. **Digital Culture:** Foster a digital culture within the defence force by providing ongoing training and education on digital technologies and their benefits.
8. **Innovation Labs:** Establish innovation labs to encourage experimentation with new technologies and facilitate collaboration between the military, academia, and industry.

To prioritise these steps, the first move should be to conduct a comprehensive digital maturity assessment to identify gaps and opportunities. This should be followed by the development of a digital transformation roadmap that outlines the specific actions, timelines, and resources required. Regular monitoring and evaluation should also be conducted to track progress and make necessary adjustments.



**Proposition 14: Propose how individual and collective education and training across all elements of Defence delivers the character and skills required by an Integrated Force for the challenges and requirements of 2024-2040, recommending the optimum division of responsibility between all elements of UK Defence and allies/partners for delivering this and identifying how the rapid and continuous application of new technology enables this.**

The Integrated Force for 2024-2040 requires a multi-dimensional and forward-thinking approach to education and training that builds on collective and individual skills, character, and resilience to address both traditional and emerging threats.

- 1. Individual Education and Training:** The character and skills required by an Integrated Force can be delivered in part through a comprehensive individual learning system. This involves formal education, professional military education, and technical training. The focus should be on fostering a culture of continuous learning and adaptation to the dynamic security environment.
- 2. Collective Education and Training:** Collective training should focus on multi-domain operations, joint warfare, and interagency coordination. Utilising realistic, high-intensity, and immersive training environments can ensure that military personnel are prepared for real-world scenarios.
- 3. Division of Responsibility:** The Army, Navy, Air Force, and the Defence Cyber & Intelligence domain should be responsible for developing and delivering specific training and education related to their unique capabilities and roles. The Defence Academy should facilitate joint education and training, fostering interoperability and mutual understanding among different military branches.
- 4. Allies/Partners:** The UK should leverage its alliances and partnerships to enhance collective defence education and training. NATO and other bilateral partnerships can provide platforms for joint exercises, shared learning, and exchange of best practices.
- 5. Application of New Technology:** The rapid and continuous application of new technology is vital in facilitating defence education and training. This includes the use of virtual and augmented reality for realistic training simulations, AI for personalised learning, and data analytics for monitoring training effectiveness.
- 6. Cybersecurity Training:** In the digital age, the defence sector must prioritise cybersecurity training across all elements. This includes basic awareness for all personnel and advanced training for those in specialised roles.
- 7. Research and Innovation:** The defence sector should collaborate with academic and research institutions as well as industry partners to stay updated with the latest technological advancements and incorporate them into training programmes.
- 8. Leadership Development:** Fostering leadership skills is crucial. This includes strategic thinking, decision making, and ethical considerations, which can be taught through scenario-based training and mentoring programmes.

In conclusion, an integrated approach that combines individual and collective education and training, leverages technology, and collaborates with allies and partners, can equip the UK Defence with the character and skills required for the challenges and requirements of 2024-2040.



**Proposition 15: Propose how the maritime (including littoral) domain is developed to contribute to an Integrated Force, recommending measures that accelerate modernisation and transformation and identifying existing capabilities and programmes that do not support this.**

The maritime domain plays a crucial role in developing a coherent and integrated force capable of addressing an array of challenges; from conventional warfare to humanitarian assistance. Suggestions on how to enhance maritime capabilities and identify areas that do not support this aim include:

1. **Modernisation and Upgrading of Naval Assets:** The maritime domain must be equipped with advanced and modern naval assets, including ships, submarines, and maritime patrol aircraft. This could include autonomous underwater vehicles, remote-operated vehicles, and unmanned aerial vehicles. Modernising these assets would provide a significant advantage in maritime security, surveillance, and reconnaissance operations.
2. **Interoperability:** Encourage and enhance interoperability between various maritime forces, including the navy, coast guard, marine police, and other related agencies. This can be achieved through joint training and exercises, information sharing, and the use of common communication and surveillance systems.
3. **Maritime Domain Awareness (MDA):** Develop comprehensive MDA capabilities to acquire and analyse information about the maritime environment. This would involve the integration of data from various sources, including satellites, radar, sonar, and human intelligence. This would help in detecting and responding to potential threats in a timely manner.
4. **Cybersecurity:** Given the increased reliance on digital platforms and systems, there is a need to strengthen cybersecurity capabilities. This includes protecting critical infrastructure, securing communication networks, and preventing cyber espionage.
5. **Human Capital Development:** Invest in training and education to develop skilled personnel capable of operating advanced maritime systems and technologies. This should include both technical training and strategic education to understand the broader maritime security environment.
6. **Green Navy:** Implement measures to reduce the environmental impact of naval operations. This can include the use of alternative fuels, energy-efficient technologies, and waste management practices.

