

UK Defence Solutions Centre Strategy Document



ABBREVIATIONS

ADS	Aerospace, Defence, Security and Space Trade Body
DGP	Defence Growth Partnership
DIT DSO	Department for International Trade's Defence and Security Organisation
EU	European Union
GDP	Gross Domestic Product
IoT	Internet of Things
MOD	Ministry of Defence
NATO	North Atlantic Treaty Organization
R&D	Research and Development
S&T	Science & Technology
SME	Small and Medium-sized Enterprises
UK	United Kingdom
UKDSC	UK Defence Solutions Centre

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UK Defence Sector Facts and Figures 2019

A different way of working

Engagement Collaboration Innovation



£22.7bn

Turnover



135k

Direct Employees



£14bn

Exports



team UK

Delivering Capability Through Partnership

Team UK is a collaboration between UK Government, Industry and Academia working in partnership with you to deliver your future defence solutions

UKDSC



Working alongside industry and government to deliver objective evidence based analysis on future capabilities and innovations

DIT DSO



Focused on the requirements of global partners

MOD



Future capability, engagement, assurance and International by Design

BEIS



Developing Defence Industry capability to compete domestically and internationally to contribute to the UK's economic growth

Value Chain



Harnessing the value chain to provide excellence deliver growth and productivity

Skills



Delivering the Defence skills for today and the future

AIRBUS

ATKINS
Member of the SNC-Lavalin Group

babcock™

COBHAM

BAE SYSTEMS

GENERAL DYNAMICS
United Kingdom Limited

LEONARDO

defence
growth
partnership

dgp

THALES

Raytheon

serco

LOCKHEED MARTIN

MBDA
MISSILE SYSTEMS



Rolls-Royce

QINETIQ



Department for
Business, Energy
& Industrial Strategy



Department for
International Trade

Defence & Security
Organisation



Ministry
of Defence

ADS

uk defence
solutions
centre

UKDSC Associate Members

UNIVERSITY OF
Southampton



MEGGITT

FUJITSU

BOEING

Imperial College
London

KING'S
College
LONDON

GKN AEROSPACE

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Introduction

1.1 Background

The United Kingdom (UK) defence industry is a significant contributor to the country's prosperity. It has a long history of delivering highly capable equipment and effective services to the UK Armed Forces, its allies and partners around the world. It contributes more than £22bn of annual revenues to the nation's economy, directly employs around 140,000 staff and indirectly a further 120,000 across the UK. In 2018, the defence industry's direct contribution to Gross Domestic Product (GDP) included £14bn worth of exports.

The UK defence industry has a broad industrial base formed of a wide range of companies with specialist skills and industrial capabilities. These range from Small and Medium-sized Enterprises (SMEs), to sub-systems and system providers, and from prime systems integrators to support and services providers. As well as possessing an advanced manufacturing base, UK firms have a strong pedigree in their ability to solve complex problems, often furthering and pushing the boundaries of science and technology. Moreover, it is commonplace for defence activity to draw from, and provide benefit to, research and development in other sectors.

In recent years the competitive intensity in the international defence market place has increased significantly, with customers requiring their defence spending to make a significant contribution to their own national economies and priorities. The market is now customer-led, with many international buyers aspiring to develop their own indigenous capability. Whilst the UK has a strong history of working in close collaboration with its customers, the shifting nature of the demand has required the UK to evolve its approach. Subsequently, this necessitates developing flexible offers, beyond simple exports, with industrial collaboration/cooperation and technology transfer being increasingly critical elements of the overall proposition. Therefore, to retain UK sovereign capability, freedom of action, operational advantage and UK indigenous capacity it is clear that a joint and integrated Government-Industry approach to capability, technology, export and international partnerships is vital.

In 2018, defence's direct contribution to Gross Domestic Product (GDP) included £14bn worth of exports.

1.2 The Defence Growth Partnership and the UK Defence Solutions Centre

The UK Defence Solutions Centre (UKDSC) was set-up as part of the implementation plan for the Defence Growth Partnership (DGP); itself a strategic partnership between the UK Government, industry and academia. The DGP was established to help secure the future of the UK defence industry in response to the highly competitive market dynamics already described. Moreover, the DGP is an important element of clearly demonstrating to international customers that the UK “is open” for defence business, building confidence and sustaining investment. A key part of this is the collaborative Team UK approach involving Government, industry, and academia to address the future capability needs of international customers.

