Submission to the Strategic Defence Review: Prioritising Defence infrastructure

Introduction

On 16 July 2024, the Prime Minister launched a Strategic Defence Review (SDR) to ensure the United Kingdom remains secure and robust amid evolving global threats and one of the most strategically complex environments since the Second World War. We welcome the launch of the SDR and its goals to define the UK's future Defence posture, identify required capabilities, and outline a clear roadmap for achieving a Defence expenditure of 2.5% of GDP. Achieving that level of expenditure should be a stepping stone towards the further increased investment needed in the uncertain and unstable geopolitical environment.

While previous reviews have recognised the importance of Defence infrastructure, the focus and level of detail have varied. Recent reviews have increasingly highlighted the need for modern, adaptable and sustainable infrastructure to support evolving Defence strategies and operational requirements. Given current challenges - including conflict in Europe, turmoil in the Middle East and climate-induced instability - it is essential that this SDR incorporates a comprehensive approach to Defence infrastructure. Without those considerations throughout the vital conversations on force structures, capabilities and posture, we risk having a military that lacks deployable capability at the moments that count.

The role of Defence infrastructure

Defence infrastructure is integral to the UK's military effectiveness, providing the platforms where Armed Forces personnel live, work and train. It supports the deployment and maintenance of advanced equipment, ensuring optimal operation and achievement of strategic objectives, while also underpinning operational readiness and morale through modern, efficient, and well-maintained accommodation and training facilities. The interconnectedness of equipment, personnel and infrastructure is fundamental; each element relies on the others to function effectively.

Therefore, investment in equipment and personnel must be matched by equivalent investment in Defence infrastructure.

- **Operational readiness:** High-quality Defence infrastructure directly impacts operational effectiveness. State-of-the-art training facilities are essential for developing the skills required for modern Defence operations as evidenced through research into the US Army's modernisation of training facilities[1]. This has clearly evidenced improved performance in both training exercises and real-world operations through targeted investment. Modern and well-maintained facilities likewise help maintain and repair equipment more effectively, ensuring that equipment is in optimal condition for operations, as evidenced in research by the Centre for Strategic and International Studies (CSIS)[2], which highlights that facilities with up-to-date maintenance capabilities contribute significantly to the readiness and reliability of military assets; essential to maximise outputs from reduced fleet sizes.
- **Morale:** Morale is fundamental to the effectiveness of a fighting force and equally those working to support the military. Infrastructure is about people; it provides the locations where people live, work and train. Poor infrastructure directly contributes to poor retention as well as difficulty in recruiting. For example, the British Army's investment in upgrading living quarters and training centres has been linked to improved recruitment figures and increased interest from high-quality candidates[3] with strong evidence of a direct correlation between the quality of accommodation and the well-being of military personnel, including its effects on satisfaction and retention[4].
- **Economic Impact:** While the Government and the Ministry of Defence (MOD) face significant fiscal pressures and difficult decisions, spending on Defence infrastructure should not be viewed merely as an expense. As one of the UK's largest infrastructure procurers, the MOD is a

[1] Training and Doctrine Command (TRADOC) Annual Report FY 2021

[2] Military Maintenance and Readiness: Improving the Capability to Maintain and Repair Equipment, Centre for Strategic and International Studies (CSIS), 2017

[3] British Army Recruitment and Retention Review, Ministry of Defence, 2021

[4] The Impact of Accommodation on Service Personnel Morale, British Army Research and Development, 2019

crucial driver of economic growth with the ability to deliver economic and social value benefits across the country, often in remote locations. With a multiplier effect of 2.5, every £1 invested in infrastructure generates £2.50 in economic benefits[5] , amplifying growth and creating wealth across the UK. Additionally, investment in Defence infrastructure creates and sustains thousands of jobs, supports a broad range of sectors, and ensures that small and medium enterprises (SMEs) are included in the Defence supply chain, fostering economic growth and resilience.

The SDR must, therefore, consider investment in facilities not just as a component element of wider defence capabilities, but a critical enabler of them - ensuring suitable investment in infrastructure, both construction and ongoing maintenance. This will underpin operational readiness with particular focus on ensuring appropriate living, working and training conditions for MOD personnel.

Current Utilisation and Condition of the Defence Estate

The Ministry of Defence (MOD) oversees one of the largest estates in the UK, comprising land, accommodation, and training facilities, which are essential for delivering military capability. The estate, covering c.1.5% of the UK landmass and valued at £36 billion[6], is described by the MOD itself as inefficient, costly to maintain, and increasingly misaligned with the needs of a modern armed forces. The National Audit Office (NAO) has raised concerns that the poor condition of the estate poses a "significant risk" to Defence capability, and the 2023 Strategy for Defence Infrastructure[7] rightly prioritises reversing this decline.