Some existing capabilities and programmes that might not support this transformation include outdated legacy IT hardware and software, lack of training and education programmes, and insufficient investment in research and development. Moreover, lack of coordination among different maritime agencies and resistance to change can also hinder the modernisation and transformation process.

To overcome these challenges, it is crucial to engage in strategic planning, promote a culture of innovation, enhance inter-agency coordination, and allocate sufficient resources for maritime modernisation and transformation initiatives.

**Proposition 16: Propose how the land domain is developed to contribute to an Integrated Force, recommending measures that accelerate modernisation and transformation and identifying existing capabilities and programmes that do not support this.**

The development of the land domain to contribute effectively to an Integrated Force involves a strategic overhaul of existing capabilities, acceleration of modernisation, and transformation efforts to ensure seamless integration with air, naval, space, and cyber domains. This multi-domain approach is critical for maintaining and enhancing military effectiveness in modern conflict environments.



Below are several proposed measures to achieve these objectives as well as existing capabilities and programmes that may not align well with the future needs of an Integrated Force.

### *Measures to Accelerate Modernisation and Transformation*

#### **1. Enhanced Networked Communications:**

- Develop and deploy advanced, secure, and resilient communications systems that enable real-time data sharing across different forces and domains.
- Invest in technologies such as satellite communications, 5G, and AI-driven data analytics to improve the speed and reliability of battlefield communications.

#### **2. Advanced Simulation and Training Programmes:**

- Implement virtual and augmented reality systems to simulate various combat scenarios, providing realistic training that integrates various domains and enhances joint operational capabilities.
- Develop doctrine and training that emphasise joint operations and the strategic use of integrated forces.

#### **3. Autonomous Systems and Robotics:**

- Expand the use of unmanned ground vehicles (UGVs), drones, and robotic systems to perform reconnaissance, surveillance, resupply, and combat support roles, reducing risk to human personnel and increasing operational effectiveness.
- Integrate AI to enhance the decision-making capabilities of these systems in complex environments.

#### **4. Modernising Armour and Mobility:**

- Upgrade armoured fighting vehicles with enhanced protection, mobility, and firepower that can operate in diverse and challenging environments.
- Invest in hybrid-electric and fuel cell technologies to improve the sustainability and range of ground vehicles.

#### **5. Cyber Warfare Capabilities:**

- Develop offensive and defensive cyber capabilities tailored to protect land forces and disable enemy networks and communications.
- Train specialised cyber warfare units that operate in tandem with conventional forces.

#### **6. Precision Strike Capabilities:**

- Equip land forces with precision-guided munitions and advanced targeting systems that can be integrated with air and naval strike capabilities.
- Develop and deploy land-based missile defence systems that interact seamlessly with air and naval assets.

### *Existing Capabilities and Programmes to Reassess*

#### **1. Legacy Armoured Platforms:**

- Older tank and armoured vehicle models that lack the agility, survivability, and network integration required for modern warfare should be phased out or upgraded significantly.

#### **2. Outdated Communication Systems:**

- Legacy communication systems that are susceptible to jamming and cyber-attacks need either significant upgrades or replacement to ensure secure and resilient data exchange.

#### **3. Conventional Artillery Systems:**



- Traditional artillery may require transformation to incorporate precision guidance systems, longer range capabilities, and better integration with aerial and satellite reconnaissance.

#### 4. Redundant Supply Chain and Logistics Systems:

- Streamline supply chains through automation and advanced logistics solutions, reducing the footprint and vulnerability of supply lines in contested environments.

In summary, to develop the land domain effectively within an Integrated Force, it is crucial to prioritise investments in technologies and capabilities that enhance interoperability, resilience, and adaptability across all domains of warfare. Additionally, reassessing and phasing out outdated systems and platforms will free up resources necessary for these critical modernisation efforts.