As well as the UKDSC, the other core elements of the DGP are fortifying the Department for International Trade’s Defence and Security Organisation (DIT DSO) with industry secondees and strengthening industrial capabilities through Value Chain Competitiveness and Skills groups. These last two elements being initiatives that develop and invest in the competencies, processes, technologies and companies that contribute to innovation and growth in the defence sector.

The UKDSC operates across the defence enterprise in the pre-competitive space. It acts

in part as a centralised, collaborative medium-to long-term strategic planning function for UK industry and other UK entities. In parallel, it engages with international partners to develop a coherent view of their future requirements. In so doing, the UKDSC looks out over a 15-year horizon to understand customers’ long-term needs and uses this to shape future capabilities, products and services that can leverage UK defence capabilities, technologies and skills. In discharging these activities, the UKDSC engages across the entire defence value chain. This includes the large international prime contractors, sub-system, system and support service providers, SMEs and academia. As an essential element of DGP the other key stakeholders for the UKDSC are Government and ADS, the trade organisation representing the aerospace, defence, security and space industries in the UK.

The UKDSC **Value Proposition** succinctly summarises the benefits it offers, how it works with UK stakeholders and international customers and how it is distinguished in the marketplace. It is as follows:

A unique and impartial team positioned to further deepen the partnership between the UK Government and the defence industry to enhance international value and increase prosperity

The UK Defence Solutions Centre (UKDSC) was set-up as part of the implementation plan for the Defence Growth Partnership (DGP).

1.3 Scope


This document articulates the Strategy for the UKDSC and details its Vision and Mission. These have been developed in full recognition of the challenging market environment in which it operates and in total cognisance of the distinctive characteristics of the UKDSC itself. In summary:

- The UKDSC operates in the pre-competitive space and is impartial;
- The UKDSC is not a commercial entity, cannot take contracts and is not subject to undue commercial influences or pressures;
- The UKDSC does not advocate any specific company or teaming to customers;
- The UKDSC facilitates a holistic “Team UK” approach involving the UK defence enterprise; namely Government, the defence industry and academia working collectively to identify and deliver solutions to international customers’ needs;
- The UKDSC furthers its goals through dialogue, influence and persuasion;

Whilst these characteristics need to be carefully navigated, operating impartially in the pre-competitive space creates a supportive environment for open engagement with UK stakeholders and international customers, and for the UK defence enterprise to collaborate and innovate effectively.

It should also be recognised that the activities of the UKDSC need to be viewed from a strategic perspective and as such “strategic patience” is essential. Achieving success in international defence markets is a long-term effort and barring significant market discontinuities it should not be necessary to regularly change the UKDSC’s Strategy. However, its continued fitness for purpose should be periodically evaluated.





A unique and impartial team positioned to further deepen the partnership between the UK Government and the defence industry to enhance international value and increase prosperity.

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The Challenging Market Environment

The market environment in which the UK defence industry operates continues to be demanding, both nationally and internationally, as highlighted by the perspectives below.

2.1 The Defence Perspective

The UK's approach to national security has broadened from a traditional defence focus to a more holistic "full spectrum" perspective. This spans everything from military capability to soft power; diplomatic influence to national security; intelligence to organised crime, and international strength to domestic resilience. The UK vision is for a more vibrant and dynamic defence and security sector that fosters innovation, supports international defence business and delivers openness and competition, whilst specifically recognising the importance of "defence exports" to the UK's defence engagement strategy, domestic security, global influence and worldwide interests.

2.2 The Economic Perspective

Defence makes a significant contribution to UK national life, economic growth, people, innovation and place. Attention is being given to ways in which defence can increase its contribution to UK prosperity, including further steps to embed prosperity in procurement decisions, building more agility in procurement processes and making sure that the defence sector is best placed to leverage the significant technological changes now taking place in other adjacent sectors of the wider economy.

2.3 The International Perspective

Geopolitical tensions continue to intensify, and internationally the UK is a significant actor in defence and security – across Europe, NATO (North Atlantic Treaty Organization) and elsewhere – often in coalition efforts with allies and partners. It possesses one of the largest and effective militaries in Europe and operates with full spectrum capability. The UK has the largest defence budget of all the European nations, meets the NATO target of spending 2% GDP on defence and participates in NATO operations and missions, past and present.

