



Department for  
Business, Energy  
& Industrial Strategy

# IPSOS MORI – EVALUATION OF UKDSC

Evaluation Report



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# Introduction

Ipsos MORI, in association with George Barrett, was commissioned by BEIS to complete an early evaluation of the UK Defence Solutions Centre (UKDSC) in August 2017. This report provides the findings from the evaluation which is based on semi-structured interviews with stakeholders across the UK Defence Solutions Centre, Government, associated agencies and industry representatives, including the Defence Growth Partnership (DGP) founding members, associated members of the UK Defence Solutions Centre (UKDSC) and SMEs.

## Evaluation Objectives

The Invitation to Tender defined the following areas for investigation:

1. Progress of UKDSC relative to plan and alignment with original rationale and objectives
  - a. Effects in securing collaborations and R&D investment leading to relevant product and service development
  - b. Contribution to 'direction of travel' in improving industry's capabilities and competitiveness
  - c. Contribution to fostering behavioural changes in government and industry in support of export agenda
  - d. Whether the UKDSC is on track to meet its deliverables and objectives?
2. Potential improvements to the monitoring process to allow further evaluation
3. Potential improvements to the operation or set-up of the UKDSC which would improve impact and performance:
  - a. Is government intervention still required?
  - b. Is the scheme and the way it is implemented the most appropriate approach?
  - c. If the scheme is the most appropriate approach, what improvements could be made?

## Method

The evaluation set off with an initial scoping phase consisting of the following activities:

- **Inception meeting:** An initial meeting with BEIS, UKDSC, and Ipsos MORI was held to clarify the background to the study, confirm the terms of reference, discuss any issues that might be encountered during the study and obtain access to key documents and contacts to support the development of the evaluation framework.
- **Document review:** An initial desk review of documentation relevant to the programme covered: The Business Case for the UKDSC (described as a Defence Technology and Capability Centre) prepared by the Department for Business, Innovation and Skills in 2014, the UKDSC's Annual Strategy, monitoring documentation, and information on outputs produced by the UKDSC. Consideration was also given to the availability of secondary statistics that may help provide indicators of the long-term effectiveness of the UKDSC.
- **Consultations:** The study team undertook a set of familiarisation interviews with six stakeholders and meetings with the UKDSC. This included engagement with senior UKDSC staff, policy officials in BEIS, the Ministry of Defence, the Department for International Trade (the Defence and Security Organisation) and Innovate UK, as well as industry stakeholders (the Defence Growth Partnership and the Aerospace, Defence and Space group (ADS). These consultations were used to collect further information on the objectives and activities of the UKDSC, progress achieved to date, and views on how the success of the UKDSC may best be measured.
- **Evaluation framework:** The scoping phase concluded with the submission of a guiding Evaluation Framework document, outlining evaluation activities and providing the draft research instruments in the form of individual topic guides for interviews with specific consultee groups.

The main stage of the evaluation was based on:

- **Industry consultations:** The evaluation team conducted interviews with 13 out of the 15 DGP founding members (including the relevant representative body - ADS), three associate members and two SMEs which engaged with UKDSC (or participated in CDE themed competitions involving the UKDSC). All interviewees were given the option to meet in person but over half were only able/willing to agree to a telephone interview.
- **Stakeholder interviews:** As noted above, in the inception phase of the evaluation we conducted nine interviews with representatives of UKDSC, DSO, MOD, BEIS and Innovate UK and had a consultation with the DIT DSO which administers the official government data on defence and security export statistics. After completing industry consultations, the study team conducted interviews with five stakeholders

and early findings validation meetings with three stakeholders spoken to in the inception phase.

- **Review of documents and management information:** The evaluation team received and reviewed a range of documents and monitoring information from BEIS and the UKDSC. The MI provided by the UKDSC consisted of:
  - Outputs tracker – A document listing all individual deliverables (both completed and live deliverables), organised by UKDSC Strategic Aim, outlining progress at specific points of time. The UKDSC Output Tracker logs all Business Plan and operational deliverables against the UKDSC Strategic Aims (focus on the customer, develop UK capability, and improve value of investment).
  - Country Engagement Analysis – A summary of the numbers of country engagements that the UKDSC organised with potential customers in target countries is the direct response by the UKDSC to fulfil the requirement to monitor progress against its Engagement Strategy. It was presented as time series on quarterly basis.
  - List of visitors to the Market Intelligence Cell (MIC) – presented by company and split by first time and return visitors.

A regular Grant Claim Form Report containing extracts from these sources of MI was regularly submitted to the UKDSC Liaison Board and the DGP Steering Committee. The activity of the UKDSC is guided by the implementation of the strategy and the two-year Business Plan that run until February 2018.

## Structure of this report

This document is structured as follows.

- **Section 2** sets out an understanding of the UKDSC's primary activities to date, the context within which it is active and how the activities involved might be expected to produce their intended results in terms of improving the competitiveness and export performance of the UK defence industry.
- **Section 3** sets out our findings from the evaluation activities structured along the outcome areas defined in the evaluation framework, and
- **Section 5** provides a summary and concludes with a set of recommendations.
- **Annex 1** outlines proposals on requirements for future monitoring and evaluation

- **Annex 2** sets out an evaluation framework refining the evaluation questions (with a primary focus on the issues that can be reasonably explored at this stage of the evolution of the UKDSC). The section also specifies potential quantitative indicators that could be used to provide an assessment of the long term performance of the UKDSC.

# UK Defence Solutions Centre

This section summarises the objectives and activities of the UK Defence Solutions Centre (UKDSC) and sets out how these can be expected to produce their intended outcomes in the short and long term. It draws on the review of relevant documentation and the consultations with the UKDSC and industry and other stakeholders, highlighting issues which have been explored within the study.

## UKDSC

The Defence Growth Partnership (DGP) was announced in 2012 as a partnership between the Government and the UK defence industry with objectives to:

- Grow the UK's global market share through increased exports;
- Foster greater collaboration and innovation across the sector, bringing products and services to the market that meet customer needs; and,
- Improve competitiveness through the whole value chain<sup>1</sup>

The DGP Steering Committee comprises 15 large defence manufacturers, the Aerospace, Defence, Security and Space Group (ADS), as well as the Department for Business, Energy and Industrial Strategy (BEIS), the Ministry of Defence (MOD), and the Department for International Trade (DIT).

The UK defence industry is acknowledged to be a major contributor to UK GDP and exports, a provider of high quality employment and training and an important focus of R&D activity. However, it faces major challenges because of the combination of: the openness of the UK defence procurement market; increasingly fierce competition in export markets; overdependence of export sales on aerospace and, within this, a narrow geographical market dominated by Saudi Arabia - as well as the absence of potential replacements for the 'platforms' which represent a key element of current sales. Reinforcing defence export success has been a key DGP objective from the outset both to reduce these perceived vulnerabilities and to help achieve scale economies which can potentially drive down costs in a 'virtuous circle', enhancing both the industry's competitiveness and the value for money of the MoD's own procurement spending.

The UK Defence Solutions Centre (UKDSC) was formed in 2015 as part of the implementation plan for the DGP and "tasked with positioning the UK defence industry to be more successful in export markets through better alignment with UK government, better

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<sup>1</sup> Securing Prosperity, Defence Growth Partnership, 2013

collaboration within the UK value chain, and stimulating innovation and investment from a broad range of sources.” Jointly funded by industry and Government – via BEIS - it works closely with the Defence and Security Organisation (DSO) which is now based within the Department for International Trade and which leads on export customer engagement.

The UKDSC aims to serve a centralised co-ordinating and strategic function for the industry, providing a coherent view of future export potential and requirements for strategic technologies and capabilities. Its focus is on “the pre-competitive phase”, facilitating closer collaboration with customers, partners and the industry. It works on a 5 - 15 year time horizon, reflecting timescales for the development and procurement of defence equipment and the development of customer relationships which mean that achieving a substantial impact on export sales will need to be a “long term game”.

Other – complementary – DGP areas of activity relate to: strengthening of the DSO through industry secondments; developing the skills base of the industry, in particular through a Masters level training/retraining programme to increase the supply of systems engineers and the development of a programme for career development within the industry incorporating roles as an ‘export champion’; as well as working with the supply chain in particular to accelerate the pace of productivity growth which is important, inter alia, to the competitiveness of the industry’s major players which are largely designers and ‘integrators’.

## Theory of Change

### Inputs

The UKDSC draws on the following inputs and resources:

- **Grant funding:** The UKDSC is partly funded by core grant from BEIS. The initial period of this grant from 14th July 2014 until 31st March 2018 totalled £5.53m with further funding of £3m now allocated for 2018/19.
- **Industry matched funding:** The UKDSC also relies on matched contributions from the members of the Defence Growth Partnership in the form of secondments of senior staff. The organisation has a target of securing two secondments per company (one from associate members of the Defence Growth Partnership). The number and seniority of secondees provided by member firms is something of a short-term signal of the expected value of the UKDSC’s activities to the industry and the levels of engagement by individual companies.



## Activities

The UKDSC undertakes a wide range of activities in pursuit of its overall objectives:

- **Strategy development:** The UKDSC articulates its aims, objectives, and plans through its strategy, 'Spearheading Innovation in Defence'. The evaluation explores perceptions of how effectively this strategy and the associated activities align with the underlying aims of the UKDSC as defined in the Business Case.
- **Governance and stakeholder relationships:** The UKDSC operates a range of Governance structures to manage its relationships with industry via the Defence Growth Partnership and other key stakeholders. The effectiveness of the UKDSC is particularly dependent on its ability to engage with and influence other organisations within the public sector, including:
  - **Ministry of Defence:** The Ministry of Defence has substantial potential influence over future defence exports through its own procurement activities – e.g. through developing designs for defence equipment with exportability in mind or by entering into partnership agreements with overseas Governments that require similar capabilities. MOD R&D spending can also potentially influence defence exports if it is directed towards developing military capabilities for which there are large future export markets. The Ministry of Defence also places military attaches in FCO embassies, providing one gateway through which the future defence needs of overseas Governments can potentially be understood by the UKDSC.
  - **Defence and Security Organisation:** As indicated, the Defence and Security Organisation (DSO) sits within the Department for International Trade and has responsibility for supporting industry with nearer term (0 to 5 year) export opportunities. The DSO also places staff in embassies which provides another gateway to the customer intelligence needed to identify the long range export opportunities targeted by the UKDSC. This is particularly important as overseas governments will typically only engage in discussions on the issues involved on a Government to Government basis. As such, critical strategic and operational working relationships are needed between the DSO and UKDSC, and the effectiveness of these has been considered as part of the evaluation.
- **Strategic aims:** The core activities of the UKDSC largely comprise the delivery of discrete 'projects' organised under three strategic aims: Focus on the Customer, Develop UK Capability and Improving the Value of Investment. The following sections provide an overview of these activities and describe their potential outcomes.

### Focus on the customer: Activities, Outcomes and Impacts

This strand of UKDSC activity focuses primarily on developing intelligence on future export market demands and is influential in determining the UKDSC's priorities and activities in other areas. Two strategic ambitions are set out under this strand in the UKDSC's strategy: to work closely with the DSO to align Government and Industry to develop strategic relationships with customers, and to determine compelling propositions, promoting collaboration and advocating UK solutions while considering potential synergies with the MOD. This strand is expected to produce results as follows:

- **Market intelligence activities:** The bulk of the UKDSC's activities under this theme have been in the form of market intelligence studies focusing on determining priority markets. This programme of work has involved running workshops to prioritise geographical markets in conjunction with DSO and building a portfolio of market intelligence studies which will cover 40 countries over 5 phases. These studies have been developed to enable the UKDSC to assess the scale of the potential opportunities against 41 capability themes, which are then aligned with UK industrial capabilities to identify priority markets of focus and develop strategic approaches to these markets with the Defence Growth Partnership. In addition to this core work, the UKDSC also undertakes a range of ad-hoc projects, such as a market intelligence project that fed into the Government's approach to the Type 31e Frigate announced as part of the Naval Shipbuilding Strategy.
- **Quality of evidence:** The purpose of these market intelligence activities is to influence the strategic approach taken by industry in terms of directing R&D activities and building industrial capabilities (and influencing the MOD's approach to procurement where possible/appropriate). A key issue for the evaluation has been to understand levels of engagement with the outputs that have been produced across the DGP members, obtain views regarding the extent to which the outputs are seen to add value to what was already known regarding the scale and scope of future opportunities, and the degree to which the work is thought to have produced 'decision-grade' evidence. Another element of consideration is how far the thematic focus of market intelligence gathering has produced helpful evidence with respect to the commercial strengths of the range of members of the Defence Growth Partnership (i.e. that the process is identifying addressable opportunities). The results of market intelligence activities can only be viewed within the UKDSC at Farnborough owing to the sensitivities of the results.
- **Influence:** The desired outcomes from the market intelligence activity lie in influencing the strategic and operational behaviour of the industry to take advantage of the opportunities that have been identified. These types of outcome could take several forms:
  - In the shorter term, results could include changes in R&D agendas to align with the required future capabilities (with related downstream effects such as

increased R&D spending, the initiation of new R&D projects, their progression through the TRL and MRL scales, and eventual exploitation and related physical and human capital investments. Such potential effects may not necessarily be expected to be visible in firm behaviour at this stage given the timescales involved, and the key focus in this early evaluation has been on understanding how the market intelligence activities have influenced the decision-making process, as well as assessing the likelihood that the findings could produce these types of result in the future.