**Proposition 17 Propose how the air and space domains are developed to contribute to an Integrated Force, recommending measures that accelerate modernisation and transformation and identifying existing capabilities and programmes that do not support this.**

The air and space domains have a significant role in the development of an integrated force. The application of advanced technologies and operational concepts in these domains can enhance the effectiveness of the force, facilitate interoperability among units, and improve strategic decision-making capabilities.

1. **Integration of Advanced Technologies:** The adoption of AI, machine learning, and autonomous systems can significantly enhance the capabilities of air and space forces. These technologies can improve the speed and precision of decision-making, enhance the effectiveness of surveillance and reconnaissance activities, and reduce the risk to human operators. Implementing these technologies would require significant investment in research and development, as well as in training and education for personnel.
2. **Strengthening Space Capabilities:** Space-based assets provide critical capabilities for communication, navigation, and surveillance. Strengthening these capabilities can enhance the effectiveness of the integrated force. This could be achieved by investing in more resilient and capable satellites, developing counter-space capabilities to deter adversaries, and advancing space-based ISR (Intelligence, Surveillance, and Reconnaissance) capabilities.
3. **Enhancing Interoperability:** The air and space domains must be seamlessly integrated with other domains (land, sea, cyber) to achieve an effective integrated force. This requires the development of common standards and protocols, the upgrading of communications and data-sharing infrastructure, and the conduct of joint exercises to enhance coordination among different units.
4. **Improving Decision-Making Capabilities:** The air and space domains generate vast amounts of data that can be used to inform strategic decision-making. Investing in data analytics capabilities can enable the force to make sense of this data and use it to enhance operational effectiveness.
5. **Streamlining Processes and Programmes:** It is essential to identify and eliminate any existing capabilities and programmes that do not support the development of an integrated force. This could include outdated systems, redundant capabilities, or inefficient processes. Streamlining these areas can free up resources for investment in more relevant areas.
6. **Prioritising Cybersecurity:** Given the increasing reliance on digital technologies and the growing threat of cyber-attacks, it is critical to prioritise cybersecurity in the air and space



domains. This includes investing in secure communications systems, enhancing cyber resilience, and training personnel in cybersecurity best practices.

7. **Promoting Innovation:** Encouraging innovation can accelerate modernisation and transformation in the air and space domains. This could be achieved by fostering a culture of innovation within the force, partnering with academia and industry to leverage their expertise, and establishing mechanisms to rapidly procure and integrate innovative technologies.

**Proposition 18: Propose how UK Special Forces are developed as part of an Integrated Force and in support of UK National Security and resilience.**

UK Special Forces (UKSF) are elite military units that play a crucial role in national security. They operate in high-risk environments and perform tasks beyond the capabilities of conventional forces. They can be developed as part of an Integrated Force and in support of UK National Security and resilience in the following ways:

1. **Inter-Service Cooperation:** Enhance cooperation between UKSF and other branches of the UK military. This involves joint training exercises, exchange of intelligence, and coordinated operations. This cooperation can foster a more cohesive and effective force capable of addressing complex security challenges.
2. **Specialised Training:** Invest in specialised training programmes that equip UKSF with the skills necessary to counter various threats, such as terrorism, cyber warfare, and weapons of mass destruction. This includes training in unconventional warfare, counter-terrorism, survival, evasion, resistance, and escape (SERE), and other special operations skills.
3. **Technological Advancements:** Incorporate advanced technologies into UKSF operations. This could involve the use of drones for surveillance and reconnaissance, artificial intelligence for data analysis, and advanced weaponry. These technologies can enhance UKSF's operational capabilities and efficiency.
4. **Intelligence Sharing:** Facilitate effective intelligence sharing between UKSF and other intelligence agencies, both domestically and internationally. This can enable UKSF to better anticipate and respond to threats, thereby enhancing national security.
5. **Resilience Building:** Develop resilience-building programmes to ensure UKSF members can withstand and quickly recover from physical and psychological challenges inherent in their duties. This could involve physical fitness programmes, mental health support, and comprehensive medical care.
6. **International Partnerships:** Strengthen partnerships with special forces from allied countries. This can enable the sharing of best practices, joint training exercises, and cooperative operations, thereby enhancing the capabilities of UKSF.
7. **Civil-Military Cooperation:** Enhance cooperation with civilian agencies, such as law enforcement and emergency services. This can enable a more coordinated response to domestic security incidents, such as terrorist attacks or natural disasters.
8. **Legislative Support:** Ensure robust legislative support for the activities of UKSF. This includes clear legal frameworks for operations, adequate funding, and oversight mechanisms to ensure accountability and transparency.