As the UK plans to exit membership of the European Union (EU), the UK has confirmed that its commitment to European security will remain steadfast. Indeed, it will seek to agree new arrangements to sustain close UK-EU cooperation to tackle shared threats and to work alongside the EU and third-party countries in support of enduring peace and security.

The UK will continue to grow and diversify its future international interests to be assured of obtaining the level of military effectiveness it needs and to delivering prosperity from its Defence sector.

2.4 The Customer Perspective

Defence and security challenges are becoming more complex and often more urgent. Solutions therefore must be more capable, more flexible, more futureproof and available more quickly. International customers are increasingly requiring their defence spending to make a significant contribution to their own national economies and priorities. In a customer-led market, many international buyers are looking to grow their own indigenous capability, sometimes with a longer-term view to becoming significant defence exporters themselves.

2.5 The Industrial Perspective

The international geo-strategic environment remains uncertain and against this backdrop the UK's defence industrial capabilities are highly relevant. However, the UK defence industry competes in an environment where many countries acquire from their own domestic industry. This is for a combination of national security and prosperity reasons. Against a backdrop of modest rises in overall defence budgets, the international defence marketplace continues to be highly politicised and extremely competitive, with competition coming from established players, but also from a number of new entrants. For the UK to further its success in this sector it needs to respond to this intense competition with industry and Government fully aligned and focused.

2.6 The Technology Perspective

Technologies relevant for defence applications are no longer being developed exclusively by established defence industry actors, but are

increasingly being developed by commercial firms, academia, and research institutes in other sectors. With much smaller defence offtakes, Government and industry's combined investment in both science and technology (S&T) and research and development (R&D) is justifiably less than that of the commercial sectors. The slower pace of defence acquisition also challenges industry's ability to rapidly integrate and exploit state-of-the-art technologies to address the evolving threat.

Commercial sectors are now providing the majority of technology breakthroughs which the defence sector needs to learn to exploit. Cross-sector innovation is reshaping the boundaries of the what is regarded as the defence industry. Cyber resilience and innovation driven by artificial intelligence, big data, autonomous systems, connectivity such as the Internet of Things (IoT), augmented and virtual reality and novel power systems all have the potential to deliver significant changes in defence capability and affordability.

2.7 Role of the UKDSC

The above material highlights how the defence market environment continues to be a complex landscape with many moving parts. The UKDSC has an important role to play in supporting the UK defence enterprise to respond to these challenges.





The UKDSC has identified a total addressable international opportunity space of c. US\$420bn.

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Strategy

UK defence has a significant range of world-class capabilities across the air, land, maritime and security domains. Against those capabilities the UKDSC has identified a total addressable international opportunity space (out to 2029) of c. US\$420bn.

The UKDSC Strategy integrates its major goals and activities into a cohesive whole and provides a framework for its activities over the long term. At the core of the Strategy is supporting UK defence to capture these targetable opportunities.

The UKDSC Strategy is summarised in the UKDSC Strategic Framework below.

Vision

A trusted and impartial centre of defence expertise operating in the pre-competitive space, innovating to help shape and satisfy customers' defence requirements through strong international partnerships and cooperative efforts

Mission

To enable the UK defence enterprise to succeed in international markets through strategic partnerships

Market Intelligence

Developing superior customer understanding through objective evidence-driven, strategic market intelligence and analysis

Capability Alignment

Facilitating the alignment of UK and international future capability needs, and promoting international collaboration

Innovation and Investment

Improving the value of UK investment and innovation in the development of defence capability

Value Proposition

A unique and impartial team positioned to further deepen the partnership between the UK government and the defence industry to enhance international value and increase prosperity

3.1 Vision – The Future State

The UKDSC Vision provides a clear definition of the future state it wishes to attain:

A trusted and impartial centre of defence expertise operating in the pre-competitive space, innovating to help shape and satisfy customers’ defence requirements through strong international partnerships and cooperative efforts

This Vision defines the destination and guides how the UKDSC seeks to support the UK defence industry to succeed in international markets through enhanced alignment with UK Government, improved collaboration across the value chain, coupled with the stimulation of innovation and investment from a broad range of sources.

