



Strategic Command
Defence Support

Support Operating Concept



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Preface

The Support Operating Concept (SptOpC) is the Keystone conceptual document that describes the ambition for how the Support Function is likely to develop in the coming decade. It sits as part of a suite of artefacts that articulate, from longer term conceptual thinking (the SptOpC) through a strategy (the Defence Support Strategy (DSS)) to orders (Defence Logistics & Support Direction (DLSD)), the needs across Defence. The SptOpC is a document for the wider Support Function, not simply for Defence Support (as an organisation).

The SptOpC does not prescribe any particular actions; those actions are contained in the detailed near-term objectives of the DSS's Functional Plan and in the Head Office orders of the DLSD. The SptOpC advocates options and describes longer term headmarks given its position as the Defence-level endorsed conceptual framework. The Commands' Capability branches will be the routes by which the ideas proposed are brought to life. There will be significant balance of investment decisions to be made in coming years that will shape the extent to which this Concept is made real and technological progress (and obstacles) on emerging capabilities will also shape what is within the art of the possible. These issues will be addressed in Capability Management Plans and through Joint Requirements Oversight Committee, Investment Appraisals Committee and Military Capability Board staffing processes.

It is deliberately a short Concept and ideas are not explored in depth. Specific areas will be explored through subsequent Support assessments and sub-Concepts covering the key capability areas for Support (for example, distribution, sustainability, the circular economy, etc). Key Support themes will be reviewed and analysed within each quinquennial cycle to maintain up-to-date assessments. This will shape and influence Capability Development and nearer horizons for the Capability Branches across the Commands. The SptOpC also has a role in shaping the longer-term ambitions for science and technology research carried out in Dstl and elsewhere.

The SptOpC takes the idea of 'Speed of Relevance' and uses the principles of Adaptability, Agility, Precision, Responsiveness and Preparedness as the building blocks by which Support maintains relevance to the needs of the Integrated Operating Framework (IOF). The IOF is concerned with how Defence addresses threats – seen across a varying, non-linear continuum of Protect, Engage, Constrain (the Operate paradigm) and Warfighting – and a few of the multitude of threats are drawn out to highlight the challenges we face. From the characteristics of Support relevance, focused through threat, the SptOpC projects to CDLS' 2035 Vision in the DSS and how the Support Function can operate within the IOF.



Role and purpose

This Concept is Support’s response to the Integrated Operating Concept (IOpC). It also sits within the context of the Defence Support Strategy (DSS), which charted a path in detail to 2025 and provided the headmarks of the DSS’s 2035 Vision. The Support Operating Concept (SptOpC)¹ articulates a future construct for the 2030 timeframe, a period that contains fresh challenges for Defence:

“The Integrated Operating Concept calls into question the traditional approach that structured the armed forces to warfight and adapted them for all other missions. We now need to structure forces to operate that can be adapted at graduated readiness to warfight while retaining some forces, including the Reserve, that are optimised to warfight. Distinguishing in this way between operating and warfighting represents a fundamental shift in military philosophy. It requires us to think very differently about the employment of the military instrument as a more active approach to deterrence; and it establishes the doctrine needed to compete decisively with our adversaries who do not distinguish between peace and war”²

The SptOpC describes credible options and a direction for Support, and it will be the Keystone Concept³ that will be used as bedrock for future balance of investment debates. It also indicates the weight of effort within the Quinquennial Force Development cycle to generate the evidence for the Support Proposition and deliver the strategic Defence Logistics & Support Direction (DLSD) for the next cycle.

The focus of the Concept is centred on the Integrated Force 2030 (IF30), with the inherent links back to the policy ambitions of the 2021 Integrated Review (IR21) (Global Britain in a Competitive Age), and the Defence Command Paper (Defence in a Competitive Age). It seeks to describe the underpinning principles that will enable the IF30 rather than explaining the immediate future out to 2025 or looking into the ‘Future’ paradigm of the 2035 Vision (Figure 1).

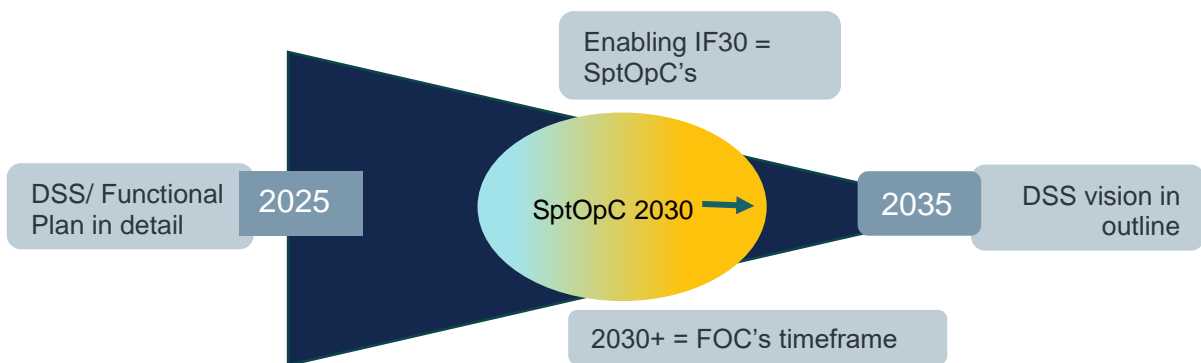


Figure 1: Context of the SptOpC

¹ Deliberately abbreviated as ‘Spt’ rather than the normal ‘Sp’ to differentiate it from the Space concept.