- In the longer term, the impact of these activities could be expected to result in proposals submitted in response to future RFPs, higher success rates, and the value of export orders arising in the priority market and capability areas identified by market intelligence activities. Another area of influence might be in terms of the MOD's assessments of exportability potential and any impacts on its subsequent commercial procurement decisions. Effects of this nature will clearly not be visible at this stage.

#### Develop UK Capability: Activities, Outcomes and Impacts

The second strand of UKDSC activity is to Develop UK Capability. Two strategic goals are highlighted in the UKDSC strategy: to explore UK capabilities, technologies, and maturation plans to understand UK strengths and weaknesses in export markets, and to identify interventions and oversee development to stimulate innovation, facilitate collaboration, and maximise export success. The activities under this strand seek to build upon the market intelligence activities, helping to provide a framework against which the future opportunities identified can be assessed in terms of their relevance to, and addressability by, UK industry. They also highlight capability gaps and development areas that could potentially be addressed through R&D activity and other investment to increase long-term export performance.

- **Baseline capability study:** To help direct the outcomes of the market intelligence activities outlined above, the UKDSC undertook a baseline capability study exploring UK strengths. This helped to refine the outcomes of the market intelligence activities outlined above by identifying the broad opportunities which warranted the most detailed further consideration (the potential 'sweet spots').
- **Capability road maps:** The UKDSC also intends to produce a series of capability road-maps charting how the future capabilities involved could potentially be met by UK industry.
- **Outcomes:** In principle, the results of this strand of activity should reinforce the outcomes of the market intelligence activity, as outlined above. However, the UKDSC strategy also emphasises the importance of developing a collaborative approach to investment and the level of collaborative R&D activity - including the role of any technology transfer from other sectors – will clearly be potentially important in shaping the eventual results of the activities involved.

### Improve Value of Investment: Activities, Outcomes and Impacts

The final strand of UKDSC activity focuses on facilitating new and innovative investments in UK technology, new funding models, and aligning R&D investments with the market opportunities identified through the market intelligence activities. The specific objectives of this strand of activities identified in the strategy are to:

- Facilitate new investment in defence technology and services through novel funding constructs, including private equity finance, and encouraging wider participation of actors in research and development activities.
- Optimise investment through targeted funding models and aligned investment that improves efficiency and maximises returns.

The UKDSC is not a direct funder of subsidies for innovation and R&D and has largely sought to achieve these goals through influencing strategic partners and leveraging investment in response to the findings of the market intelligence activities:

- **Innovation Challenges:** The UKDSC was given broad strategic steer of £9m of MOD funding (via the Centre for Defence Enterprise – now the Defence Security Accelerator) to support the delivery of four thematic innovation competitions. These competitions have taken a somewhat different approach to earlier CDE competitions, with a much stronger emphasis on progression and exploitation/route to market. This change in emphasis has reportedly produced many applicants that were new to the defence industry, an acceleration in the progression of projects through the Technology and System Readiness Levels and a higher proportion of projects reaching exploitation outcomes.
- **New funding models:** The second area of work has been around developing new funding models for innovation in the defence sector. The consultations suggested that there have been three core areas of focus:
  - **Venture capital:** The market intelligence activities produced by UKDSC may have wider benefits in increasing the amount of information available to investors regarding the future commercial opportunities relating to defence technologies – potentially important since equity investment in the sector is reportedly constrained by the perceived dependence on the MOD as a route to market. The UKDSC has been working with the British Business Bank to set up a venture capital fund targeted at defence technology.
  - **Project CODIFI:** This project aims to build on the perceived success of the Innovation Challenges to develop a co-investment model for funding technology development. This provided follow-on funding for the winners of the Phase 1 competitions under a co-investment model, in which the defence industry was invited to collaborate with applicants in the expectation that they would part fund the R&D activity (helping to increase confidence in the route

to market) – a model more closely aligned with the approach taken by Innovate UK to funding civil R&D. Again, in the longer term, progress can be expected to be reflected in terms of increased and/or better focused private sector R&D activity within the defence industry (and eventually in exploitation outcomes). However, in the short term the main effect can be expected to be in increased funding being committed to collaborative projects through the scheme, uptake of the technologies involved by larger firms in the industry, and in subsequent collaborations between SMEs and larger firms.

- **Reducing duplication:** The final area of activity has been focused on identifying where there may be opportunities for joint investment in R&D where firms share similar needs. In the longer term, this might be expected to increase the rate of return to R&D spending across the industry (through reducing duplication of costs), though at this stage the practical results are likely to be limited to the nature of the opportunities that have been identified and the initial responses to these on the part of the industry.
- **ICE lab:** The UKDSC has also developed an Innovation and Collaborative Engagement laboratory. This is a physical space within the UKDSC that allows SMEs and large firms to come together so the former can demonstrate their technological ideas without the risk of intellectual property leaking across organisational boundaries. The facility offers simulation software that allows SMEs to visually demonstrate how their technology works and could potentially be integrated in larger defence platforms. The short-term effects of this facility can be found in measures of usage of the facility, and the progression of collaborative relationships following demonstrations. It should also be noted that the facility has also been used for presentations to overseas delegations.

### Overview of Wider Potential Long Term Economic Impacts

In the long term the UKDSC's activities are expected to contribute to increasing the range of export opportunities for which the UK industry makes competitive and successful bids, increasing export sales and the UK's share of contestable export market sales, and contributing to the geographic and product diversification of UK export sales. Other potential impacts and benefits can be anticipated in relation to:

- **Productivity:** The emphasis on innovation and technology has the potential to improve the competitiveness of the UK defence sector, producing economic benefits in the form of higher levels of productivity.
- **Reduce procurement costs:** If the UKDSC is effective in supporting the UK defence industry to export in higher volumes, there will likely be spin-off benefits for the MOD in the form of lower procurement costs (assuming a learning curve associated with production of major defence platforms).

- **Projection of soft power:** Finally, if the UK can increase its exports of defence equipment, there may be wider benefits in the form of an increased projection of soft power (i.e. an increase in the ability of the UK Government to influence the Governments of overseas territories).
- **Attribution:** Clearly, there are likely major challenges in attributing these outcomes directly to the UKDSC (and may in some cases difficult to measure with accuracy).

## Context for the Operations of the UKDSC

The UKDSC needs to be viewed within the context of the broader ecosystem and the roles of the organisations which operate within this. This context to a substantial extent defines its potential roles and exerts a significant influence on its potential effectiveness.

### Defence Export Markets

Evidence gathered through the study highlighted a range of issues associated with defence export markets that will need to be navigated by the UKDSC to meet its aims. Firstly, and partly underpinning the rationale for both the DGP and the UKDSC, was a perception that UK producers may sometimes be at a disadvantage in competitive procurement exercises if they faced competition from overseas whose tenders had been co-ordinated with a degree of government involvement. This disadvantage can be overcome if producers can voluntarily co-ordinate their efforts, though there are difficulties that may prevent collaboration arising or create instability when it does (such as cultural barriers or unevenness of returns to collaboration, and free-rider problems). Additionally, the highly regulated nature of international arms export markets may create difficulties in facilitating the levels of collaboration given the multi-national nature of systems integrators located in the UK (an issue was noted by some in relation to restrictions placed on defence exports where supporting R&D activity had taken place in on US soil). The DGP has sought to promote a 'Team UK' approach to export markets to help address these issues, though clearly the success of the UKDSC will be linked to the effectiveness of these activities.

Additionally, it was widely reported that the defence export markets for major platforms have evolved, with buyer nations increasingly looking for partnership arrangements in which the supplier can help build the industrial capabilities of the buying nation (arrangements that are largely formed at a Government to Government level). It was noted that a large share of the 'potentially addressable' market was in the US, an area that is difficult for large systems integrators to penetrate but creating opportunities for SMEs operating at Tier 2 and 3 of the supply chain.

### Institutional Context

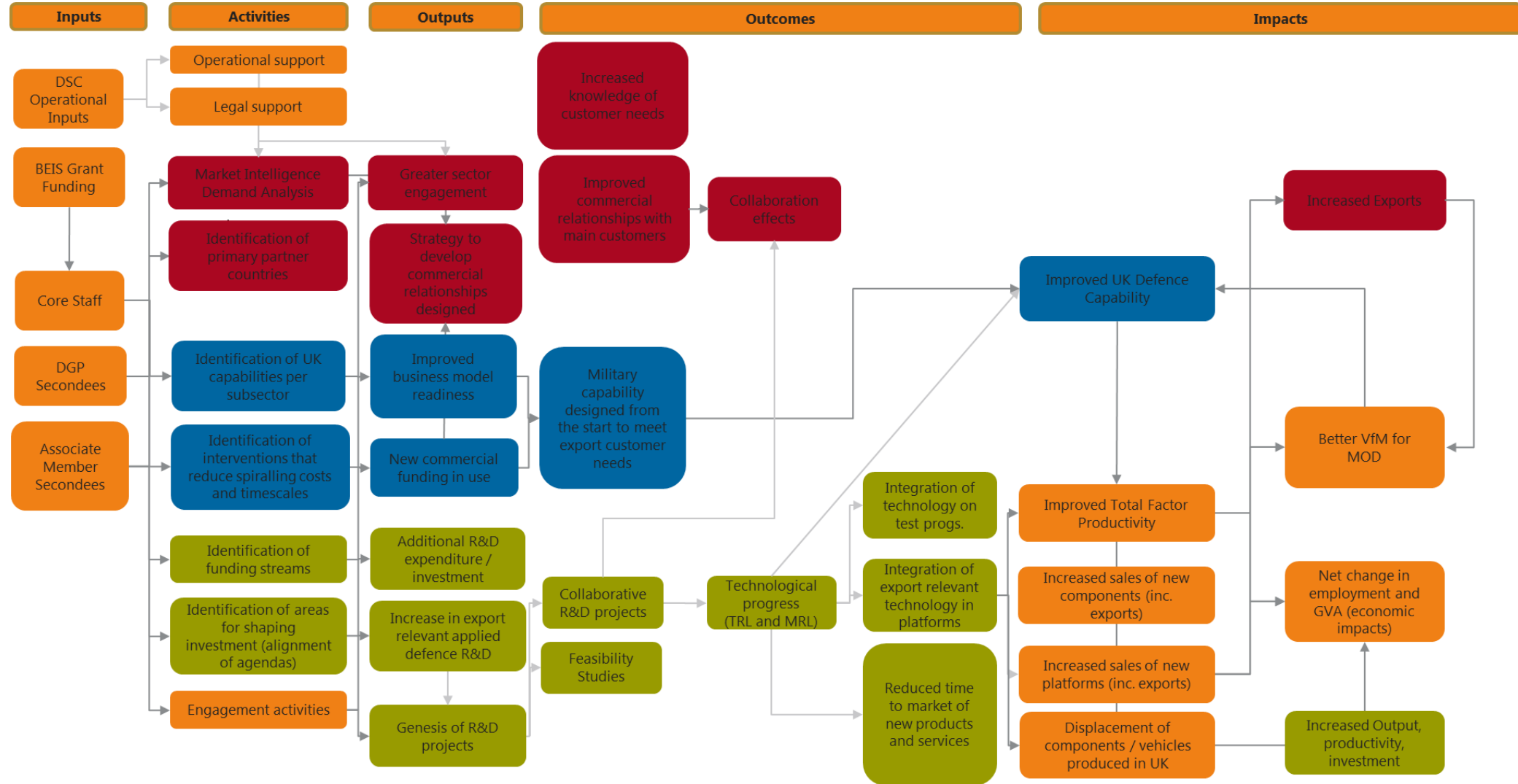
Central to this context is the Ministry of Defence, which represents the industry's key domestic customer, whose expected future capability requirements necessarily shape many/most of the industry's own R&D priorities and which itself acts as an important

funder of R&D investment. The MoD has a complex structure with the Front Line Commands and Finance and Military Capability (FinMilCap) both taking a role in defining its future capability needs, internal policy groups (such as the Prosperity Team) taking a prominent role in the promotion of export activity at a Government to Government level, and major agencies with a significant role in procurement and R&D (such as the Defence Science and Technology Laboratory (DSTL) and Defence Equipment and Support (DE&S)). This establishes many potential points of engagement for the UKDSC, creating a range of challenges for the process of securing effective communication and engagement, and seeking to achieve an influence on the Department's planning and decision making.

There are also scope for tensions to arise between the objectives of the Ministry of Defence and those of the UKDSC. While the 2015 Strategic Defence Review tasked the Ministry of Defence with promoting prosperity in the UK, its core objective is to provide the armed forces with the defence capabilities required while maximising value for money for the taxpayer. Outside areas of critical strategic importance, the MOD aims to buy equipment from the international market that meets military requirements at the best value to the UK taxpayer. The MOD does not seek to subsidise UK defence suppliers to help build capabilities that could be obtained overseas at lower cost (or capabilities that would satisfy future export demand but are not required domestically). Additionally, the UK Armed Forces demand high specification military equipment – the costs of which may be out of reach of other Governments. Consultees also indicate that overseas Governments are increasingly looking for partnership arrangements which involve a degree of technology transfer from the UK, which carries a risk of loss of military advantage. As such, the scope for the UKDSC to influence MOD behaviour is likely to be strongest where the future needs of the UK and overseas Governments are in alignment.