Currently, the condition and utilisation of the Defence Estate is mixed. While some facilities are well-maintained and effectively support military operations, others have deteriorated due to neglect, wear, and obsolescence, limiting their ability to meet the demands of a modern military. Some assets are underused, either because their strategic relevance has diminished, or they no longer align with the needs of today's forces. This disconnect between existing infrastructure and operational requirements has led to inefficient use of space and resources, creating a costly, underperforming estate, as has been identified by the Government in the Strategy for Defence Infrastructure[8]. Given the critical role the estate plays in defence readiness, addressing these challenges is vital.

To ensure the Defence Estate is effectively managed and aligned with both current and future operational needs, and that it can be managed within budget constraints, it is important first to establish its optimal size. This rationalisation should consider present and potential future needs (maintaining the flexibility to adapt to changing operational requirements and security threats), the condition of properties, and their disposal value.

Furthermore, implementing a consistent programme of proactive maintenance helps prevent the higher costs associated with deferred repairs and deterioration, ensuring that military personnel have safe and functional living and working environments. Investing in modernisation through advanced technologies - such as smart building systems and energy-efficient solutions - will further enhance the estate's safety and operational efficiency, allowing for real-time monitoring and maintenance, ensuring facilities remain consistently up to standard.

Strategic recommendations:

- Clarify the optimal size of the Defence Estate to meet current and future operational needs.
- Establish a proactive maintenance schedule to identify potential issues and prevent them from escalating, causing the accelerated deterioration of assets.
- Invest in updating the Defence Estate by incorporating advanced technologies, such as smart building systems and energy-efficient solutions.

Defence infrastructure's centrality to achieving the SDR's objectives

1. Resilience: Defence infrastructure is integral to the UK's ability to respond effectively to the evolving threat landscape. As threats diversify - from state aggression and cyber warfare to climate-induced natural disasters - the infrastructure that supports our Defence capabilities must be resilient and flexible to change. The SDR should prioritise infrastructure modernisation and adaptation to ensure that it meets current requirements and is prepared for future challenges, which includes ensuring military installations are robustly protected against conventional and unconventional threats.

To safeguard the UK Defence homebase during confrontation, crisis, and conflict, a comprehensive and integrated approach is critical. This includes the following:

[5] https://www.ice.org.uk/news-insight/news-and-blogs/ice-blogs/the-infrastructure-blog/place-infrastructure-investment-at-the-heart-of-economic-policy

[6] Ministry of Defence

[7] https://www.gov.uk/government/publications/strategy-for-defence-infrastructure/strategy-for-defence-infrastructure-summary

[8] Ibid

- **Resilient infrastructure as the foundation:** Robust and secure infrastructure is the backbone of the UK Defence homebase. From military facilities to communication networks and critical supply chains, the UK has invested in hardening these assets against both physical and cyber threats. This includes reinforcing structures, securing transport routes, improving network resilience, and ensuring the reliability of supply chains. These resilient foundations support key operational activities, enabling continuous function and protection during crises and preventing any single point of failure from jeopardising broader defence efforts.
- **Enhanced physical and cybersecurity:** The UK Defence homebase employs a comprehensive strategy that integrates enhanced physical security, robust cybersecurity, and effective intelligence and early warning capabilities. Physical security measures, including CCTV surveillance, security personnel, perimeter fencing, access controls, and advanced intrusion detection systems, protect critical assets and maintain functionality against direct threats. Concurrently, cybersecurity measures – such as firewalls, encryption, and intrusion detection systems – are embedded within the defence systems to safeguard communications and operations from potential cyberattacks. Additionally, intelligence gathering and early warning systems, including satellite surveillance, SIGINT, and HUMINT, depend on resilient communication networks to provide real-time data, enabling prompt threat detection and response. The effectiveness of all these measures is contingent on maintaining high-quality infrastructure.
- **Strategic partnerships and international collaboration:** Resilient infrastructure strengthens the UK's ability to collaborate with NATO and allied nations. By securing communication and logistical networks, the UK can effectively share intelligence, coordinate joint responses, and provide mutual support during crises, enhancing collective security efforts.

Strategic recommendations:

- Prioritise investment in modernising and adapting Defence infrastructure to ensure resilience and flexibility.
- Enhance the Defence estate to support integrated multi-domain operations and improve robustness against diverse threats.

2. Reforming procurement: The Government has pledged to reform procurement practices to reduce waste and delays, which is a welcome commitment. The SDR must go beyond previous pledges and outline a concrete plan to achieve meaningful procurement reform to streamline infrastructure delivery. While past efforts to reform Defence procurement have often fallen short, this SDR presents an opportunity to take decisive action, moving from commitment to implementation.