² Integrated Operating Concept (Official), 2021, p18

³ Endorsed through the Defence Concepts and Doctrine Centre (DCDC) to the 2* Integrated Concepts Board (ICB).

Support Advantage

Above all, this Concept is concerned with describing an approach to ‘continually securing Support Advantage enabling Defence to outpace, outwit and, where necessary outfight its enemies’.⁴ This will be achieved through: “delivering a paradigm shift of greater platform availability; the development of superior, assured, environmentally sustainable and cost-effective logistic services; the exploitation of data and technology; and a culture of interoperability that places NATO at the heart of Defence.”⁵ In short, securing Support Advantage is a key component for delivery of Operational Advantage.

The IF30 needs to be able to operate routinely in a dispersed manner, capable of pulsing levels of graduated activity and able to shape the conditions and tempo of activity in both the Operate and Warfight paradigms. A key element of delivering this future force is to address sustainability and resilience. The SptOpC envisages: a force designed to reduce its demands as far as is practical – both on the Strategic Base (SB)⁶ as well as on local theatres – so realising greater operational freedoms and increased sustainability; a force that adopts disruptive technology to make immediate impact; and that invests in future technology. It will be resilient at home and abroad, in physical infrastructure, digital capabilities, equipment, processes and culture. It will also use data and information to drive Performance Excellence⁷ and the approach to availability and balance of investment decisions.

Role of Support across the Integrated Operating Framework

Support’s nature and role across the Integrated Operating Framework (IOF) does not change. It acquires equipment⁸ and it prepares, projects, mobilises, sustains, maintains, and recovers force elements. The scale and intensity of the challenge varies between the paradigms of the IOF. Support must meet these discrete needs and be capable of concurrently making the necessary preparations for moving into different paradigms, whether of higher end Warfighting, or of redeployment or reaggregation. (Figure 2).

As the Protect, Engage, Constrain, and Warfight continuum is not linear, neither is Support activity. All moves across the IOF requires prior enablement and planning. Thus, whilst the strategic context of an event might be in low intensity activity, Support can also be preparing for more intense elements: preparing the SB for surge; building stockpiles where needed or enabling contracts defined; and having an innate understanding of the lines of communications and nodes; and developed contingent plans to reaggregate and deploy a contingent force. Equally, the subsequent return to Operate activity will require re-aggregation of FEs and an assessment of the new Defence demand signal. Therefore, Support will be designed to enable and operate in, multiple elements of the continuum of the Framework.

⁴ DSS Part 2.1

⁵ DSS Pt2.1

⁶ SB Capability: the ability to store, distribute, mount and recover across the Defence Support Network. It is not bounded to the UK and includes Overseas Bases which provide a recognised SB function (Working Definition and as per draft SB CONEMP)

⁷ Performance Excellence: The Support performance management system that considers the pan-Defence performance of Support through the Defence Support Performance Board.

⁸ Getting acquisition right, in terms of the supportability of equipment and the analysis and decisions that follow, is the first step in achieving the outcomes desired in the IOF.