3.2 Mission – Core Purpose

The UKDSC’s Mission statement describes the overall goal and defines its core purpose i.e. its reason for being. It is:

To enable the UK defence enterprise to succeed in international markets through strategic partnerships.

Meeting the Mission is key to achieving the Vision. By delivering on its Mission the UKDSC contributes not only to the prosperity of the UK, but also to the prosperity and security of the

customer nation, as it is recognised that prosperity enables security and vice versa. It is also essential to acknowledge that the days of merely exporting equipment are largely in the past, with many international customers aspiring to create indigenous capability. This often necessitates sharing intellectual property, transferring technology and enabling local manufacture and support. The UKDSC believes that the greatest potential for lasting successful relationships with overseas countries will be when their interests are addressed in this way.

3.3 Strategy

The UKDSC Strategy underpins the achievement of its **Vision and Mission**. The Strategy is based on three key integrated elements:

- **Market Intelligence:** Developing superior customer understanding through objective evidence-driven, strategic market intelligence and analysis;
- **Capability Alignment:** Facilitating the alignment of UK and international future capability needs, and promoting international collaboration;
- **Innovation and Investment:** Improving the value of UK investment and innovation in the development of defence capability.

These are now considered in turn.

The Strategy is based on three key integrated elements; Market Intelligence, Capability Alignment and Innovation and Investment.

3.4 Market Intelligence

As part of its Mission the UKDSC needs to anticipate future customer technology and capability needs. This necessitates conducting detailed requirements analysis work and engaging in close dialogue with the international customer base to understand their evolving requirements. Such an understanding contributes to the broad UK effort to build enduring and long-term relationships with international customers and ensure that the relationships developed are established and fostered in a culture of mutual trust.

For this purpose, the UKDSC has established a centre of excellence for objective, evidence-driven, strategic market intelligence and analysis. This analysis supports the UKDSC's stakeholders to develop a coherent view of the international marketplace and to respond accordingly to the competitive dynamics therein. In developing the analysis, the UKDSC fuses and triangulates data from a wide variety of sources to develop appropriately balanced views and recommendations.

The difficulty of measuring the economic benefit of defence and the need for better data to inform decision-making processes has also been highlighted and there is advocacy for the development of a common Ministry Of Defence (MOD)/industry approach and format for collecting data on the defence supply chain. Furthermore, there is a proposal for a new Joint Economic Data Hub within the UKDSC. The UKDSC has world-class expertise in managing data on international markets and will apply these skills to collect and aggregate economic data from across the sector.

The output from this work will be overseen by an independent advisory board to ensure that both Government and industry have confidence in its quality and impartiality.

3.5 Capability Alignment

The UKDSC strategy activities are founded on market intelligence outputs and continued close engagement with UK stakeholders to determine how future UK technology and capability requirements align with those in international markets. The strategic aim is to identify potential international partners and areas of commonality and synergy for possible partnering and collaboration in support of the prosperity agenda. The UKDSC uses operational analysis to inform its strategic assessment of these capability areas.

Building on this the UKDSC engages with the international customer, and participates in defence industrial dialogue, facilitating the Team UK concept and incubating and maturing capability propositions to the point where DGP member companies can take commercial decisions about proceeding on a Team UK basis.

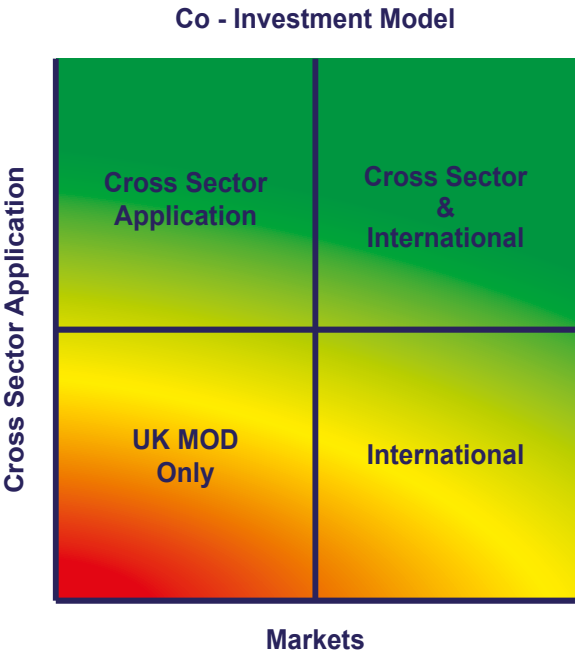
The UKDSC regularly convenes Communities of Interest around refined and focused capability themes targeting i) high-potential emerging requirements and ii) future capability requirement in international markets - building broad-based awareness across the DGP member companies, other defence and security firms (including SMEs) and academia, to inform and help facilitate future compelling offerings for international customers.