Adopting a streamlined procurement process is fundamental for efficient, cost-effective delivery, meeting MOD requirements, and offering value for money. Simplifying decision-making and routes to market also has the potential to improve delivery and facilitate rapid modernisation and innovation. In addition, the use of whole life costing ensures that decisions are based on long-term value rather than just initial expenses, enabling more sustainable and cost-effective outcomes.

Emphasis should also be placed on homegrown technologies and the domestic supply chain, fostering self-reliance and reducing dependence on other countries. The Government has pledged to support British industry, which is a commendable step. Prioritising UK businesses in Defence procurement has the potential to boost job creation while bolstering communities, strengthening economic security, and contributing to long-term stability and growth. Defence infrastructure, in particular, presents a significant opportunity to prioritise a robust British supply chain, ensuring that growth and job creation are spread across the UK by emphasising local content and social value in tendering processes. While there is essential equipment and systems that may make strategic sense to develop with allies or procure from overseas, for Defence infrastructure, it should be straightforward to prioritise the UK supply chain. Leveraging partnerships with industry – including Tier 1 contractors and SMEs – will foster innovation and enhance delivery.

Furthermore, transparent cost models that support "best for programme" decision-making are essential in promoting effective, value-driven procurement. The involvement of end users in specifying requirements at the outset is also critical to ensuring that operational needs are met in the most efficient manner. By understanding and incorporating the end user's perspective from the start, the MOD can significantly enhance both the practicality and the effectiveness of delivered solutions. These elements – whole life costing, transparent cost models, and early end-user involvement – represent best practice as outlined in the Construction Playbook, supporting a more strategic approach to procurement reform.

Above all, procurement reform is about aligning behaviours and forging partnerships to deliver outcomes, creating integrated project teams that provide leadership, skills, and resources necessary for effective delivery, particularly as projects become larger, more complex, and longer in duration.

Strategic recommendations:

- Streamline procurement processes to facilitate decision-making, and enhance efficiency and cost-effectiveness.
- Emphasise homegrown technologies and domestic supply chains to boost self-reliance and reduce foreign dependency.
- Forge strong industry partnerships - building clear frameworks for suppliers to operate within - and create integrated project teams that work across the life of procurement exercises to drive innovation and manage complex projects effectively.

3. Innovation, modernisation and digital transformation: The rapid and consistent application of digital age technologies is crucial for transforming Defence infrastructure. The SDR presents an opportunity to drive these changes by integrating cutting-edge technologies and adopting new methods to optimise Defence infrastructure. Digitising estate management and operations can improve decision-making, enhance maintenance efficiency, and ensure operational performance. Innovative technologies support sustainability by enabling smart assets that provide real-time data on structural health, energy usage, and security threats, facilitating proactive maintenance and operational efficiency. These advancements ensure that Defence infrastructure remains resilient and adaptable to future challenges.

Modern Methods of Construction (MMC) are transforming how infrastructure projects are delivered by combining expertise in building design with advanced project logistics management. This approach promotes off-site construction, which offers significant advantages, especially in the Defence context. By manufacturing components in controlled factory environments, off-site construction reduces on-site space requirements, minimises disruption, and addresses stringent security constraints – an important consideration for sensitive military sites.

Off-site construction also simplifies the challenge of resourcing projects in remote or hard-to-access locations. By reducing the need for on-site labour and materials, MMC makes it easier to build in logistically challenging environments. The modular and scalable nature of MMC allows for quicker, more efficient project delivery while maintaining high standards of quality and safety. This flexibility is crucial in Defence, where infrastructure must often be adaptable to changing operational requirements and environmental conditions. By leveraging MMC, Defence can achieve faster build times, cost savings, and reduced environmental impact, all while enhancing the security and operational effectiveness of its infrastructure.

Strategic recommendations:

- Embrace digital technologies to enhance infrastructure adaptability and efficiency.
- Promote off-site construction through adapting procurement metrics to reduce on-site impact, improve security, and address logistical challenges in remote locations.
- Digitise estate management and operations to enable improved decision-making and efficiency, while ensuring robust cybersecurity measures.

4. Sustainability and emission reduction: To meet the UK's commitment to net-zero greenhouse gas emissions by 2050, the MOD is aware that it must prioritise sustainability on the Defence estate. This involves reducing fossil fuel usage, integrating renewable energy sources, and implementing energy-efficient designs across the estate. By adopting whole-life carbon modelling in infrastructure investment decisions, the MOD can embed sustainability and emission reduction into Defence standards, guidance and processes. Investing in sustainable infrastructure not only supports these environmental commitments but also enhances long-term viability, resilience and efficiency.