Other key organisations operating within this 'space' include the Defence and Security Organisation which has responsibility for building relationships with overseas governments and raising awareness of UK industry capabilities. Two Regional Directorates support specific, industry-led overseas marketing campaigns. The Business Strategy Directorate provides events and exhibitions management, market analysis and oversees strategic company relationships, as well as playing roles in relation to strategy development, organisational business processes and intra-Whitehall relationships. The DSO operates within shorter term horizons than the DSO - at least largely within the 0-5 year 'space' with a particular focus on relatively short term commercial opportunities, as reflected in particular in Requests for Information (RfIs) and Proposals (RfPs).

**Figure 1: UKDSC Logic model**





# Evaluation Findings

This section provides an overview of findings from the evidence collected through the evaluation and review of monitoring information (MI) that was provided to the evaluation team. The findings are organised against the key themes of the evaluation framework set out in the Annex.

## Establishment of the Centre and its Governance Structure

### Establishment of the UKDSC to time and cost

The monitoring information shared with the evaluation team states that the UKDSC was established to the timescale agreed at its inception. Consultations with industry representatives in post at the time the UKDSC was set up who indicated that its establishment was viewed as an effective process with operations commencing quickly (though some documents note that there was a lag between its establishment and its ability to absorb secondments from industry<sup>2</sup>). Its initial activities involving drafting a business plan to guide the first two years of its operation from April 2016 to March 2018 outlining the key tasks and a detailed programme plan of work. The UKDSC operates an Output Tracker that logs all Business Plan and operational deliverables against the UKDSC Strategic Aims (Focus on the Customer, Develop UK Capability, and Improve Value of Investment).

### Secondment Model

The UKDSC was set up to be operated on a secondment model in which it is largely dependent on staff placements from the industry (formally the company seconds the individual to the ADS for purposes of staffing the UK Defence Solutions Centre). Documents outlining secondees commitments (Industry Commitment to the Defence Growth Partnership from May 2014), the Centre has a target of securing two secondments from each DGP member. Associate members have a commitment to provide one staff member (for universities this was defined as one person year). These targets were not perceived to be the same among all members (and associate members) interviewed and some quoted the overall DGP commitment (three staff across the UKDSC and the DSO).

The monitoring information shared with the study team indicated that despite overachievement by two members, in mid-2017 the Centre had about 55% of the secondments required. While the Centre was able to secure some high quality senior staff, shortages of secondments in 2017 affected all areas of the UKDSC's work (Innovation,

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<sup>2</sup> DGP Matched Funding Exercise, UKDSC, February 2018

Strategy and Business), although the greatest disparity between desired and actual numbers of secondees was in Innovation.

The monitoring information alongside our qualitative research suggest that the secondment model works for some but not all members of the DGP. The monitoring information from 2017 highlights that two DGP members provided three secondees and over delivered on their commitments; four provided two secondees, with the rest supplying fewer than two secondees. In our discussions with UKDSC members we had recorded slightly higher numbers of secondees than those in the monitoring information; however, reflecting the point above, some found it problematic to distinguish between the DGP and the DSC. This discrepancy could have also been attributed to interviews taking place at a later point in 2017 than the snapshot provided by the MI.

Industry representatives provided a variety of explanations behind the varied provision of secondees:

- **Depth of resources** – Some consultees argued that people who have the skills to be effective in the roles that are required by the UKDSC are “too scarce and valuable to lose” and that their pool of people who can fulfil these roles is limited.
- **Value seen in the UKDSC** – While most DGP members stated that they saw value in the involvement in the UKDSC which was being demonstrated by their commitment in attending meetings and provision of secondees, there were a small number of industry representatives who questioned whether the benefits that their companies received outweighed the costs of providing two high calibre secondees. The lower perceived value of the UKDSC in these cases was linked to the fact that these businesses were not operating at the apex of the supply chain, and indicated that the UKDSC’s focus was perhaps too broad to be of great relevance to them.
- **Competing demand for secondees** – DGP members contribute employees through secondments across a number of Departments and Agencies which are essentially competing for individuals with similar skillsets, including to fulfil roles at the DSO and MOD.
- **Process through which the UKDSC engages companies** – The current process for requesting secondees is administered through board members who consist of very senior personnel. Some industry representatives indicated that this process relies on individuals who are too senior to engage directly and that it may be helpful for the UKDSC to systematically engage in parallel with HR departments with which they can lead discussions about forward-looking view of the resourcing needs of the Centre. However, there were others among the industry representatives who did not see this as a necessity for increasing the number of secondees.
- **Specific issues for Associate members** – The two academic organisations have an agreement to contribute one person-year of input to the work of the UKDSC.

These consultees identified a specific issue of not being able to engage specific experts within their team. These experts were said to be more incentivised by working directly with individual firms or applying for contract research.

Industry representatives recognised the implications of numbers of secondees falling short of UKDSC's target and sometimes being withdrawn at short notice. There were a number of industry representatives who perceived the under-resourcing of the UKDSC to be result of 'free-riding' by some of their fellow members. The issues which were created by the shortfall were suggested as being:

- A perception amongst some that the management of the UKDSC has been 'dominated' by a small number of larger companies, despite there been a transparent process for selecting the senior postholders.
- Constraints on how far the UKDSC has been able to progress some of its activities (e.g. the capability mapping work) on the scale originally planned. The recall of some secondees companies at short notice reportedly left some work areas without leaders for a period of time.

Moving to a model with a higher proportion of permanent staff may resolve these issues. Stakeholders interviewed, both in industry and government, commended the high calibre of secondees at the highest level of the Centre to date. Some industry representatives voiced concerns about the capacity of the UKDSC to recruit comparably able, new permanent staff without a longer-term funding commitment from BEIS to enable the UKDSC to achieve its objectives.

### Governance

In addition to the secondment model described above, operationally, the UKDSC draws on the legal and administrative support roles of ADS while being overseen the DGP Steering Group and Liaison Board. These structures for engagement and oversight and associated processes are generally seen as fit for purpose and appropriate for the needs of the UKDSC. The monitoring information tracking outputs in this area confirmed that all DGP members signed up to non-disclosure agreements early on in the process, followed shortly by the associate members and that the UKDSC had a regular reporting process for reporting progress.

One issue raised by industrial representatives in relation to the governance of the UKDSC was that neither the Centre nor the DGP had a clear process for dealing with the potential issues created by key members competing in the same market segments. However, it is important to note that the UKDSC aims to act only in the pre-competitive space and that concerns of this type tend to be common within initiatives involving horizontal collaborations.

Industry representatives who observed the initial period of UKDSC's operation revealed another issue in relation to the UKDSC's early processes. They reported that the approach

of the initial leadership to “get on with the job at hand” resulted in early issues with adherence to UKDSC’s monitoring and approval procedures, leading to a potential damage to industry’s trust and willingness to share information. However, processes for handling information such as non-disclosure agreements between members were now acknowledged to be formally in place and of appropriate nature.

*“UKDSC under previous [initial period] leadership strived to be agile and had a job to do so adherence to some processes was not seen as most important priority. Now there is a need for a more settled leadership and so a new leadership should adhere to processes more.”*

Industry representative

### Links to other DGP Activities

The close links between the UKDSC and DGP are reflected in the senior involvement in the boards of the two organisations. The UKDSC has benefited from continuity in having two chairmen on the board since its inception whose qualities in leading the board have been highlighted by senior industry representatives. In fact, some consultees found it difficult to differentiate between the work of the UKDSC and DGP. Generally, UKDSC activities were seen to be well aligned and forming an integral part of the four DGP workstreams. Examples which were provided to us included UKDSC’s work on capability mapping done in collaboration with Cranfield University which revealed assessment of gaps in specific areas (e.g. systems engineering and software capabilities) and fed into DGP’s workstream on skills. However, other stakeholders suggested that the apparent alignment between workstreams resulted from iterative process and evolution rather than long term planning.

It was noted in particular that the success of the DGP’s supply chain workstream will be crucial to the extent that the UKDSC will be able to achieve its objectives in relation to future export performance. A particular gap which was highlighted was the lack of effective links with adjacent sectors as discussed further below.

## Rationale, Strategy and Business Plan

### Rationale for the UKDSC

The strategic case for setting up the UKDSC was outlined within a wider business case from June 2014. The strategic case referred to a report commissioned by ADS outlining the contribution of the Defence industries and to the National Security Through Technology White Paper (2012). The central economic case put forward for the UKDSC described in the business case was one of a coordination failure in which the UK “misses out on defence contracts simply because defence companies and procurers do not co-operate effectively to identify and meet customer requirements.”

Our interviews suggested that the strategic and economic cases for UKDSC’s existence are well understood and confirmed to be pertinent by most stakeholders involved,

including those in central government (BEIS, parts of MOD, Innovate UK) and the industry representatives. While stakeholders feeding into the evaluation provided the context and clear understanding of the UKDSC's role, industry representatives' responses tended to be more focused on the industry's challenges which the UKDSC addresses.

*“The UKDSC was always clear on what they were trying to achieve, that their business case was clear and targeted a unique gap in the market”*

Industry representative

On the whole, our interviews confirmed the overall rationale established in the original business case. However, the following points are noteworthy and highlight slight differences in stakeholders' views:

- **Importance of the defence industry in the UK prosperity agenda** – Stakeholders often began their comments on the UKDSC's rationale by noting that BEIS is the department leading on the prosperity agenda within the government and led and supported the setup of the UKDSC. The MOD representatives typically confirmed the general validity of the rationale for seeking to build export success, noting the potential associated benefits in terms of prosperity. However, a number pointed to the potential tensions between the objectives of the UK prosperity agenda and supporting domestic suppliers on the one hand and the objective of obtaining the desired military capabilities at the lowest cost on the other.
- **Importance of sustaining UK manufacturing capability** – Equally, MoD stakeholders and industry agreed on the strategic need to maintain a manufacturing capability in the UK, and that export growth would be critical in preserving these capabilities. However, a similar strategic tension was identified between the approach of seeking to acquire technology and equipment at the lowest cost, often resulting in selection of the cheaper options offered by foreign competitors, and maintaining these capabilities within the UK in the long term. Industry representatives also recognised that there needs to be a commitment to an export agenda (to reduce the unit costs); otherwise purchasing the technology from UK suppliers is likely to be prohibitively expensive. The potential for the MOD to share in the benefits of larger production runs was also widely acknowledged (though questions were asked by some as to whether these types of cost savings had been passed on in the past).
- **Co-ordination problem in the UK defence industry** – Most stakeholders validated the idea that the UK is constrained in export markets due to co-ordination problems, quoting anecdotal evidence from the business case and their own experiences. While competitor countries such as France, Germany or the US present a unified front in responses to tendering exercises, multiple bids by smaller companies/consortia may come from the UK, reducing the likelihood of success. A number of interviewees saw a rationale for increased collaboration between

industrial players in the preparation and subsequent submission of joint bids and strengthening the UK offer which in turn has a potential to benefit the UK's defence export performance. However, this would require a change in culture that (as highlighted in the preceding section) is not within the scope of UKDSC's direct influence.

- **Co-ordination of the UK defence industry with the Government** – Industry representatives highlighted that they saw a much stronger rationale for UKDSC in enhanced coordination with the MOD. However, a common concern of MOD interviewees was that such engagement could result in distortions to competition. This view was subject to challenge from the industry, with stakeholders highlighting that the UKDSC operates exclusively in the pre-competitive space and the communication of future capability needs should not be distortionary (there is further discussion of this point in Section 2.3). Industry stakeholders further stated that value for money could potentially be raised by aligning domestic and overseas requirements where appropriate, enabling potential economies of scale to be realised.

Only one of the stakeholders consulted questioned the overall rationale for the centre by rejecting the overall notion of the existence of the defence and security industry in the UK (rather, it was argued that defence is made up of a series of unconnected subsectors). This perspective questioned the degree to which an organisation focused on future export strategy can meaningfully address some of these problems without parallel adjustments in approach from both Government and industry. In turn, the stakeholder questioned the added value of UKDSC acting as a “middle man” between the MOD and groups of firms involved in the development of future technologies with export potential.

It is also worth noting that one stakeholder argued that the production of market intelligence may become less important in the current world in which the way of doing business in defence is moving from the procurement of specific military technologies to partnership arrangements formed on Government-Government on basis. This implies a Government to Government role in driving exports forward and, again, highlights the importance of securing effective collaboration between industry and Government.

### Alignment of Strategy and Business Plan with Objectives of Industry and Stakeholders

The UKDSC strategy was developed in 2016 based on a set of objectives set by the UK Government (Department for Business, Innovation and Skills), and a collection of needs put forward by the UK industry partners of the DGP, which are required to deliver the vision and value proposition. None of the industry representatives or government stakeholders voiced any concerns about the UKDSC's strategy. Even companies not active purely in defence sector activities recognised that exporting is an important part for the survival of UK defence manufacturing capabilities.

*“One of the main challenges of the defence industry is to export and so there is value in DSC’s objective”*

Industry representative

Some interviewees, however, identified overlaps and the need for more clarity between the roles of the DGP and UKDSC, while, as noted, there were some industry representatives who found it difficult to differentiate between the two.