3.6 Innovation and Investment

The competitive advantage of the UK lies in high end, value added technological solutions. Recognising this, the UKDSC undertakes horizon scanning to enhance the focus on game-changing technologies and ideas. In parallel, it works with multiple stakeholders to identify and develop novel funding constructs in support of specific innovation challenges.

The UKDSC’s cross sector initiatives are critical to understanding and accessing technology innovation outside the defence sector and to improving the value of existing investments in capability development and accelerating R&D across industry sectors. The strategic approach is to look for and identify areas where the investment supports requirements across defence, adjacent sectors and international markets. This requires knowledge sharing and cooperating on common needs - simultaneously maximising limited resources and exploitation opportunities - both internationally and in adjacent sectors. By identifying and developing funding opportunities across industry and Government, the upper limit on what individual collaborators can achieve acting in isolation is removed.

The UKDSC’s approach is schematically illustrated in a classic four-box model, with the sweet-spot for investment highlighted in the upper right-hand box.



The UKDSC works across the innovation ecosystem seeking opportunities to facilitate the optimisation of innovation within defence. This includes the continued delivery and expansion of co-investment principles in collaboration with both MOD and industry. This also entails developing an understanding of the technology priorities of financial institutions and other investors including private venture, venture capital, angel investors and philanthropists.

The UKDSC’s cross sector initiatives are critical to understanding and accessing technology innovation outside the defence sector.

3.7 Strategic Aims

The key strategic aims of the UKDSC against the three elements of its strategy are summarised in the table below:

UKDSC Strategic Aims		
Market Intelligence	Capability Alignment	Innovation and Investment
Short Term	Short Term	Short Term
Comprehensive set of specific international market assessments in place to inform Team UK prioritisation and decision making.	Capability collaboration pilot project facilitated with potential international customer.	Collaborative capability and technology planning activity underway.
Industry and Government aligned on specific Team UK opportunities.	Collaboration across UK industry facilitated through Capability Communities of Interest.	Cross-sector innovation opportunities identified and underway.
Medium Term	Medium Term	Medium Term
Multiple industry and Government Team UK opportunities identified.	Capability propositions facilitated in areas where UK has alignment with international customer needs, with an initial capability collaboration project underway.	Development and expansion of new investment funding models, with priority technology and innovation areas identified and optimised.
Long Term	Long Term	Long Term
Substantial number of long-term enduring international relationships identified.	Coordinated capability development activities underway with multiple international partners.	All appropriate funding routes in use, with aligned and optimised investments being made.

3.8 Values

The UKDSC’s Values support its Strategy, help create its culture and define its behaviours. They apply to all who work in the UKDSC.



Working for UK Defence

The UKDSC team are proud to work in the UK defence industry with its strong pedigree and ability to innovate for the future. The UKDSC will seek to align potential international customers’ capability needs with those of the UK’s, thereby enhancing the competitive position of UK industry in the international marketplace.

Acting as a UK Defence sector ambassador

The UKDSC is committed to positioning the industry as an international leader and encouraging investment in its world-class capabilities.

Demonstrating trust and integrity

The UKDSC operates in the pre-competitive space, developing trusted relationships with international customers, advocating UK capabilities to these customers’ complex defence challenges. The UKDSC understands the value and the importance of treating sensitive information in an appropriate manner.

Operating independently and innovatively

The UKDSC team has broad and deep sector expertise allowing it to provide impartial market analysis and strategic and technical insight – challenging assumptions and promoting innovation.

Responding with agility

The UKDSC is a small team with a clear structure. This allows it to respond swiftly to enquires and conduct its activities in an agile manner.



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