Given the significant environmental impact of military operations, adopting cutting-edge technologies in the delivery and maintenance of Defence infrastructure is essential. Advanced technologies such as artificial intelligence (AI) and robotics are transforming construction and maintenance, improving sustainability by enabling smart assets that provide real-time data on structural health, energy usage and security threats. These innovations support proactive maintenance and operational efficiency, while AI-driven systems - with robust cybersecurity measures - facilitate rapid decision-making and resource allocation. By leveraging these technologies, the UK's Defence infrastructure can become more sustainable and resilient, maintaining a strategic advantage in an evolving threat landscape.

Strategic recommendations:

- Allocate targeted funding to integrate renewable energy sources, implement energy-efficient designs, and use whole-life carbon modelling in infrastructure investments – the upfront cost of these initiatives is in our experience recouped within a decade.
- Align Defence infrastructure with net-zero commitments to enhance sustainability and resilience, using considerations as a weighting factor in procurement assessments.
- Leverage AI and robotics for improved efficiency and proactive maintenance.

Conclusion

The Defence estate is a critical enabler of military capability and the delivery of Defence priorities. To maintain the UK's security and prosperity through building a strong baseline of enabling capability, it is essential to invest in modernising and future-proofing Defence infrastructure. The Strategic Defence Review provides a unique opportunity to ensure that Defence infrastructure is fully integrated into the broader Defence strategy, addressing both current and future needs. By prioritising modernisation, resilience, sustainability and innovation, the SDR can ensure that the UK's Armed Forces remain agile, capable and ready to face the challenges of the twenty-first century.

By focusing on these strategic priorities, the SDR can build a robust and adaptable Defence infrastructure that supports the UK's long-term Defence and security objectives while contributing to national economic growth and prosperity.

Supporting the UK Armed Forces Community

We are proud signatories to the Armed Forces Covenant, committing to fair treatment for Veterans, Reservists, and their families in the workplace. We first signed the Covenant in 2015 and resigned it in 2018. We are proud to be reaffirming our commitment to the Covenant in 2024.

Our dedication to supporting the Armed Forces community has earned us the MoD's Employer Recognition Scheme's 'Gold' status since 2017, with re-accreditation in 2022. In 2024, we were ranked as the fourth best company in the UK for employing Veterans.

Building on our existing Armed Forces Covenant activities and collaborating with our Armed Forces Steering Group, we launched the Military Talent Pathway in 2022. This initiative offers structured support for career changers with transferable skills, helping them transition into key roles within our company. In 2024, we introduced the Mulberry Network, which provides tailored support and facilitates valuable, nurturing connections for veterans and allies across the business.

These achievements reflect our broad support for the Armed Forces community, including veterans, Reservists, Cadets and the families of those who serve.

About Balfour Beatty

Balfour Beatty is the UK's largest infrastructure provider and one of the 40 strategic suppliers to the Government. Founded and headquartered in the UK, we are proud to be a British business with 12,500 employees working across the UK (a total of 26,000 employees worldwide) on construction sites and in offices across the country. We finance, develop, build and maintain the critical national infrastructure that we all depend on, as well as projects at the heart of local communities, such as Hinkley Point C, Sizewell C and HS2. Our Investments business also has a market-leading portfolio in the design, build, finance, and operation of infrastructure assets, with proven credentials in PPP and PFI schools and hospitals, and a pivotal role in building and financing the M25.

Our business has a rich history deeply connected with the UK Defence sector. From building airfields critical to the Battle of Britain and the Mulberry Harbours used on D-Day, to constructing cutting-edge training facilities for MOD Lyneham and delivering essential mechanical and electrical work on the Queen Elizabeth Class Aircraft Carriers, our contribution has been significant.

Balfour Beatty brings extensive expertise in Defence infrastructure across both the UK and the US. Our scale, reach, and wide-ranging capabilities are essential to advancing this critical sector. We play a pivotal role within the Defence Nuclear Enterprise and are a trusted partner to the Defence Infrastructure Organisation (DIO), as well as the wider security sector. We have been trusted partners on four of the five original DIO Regional Prime Contracts, as well as the DIO National and Regional Capital Works Framework. Currently, we are engaged in various Defence projects across the UK for the DIO and are working with the Defence Nuclear Enterprise at the Atomic Weapons Establishment (AWE) in Aldermaston and Babcock at Devonport. Additionally, Rolls-Royce Submarines Limited has appointed us as the construction partner for their major expansion in Derby. Our proven excellence in delivery is consistently recognised through direct awards, reflecting the strength of our partnerships and our ability to meet the complex demands of national security projects.

Think before you print!

You can find our Sustainability Strategy online at balfourbeatty.com/sustainabilitystrategy

Registered Head Office:

5 Churchill Place
Canary Wharf
London
E14 5HU

www.balfourbeatty.com