DGP members and some stakeholders held perceptions of ‘mission creep’ or a potential imbalance of effort in relation to what UKDSC set out to do originally. The organisation’s intended focus was initially seen to be predominantly on exports, involving the identification of opportunities and capabilities which would allow these to be targeted. However, some stakeholders – particularly those suggesting that its mission has broadened from the original intention - sometimes stated that the focus has been too broad for the resources available and that the original leadership dedicated disproportionate efforts to involving SMEs and working on investment in innovation for the development of capabilities. While this work was said to be valuable, it was argued to be fragmented, under resourced and perhaps peripheral to the core mission of the UKDSC. However, some interviewees called for greater engagement by UKDSC in supporting SMEs from related technology areas to enhance collaboration with defence and security firms in addressing future market opportunities. One industry stakeholder recognised that SMEs are often the originators of the innovative technologies and that their position within supply chains may be an easier route to addressing large markets such as the US which is more difficult to enter by UK primes.

In fact, the perception that working with organisations such as DASA (formerly CDE) represents ‘mission creep’ is not necessarily well founded as the original business case stated that *“It [the centre] will work with the whole defence value chain, through what are currently being called ‘Value Chain Accelerators’ to improve competitive advantage and maximise our probability of win e.g. reducing time to market.”*

### On-going Validity of the UKDSC Strategy and the Business Plan

As mentioned in preceding sections, the key issues that the UKDSC was set out to address are still seen to be pertinent. However, the changing nature of the sector, including the move from selling technologies to packages including training, maintenance and in some cases also manufacturing of parts or all of the product in the buyer country on a partnership basis, may require revisiting the strategy and business plan on a regular basis. None of the consulted stakeholders or industry representatives argued within the interviews that the strategy that the UKDSC has pursued involves the wrong set of objectives, although some questioned the overall balance of activities which have been undertaken.

### Realism of DSC1 Plans

The business plan for two years since March 2016 is an ambitious document outlining six objectives with specific activities under each. A range of interviewees from the industry and other stakeholders argued that there is a need for a greater focus on core activities supporting exports in defence and security areas. It is noted that the original plans were most likely based on an assumption of higher staffing levels and in the event, as noted, due to the problems in relation to securing secondments some activities have been delayed and/or took longer to complete than initially anticipated.

One shortcoming of the business plan and the monitoring of its progress which is perceived by a number of industry stakeholders is that there is an excessive focus on activities rather than the outputs, results and outcomes which are being achieved. We consider how this can be addressed in our recommendations on future reporting metrics.

## Industrial Engagement / Buy-in

### Engagement with the Primes

Stakeholders consulted included those involved in the setup of the centre and feeding into the initial business case put forward to BEIS, as well as those who worked with UKDSC as a user of its outputs. The former group of interviewees was, as expected, typically more likely to be engaged heavily in its working and may have had greater buy in due to a sense of ownership.

As the main engagement with the primes comes to a large extent in the form of their secondments, there is a certain duplication with the previous section in the comments here. Monitoring information supplied to the evaluation team indicated that at mid-2017 only six out of the 15 DGP primes provided two or more secondees. Our interviews confirmed this variance in the number of secondees and, together with the stakeholder feedback, the evidence allows the following three broad types of DGP member to be distinguished:

- **Highly engaged:** System integrator companies active predominantly in the defence and securities sectors were most involved in running and steering the UKDSC. Some indicated that they would have been willing and able to provide more secondees than requested.
- **Moderately engaged:** Most DGP members provided one or more secondees and were involved in the Liaison Board meetings. Some acknowledged that their involvement with the UKDSC could have been greater, although this was not linked to any criticism of the UKDSC but their own internal reasons.
- **Those with little engagement:** The low level of engagement of some GDP members was said to relate to the sub-sectors they were in – which limited the perceived relevance of UKDSC activities – and in one case to internal



reorganisation which prevented the supply of resource. Two consultees referred to this group as “freeriders”, although others noted that “you get out what you give in”.

It is worth noting that one consultee argued that the evaluation should have extended to the DGP because some aspects which impact on the effectiveness of the UKDSC derive directly from the DGP – in particular, the extent to which the priorities of the UKDSC are driven by the agendas of big DGP players – whilst other strands of the DGP’s activities, such as the supply chain work or supporting technology development, will have an important bearing on future export success.

### Engagement with SMEs

UKDSC’s engagement with the defence industry beyond its core DGP membership occurs through two additional membership groups: 1) associate members consisting of two universities and two companies, 2) Five Communities of Interest<sup>3</sup>, consisting of almost 150 companies. The Centre also works closely with ADS which covers about 1,000 companies in the UK, including nearly all of the top 30 companies, a reasonable coverage in the middle ground and about 800 SMEs active in defence and security sector.

SMEs that develop technologies relevant for military applications but not solely operating in this space are unlikely to engage directly with UKDSC. These companies may though have been attracted by four Innovation Challenge competitions that were administered using SBRI instrument through CDE and now the Defence and Security Accelerator (DASA), although feedback suggests that any engagement is likely to be limited to the life of the project(s) concerned. In one case, the SME involved reported that its engagement with the UKDSC over the lifetime of the project has also been limited.

## Wider UK Stakeholder Engagement Buy-in

### Engagement with Government stakeholders

The importance of the MOD involvement is outlined in the section on rationale. While some of the stakeholders confirmed that involvement has been secured at a high level, the MOD overall was not seen as being as supportive and collaborative with the UKDSC as it could have been, which in turn was said to have implications for the effectiveness of UKDSC. There was a wide variance in opinions regarding the individual Directorates and teams within MOD that were seen to require more effective engagement. The consultees did not put forward a consensus view of the best approach and some questioned whether it was realistic to expect an organisation of UKDSC’s size to be able to engage effectively with the complex structure of the MOD and build effective relationships. There were specific thematic groups within the MOD, such as FinMilCap, which were said to have engaged with the UKDSC more extensively than others.

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<sup>3</sup> In areas such as Interoperable CIS, Training, Persistent Surveillance, MSSEE, Indigenous Capability, Maritime and CIED

One view outlined to us was that stakeholders within the MOD were initially somewhat suspicious of the Centre because it was not an initiative led by their department and that some distrust existed about the behaviours of the industry associated with the problem of “unexpected costs” in procurement programmes and its perceived resistance to the Department’s efforts to tackle this problem. Stakeholders consulted within the MOD confirmed their understanding of the benefits that additional information from MOD would have for UKDSC and two consultees noted that relationships have improved, particularly over the last year or so, with one commenting that that the UKDSC’s partnership style has been helpful in building trust. Despite this positive development, a point was made to us that the UKDSC needs to have additional senior figures involved in building and sustaining links with the MOD structures.

Stakeholders and industry consultees stated that the UKDSC invites MOD stakeholders to all necessary forums and that some senior engagement has been achieved but that a more active dialogue could result in a step change of realisation of impact from UKDSC activity. Examples provided were to engage individuals in MOD command to feed in their long-term priorities and expectations from technology which is / or can be provided by the UK defence industry. This dialogue would be non-committal and result in better alignment and stronger decision grade information for the industry. The latest UKDSC annual report shows that some of these recommendations have been acted upon, indicating that the UKDSC has already engaged with the four UK Front Line Commands to understand their emerging needs.

Another specific potential point for improvement identified in the interviews was that it would be beneficial for the UKDSC to be more proactive in coming forward with specific technologies that the industry could offer to various parts of the MOD.

Government stakeholders interviewed pointed out several issues in open collaboration with the UKDSC:

- A difficult political reality with the defence budget<sup>4</sup> not experiencing any increase for six years leading up to 2015/16 and only receiving a commitment to increase spending by 0.5% above inflation every year until 2021.
- The experience of adopting the Defence Industrial Strategy<sup>5</sup> in 2005 which subsequently did not receive support from HM Treasury is still fresh in the minds of MOD personnel who are not prepared to make even non-committal statements about future requirements for technologies.
- A problem of trust and sharing views openly with all DGP members at the UKDSC table who are in some areas direct competitors. This possibility introduces a level of nervousness for government officials who consider engaging with the UKDSC openly. Against this, one of the companies with headquarters abroad highlighted

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<sup>4</sup> <https://www.gov.uk/government/news/defence-budget-increases-for-the-first-time-in-six-years>

<sup>5</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/272203/6697.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/272203/6697.pdf)

that they utilise a high number of UK-based SMEs and that supporting only wholly UK primes would not secure the full prosperity benefits for the UK.

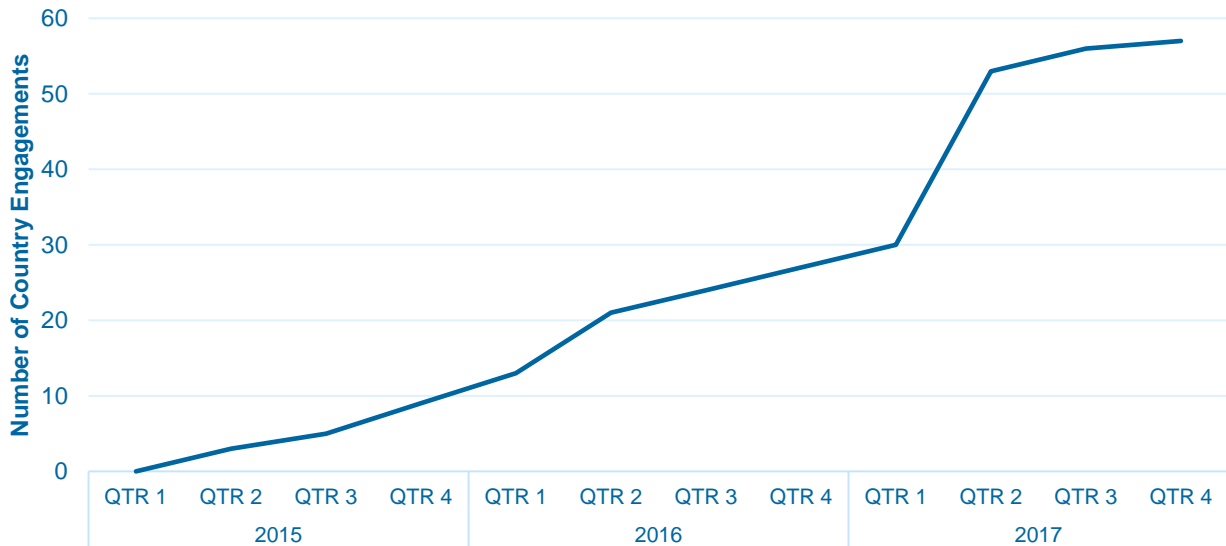
- The UK regulatory system requires equipment specified for development or procurement to meet specific UK military standards that were said to be often higher than those in the case of other countries. As a result, the UK produced components tend to be superior in performance but also more expensive than competitors. Subsequently, competitor products end up being purchased by MOD on the basis of value for money. This argument was put forward as one of the reasons why MOD engagement with the UKDSC has potential to change practice and result in a more competitive defence industry in the UK.

The UKDSC was found by everyone who felt they could comment to be very effective in working with BEIS and Innovate UK and the Defence and Security Accelerator (formerly CDE) which has a secondee based in the Centre. The relationship with DIT DSO was unilaterally seen as “a good working relationship”, although some industry representatives could not distinguish between the two organisation’s remits or stated that the 0-5 and 5-15-year distinction was difficult to maintain in the real world. The issues of remit and territoriality in defence trade and exporting between the MOD (strategic capabilities), DIT DSO (short term non-strategic capabilities) and the UKDSC (long term capabilities) were commented on by a number of stakeholders and will potentially result in difficulties in the attribution of achievements between organisations in a final evaluation.

### Engagement with prospective customer Government stakeholders

In addition to engagements with the industry and UK government stakeholders, the UKDSC has steadily increased its outreach to stakeholders in countries identified as potential customers for UK Defence and Security technologies. The chart below outlines how the number of these engagements has developed over the lifetime of the centre’s activities. The upward overall trend with a particular spike in the second quarter of 2017 is in line with the findings that the centre’s engagement with broader stakeholders expanded significantly over the last year. This work has led to joint development of two country strategies with the DGP and subsequent implementation with direct engagement in country.

**Figure 2: Trend in UKDSC’s cumulative number of engagements with foreign governments**



Source: UKDSC Monitoring Information System. 2018

## Delivery of Team UK Approach and Links to Potential Target Markets

### Execution of Team UK Approach

As described in the rationale section, stakeholders and industry representatives recognise value in the potential for coordination of efforts in instances where an opportunity is likely otherwise to attract a single offer from competitor countries and a number of offers from the UK. While this concept is recognised in theory, and a number of stakeholders interviewed were aware of an instance in which the industry has come together as part of export campaign, there was little evidence this has so far translated into deals. One of the stakeholders also noted that Team UK is a shared initiative between UKDSC and DIT DSO, as any Government-to-Government deal falls within the remit of the latter (and in case of strategic capabilities directly within MOD).