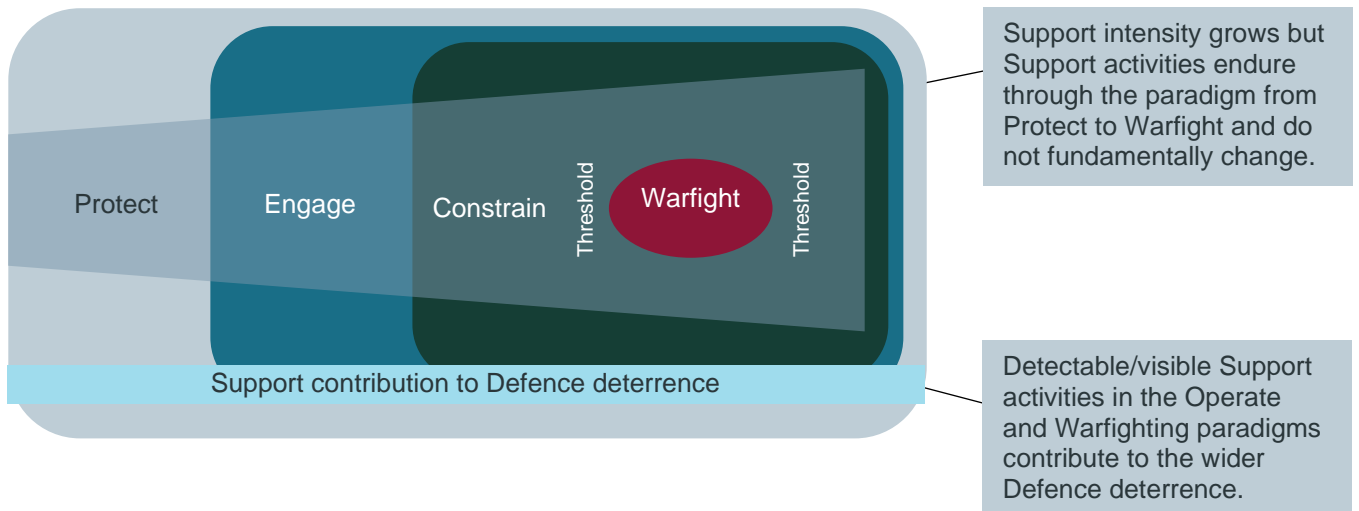


Figure 2: The Role of Support across the IOF

In designing Support’s contribution to the IF30, we assume that all domains are threatened, that the homeland is no longer a sanctuary, and that there will be direct targeting of logistics, and call this ‘Contested Logistics’. Contested Logistics “anticipates a potential fight against a near-peer adversary that is contested in all domains and against a background of climatic, social and physical threats, spread across an extended theatre. It assumes that all domains are threatened, that the homeland is no longer a sanctuary, and that there will be a direct targeting of logistics. In countering this, we will look to achieve Support Advantage through agile and resilient logistics”.⁹ Therefore, the SptOpC will draw upon a resilient, optimised, integrated and prepared SB¹⁰, as well as on a more complete understanding of the challenges of deployed operations and a more complete picture of the threats to Support’s freedom of action from the point of need back through the supply chain.

Support will use the activity it conducts for deterrent effect. This can be achieved simultaneously as part of other activity, conducted openly and with messaging or discreetly, and at differing levels of intensity and in support of different elements of the IOF.¹¹ This can be either in times of crisis or in exercises and routine activity. In the way that a ‘Fleet in Being’ can exert influence at sea by simply existing, routine Support activity signals capability, will, intent and ability. This can be via seemingly innocuous activity, such as contract-sensing in a region, or by testing new Support capabilities, for example, moving stores across international borders to develop familiarity with other nations’ customs requirements, or through exercises for Joint Support Enablers to test equipment and procedures that could be used in crisis, such as portable energy installations. These activities are signals to target audiences and can be delivered across the Operate/Warfight spectrum and should appear in a Commander’s Joint Effects CONOPS.

By contrast, the risk of compromising geopolitical equations can be acutely felt in Support where the planning horizons stretch beyond many other areas. For example, wariness over international reaction in 2002/2003 prior to the Iraq War delayed engagement with commercial shipping charter markets (and in other areas too). Therefore, Support will better understand the

⁹ DLSD21 Part 2, Annex E

¹⁰ Drawing on the lessons and outcomes of Agile Stance Campaign Plan work that runs to 2024.

¹¹ Articulated in the Joint Effects Working Group for inclusion in the Full Spectrum Targeting Board and Joint Action Synchronisation Matrix

risks and opportunities presented, both temporally and spatially, in the IOpC continuum of how its activity can be best employed.

Characteristics of Relevance within the Support Network

To deliver Support Advantage, Defences needs to act at the speed of relevance; this is not an absolute speed but one that is competitive to any threat. This includes acting with speed to identify a need or analyse a threat within a volatile, uncertain, contested and ambiguous environment, and then react at speed to mobilise, assemble and deploy a response. Therefore, Support's contribution will be characterised by:

- **Agility.** With the distinctions between 'peace' and 'war' and between 'foreign' and 'domestic'¹² becoming increasingly blurred or outdated, IOpC requires Support to deliver across a span of geography and intensity. This will involve cycles of aggregating and re-aggregating forces, facilitated by the appropriate Joint Support Enablers (JSE) that are available both to enable Persistent Engagement, and that are at readiness to respond globally. It will rely on, and exploit, the SB, Global Hubs and deployed bases that are configured to meet routine and surge activity. Our approach will deliver and integrate disruptive, sustainable technologies and capabilities that can reduce the inherent drag of supply on operational tempo.
- **Precision.** Lessons from many operations show that high proportions of deployed spares are not used and that similar levels of those that are required are not held forward at point of need. Our planning will become more precise, knowing with greater detail what we need, in what volumes and in what timeframe. From this data-informed position, we should only move what we need, when we need to move it. This is not the same as 'just enough just in time' which has limited resilience. Rather, instead of volumes of inventory, precise data-driven decision-making processes and information, drawn from Asset Management principles,¹³ will characterise and enable a resilient and agile Support Network. The centrality and pervasiveness of data requires a digital backbone linking every element. A paradigm shift in availability will be delivered by developing capabilities that are more reliable and easily maintained, especially in a deployed environment, and by integrating the necessary engineering sensors into new platforms. We will make better use of data analysis to inform maintenance and increase failure prediction to reduce unplanned rectification work.
- **Responsiveness.** The SB, coupling bridge and Theatre enablers will be optimised to respond to Crisis at the speed of relevance. Requirements to open and enable a deployed Theatre will be understood and the JSEs prepared, trained and exercised accordingly.
- **Adaptability.** IOpC describes a non-linear environment that can require simultaneous activity in the various elements of Operate whilst also being, or preparing to be, engaged in Warfighting. To have the adaptability to seamlessly facilitate these differing demands,

¹² IOpC (O), pages 3 and 8.

¹³ Use of these principles is one of the key themes of Engineering Support Transformation

Support will be dynamic in adapting force design and varying command-and-control structures that are able to prioritise demands and allocate limited resources.

- **Preparedness.** Support's analysis of, and contribution to establishing an accurate demand signal is a crucial cog in this system. The intellectual and policy considerations informing Defence Planning Assumptions, capability and conceptual development and our identification and management of risk will be developed. This will manifest itself in training and exercising, both individually and collectively. Support will seek greater equity in shaping and exploiting the Defence Exercise Programme and force development activity. This can test our capabilities to ensure we identify the gaps and inform our future investments. This will lead to operational advantage, and a persistent Support deterrent effect, through the messaging that exercising can deliver.

Understanding Future Demand

As Defence concepts and capability evolve, Support needs to adapt but can only do so effectively with an understanding of future demand. Innovation in Domains will have Support implications. Whilst our overall aim is to reduce the demand for all classes of supply, there are areas where demand may increase. The IOF's environment may well have a greater demand for energy: liquid fossil fuels being replaced by a range of substitutes that deliver directed energy weapons, high power data analytics in theatre, power to various land and air platforms as well as the operating base. These all have supply, storage, maintenance, and distribution parameters that must be planned for. We assess that:

- With a dispersed force regularly and routinely aggregating and disaggregating, the traditional logistic planning factors of 'Distance', 'Demand', 'Destination' and 'Duration' will be in constant flux and sending a constantly variable demand signal. Data is the fifth 'D' that is at the heart of the planning process.
- Within the IOF's dispersed but constant operating area, and Support's intent of reducing its tail and burden, there lies a tension that specialist maintenance personnel will be spread more thinly. This will drive an increasing need for cross-skilling and more reliable and easily maintainable capabilities, including maintenance enabled by augmented and virtual reality technologies.
- Support will face the challenge of sustaining remote, at reach, dispersed forces, and will need to ensure that extended lines to such locations are secure and have integrity (for example, of medical resupply's cold chain) whilst also seeking technologies to mitigate such constraints.
- Defence, and its Support elements, will need to adopt decarbonised solutions. The transition over the coming decades will be disruptive, costly and add complexity to supply chains and support solutions. If Defence does not adopt fast enough, assets and platforms may become 'stranded' as they become unsupportable or excessively expensive to operate.¹⁴

¹⁴ For example, maintaining internal combustion engines when industry has moved into newer technologies, or reliance on sourcing fossil fuels in legacy platforms as commercial sectors and markets shift to sustainable alternatives.

- As nations transition from carbon fuels into a new fragmented market there is likely to be an increase in the volatility in the geopolitics of energy and the security of supplies. Global energy markets (and their financial flows) are shifting to provide a range of lower emission solutions and Support will need to be aligned with the changing fuel and energy options and be able to access markets to meet Defence needs.

Threat

Support will face a range of threats to delivering its output to the JF30. Those threats come from many vectors and are multi-dimensional in definition and effect. They include (not exhaustively):

- Enemy intent and capability to physically interdict or disrupt Defence Support Network (DSN) (including vehicles, equipment, Critical National Infrastructure (CNI)) on operations, sub-threshold or conventional.
- Impact of climate change - both in terms of the changing environment in which Support must operate, and in terms of the mitigating actions Defence must take to be able to operate.
- Criminal (theft, fraud etc).
- Supply Chain disruption (owing to loss of Access Basing and Overflight (ABO) / Freedom of Manoeuvre (FoM), economic factors, pandemics, etc).
- Cyber-attack (insider threat, external penetration by Hostile State Actor (HSA) or Organised Crime Group (OCG)), particularly the threat to our legacy Log IS.