By implementing these strategies, the UKSF can be effectively integrated into the wider security apparatus, enhancing the UK's overall national security and resilience.

**Proposition 19: Propose how Defence Medical Services ensures the levels of primary, secondary and tertiary medical support are in place for standing tasks and for mobilisation for the demands of operational context of 2024- 2040.**

*Identify the optimum mix of Regular, Reserve, civil servant, NHS and industry capability required and recommend urgent and essential measures to ameliorate major extant risks in priority order.*

Defence Medical Services (DMS) is tasked with the critical duty of providing medical support to the armed forces, ensuring that military personnel receive comprehensive healthcare across all levels of medical intervention: primary, secondary, and tertiary. The evolving operational context from 2024 to 2040 demands a strategic reassessment and enhancement of these services to meet both routine military needs and unforeseen challenges. Below is a proposed strategy to ensure robust medical support through the integration of Regular, Reserve, civil servants, NHS collaboration, and industry partnerships:

#### 1. Assessment and Forecasting of Medical Needs

- **Conduct a Comprehensive Needs Analysis:** Regularly update the threat and medical risk assessments to align with changing military roles, technology, and geopolitical situations.
- **Future Proofing:** Invest in research and development focused on future medical technologies and practices, considering potential scenarios in the 2024-2040 timeframe.

#### 2. Optimum Mix of Medical Support Structure

- **Regular Personnel:** Serve as the backbone for DMS, providing constant readiness and stability.
- **Reserve Forces:** Enhance flexibility and surge capacity during mobilisation and large-scale military operations.
- **Civil Servants:** Offer specialised skills and continuity in medical care and administrative functions.
- **NHS Partnership:** Facilitate cross-training, resource sharing, and rotational staff placements between DMS and NHS to enhance medical skills and manage resource constraints.
- **Industry Collaboration:** Engage with medical technology companies and pharmaceuticals for access to the latest medical technology and supplies.

#### 3. Integration and Training

- **Joint Training Exercises:** Regular and comprehensive training drills involving all components of the medical support structure to ensure seamless operation and integration.
- **Continual Professional Development:** Ongoing training programmes to keep all medical personnel up-to-date with the latest medical practices and technologies.

#### 4. Infrastructure and Equipment

- **Upgrade Medical Facilities:** Modernise existing military medical facilities and ensure they are equipped with the latest medical technology.
- **Mobile Medical Units:** Develop and maintain high-quality mobile medical units for rapid deployment in various operational contexts.

#### 5. Research and Innovation

- **Invest in Medical Research:** Focus on advancements in battlefield medicine, trauma care, and mental health services.
- **Innovations in Logistics and Supply Chain:** Develop resilient medical logistics frameworks to ensure timely delivery of medical supplies.



## 6. Psychological Health Services

- **Enhanced Mental Health Support:** Establish robust psychological support systems to address the mental health needs of military personnel, both during active duty and post-service.

## 7. Urgent and Essential Measures in Priority Order for Risk Amelioration:

- **Cybersecurity of Medical Data:** Ensure robust security measures to protect sensitive medical information against increasing cyber threats.
- **Personnel Retention:** Implement strategies aimed at retaining skilled medical personnel, including competitive pay scales, career progression opportunities, and work-life balance initiatives.
- **Climate Change Adaptation:** Adapt medical facilities and operations to withstand the effects of climate change, including temperature extremes and natural disasters.

In conclusion, the strategic realignment and enhancement of DMS should be an ongoing process, responsive to the dynamic global landscape and emerging military needs. By developing a resilient, integrated, and technologically advanced medical support system, DMS can ensure that it continues to provide exemplary care to its personnel in any operational context between 2024 and 2040.