### Influence on Company strategies

Market intelligence and prioritisation of target markets was seen as a valuable exercise bringing together the right kind of people but our qualitative research did not reveal any specific impacts at this stage except for an investment of small marketing budgets in exploring one of the opportunities. One of the stakeholders consulted indicated that the choices for prioritisation were relatively conservative and predictable but a counterargument was put to us by another stakeholder that this was an exercise based on

evidence and with a clear focus on export opportunities rather than taking into account strategic partnerships or any other individual criteria. Several industry representatives nevertheless highlighted the success of bringing all DGP members together and putting exporting on their agenda.

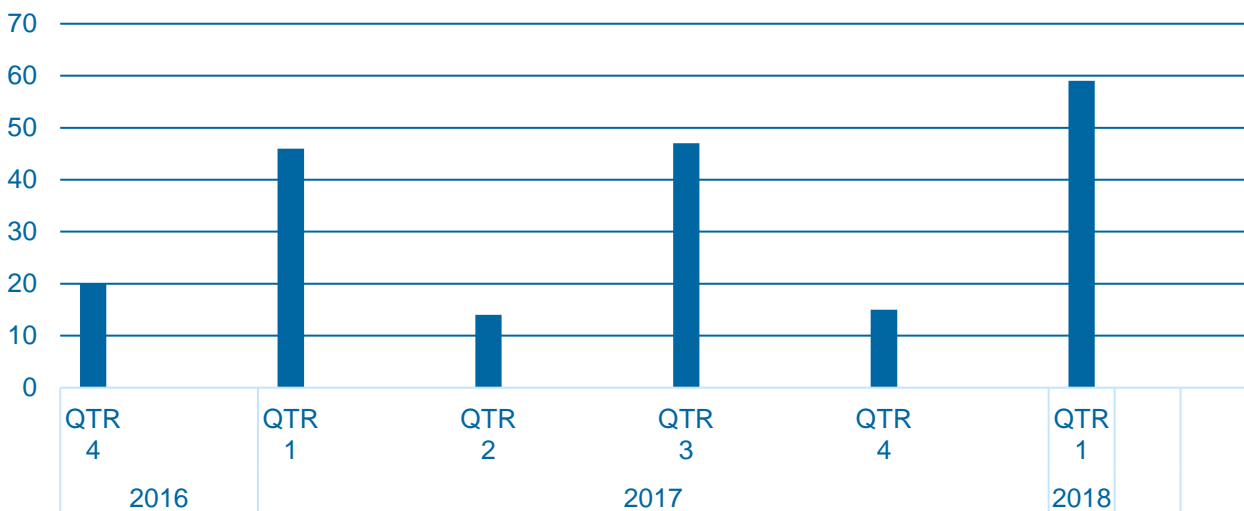
## Effectiveness of UKDSC’s Activities

### Market Intelligence Cell

The UKDSC’s Market Intelligence Cell has over three phases enabled the development of an understanding of a broad spectrum of country needs across the global defence landscape, growing from 16 to 24 countries. The information is based on inputs from DGP founder companies and UKDSC Associates, as well as consultancy inputs, to identify and enable broader Team UK propositions with the key purpose for the UK value chain to become better informed regarding market access opportunities. Activities contributing to the Market Intelligence Cell included specific projects (Alacrity, Black Eagle, Condor, and Endeavour), each focusing on the analysis of a specific market segment or a combination of a market segment in a particular priority country.

The monitoring information outlining the visits and use of the data produced by the Market Intelligence Cell indicates that on average there were about 33 visits per quarter with over 200 visits over its active period. An overwhelming majority (82%) of visits were first-time visits rather than repeat visitors. The overall trend of visits per quarter is presented in the chart below.

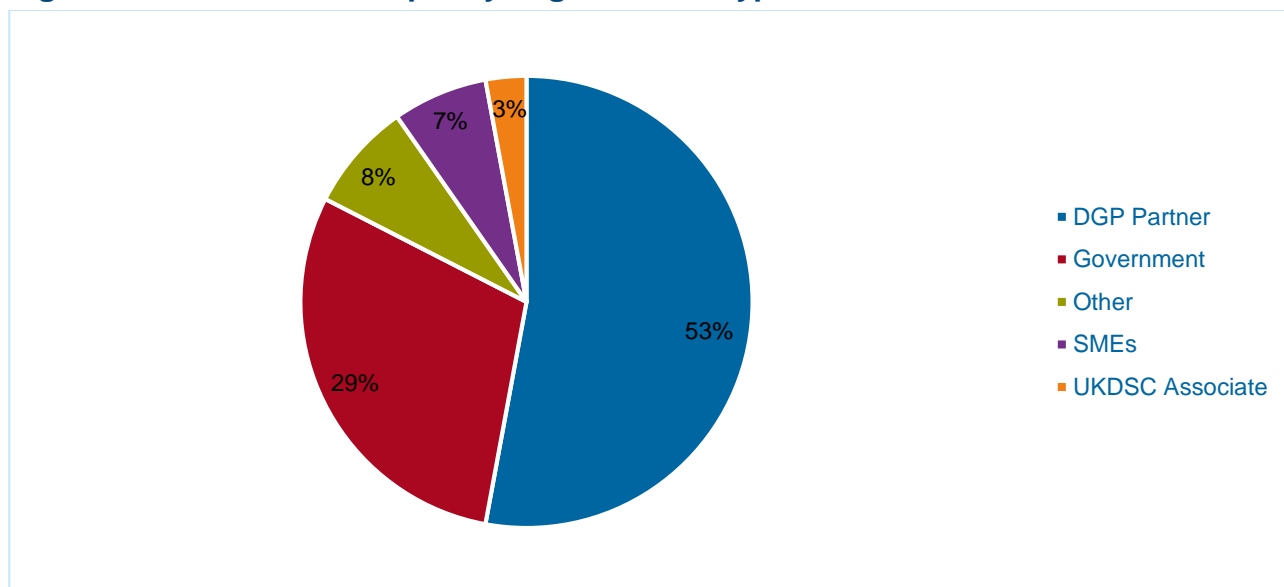
**Figure 3: Visitors to MIC by Quarter**



Source: UKDSC Monitoring Information System, 2018

The most frequent type of organisation to visit and use the market intelligence data, were over the same period the DGP members, who formed more than half of the visits, followed by government stakeholders (e.g. ministers, representatives of BEIS, MOD and its agencies) and SMEs, Associate Members and other organisations (foreign government representatives, or non-member companies). The full profile is presented overleaf.

**Figure 4: Visitors to MIC Split by Organisation Type**



Source: UKDSC Monitoring Information System, 2018

Outputs from the intelligence cell activities were praised as one of the core achievements of UKDSC, resulting in a breadth and quality of information which was found to be useful by Government and some industry players alike. Our findings in relation to the usefulness and quality of information produced can be summarised as following:

- Quality of information** – Generally our interviews indicated that those who engaged with outputs for these activities found the information to be of high quality and presented at the right level of detail and coverage of markets. One government stakeholder stated that companies could share more intelligence but recognised associated challenges.
- Added value** – The information was found to be most useful by companies that do not have a global presence and therefore cannot easily collect this type of information themselves. For global companies the intelligence served more as external validation of information they acquired already. The only criticisms that we had recorded within our interviews were that the first market intelligence output took longer than one of the industry representatives expected (although the whole exercise was according to UKDSC completed within 8-week period and hence the expectations may have not been realistic) and that an update was due. This delay was said to be most likely to be linked to the resourcing issues explored above.

- **Relevance of information for decision-making** – When asked whether the information was ‘decision grade’, industry representatives stated that it was strong enough to dedicate modest marketing and demonstration budgets on its basis but not to justify the launch of a multimillion internal R&D programme. As highlighted above, the key information found to be missing from the current database is a UK long term plan for procuring technologies which would allow stronger gearing up of UK companies to address the potentially greater market opportunity which this could represent. Availability of this information was said to have the potential to result in strengthened engagement from the whole defence and security sector.

The example of using market intelligence for shaping decisions of the Type 31 General Purpose Frigate programme was quoted by several stakeholders. Stakeholders were said to have worked together effectively in order to understand potential customers, capability requirements and industrial capacity in each of the identified countries. If the UKDSC had not been involved, the approach to the Type 31 Frigate would have been less strategic and evidence based as MOD would have found it difficult to find equivalent data to support its decision-making. MOD could have commissioned a consulting firm to obtain equivalent information but it would have been a less collaborative process.

*“DSC made good progress on the market analysis side of activities, the data and cuts are impressive stuff, and were fundamental in pulling together Team UK.”*

Government stakeholder

### Capability Mapping work

The latest UKDSC Annual Report indicates that UKDSC has carried out independent analysis of ten key topic areas to align with eight identified capability themes. The UKDSC developed Capability Baseline papers to feed into the Team UK Collaborative Framework and systematically inform areas of Capability Development and Investment planning. The UKDSC Liaison Board agreed to support their development into specific opportunities. Despite this progress, our interviews highlighted that only a small number of stakeholders had clear oversight of these activities and many indicated that this work was less prominent in their view or less developed. They acknowledged that this stream was always dependent on building upon the market intelligence stream and that the speed of progress has been affected by secondment related issues explored in section 2.1. As a result, we have not captured any examples of direct, specific use of this stream from the industrial representatives who had been consulted.

Nevertheless, those who were involved in these activities stated that UKDSC has worked effectively with organisations such as the Knowledge Transfer Network (KTN) which had previously done work on mapping of R&D capabilities in specific sub-sectors relating to the broader defence and security industry. Linking up the capability mapping work to the value of investment workstream (next section), the UKDSC was said to have taken a lead in setting up and running workshops, bringing together the right individuals and identifying

specific technology areas around which they assisted in forming so called Communities of Interest (Cols).

**Improving the Value of Investment:**

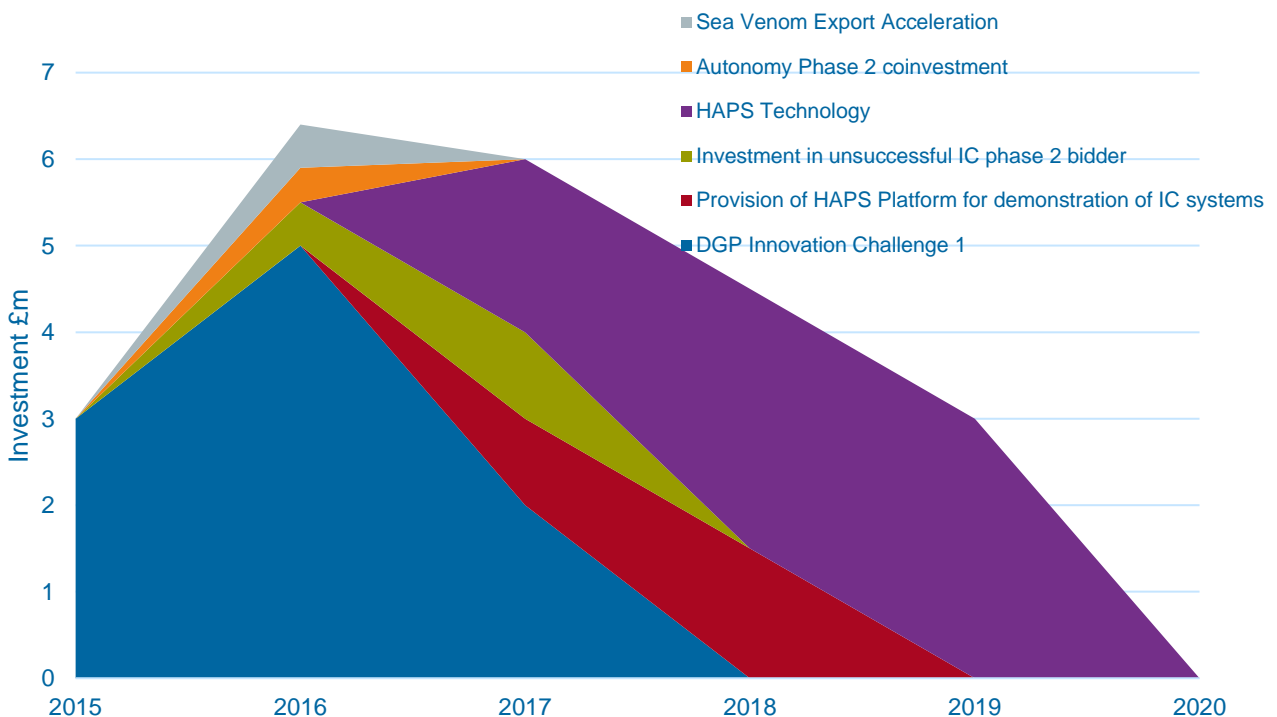
The monitoring information shared with the evaluation team defines three themes of activity that the UKDSC developed in support of improving the value of investment:

- Working with CDE/DASA in supporting theme development of four innovation challenge competitions,
- Thought leadership building the opportunities for Export / MOD / Industry collaborations (including Communities of Interest (Cols), and
- Engagement with MoD through the CODIFI framework.

**Working with CDE/DASA**

The monitoring information provided by the UKDSC outlines a pipeline of investment in five technology development programmes influenced by UKDSC. The annual investment topped out £6.5m in 2016 and involves projects finishing in 2020. The detailed profile is presented in the chart overleaf.