The Contested Logistics approach considers threat by design, whether that may be kinetic targeting of JSEs, disruption to the support Network through cyber activity, and competition for limited resources amongst Allies, whether that is capacity on LoCs or contracted capability in-Theatre amongst many possibilities. IOPC paints the broad outline of the context at the end of the decade. Support will consider the evolving and variable threats in our Functional Strategy and be threat-informed in our decisions.

We will assess the direct threats to our activity as well as those which arise as second or third order consequences owing to dependencies we have and the supply chains we operate within. From this analysis we will identify the vulnerabilities we hold and assess how they impact on our own centre of gravity. Being threat informed, we will have governance and decision-making structures in place to assess and address threat vectors and build in resilience. Threats manifest as risks, and our risk management model will align threats to risks and will own and track them as threats migrate and change. Capability Requirements Investigations will consider threat when setting the demand signal for JSEs, capability management strategies and all capability development activity.

We see the increasing centrality of data and information systems and services as a key threat and risk area. The digital backbone will be prioritised to protect secure data and prevent degradation. Our planning scenarios are informed by an understanding of the cyber threat, how

adversaries operate and the sorts of attacks which have been used.¹⁵ Cyber Vulnerability Investigations highlight system issues along with the more holistic aspects around people interactions with the system, power supply, access rights.

Climate change means that Support will need to adapt to a changed environment and need to reduce our emissions and impact on the process of climate change. Support will adapt its infrastructure, capabilities, and operations to deliver as extreme weather events become more frequent and decarbonised Support solutions mature. In-service platforms will be modified where possible, whereas new capabilities will have adaptation designed-in for the future operating environment's needs. Climate change will also drive a change in the type of operations and relative prominence, with the likelihood of increased Humanitarian Assistance and Disaster Relief operations.

Towards the 2035 vision

The characteristics that define the relevance of Support's work will be focused through the threats that we face. The result will manifest itself in the five pillars of the DSS 2035 Vision (Figure 3). The SptOpC presents a model that can make the Vision a reality and identifies the nature of the investment needed to fully meet the challenges framed in the IOpC.

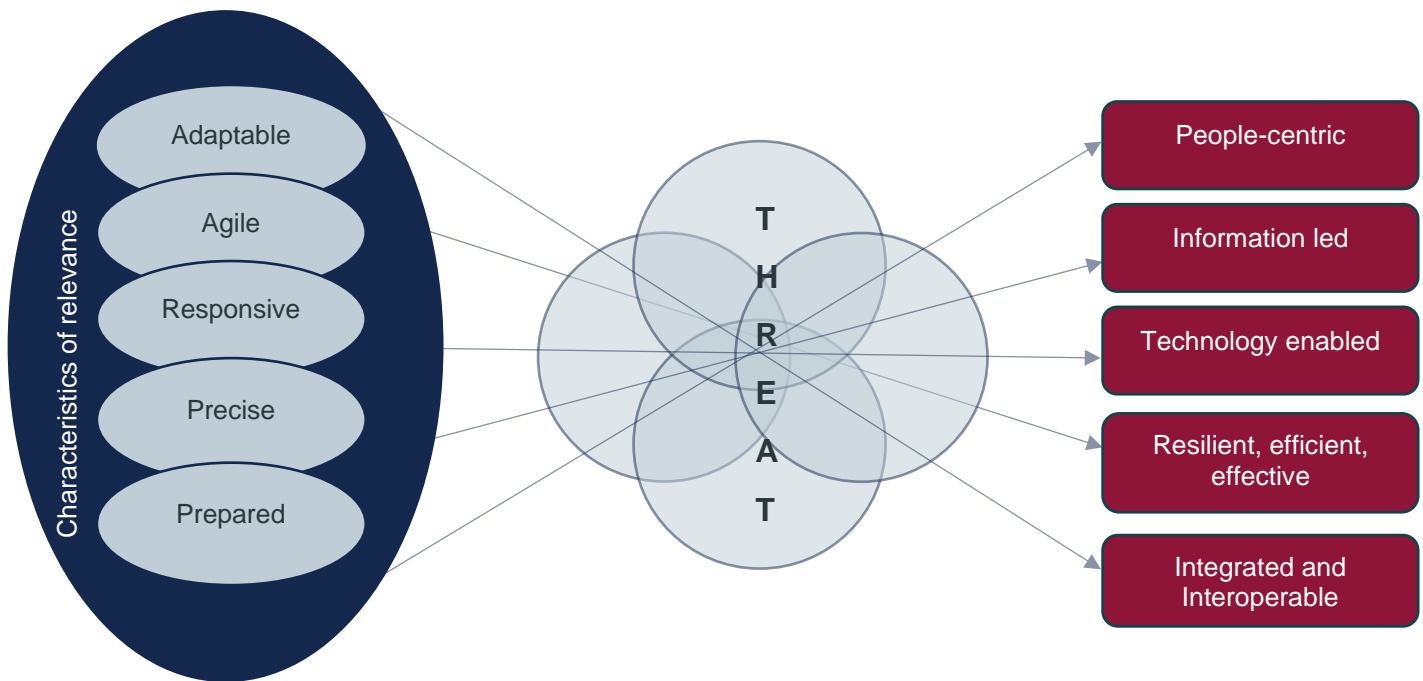


Figure 3. Delivering the 2035 Vision

The Pillars of the Support Operating Concept are:

People-centric

DefSp will develop and value the professional Support expertise by delivering a workforce fit for the future. **The Support Operating Concept advocates:**

¹⁵ National Cyber Security Centre (NCSC) monthly threat assessments, with an offer from the UKStratCom Business Resilience team to provide intelligence-informed context on the cyber threat to critical national infrastructure (CNI) for future events.

- Our people, across the Whole Force, are central to delivery of the Defence Support Enterprise.
- The evolution of our training, skills, and experiences of our people will allow us to be able to fully exploit technology and opportunities to achieve Support Advantage.
- We will optimise the training for our people, reduce duplication and consider the operator interfaces at the early concept stage of designing Support capability. We recognise that different skills will be required in the future, particularly as we look at more roles being multidisciplinary. We want to attract and retain the best people: the learning and development, including training, that we offer is a vital part of the employee value proposition.
- We will invest in equipping our people with the skills required to make use of the technologies we provide. This will ensure opportunities to gain insights to improve availability and reduce costs are not missed.
- By moving beyond the closed Defence loop to a more open employment model, where logistics and engineering support skills are effectively mapped across Defence, across Government and aligned to the civil sector, our professions and career paths will be more accessible, flexible, and attractive.
- Defence will be a fast follower in many areas of Support capability. By aligning our people more closely with industry, we will develop the new skill sets needed to maximise key Support-enabling technology, such as automation, sustainable energy, and additive manufacturing.
- We must open new, attractive career paths by collaborating closely with industry, academia, and across Government to build the skills and, crucially, to develop the minds needed to achieve Support Advantage. In doing so, we will create an industry/military mix of Support personnel optimised to provide long-term industry skills and knowledge, but without over-reliance to preserve autonomy in more remote/less permissive situations.

Information-led

In becoming technology enabled, Support will act at the speed of relevance – marked against pacing technologies. IOPC foresees an era of pervasive data, cloud-based services and exploitation through artificial intelligence, machine learning and data analytics. In addition to this approach forming part of the new generation of weapon systems and a new ‘way of warfare’, it will also underpin the way in which Support will conduct its business. Support will be data driven. Reducing the Support ‘tail’ will rely on accurate and timely data and will draw upon a supply chain and enhanced availability that is characterised by data, not inventory. **The Support Operating Concept advocates:**

- **A Digital Backbone.** In an era defined by data, the Backbone will be a rationalised suite of systems that provide business intelligence tools and data management to enable Performance Excellence (PEX) where PEX is a systemised approach to using data to drive decision making and continuous improvement. We will take an ‘evergreen’

approach to our information systems and architecture, and one that will enable us to change at pace as technology improves and adapts.

- **Secure Data.** The attainment of information advantage may no longer be assured, and we will increasingly operate in contested and degraded environment where logistics and engineering support – and the associated information systems – are routinely targeted by adversaries. Disruption to networks and cloud services are key vulnerabilities to be mitigated, such as with end-to-end encryption across the military and civilian supply chains, and reversionary methods developed. Support will develop programmes of work to counter cyber threats to our activity.
- **Design-in Information Provision.** New capabilities will embed the technology needed at the design phase and deliver more predictive and responsive support solutions, using open architectures to allow for frequent and incremental changes to improve performance.
- **Data Analytics.** With ever-larger amount of data, our ability to analyse and make informed judgements will be key. Greater use will be made of artificial intelligence and machine learning capabilities to rapidly assess data patterns and draw insights as well as be a crucial element in decision making.
- **A Shift towards a Digital Inventory.** Whilst Advanced/Additive Manufacture (AdM) technology will not replace the physical supply chain in its entirety, there is a role for it in all elements of the Defence Support Network, particularly for low cost/low stock items or in mitigating obsolescence. A digital inventory, assured for engineering integrity, will be a key component in drawing out the full utility for AdM across a globally deployed, dispersed and agile force.