**Proposition 20: Describe the current utilisation and condition of all aspects of Defence Estate and recommend how to accelerate restoring all Married and Single Living accommodation to standards recognised as acceptable by the Services. Make recommendations in priority order for estate rationalisation and disposal at best value to Defence and identify how to improve and modernise support to Defence estate.**

### *Current Utilisation and Condition*

The current utilisation and condition of Defence Estate varies across the country. Some bases and facilities are in good condition and are well-utilised, while others are underutilised or in poor condition.

### *Recommendations*

**1. Move from the current 'cost based' to a more 'risk based' approvals process:** Granting approvals on a 'not to exceed' basis would limit the delay caused by the need for Defence to generate Review Notes to close with small scale project changes. This would enable Defence to adjust the disproportionate amount of time spent managing project administration and apply more resource towards driving project delivery.

**2. Greater use of schedule rates:** Greater use of schedule of rates for repeat infrastructure works, in addition to estate services, should also be considered. Industry is able to provide pricing structure menus for such works, including small scale projects at Cat E (less than £10 million) such as temporary accommodation.

**3. Rationalise Estate:** There is a need to review the current Defence Estate portfolio and identify underutilised or redundant properties. Estate rationalisation should be based on operational requirements, the condition of the property, and its potential value. The disposal should be carried out in a transparent manner to achieve the best value for UK Defence. The proceeds from the disposal can be reinvested in improving the remaining estate.

**4. Improve Maintenance:** There should be a more proactive approach to maintenance. A regular maintenance schedule can prevent minor issues from becoming major problems.





**5. Invest in Technology:** Modernise the Defence estate by investing in advanced technology. This could include smart building systems to improve energy efficiency, security systems to enhance safety, and digital platforms to streamline the management of the estate.

**6. Enhance Training:** Provide training to Defence personnel on the effective management and maintenance of the estate. This can enhance their skills and increase their engagement in the upkeep of the estate.

### *Improving Support*

In order to improve support to the Defence estate in the longer-term, it is important to recognise and understand the full breadth of the industry, including industry partners in infrastructure and technology as well as their supply chains. The Ministry of Defence should ensure these parts of the Defence industrial base are fully represented in their thinking and at relevant MoD fora. Taking full account of Defence industry will also help to give MoD a clearer view of Defence's wider contribution to UK prosperity across the range of sectors it works with, beyond those who work only and specifically in Defence.

**Proposition 21: Propose how to improve financial management and administration across Defence, meeting HMG standards of accountability and identifying how more rapid adoption of digital technology will modernise culture, organisation and ways of working.**

Improving financial management and administration across Defence can be achieved through a variety of measures including:

- 1. Enhance Financial Literacy:** To meet HMG standards of accountability, it is essential to improve the financial literacy of all relevant defence personnel. This includes training on budgeting, financial planning, auditing, and the importance of transparency and accountability.
- 2. Implement Digital Transformation:** Rapid adoption of digital technology is crucial to modernise the culture, organisation and ways of working. This can involve the use of financial management software to automate processes, reduce human error, and increase efficiency. AI and Machine Learning (ML) can be employed to analyse financial data, predict trends, and assist in decision-making.
- 3. Centralise Financial Operations:** Creating a centralised financial system can help streamline processes and improve coordination. This system can provide real-time financial data, ensuring all departments have access to the same information, enabling faster, more informed decisions.
- 4. Establish Robust Internal Controls:** Implementing strong internal controls can help prevent fraud, waste, and misuse of resources. This includes regular audits, separation of duties, and a strong ethics policy.
- 5. Promote a Culture of Innovation:** Encourage a culture of innovation and continuous improvement. This includes embracing new technologies, constantly reviewing and improving processes, and encouraging staff to suggest improvements.
- 6. Enhance Collaboration with Other Government Departments:** Learn from other government departments that have successfully implemented financial management reforms. This collaboration can help identify best practices and avoid potential pitfalls.



7. **Invest in Training and Development:** Ensure that all personnel have the skills and knowledge to use new financial management systems and technologies effectively.
8. **Regular Review and Update of Policies:** Regularly review and update financial policies to ensure they remain relevant and effective in the face of changing circumstances and new technologies.
9. **Establish Performance Metrics:** Implement performance metrics to measure the effectiveness of financial management practices. This can help identify areas for improvement and track progress over time.