**Figure 5: Confirmed Investment Pipeline 2015-2020 Stimulated by UKDSC**



Source: UKDSC Monitoring Information System, 2018



Our interviews provided clear evidence of outcomes from the first set of activities. Though this activity was linked to a ministerial announcement which became a clear opportunity for the UKDSC's involvement and building upon existing SBRI instrument, UKDSC's involvement is seen as having brought a valuable new focus on developing routes to market for innovations. A stakeholder close to this development confirmed that the UKDSC has worked hard to achieve a cultural change within the government towards financing R&D faster progression in terms of technology readiness levels (TRLs) with a new emphasis on a route to market. The four CDE competitions were confirmed to be the first attempt to include industry in setting research priorities and required a change in behaviour with CDE having to put in place strong NDAs. While there is no analysis available to evidence this, two stakeholders involved in this area stated that the likelihood of exploitation has been increased. It was acknowledged though that the nature of MOD procurement process means that the route to market depends on take up by a major player and these were said to be difficult for SMEs to engage with, conservative and slow to take decisions.

The only indication of progress in terms of TRLs is in the form of TRL levels being targeted by the CDE competitions funded under each phase and the progression of projects between the two. The first phase of these competitions funded 35 projects starting at TRL 3-4. Twelve of these progressed to the second competition phase (aimed at TRL6). The 3rd phase of these projects will require applicants to comply with three criteria: (1) A clear MoD stakeholder buy-in, and willingness of MOD to take it into their development programmes, (2) the ability to secure 50 percent private funding in addition to MOD co-funding and, (3) a clear route to exports. This was seen as a change in behaviour at CDE and subsequently DASA. Nevertheless, whilst commending the new approach, one consultee argued that "the jury is still out" on how effective this will ultimately prove to be, recognising the long timeframes for achieving key outcomes.

*"A significant task lay ahead of a then new organisation [UKDSC]...there were some difficulties at the start but these were overcome... the behavioural change and acceptance were the first steps to establish.... it was not easy but now there is a better relationship, a better dialogue."*

Government stakeholder

### **Building collaborations for export**

It was recognised that the UKDSC has a crucial role in bringing together SMEs with potential innovations and big players which could help take forward and embody these. One area of weakness here was noted as the lack of linkages with adjacent sectors to develop joint use products. This is the focus of the DUTE initiative, although one consultee expressed concerns about the effectiveness of this work whilst noting recent improvements.

The abovementioned activities in forming CoIs were recognised by the industry representatives involved as successful and worthwhile activities resulting in coordination effects. One sign of this success reported was that some of the CoIs formed by the UKDSC progressed closer to the market and consequently fell outside of its remit, leading on to formations of commercially export-focused collaborations.

### **Engagement with MoD through CODIFI**

UKDSC has developed, and agreed in principle, a systematic co-investment framework between MOD and DGP. Supporting this, UKDSC has mapped out UK industry by value and themes to enable greater coherency. This led to the identification and pursuit of an opportunity in a specific technology field (Quantum Technology) with Innovate UK for cross-sector innovation. MOD and other government stakeholders were aware of the CODIFI framework and attended meetings and presentations relating to the initiative but did not point to any specific subsequent strategic changes within their departments as having taken place as a result. Although improving value of investments was not seen by all consultees as being within UKDSC's initial remit (see note on mission creep above), activities in this area were generally seen as valuable and working with CDE and DASA were seen as a real achievement.

*“UKDSC has no budget for R&D but it influenced/steered £10m spent through CDE, now accelerator.... [UKDSC] did very well to get into this funding and helped to coordinate with DGP”*

Government stakeholder

UKDSC has also worked with the British Business Bank with the aim to develop a defence focused VC fund. The latest UKDSC annual report indicated that positive discussions continue with several parties as to the leadership and development of an SME equity growth fund. While the value of this work area is acknowledged, it is seen by some as fragmented (as well as peripheral to the core mission).

The UKDSC has also developed an Innovation and Collaborative Engagement laboratory (ICE lab). This is a physical space within the UKDSC with facilities to allow SMEs and large firms to come together so the former can demonstrate their technological ideas without the risk of intellectual property leaking across organisational boundaries. However, none of the consultees spoke about use of this facility in our consultations and a number of them did not recognise the name of the laboratory, though this may merely reflect the relatively small number of SMEs which were interviewed.

### Extent to which the UKDSC has Laid a Framework to Deliver a Longer Term Increase in UK Defence Exports

As the UKDSC's key aim is enhancing the long term exportability of the offer of the UK defence and security industry, it is not expected that in its third year of operation we would be able to identify a specific contribution in terms of an increase of defence exports.

The UKDSC has been successful in the set up and conveying a clear message about its rationale to the industrial players involved and wider stakeholder groups while sustaining their engagement and promoting the export agenda.

The key area of UKDSC's success is the outputs of the market intelligence cell. Despite the use of outputs produced by UKDSC, companies consulted could very rarely provide concrete examples of how these have influenced their strategic decisions and therefore we are not yet in a position to judge its ability to deliver long term increase in UK defence exports. Industry stakeholders were prepared to coin the information produced by UKDSC as "good source of information for validation of their own intelligence". Industry representatives were in a position to confirm that the information was decision grade for smaller budgets and decisions about marketing or exploring specific feasibility of new technologies but not enough to warrant dedication of substantial R&D activities.

Another area of major achievement by UKDSC was the abovementioned change in the culture of the CDE and subsequently Defence and Security Accelerator through the involvement of the centre in the reshaping of innovation programmes. The associated changes have the potential to lead to stronger and more relevant capabilities from within and outside the core defence industry and to lead to potential increases in UK defence exports. However, realisation of commercial benefits will lie well beyond the timeframe of this evaluation.

Engagement activities with industry and government stakeholders have put in place a framework for reaping potentially high benefits from aligning the agendas of these groups but the UKDSC will have to overcome barriers and build additional trust in order to allow this activity to lead to higher exportability of technologies and in turn to higher exports. The ultimate challenge and measure of UKDSC's success will however be improving 'p wins' which is conditioned by a number of other factors, not least government engagement/support via Government-to- Government relationship building, collaboration with DSO and linking UKDSC's work to wider DGP activities and building the competitiveness of the UK defence industry.

# Conclusions

## Progress of UKDSC relative to plan and alignment with rationale objectives

The evaluation has captured a diversity of views, with lots of positives and recognition of the UKDSC making a genuine effort in meeting the objectives it set out to achieve. Most stakeholders agreed that the UKDSC was established in an effective manner and “got on with the job quickly” and its rationale is well understood by industry and Government stakeholders. However, owing to the time horizons involved, it has been difficult to identify specific examples of intermediate outcomes – such as changes in the R&D strategies of large producers engaging with the centre.

### Securing collaborations and R&D investment leading to product and service development

The UKDSC has no direct budget to fund R&D in the sector and has instead sought to influence the resources of both industry and Government stakeholders. The UKDSC has undertaken several activities to attempt to stimulate investment in product and service development, particularly through working with the Centre for Defence Enterprise (now DASA) in the development of innovation competitions linked to exploiting future export opportunities, and through the CODIFI framework that seeks to put in place co-investment arrangements between the DGP members and the MOD in efforts to progress later stage R&D projects with a clear route to export markets. These activities were widely reported to represent a step-change in MOD-funded competitions in terms of their market focus and extent of progress along the development pathway (with 12 of 35 projects progressing from TRL3-4 to at least TRL6). The UKDSC has also initiated discussions with the British Business Bank to establish an SME growth equity fund (though responsibility for this has since transferred to the DGP). These activities have largely focused on the R&D activities of smaller firms – and while this was closely aligned with the objectives of the UKDSC – some industry stakeholders questioned the priority which was given to these activities. On the other hand, there were several stakeholders who highlighted that supporting SMEs is the right focus as they are better placed to take advantage of the huge potentially addressable market in the US through provision of sub-systems rather than platform technologies.

The UKDSC’s main tool for influencing collaboration and R&D investment amongst the larger firms in the industry (members of the DGP Steering Committee) have been the work of the UK Market Intelligence Cell which provides long range intelligence on future export opportunities that can potentially be addressed by the UK. The second key tool was meant to be in form of capability mapping activities which aim to provide ‘road map’ of the capabilities to be developed in order to maximise those opportunities. This work has so far not progressed at the levels planned owing to the resourcing issues noted above. While

the stakeholder research generally suggested that the market intelligence work by the UKDSC has been thought to be of high quality, there were some questions as to how far the information provided – while potentially novel to SMEs – provided new intelligence to larger firms. Representatives of these large multinationals noted that the information primarily served as useful external validation. In line with this perspective, it was not possible to identify any specific examples where the work of the UKDSC had led to the initiation of new R&D activity or collaboration between DGP members. It should be noted that the latter issue was perceived to be primarily driven by cultural issues in the industry and potential barriers to sharing the most commercially valuable intelligence. None of the stakeholders interviewed put forward ideas on how the UKDSC could make a meaningful impact on these underlying issues.

### Contribution to fostering behavioural changes in government and industry in support of export agenda

The qualitative evidence gathered through stakeholder interviews suggested that UKDSC has facilitated some changes in the way the industry and Government work together in support of the export agenda. Some examples noted by stakeholders include the use of market intelligence in shaping decisions for the Type 31 General Purpose Frigate programme, the 'Team UK' approach to presenting UK defence manufacturing capabilities to foreign customers (a joint initiative with DSO), and the support given by UKDSC to the MOD Prosperity Team in providing a rapid overview of UK capabilities in connection to a specific set of discussions around exports taking place at a Government to Government level.

However, there was less evidence to suggest that the UKDSC has so far produced systematic and lasting changes in behaviour amongst Government and industry stakeholders, and there were questions raised as to whether the UKDSC – on its own – could feasibly produce the types of behaviour change needed to have a lasting effect on UK defence exports. For example, while the 'Team UK' approach was viewed positively by stakeholders, this was yet to translate into a significant transformation in the appetite for collaboration or co-ordination amongst UK defence producers in responding to RfPs. There are also wider constraints on the extent to which it is politically feasible for the MOD to provide the type of engagement thought to be needed to make a material influence over the performance of the industry in export markets (restricting, for example, the degree to which the MOD can articulate a clear view of its future capability requirements). These external issues may act to inhibit the degree to which the UKDSC can meet its longer-term objectives.

### Whether the UKDSC is on track to meet its deliverables and objectives

As noted, the UKDSC was generally perceived to have been established rapidly and in most areas has made substantial progress in meeting its defined outputs. The only area in which progress has less rapid than anticipated was in the area of the capability assessments. Issues in this area were attributed to the difficulties faced by UKDSC in securing secondments at the level agreed by industry, leaving the organisation under

resourced in some areas – and some stakeholders noted that the organisations could benefit from more senior staff to facilitate longer term engagement. A variety of explanations were for variable levels of engagement – though often these were couched in terms of the perceived benefits to be reaped from their engagement (system integrators (such as BAE Systems, Thales, Leonardo) have found it easy to identify secondees while consultancies and companies with very specific segment areas / components they feed into defence products (such as Rolls Royce and Lockheed Martin) found it more difficult to justify the costs).

**Contribution to a positive ‘direction of travel’ in improving industry’s capabilities and competitiveness**

As the UKDSC operates in the pre-competitive space and targets opportunities over the 5 to 15-year time horizon, it is to be expected that the majority of the results of its activities at this stage represent only intermediate outcomes which point at the direction of travel towards achievement of ultimate impacts. The table below summarises our judgement of what might realistically have been expected to be achieved within the short term timescale involved and provides high level comments on progress within the outcome area. It highlights that the UKDSC has achieved good progress in several areas incl. collaboration, engagement and identification of opportunities, but that in other areas such as identification of capability gaps remain to be progressed.