Technology-enabled

Future capability, driven by technology, will enable the SptOpC. By 2030 this will be a mix of doing things better or of doing things differently than we do today. The pace of advance is such that it is a false dichotomy to map the ‘next generation’ and ‘the generation after next’ technologies to set timeframes as the rate of change is specific to each type of technology. This drives a need to horizon-scan, investigate, research, experiment and innovate, and do so as a coherent, pan-Support effort. **The Support Operating Concept advocates:**



- **Investment in Innovation, Research and Experimentation (IRE).** DefSp will maintain an organic IRE programme and cohere the wider IRE activity across the Support stakeholders in TLBs, the S&T community, and manage the relationship with academia and industry. Lessons recording and exploitation provides a vital feedback loop.
- **Designing-in Solutions.** DefSp will exert its influence to ensure capability development addresses Support issues at the Concept, Assessment and Design phase and that a through-life approach is taken to supporting capability. This will improve reliability,

availability, maintainability, safety and interoperability. In turn that will increase the sustainability of the platform and reduce demands placed on the DSN.

- **Exploiting Future Technologies.** Developing a sustainable approach will be a solution to the future force not an imposition upon it. We will seek more self-sustaining technologies that come with a smaller Support footprint. This is driven both from within the elements that Support controls but also, crucially, in the development of sustainable capabilities that present a new range of operational freedoms. Examples will include:
 - **Mobile/Agile Warehousing.** Less concentration of forces highlight a need for stock to be dispersed too. The inventory that will be held forward will be more precisely defined and informed by data analytics. Reaggregation will require agile warehousing too.
 - **Artificial Intelligence and Machine Learning (AI/ML) and Data Analytics.** These technologies will be used to transform the way data is turned into information, whether this is driving predictive maintenance and sustainment, optimising inventory holdings, programming resupply networks or seeking patterns in the complex data of equipment performance.
 - **Autonomy.** We will use autonomy and robotics to reduce the number of people, both deployed and in the SB, replacing them where possible in dull, dirty and dangerous and difficult tasks. This will include such as increasing the use of autonomous 'last mile' resupply technology, or in performing repetitive and procedural tasks. Both reduce the overall logistics burden of deployments.
 - **Additive and Advanced Manufacture (AdM).** Defence has yet to harness AdM as an end-to-end capability. The future is likely to see a mixture of OEM-led AdM that addresses issues of obsolescence and life-time purchases in the SB, alongside the validation of the fit, form and function of unit derived requirements expanded to whole fleets, and the provision of a virtual storeroom of endorsed data files. This will see AdM developed as a service provided to Defence.
 - **Energy and Power.** As fuel is replaced – as a term and as a commodity – by sustainable energy and power, there remains a supply, storage and distribution need. These, at scale, are only beginning to emerge and there is significant uncertainty as to which options will be adopted globally. Support will work with Commands to develop a common understanding of the demands that technologies developed by Capability branches will require. Equally there are engineering support needs developing SQEP trades to service new capabilities.



- **Food & Nutrition.** We will use evidence-based strategies to provide performance benefits to both our people, in terms of enhancing nutrition and health properties, and the DSN, in terms of a reduced weight of ration packs.

Resilient, effective and efficient

In maintaining relevant options for Support, the balance needs to be struck between efficiency and resilience. This manifests itself in the readiness that is maintained and the assurance we provide to our response, and it plays out in cost.

The Support Operating Concept advocates:

- **Develop the ‘cost of readiness and availability’ metrics.** The DSS seeks to deliver a step change in the availability of platforms, but our understanding of the cost of availability is immature. Without this understanding, perverse behaviours can arise in our business and we lack sufficient evidence to make ‘availability’ sufficiently meaningful to change our approach. If we do not fully understand the cost of delivering a desired level of availability (or conversely the opportunity cost of unavailability) we will not be well placed to advocate the appropriate technologies or necessary investment in the support chain (for both engineering and logistics investment). There are many variables in play, such as industrial lead times or processes that lack the agility to source from outside quickly and when appropriate and authorised, but Key Performance Indicators assessing support solutions will increasingly be needed to assess availability of mission critical capabilities.
- **Cost of Operating.** We will assess the ‘cost of operating’ instead of the ‘cost of procurement’ and, as full through-life costs models are understood, more complete support solutions will be provided. This must also include a more rigorous assessment of disposal strategies, such that we dispose at the right point to maximise inherent value through sale, recycling or waste management. Assessments of full costs will recognise emerging carbon and sustainability premiums that will drive cost into some areas. This will drive a better understanding of affordability.
- **Engineering Support.** Better Engineering Support analysis and decisions during early acquisition activity will be the mechanism by which several factors, such as improved availability, increased agility, balance of investment can be best shaped. We will look to drive behaviours in the acquisition cycle and promote the principles of Integrated Product Support.
- **Resilience.** Our responses to pervasive threats and constant competition will draw on detailed understanding of our risks and vulnerabilities and on Support lessons. They will strike the balance between efficiency and effectiveness in our contracted support and in our stock holdings, and better understanding where risk lies in the layered contractual landscape.
 - We will invest in and develop our SB infrastructure, capabilities and JSEs to reduce the risks they face. The UK homeland and overseas bases will form the basis of global logistics hubs and, with modern infrastructure, will deliver non-linear operations with the ability to surge, re-aggregate and operate at varying levels of intensity, potentially in parallel. Global hubs and networks will be key

elements in our persistent engagement, the Operate framework and Support’s deterrent effect.