**Proposition 22: Propose how UK Defence can build relationships with allies, partners and alliances as a strategic strength for the UK**

The UK's defence strategy can be significantly strengthened by deepening and expanding its relationships with allies, partners, and alliances. This can be achieved through several strategic initiatives that focus on collaboration, interoperability, technological innovation, and diplomatic engagement including:

1. **Enhancing NATO Contributions:** As a leading member of NATO, the UK can take a proactive role in shaping NATO's future strategy, focusing on modern threats such as cyber warfare, hybrid warfare, and space security. This involves not only financial contributions but also proposing and leading multinational exercises that improve readiness and interoperability among member states.
2. **Developing Specialised Capabilities:** The UK can invest in developing niche capabilities that can be beneficial for collective defence and security. This includes areas like cyber defence, maritime surveillance, and counter-terrorism. By offering these specialised capabilities, the UK can become an indispensable partner within international security frameworks.
3. **Bilateral and Multilateral Exercises:** Regular joint military exercises with allies help in building trust, understanding operational procedures, and improving interoperability. The UK should look to expand these exercises beyond traditional partners to include emerging powers and regional alliances in the Indo-Pacific, Africa, and Latin America.
4. **Defence Diplomacy:** Expanding defence attaché roles in embassies and high commissions can facilitate deeper military-to-military relationships. These roles can be pivotal in understanding the security dynamics of different regions and in identifying opportunities for collaboration.
5. **Technology Sharing and Co-development:** Collaborating on technology development not only bonds countries together but also ensures that the UK remains at the forefront of technological advancements in military capabilities. Initiatives can include joint R&D programmes, shared manufacturing facilities, and cooperative funding models.
6. **Educational and Training Programmes:** Offering scholarships and training courses to military personnel from allied and partner countries can build long-lasting relationships. The UK can host international cadets at its military academies and design bespoke courses that address the common challenges faced by its allies.
7. **Strategic Communication and Public Diplomacy:** Enhancing public diplomacy efforts to explain the benefits and goals of the UK's defence strategies to both domestic and international audiences can garner broad support. This includes engaging with international



media, think tanks, and public forums to shape the narrative around UK's defence commitments and its role in global security.

8. **Participation in International Defence and Security Forums:** Active participation in international forums, such as the Shangri-La Dialogue, Munich Security Conference, and UN Peacekeeping Summits, can help the UK to project its defence policies and engage with other nations' military leaders and policymakers.
9. **Supporting Global Defence and Security Initiatives:** Contributing to international peacekeeping operations, disaster relief efforts, and humanitarian missions can enhance the UK's reputation as a responsible global leader committed to maintaining international peace and security.

By implementing these strategies, UK Defence can enhance its global standing, contribute to a more stable and secure international environment, and build a network of alliances that enhance collective security. This approach will not only protect UK interests but also contribute positively to global peace and stability.

**Proposition 23: The Royal Navy, the Army and the Royal Air Force each invited to review their culture, organisation, training and institutional habits, describe how they reinforce modern war fighting imperatives, and recommend where changes are required as part of the modernisation of defence to be captured in this Review.**

The Royal Navy, Army and Royal Air Force are cornerstone institutions of the UK's defence structure and play a vital role in the nation's security and global interests. However, in an era of rapid technological advancements and changing global dynamics, it is necessary for these institutions to review their existing structures, training, culture and habits to ensure their readiness for modern warfighting operations.

The Royal Navy must ensure its culture fosters innovation, flexibility and adaptability. It should review its training to incorporate modern maritime warfare tactics and strategies, including cyber warfare, underwater warfare and space operations. Its organisational structure should be agile enough to adapt to rapid technological changes.

The Army should review its organisational structure to ensure it is optimised for modern land warfare. This includes incorporating modern technologies into its training, such as artificial intelligence, robotics and advanced simulation. The Army needs to ensure its culture encourages critical thinking, adaptability and resilience in the face of evolving threats.

The Royal Air Force should evaluate its culture to ensure it fosters innovation, adaptability and a willingness to embrace new technologies. Its training should incorporate modern air warfare tactics and strategies, with a particular focus on unmanned aerial systems, space operations and cyber warfare. Its organisational structure should be flexible enough to adapt to rapidly changing technology and threats.