**Table 1: Summary of UKDSC progress against Objectives**

UK DSC Objective	Planned short term outcomes	Summary of Progress
Collaboration effects (Create greater collaboration across the UK Value Chain and with International Customers)	<ul style="list-style-type: none"> <li>▪ Effective governance structures in place to allow collaboration within DGP</li> <li>▪ Good links to other DGP activities (skills and supply chain) and relevant external organisations (the Cyber GP, the KTN, Catapults, etc)</li> <li>▪ Setup a hub environment</li> <li>▪ Preparedness of primes and others to ‘sign up’ to collaborative working</li> </ul>	<ul style="list-style-type: none"> <li>▪ Governance arrangements ‘fit for purpose’,</li> <li>▪ ‘Pull’ by members’ competing interests</li> <li>▪ Perceived need for more transparency of resourcing and strengthening reporting metrics – greater focus on outputs/results</li> <li>▪ DSC complementary to other DGP workstreams, but relationship to DGP not always understood</li> <li>▪ Engagements with industry and provision of information through the UK Market Intelligence Cell</li> <li>▪ Progress towards Team UK approach</li> </ul>
Capability Gap Identification	<ul style="list-style-type: none"> <li>▪ Developing Capability and Technology roadmaps to help identify a clear customer need and to highlight where the UK has strengths and where these need to/can be built upon</li> </ul>	<ul style="list-style-type: none"> <li>▪ Capability Baseline papers developed to feed into the Team UK Collaborative Framework and systematically inform areas of Capability Development and Investment planning</li> <li>▪ Limited awareness and lack of use of outputs</li> </ul>

UK DSC Objective	Planned short term outcomes	Summary of Progress
Increased Investment in R&D	<ul style="list-style-type: none"> <li>▪ No expected outcomes in business plan</li> <li>▪ No direct budget to fund R&amp;D in the sector</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stimulated investment in product and service development, particularly through working with the Centre for Defence Enterprise</li> <li>▪ Development of four innovation competitions targeting higher TRLs and technology areas with future export opportunities</li> <li>▪ Step-change in MOD-funded competitions in terms of their market focus</li> <li>▪ But no link to initiation of new R&amp;D activity or collaboration between DGP members</li> </ul>
Improved Engagement	<ul style="list-style-type: none"> <li>▪ Active involvement/secondments by industry 'primes'</li> <li>▪ Engagement by SMEs and the wider ecosystem</li> <li>▪ Take-up of Associate membership and expressions of interest in membership</li> <li>▪ Involvement of SMEs, etc at/in UKDSC events and activities</li> </ul>	<p><b>Engagement with the Primes</b></p> <ul style="list-style-type: none"> <li>▪ 'Right people' attend Steering Group and Liaison Board</li> <li>▪ Varying engagement, reflecting perceptions of potential value – leading to shortfalls in secondments in some cases</li> </ul> <p><b>SMEs and the Wider Sector</b></p> <ul style="list-style-type: none"> <li>▪ Engagement of limited no. via associate membership &amp; Cols</li> <li>▪ SMEs indirectly via CDE competitions</li> </ul>
Wider UK Stakeholder Engagement / Buy-in/	<ul style="list-style-type: none"> <li>▪ Extent and levels of attendance at Liaison Board and DSC events</li> <li>▪ Stakeholder and DSC assessments</li> <li>▪ Systematic engagement with MOD capability managers rather than ad hoc</li> </ul>	<p><b>DSO</b></p> <ul style="list-style-type: none"> <li>▪ Acceptance of somewhat artificial short/long horizon split of remits,</li> <li>▪ Working together well though some elements of 'territoriality'</li> </ul> <p><b>MoD</b></p> <ul style="list-style-type: none"> <li>▪ Effective links crucial for DSC success</li> <li>▪ Initially slow but improved in last year</li> <li>▪ Varying views re: quality and depth of engagements within – complex structure</li> </ul> <p><b>BEIS, IUK, DASA</b></p> <ul style="list-style-type: none"> <li>▪ Effective relationships</li> </ul>
Increase the competitiveness of the UK Defence Industry	<ul style="list-style-type: none"> <li>▪ Influence on corporate strategies of key players</li> <li>▪ Increased understanding of customer needs (from market intelligence)</li> <li>▪ Use of evidence base generated</li> <li>▪ Development of relationships with key potential customers/markets</li> <li>▪ Development of Capability Maps</li> <li>▪ Development of a specific VC fund</li> <li>▪ Extent of positive outcomes of MoD funded competitions</li> <li>▪ Development of potential new funding model(s) to assist</li> </ul>	<p><b>Market Intelligence Cell</b></p> <ul style="list-style-type: none"> <li>▪ High quality info; some use by MoD and industry, not as timely as hoped</li> <li>▪ 'Decision grade' for small marketing projects</li> </ul> <p><b>Capability Mapping</b></p> <ul style="list-style-type: none"> <li>▪ Work with KTNs and development of Cols but relatively low 'visibility'</li> </ul> <p><b>Improving the Value of Investment</b></p>

UK DSC Objective	Planned short term outcomes	Summary of Progress
	innovations traverse the 'valley of death'	<ul style="list-style-type: none"> <li>▪ Recognised achievement in reshaping CDE Innovation Competitions (route to market)</li> </ul>
Enhanced Innovation	<ul style="list-style-type: none"> <li>▪ Concept Development &amp; Innovation activity to define and implement interventions to fill identified gaps</li> <li>▪ Effective positioning to deliver new capabilities and solutions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Influenced CDE competitions (more commercially focused)</li> <li>▪ But no solely industry funded innovation activities</li> </ul>

As such, beyond the influence effects noted above, the short time frame for the evaluation has meant that stakeholders were not at this time able to describe meaningful changes in the overall direction of travel of the competitiveness of the UK defence industry. The evaluation nevertheless gathered overwhelming evidence of positive expectations from the work that the centre has done towards meeting the ultimate competitiveness challenge, especially as the R&D projects initiated within these competitions come to fruition and the DSO and/or the industry respond to potentially valuable directions identified through early Market Intelligence Cell work.

## Potential Improvements to Monitoring

The general views on the monitoring structure were while monitoring processes are in place and progress is presented at board meetings, there was a level of concern that the current internal reporting metrics focus on progress in relation to the delivery of activities and outputs with insufficient regard to the intended results of these in terms of the ultimate purpose of the Centre in increasing export sales. This criticism is not entirely well founded given the intended focus of the Centre on the 5-15-year pre-competitive space but going forward there is a need to move indicators from progress of activities to outputs and outcomes.

Most stakeholders and industry participants agreed that the ultimate measures would be economic performance of the defence industry and levels of exporting (i.e. 'p-wins') but that the timeframes and the reality of how deals are made means that attributing increases to UKDSC's activities may be difficult. Perhaps for this reason, many of those who had a view explained that intermediate outcomes of activities may be the most appropriate 'bottom up' measurement of UKDSC's success. A key issue for monitoring, however, is that the UKDSC focuses on seeking to influence the behaviour of industry and Government, there is very little information relating to those outcomes that can be collected without surveying those behaviours on a regular or semi-regular basis (specific metrics are suggested in Annex 2). An encouraging message from a number of the industry consultations is that members were willing to support monitoring exercises in the



future to demonstrate the value of the resource dedicated to UKDSC and were willing to submit information on how UKDSC activities influenced or led to specific increases in exports.

At this time, it is too early to judge whether the UKDSC has – and in some cases, will potentially – improve the competitiveness of the UK defence and security industry through exporting. As such, we recommend that an evaluation is commissioned by BEIS as the UKDSC approaches the beginning of its target 5 to 15 year window. It is likely that the evaluation will take form of a qualitative research methodology as a quantitative impact evaluation may not be feasible. Therefore, the study may require a non-experimental approach triangulating quantitative and qualitative views on the role and achievements of outcomes set out to achieve by the UKDSC. In the interim, it would be worthwhile to setup internal ongoing data-gathering (monitoring) processes of the downstream results (i.e. R&D spending by technology area and evidence of collaborative working) provide the objective data for any future evaluation exercises.

## Potential Improvements to Scheme Design

### Is Government Intervention still required?

The stakeholders engaged in this evaluation generally acknowledged the underlying rationale for the UKDSC. A consensus view emerged in the study that the competitiveness of UK producers in export markets is constrained by co-ordination failures which act to inhibit the degree to which collaborative approaches to future capability development and export sales can be developed. It was also widely acknowledged that growth of export sales will also be vital in safeguarding the long-term viability of defence manufacturing in the UK, given the potential for reducing unit costs - at a time of pressures on UK defence budgets and of increasingly complex threats that are costlier to address. These types of issues have not eased since the UKDSC was established.

### Is the Scheme and the way it is implemented the most appropriate approach?

The UKDSC was established to address issues set out above through the creation of an industry led co-ordination body to provide market foresight and influence capability development and innovation in the sector. The stakeholders consulted within the study indicated that the approach taken was logical in view of the issues, and saw value in the model (including in helping to facilitate discussions in relation to partnership arrangements that are agreed at the Government-to-Government level).

Stakeholders offered some thoughts on aspects of the UKDSC's operations that could be optimised moving forwards, none suggested that fundamental shifts in direction would be potentially more beneficial in supporting the long-term growth of UK defence exports. However, the evaluation suggested two areas in which the approach embodied in the UKDSC may struggle to comprehensively address the constraints faced by UK industry in export issues. Firstly, while the centre is able to highlight the strategic and economic benefits of greater collaborative working in pursuit of specific future international

opportunities, the decision to collaborate will remain a voluntary decision by suppliers and it is not clear that the UKDSC on its own is sufficient to ameliorate all sources of friction that may prevent collaboration emerging. Secondly, numerous stakeholders suggested that the value of the UKDSC to the industry would be greater if it was able to align domestic and international capability requirements – though its ability to do so would require a level of engagement from MOD it has thus far been unable to provide.

Alternative options of addressing the same problem are unlikely to result in the same outcomes, notably:

- **Ad hoc groupings of Industry and Government to look at specific topics:** This option, which was considered in the original Business Case, would only provide marginal benefit over and above ‘do nothing’ alternative. The evaluation suggested that this approach could work well for specific technology areas where there is only one leading UK supplier. In such instances the barriers to coordination are smaller than in more complex sectoral settings and therefore the response to a customer (either domestic or foreign government) can be led by the prime. In areas where competitive forces are stronger within the UK defence and security sector, there is a greater rationale for structures and fora put in place through the UKDSC. As a result, this type of approach would not be an effective instrument for progressing the exporting agenda within the whole UK defence and security industry – as it would disproportionately benefit those in its specific subsectors.
- **Market intervention:** An alternative approach would be for the Government (or a body created by the Government and /or industry) to take a more significant co-ordinating role in the market (e.g. taking direct co-ordinating decisions on which industry players are best placed to respond to RfPs). This would more closely resemble the approach taken by some other Governments, but would be unlikely a realistic approach given the wider political climate and the possible complementary actions needed to make this type of approach possible (e.g. it may require controlling stakes in companies, for example).

Research within the evaluation confirmed that the majority of stakeholders could see benefits of the sector-based approach rather than ad-hoc or DGP only (do nothing approaches). There were some questions raised regarding some of the activities completed by the UKDSC to support the capability development of SMEs (which was deemed to only influence the export sales of large systems integrators at the margins). However, there was also a parallel view that much of the potentially addressable market was in the US, which would be more accessible to SMEs than to large systems integrators. This raises some possible questions as to whether the goals of the UKDSC should be solely to support export growth – in which case activity targeting SMEs is potentially justified, though it may be more difficult for DGP members to see the value in this type of activity as they are less likely to benefit directly. This also connects to issues faced by the UKDSC in its resourcing model based largely on secondments, in which

variable levels of engagement were partly driven by unevenness of perceived returns across DGP members (and an alternative resourcing model may be needed if the UKDSC is to be tasked with activities that are less likely to directly influence the performance of DGP membership).

### Is the Scheme the most appropriate approach, what improvements could be made?

- The operations of UKDSC in its first three years of operation have been constrained by its resourcing model in which it depends on secondments from industry. While some operational improvements have been suggested (such as engaging with HR departments as well as senior stakeholders), these issues have also been driven by unevenness in the perceived benefits of the UKDSC across DGP members. While a move to a partial core funding model was seen as beneficial in addressing some of these issues, there were also concerns raised as to how far this move would be effective without a long-term funding commitment.
- It may be helpful for UKDSC, BEIS and MOD to consider how the work of the market intelligence cell could be deepened to increase its potential for influence over the behaviour of larger firms in the industry. This would likely require the generation of information and analysis that would be otherwise unavailable to those firms – and stakeholders indicated this work could be substantially more valuable to industry if it also included information on likely future domestic demand (so domestic producers could understand more clearly where the domestic and overseas demand aligned).
- Improving the quality and resolution of information on future export opportunities may require deeper engagement with foreign customers, and it may be helpful to consider further how the UKDSC and DSO work together at an operational level (as the demarcation of 0-5 and 5-15 years is not always a realistic one in practice). This would be potentially beneficial not just in terms of clarifying roles and handover arrangements, but in ensuring clarity to customers.
- Some clarity is potentially required as to the potential role of the UKDSC with respect to supporting the export growth of SMEs. While there may be market opportunities for these types of firms, DGP members may not always see the benefit of supporting this type of activity and it may not deliver the long-term safeguarding UK defence manufacturing capability sought.
- There may opportunities to more closely align the work of other DGP work strands (e.g. skills and supply chain development) with the work of the UKDSC.

# Annex 1 Evaluation Framework

The table overleaf sets out an evaluation framework drawing on the previous section and was used to guide the evaluation. It included potential indicators that were to be employed to assess the short-term effectiveness of the UKDSC. The focus of the table is on short term measures (i.e. aspects that the UKDSC could reasonably be expected to have had an influence over at this stage).