- We will increase Support’s resilience to the effects of climate change, both within the SB and in the forward deployed environment. We will adopt a Circular Economy approach and drive self-sufficiency and agility into deployed operations by reducing demand, by reducing waste and increasing reuse, repair and recycling.



Integrated and interoperable

IOPC’s notion of Integrated Action and its call to “think beyond the enemy and consider the additional effects that need to be applied to the many other actors who are relevant” has clear resonance for Support’s enablement of the Operate/Warfight framework. When combined with being ‘Integrated for Advantage’ - the foundation of IOPC’s central idea to “drive the conditions and tempo of strategic activity” – the need for integration across Support’s many stakeholders becomes paramount. This builds on a long tradition of burden sharing and interoperability with allies that will endure and be thickened. It also needs to be taken further to match the ambitions of Multi-Domain Integration, reach across our own structures and into wider society. **The Support Operating Concept advocates:**

- **Cross-Government Integration.** Support routinely is at the forefront of engaging and operating across government in UK resilience operations, as well as in Humanitarian and Disaster Relief operations or in non-combatant evacuations. The Operate paradigm will likely see greater engagement with other Departments and we need to be prepared, postured and ready to deliver. The ambitions and principles of Multi-Domain Integration (MDI) will see us embedding and strengthening cross-government integration as that will be key to ensure that we deliver maximum efficiencies and effectiveness.
- **Allies and Partners.** We need to use our influence to ensure that multilateral organisations are focusing their efforts in the key priority areas. Support has a strong voice in NATO and will continue to lead, for example in the emerging debate as militaries look at a mix of energy and power. The Single Fuel Policy may adapt to a Multiple Energy Policy to ensure and maintain interoperability and support focused approaches to energy security. Equally, the Five-Eyes community is a forum where there is existing strong logistics cooperation and a means for developing common approaches. The Joint Expeditionary Force has also demonstrated the benefits of adopting ‘standardisation with Allies’ as an essential element of securing advantage. International agreements of mutual support,¹⁶ Mutual Support Agreements will continue to be a bedrock of assuring global support.

¹⁶ These include Host Nation Support (HNS) reciprocations, Multinational Logistics Support Agreements (MLSA), Memoranda of Understanding (MOU), Technical Agreements etc.

- **Interoperability.** Support is a collaborative activity across both UK Defence and internationally (where interoperability with allies and burden sharing is our common approach). We will strive for greater interoperability of Support equipment, across Defence, across Domains and with our allies, to enhance our ability to operate whilst deploying the minimum of our own equipment.¹⁷ This increases agility and reduces initial demands on the SB. A headmark in higher-end warfighting is the potential to repair each other's equipment in extremis. As we develop new technologies, notably those that deliver with increased sustainability, we will refresh our thinking to make interoperability pervasive and a force multiplier. These technologies should not be adopted without early collaboration with our partners.
- **Strategic Base Capability.** The Strategic Base, and its associated supply chain, is the output of many JSEs, the physical sites in the UK and at Overseas Bases. It also incorporates the protected and resilient Support Information Systems that provide its digital connectivity, unified by wider integrated Defence C2 arrangements. We will deliver an end-to-end SB and supply chain capability by resolving the complexity of stakeholder demands across baseline, current and surge operations. We will do this through an integrated and collective design, enabled by sustained investment.
- **Integration with Civil Sector Partners.** We have close and symbiotic relationships with the Defence industry. We will increasingly partner to deliver Support Advantage by employing best-in-class end-to-end technology and will take a more holistic view together of the Support solution. Through regular engagement and working groups, we will share our thinking and collaboratively develop best practice. We will deepen our engagement with, and exploitation of, the academic and professional bodies to ensure horizon scanning and 'fast-followership' are aligned to our outputs.
- **Bespoke versus 'Commercial Off the Shelf'.** The overall approach is that we will use COTS where possible and bespoke where necessary. The rate of technological change means that it will make sense, where practical, to use readily available items for shorter lifespans instead of developing niche versions for extended periods. This involves understanding the risks associated with each option and making decisions accordingly. This will also strengthen our work with industry partners.



¹⁷ At least, and importantly, in the initial phases.

END NOTE

Support recognises a plethora of challenges in delivering in the IOpC Operate/Warfight framework, with non-linear, dispersed activity requiring carefully calibrated responses to the changed ways in which our adversaries will seek to threaten us. We also see many challenges in changing Support 'in contact' to a Function that is resilient, effective, efficient, and sustainable, that is fully integrated and interoperable by design, which draws constantly on technological advances and places itself fully in the digital age. It will also essentially remain a human endeavour, where our people will need new skills, augmented where appropriate by autonomy.