Institutional habits that hinder innovation or adaptability should be identified and addressed. This includes habits related to decision making, resource allocation, and risk management.

Recommendations for changes should be made with a view to enhancing the institutions' warfighting capabilities and readiness for future threats. These could include changes to organisational structures, training programmes, recruitment practices, attitudes towards risk and innovation, and the use of technology.



## Annex 1: The Business Services Association

### Who We Are:

The Business Services Association (BSA) is a policy and research organisation. We are here to represent all those who are interested in delivering efficient, flexible, and cost-effective service and infrastructure projects across the private and public sectors. We are based in the United Kingdom and hold meetings and events throughout the country.

Our members are key providers of service and infrastructure projects to the private and public sectors. Members include large and small businesses, charities, and social enterprises. The work of BSA members improves the lives of tens of millions every day across every region of the country; from building and maintaining our roads, energy supply, and digital ecosystem, to feeding school children and keeping our hospitals clean and safe.

### What We Do:

We provide a forum for service providers to come together to discuss issues of common interest. We also have a wide-ranging policy programme which can be broken down into three interconnected core themes: inform, advocate, and engage.

### How We Do It:

#### Inform

We ensure that our members are kept up to date with government policy and wider market trends, whilst also keeping government informed on the issues affecting the sector. This includes producing daily, weekly, and monthly political and media monitoring reports for members; conducting our monthly Economic Tracker survey and sharing the insights with relevant stakeholders across central, devolved, and local government; and arranging briefing sessions and meetings with officials on pertinent policy areas.

#### Advocate

We champion the good work the sector does by collating case studies and producing reports that highlight the sector's contributions to the UK economy. It also involves working collaboratively and constructively with policy makers on key policy areas for the sector such as procurement reform.

#### Engage

We arrange regular engagement opportunities to promote positive relationships between the sector and key stakeholders. This ranges from holding roundtables with government ministers and prominent members of the opposition, to arranging large summits that bring together over 100 members and stakeholders to discuss a specific theme. Recent examples include summits on Digital Skills and the transition to Net Zero.

### Why We Do It:

Our sector lies at the very heart of the UK economy. Service and infrastructure providers are key innovators and growth facilitators, spearheading our transition to a green and digital economy, and operating throughout both the public and private sectors. The sector also invests in providing high-quality administrative services, facilities management, infrastructure, and IT so other businesses can do what they do best.

It is therefore crucial that the sector's voice is heard and its good work recognised.



## Annex 2: List of BSA Members, September 2024

3C3 Ltd	IBM
4Merit	Ingeus
AECOM	ISS UK
Amey Plc	Kier Group Plc
Angus Knight Group	KPMG
Ankura	Lumby CMS
Aramark	Mace
Arcadis LLP	Maximus UK Ltd
Arcus FM	Medallia
AtkinsRéalis	Mitie
Atlas FM	MTC
Atos	NatWest
AutogenAI	NCG
Baachu	Netcompany UK Ltd
Balfour Beatty Plc	Oxfordshire Business Consultancy Ltd
Barclays Corporate	P3
Bellrock	Pinsent Masons LLP
Bevan Brittan LLP	Public Digital
Birkin Group	Reed in Partnership
Browne Jacobson LLP	Robertson FM
BT Group Plc	Salisbury Group
Business 2 Business	Seetec Group Ltd
Capita Plc	Serco Group Plc
Catch 22	Sharpe Pritchard LLP
CGI	Sodexo Ltd
CH & Co Group	Sopra Steria Ltd
City FM	Space Solutions
Clyde & Co LLP	Spend Network
CMS Cameron McKenna Nabarro Olswang	Strictly Education
Compass Group Plc	The Grichan Whitestone Partnership
Connections Consulting	The Growth Company
Costain	The Network Group
Deloitte	The Palladium Group
DWF LLP	The Shaw Trust
Elior UK Ltd	The Sustainability Group
Equans	Turley
Eric Wright FM	Twin UK
FedCap	Veolia
Form1 Partners	VINCI Facilities
Forvis Mazars LLP	VPS Group
Fujitsu UK	Wand Consulting
G3 Systems Ltd	Wates Group
G4S Plc	WSP
Glaston Consulting	
Global Secure Accreditation	
GoodPeople	
HP	