**Table 2: Summary of Outcomes and Data Sources for the Impact Evaluation**

Outcomes of Interest	Measures	Indicators and Metrics	Stakeholder Interviews	Industry Interviews	Secondary Data /MI
<p><b>Establishment of the Organisation and its Governance and Structure</b></p>	<p>Whether DSC established to planned timescale and cost</p> <p>Whether secondments of appropriate calibre/ seniority secured and whether these reflect commitment to 50:50 industry funding</p> <p>Whether arrangements for legal and support roles of ADS, oversight by DGP Steering Group, Liaison Board, and reporting/performance metrics, provide an appropriate framework for organisational governance and stakeholder involvement</p> <p>Whether there are sufficiently good links to other DGP activities (skills and supply chain) and relevant external organisations (the Cyber GP, the KTN Catapults, etc)</p>	<p>Annual budget and spend profile relative to original plan</p> <p>Numbers of secondees and assessment of their suitability for allocated roles by Chair, EDs and stakeholders</p> <p>Industry/Stakeholder/ADSDSC assessments</p> <p>Whether there is a high level of attendance at meetings by the appropriate 'seniors'</p> <p>Industry and Stakeholder (and DSC) assessments</p>			

Outcomes of Interest	Measures	Indicators and Metrics	Stakeholder Interviews	Industry Interviews	Secondary Data /MI
<b>Strategy and Business Plan</b>	<p>Whether broad aims and focus aligned with original aspirations/aims/objectives/corporate strategies of industry and other stakeholders</p> <p>Whether analysis and implied priorities are now/still considered to be valid by industry/stakeholders</p> <p>Whether DSC 1 plans and objectives have been sufficiently specific, realistic and deliverable</p>	<p>Perspectives of industry and other stakeholders (and DSC)</p>			
<b>Industrial Engagement / Buy-in</b>	<p>Extent of active involvement/secondments by industry 'primes'</p> <p>Extent of engagement by SMEs and the wider ecosystem</p>	<p>Attendance at Steering Group, Liaison Board and other DSC organised events by the key players/decision makers</p> <p>Spread of secondees of different seniority from primes</p> <p>Perceptions of secondees/former secondees on career and commercial benefits of secondment</p> <p>Perspectives of industry and other stakeholders</p>			

Outcomes of Interest	Measures	Indicators and Metrics	Stakeholder Interviews	Industry Interviews	Secondary Data /MI
		<p>Extent of take-up of Associate membership and expressions of interest in membership (if recorded)</p> <p>Involvement of SMEs, etc at/in DSC events and activities (see below)</p>			
<b>Wider UK Stakeholder Engagement / Buy-in/</b>	<p>Extent to which sufficiently wide/effective links to DSO and the different component parts of MoD at the right level have been established/operate in practice (military attaches in target markets)</p> <p>Extent of engagement by DSO and MoD in DSC activities</p> <p>Extent of alignment of priorities</p> <p>Whether there is a shared understanding and acceptance of the 'agenda', roles and responsibilities of DSC vis a vis stakeholders, particularly DSO (<i>Note the particular sensitivity of any potential role vis a vis MoD procurement decisions in relation to the objective of exportability</i>)</p>	<p>Industry and stakeholder (and DSC) assessments</p> <p>Extent and levels of attendance at Liaison Board and DSC events</p> <p>Stakeholder and DSC assessments</p> <p>Systematic engagement with MOD capability managers rather than ad hoc</p>			

Outcomes of Interest	Measures	Indicators and Metrics	Stakeholder Interviews	Industry Interviews	Secondary Data /MI
<b>Success in Delivery of Team UK Approach and Development of Links to Potential Target Markets</b>	<p>Preparedness of primes and others to 'sign up' to collaborative working</p> <p>Extent and success of examples where approach adopted/trialled (particularly DSEI)</p> <p>Development/facilitation of linkages with identified priority overseas target countries/theme market champions</p>	<p>Industry and stakeholder (and DSC) assessments</p> <p>Hosting of relevant delegations</p> <p>Participation in relevant networking events, etc</p> <p>Other evidence of success in partnership building</p>			
<b>Delivery of Key Activities and their Use / Utility</b>  <b>a) Focus on the Customer /Market Intelligence</b> <b>b) Develop UK Capability</b> <b>c) Improve Value of Investment</b>	<p>Quality and relevance of the evidence base generated</p> <p>Progress in developing Capability Maps and quality and relevance of outputs to date</p> <p>Progress in development of a specific VC fund</p>	<p>Industry and DSO/MoD (and DSC) assessment</p> <p>Extent and spread of usage of this base by member organisations</p> <p>Perceived value and role of intelligence assembled vis a vis DSO</p> <p>Progress relative to plan</p> <p>Industry and DSO/MoD assessments of outputs</p>			



Outcomes of Interest	Measures	Indicators and Metrics	Stakeholder Interviews	Industry Interviews	Secondary Data /MI
	<p>Extent of positive outcomes of MoD funded competitions</p> <p>Subsequent wider application of the DSC competitions/exploitation focused model by MoD</p> <p>Development of potential new funding model(s) to assist innovations traverse the 'valley of death'</p>	<p>BBB (and DSC) assessments</p> <p>Progress towards exploitation of innovations funded</p> <p>Resulting links/joint investments by primes and SMEs</p> <p>Alignment of competition selections with DSC identified priorities and exportability agenda</p> <p>Any take-up/resulting joint investments so far?</p> <p>Use of ICE Lab and number and progress and outcomes of any collaborations established so far</p>			
<p><b>Extent to which DSC has Laid Framework to Deliver Longer Term Increase in UK Defence</b></p>	<p>Extent of impacts on corporate strategies of key players</p> <p>Extent to which DSC activities have had positive impacts on potential collaborations</p>	<p>Industry and DSO (and DSC) assessment</p> <p>Industry feedback</p> <p>Industry/DSO (and DSC) feedback</p>			

Outcomes of Interest	Measures	Indicators and Metrics	Stakeholder Interviews	Industry Interviews	Secondary Data /MI
<p><b>Exports/Increase in 'P Wins'</b></p>	<p>and/or adoption of 'open architecture' models</p> <p>Extent of development of relationships with key potential customers/markets</p> <p>Extent to which work in market assessment and capability mapping is influencing/is likely to influence industry investment decisions</p> <p>Extent of (any) influence on DSO priorities, activities and effectiveness (Strategic Markets and other)</p> <p>Extent to which MoD decision making takes on board the exportability agenda as a result of DSC work</p> <p>Extent to which innovation related activities are bringing potentially exportable innovations towards market</p>	<p>Innovations developed in competitions with UKDSC involvement brought to/progressed towards exploitation</p> <p>DSO assessment</p> <p>MoD assessment. Systematic engagement with MOD codified in MOD policy</p>			

Outcomes of Interest	Measures	Indicators and Metrics	Stakeholder Interviews	Industry Interviews	Secondary Data /MI
<p><b>Sufficiency of BEIS-DSC 1 Reporting and Monitoring Arrangements</b></p>	<p>How far reporting metrics provide sufficient and timely evidence to assess performance and potential needs for corrective actions</p>	<p>BEIS perspectives</p> <p>Extent to which metrics are sufficient to populate this evaluation framework</p>			

# Annex 2 Metrics for evaluation of UKDSC

This section of the report draws on our initial evaluation framework and our qualitative research in which we had explored potential for inclusion of a variety of short term and long term metrics.

General views on the monitoring structure were that there are processes in place and progress is being monitored and presented at board meetings. Some stakeholders however indicated a level of concern that the current internal reporting metrics focus on progress in relation to the delivery of activities and outputs with insufficient regard to the intended results of these in terms of the ultimate purpose of the Centre in increasing export sales. This criticism is not entirely well founded given the intended focus of the Centre on the 5-15-year pre-competitive space but going forward there is a need to move indicators from progress of activities to outputs and outcomes.

Most stakeholders and industry participants agreed that the ultimate measures would be economic performance of the defence industry and levels of exporting (i.e. 'p-wins') but that the timeframes and the reality of how deals are made means that attributing increases to DSC's activities may be difficult. Perhaps for this reason, many of those who had a view explained that intermediate outcomes of activities may be the most appropriate 'bottom up' measurement of UKDSC's success. Levels of attribution are further complicated by the fact that UKDSC and the DSO's remits in relation to the 5-15 and 0-5 year spaces are inherently blurred because "the world does not work this way".

An encouraging message from a number of the industry consultations is that they were willing to support monitoring exercises in the future to demonstrate the value of the resource dedicated to UKDSC and were willing to submit information on how UKDSC activities influenced or led to specific increases in exports.

## Short term metrics

The proposed approach builds upon and seeks to ensure that data is collected for the ongoing population of key aspects of the evaluation framework proposed in our Interim Report, including at some stage aspects which will be relevant in relation to the longer term assessment of the DSC's performance. The suggested framework here is divided into three parts. It will need to utilise a combination of MI data, primary evidence derived at least mainly from a suggested brief annual survey (or six monthly) of DSC member organisations and other secondary evidence.

## Inputs and Process

The key indicators proposed are:

1. The number of partner organisations of different types and the value of their contributions in the form of secondees' time and salaries, cash and (any) other contributions
2. Partner perceptions of the DSC's performance in terms of:
  - Extent and effectiveness of engagement with MoD in terms of identifying capability requirements and exertion of influence on priorities and activities in support of the exportability agenda
  - Extent and effectiveness of engagement/joint working with the DSO
  - Overall quality, relevance and likely (eventual) effectiveness of other DSC activities by Activity Area (Market Intelligence Cell, Capability Mapping, Improving the Value of Investment and Innovation Competitions)
  - Extent of adoption and effectiveness in practice of the Team UK approach.

It is also suggested that BEIS seeks feedback from the various key players within the MoD and from the DSO as part of an annual assessment process.

**Specific Activities, Outputs and their Associated Results/Outcomes**

The table summarises our suggestions in relation to key activity areas. There is clearly an issue of how far these should be reported on to BEIS on an annual basis and it may be that a more selective approach is appropriate.

Activity Area	Output Measures	Outcome Measures
<b>Market Intelligence</b>	<ul style="list-style-type: none"> <li>- Number of country and more detailed market assessments completed</li> <li>- Number of such assessments updated</li> <li>- Perceived quality of information (decision grade for making an investment in marketing, large R&amp;D project / new to organisation or confirmatory)</li> </ul>	<ul style="list-style-type: none"> <li>- Number of partners/number of occasions access made to intelligence</li> <li>- Number of partners reporting that their strategic, marketing and/or investment decisions have been significantly influenced by this intelligence</li> <li>- Size of marketing or R&amp;D budgets assigned to these decisions</li> </ul>

<p><b>Capability Mapping</b></p>	<ul style="list-style-type: none"> <li>- Number of maps completed/signed off</li>   <li>- Number of technology areas identified in which working groups have been formed</li> </ul>	<ul style="list-style-type: none"> <li>- Number of partners reporting that their strategic decision making/investment decisions have been significantly influenced by the maps</li>   <li>- Number of collaborative projects formed from working groups</li> </ul>
<p><b>Improving the value of Investment</b></p>	<ul style="list-style-type: none"> <li>- Whether defence related VC fund has been established</li>   <li>- Number of firms accessing ICE Lab</li> </ul>	<ul style="list-style-type: none"> <li>- (If so) Value of LP funds attracted, funds committed to portfolio companies, other external investment generated by these companies, fund performance and portfolio company performance in terms of sales/exports, etc</li>   <li>- Number of collaborations resulting</li>   <li>- Value of investment resulting</li>   <li>- Number of products and innovations brought to market</li>   <li>- Number of licenses granted to firms developing the innovations</li>   <li>- Value of associated domestic and export sales</li>   <li>- Numbers of SMEs and Primes involved in utilising models</li>   <li>- Value of investment generated</li>   <li>- Number of products and innovations brought to market</li>   <li>- Value of associated domestic and export sales</li> </ul>

	- Number of funding models developed	
<b>Innovation Competitions</b>	<ul style="list-style-type: none"> <li>- Number and value of MoD funded competition rounds with active DSC involvement in implementation</li> <li>- Number of SMEs awarded funding by phase/type</li> </ul>	<ul style="list-style-type: none"> <li>- Number of collaborations (academic and SMEs) with Primes resulting</li> <li>- Number of products and innovations brought to market as a result of activities funded</li> <li>- Value of associated domestic and export sales</li> <li>- Number of new entrants brought to the defence market because of competition related activities</li> </ul>

Long term metrics

Indicators for assessing UKDSC’s achievements in the long term will need to include:

1. The annual value of the pipeline of opportunities as measured by RFIs and RFQs received broken down by geographic market and product area as per the DSC’s Market Intelligence Cell analysis framework (from DIT/DSO)
2. Orders received and/or sales realised on the same basis (also from DIT/DSO)
3. Ex ante/pre-tender estimates by companies of the value of ‘P Wins’ in relation to RFQs received - expressed as the value of the sum of the value of each RFQ received and the lead company’s estimate of the ‘P Win’ (partly or entirely from the annual partner survey)
4. Actual ‘UK Wins’ as a proportion of the value of tenders submitted overall and by market area (this may also require some information from companies)
5. UK share of the global defence sales market (from DIT/DSO).

Trends in these indicators will not in themselves provide a measure of the DSC’s effectiveness as there are a number of external factors affecting achievement of the impacts, most important of which are the ability to engage with MoD and the effectiveness of DSO. The assessment here will need to be based upon:

- a) The extent of the ‘read across’ from the market areas which have been identified as priorities by the DSC and which its activities have focussed upon to the RFIs, RFQs received and ‘UK Wins’

- b) Feedback from the annual survey of partners and key stakeholders on the extent to which the various elements of the DSC's activities have contributed to the flow of RFIs and RFQs and impacted on the 'P Win' and 'UK Win' percentages.

We recommend that all of the proposed indicators (i - v above) could eventually be included in the basic framework for annual reporting to BEIS, along with a summary of the key points from the evidence in relation to attribution (a and b above). There is an issue for consideration of when it will become realistic to start to implement this sort of framework bearing in mind the expected timeframe over which impacts on export performance can realistically be expected to arise.

Based on the information requests made within the evaluation and our conversations with the DIT/DSO we acknowledge that there may be potential difficulties in obtaining the data on granular level. There may be a need to highlight the importance of this data to serve as indicators of DSC's effectiveness.





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