A BSI
Sector Report

Achieving Coherence in Defence Procurement

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Overview

On 2 May 2012 BSI hosted the Achieving Coherence in Defence Procurement Forum, sponsored by the Department for Business, Innovation and Skills, and attended by senior executives from the Ministry of Defence, the defence supply chain and international agencies. The purpose of the event was to bring together key participants from the defence supply chain and to encourage discussion around the current issues and challenges.

Based on several high-profile, authoritative reports published since 2010, the UK Defence has seen a number of projects initiated in 2013 designed to implement transformation on an unprecedented scale. The content of this report provides the context and extent of the transformation as well as flagging key issues for consideration if transformation is to be successful.

This BSI Sector Report sets out a summary of that event, capturing the knowledge, ideas and discussions contributed to by those present on the key issues facing defence procurement both today and in the future.

This report is broken down into three key sections:

Programme and portfolio coherence

- The new defence landscape
- Creating a knowledge structure for programme and portfolio management

Section 1

Strategic issues for procurement

- Programme and portfolio management overview
- Factors inhibiting delivery of efficient programme, portfolio and asset management

Section 2

Planning the management of assets at the procurement stage

- The defence industrial ecosystem white paper
- Planning the management of assets in the new defence procurement landscape

Section 3

Programme and Portfolio Coherence

The New Defence Landscape

Adapted from a presentation given by **Peter Watkins CBE**, Director General, Defence Academy of the UK

The Context

The defence landscape is constantly evolving. Currently more rapidly and fundamentally than ever before. It is incumbent on defence to make some major changes to the way it does business.

Since the current government took office there have been a number of key reviews:

- National Security Strategy published in October 2010, sets out the international context in which we operate and the major risks that this country faces.
- Strategic Defence and Security Review (SDSR) published in October 2010 and subsequent work addresses threats to national security and the force structures necessary to meet them. This has enabled significant reductions in numbers of regular personnel and various equipment, such as heavy armour. It has also increased investment in cyber special forces and the reserves.
- Lord Levene's Defence Reform report published in June 2011 addresses the structure of defence.
- Transforming Defence programme launched in Autumn 2011 implements the changes set out in the SDSR and the Defence Reform report.
- White Paper on National Security Through Technology published in February 2012 describes how the Ministry of Defence (MoD) can best obtain value for money, remain an intelligent client and better harness the strengths of the industrial and research base.
- Defence Cooperation Treaty signed in November 2010, facilitates collaboration with France not only on joint procurement initiatives but also on aligning underpinning doctrine, education and training.
- Lord Currie's review of Single Source Pricing Regulations 'the Yellow Book'.
- Chief of Defence Materiel, Bernard Gray, is leading the Materiel Strategy, to improve the way in which Defence Equipment & Support (DE&S) does business; the Defence Secretary gave an interim report on this in a ministerial statement on 1 March 2012.

Budgetary Coherence

Ministers believe that relationships between the Ministry of Defence and industry have become unbalanced with too many long lead-time development projects and single source tenders.

Although the SDSR measures saved around £5 billion, there is now renewed emphasis on procuring equipment and services through open competition in the domestic and global markets and off-the-shelf products.

Organizational Coherence

Successive reports have identified the behaviours that have led to an overheated programme, with too many types of equipment being ordered for too large a range of tasks at too high a specification. In particular, the Armed Forces competing for scarce funding, seek to secure the largest share of resources with a systematic incentive to underestimate the likely cost of the equipment. Bernard Gray's work established that one of the key causes of cost and time overruns in defence has been the way that projects are programmed and that there are institutional incentives to underestimate costs, inevitably causing cost and project overruns which lead to a vicious circle of further cost overruns. An additional factor is the poor discipline shown by the MoD around change control and the insufficient levels of business capability within the Defence Equipment & Support. The Materiel Strategy has identified organizational options to address those weaknesses.

Skills Coherence

Independent benchmarking has shown that the MoD has increased skill levels over recent years in commercial, financial and programme and project management. Crucially, however, some of these skills are not in the right place at the right time. Skills coherence involves finding the right balance between the attainment of qualifications and experience. Addressing this matter involves closer coordination between the up skilling process and talent management, ensuring the right people are given the opportunity to learn skills and then put in posts where they can use and build on the skills acquired.

This is not only about improving what can loosely be called procurement skills. It is also about enhancing leadership skills and changing behaviours, not least to improve collaborative work with other parts of defence, other government departments and the private sector including the small and medium-sized enterprises. The aim for the Defence Academy is to become the "hub" for sharing knowledge and best practice.

The new defence landscape provides an opportunity to improve performance through better and more consistent use of standards, codes and best practice.

MoD has increased skill levels over recent years in commercial, financial and programme and project management

Creating a Knowledge Structure for Programme and Portfolio Management

Adapted from a presentation given by **Dr Scott Steedman CBE**, Director of Standards, BSI

Achieving coherence in defence procurement requires:

- clear alignment towards an external requirement;
- internal coordination creating a mutual support structure and appropriate measures that promote efficient working;
- informal and formal knowledge networks for analysis and knowledge sharing – concepts that are very strong in defence.

BSI sees a structured knowledge framework as the key to coherence, providing the fundamental basis for internal communications and management and the backbone for shaping relationships and performance through the network of delivery partners. Used independently or as part of a contractual framework, voluntary codes of practice, guides and standards provide a flexible and industry-led consensus of what good looks like.

The UK is recognized by other countries as a thought leader in this space; our industry experts lead the world in structuring knowledge of best practice into valued process and framework standards. We recognize three types of voluntary standard used by industry, standards for products, standards for management processes and standards for business potential.

It is this third type of standard that holds such potential for programme and portfolio management in the defence sector. Standards for business potential shape the values and principles that drive better behaviours in the workplace, that enable partners within a collaborative environment to become aligned in their approach to risk management or organizational development and that stimulate innovation and productivity improvements.

Voluntary industry-driven standards need not be prescriptive specifications but can be statements of intent. The new British standard BS 13500 on organizational governance is just such a principle based standard. When stakeholder communities come together to share best practice in areas such as asset management (PAS 55, soon to become ISO 55000) or facility management (BS EN 15221), we see transformational change push through industry sectors.

By adopting common standards, a network of partner organizations can build confidence in their common attitudes to risk, governance, collaborative relationships, sustainability and performance. BSI has a key role to play as the UK National Standards Body bringing together that group of leading organizations committed to delivering a coherent defence knowledge framework. By building such a stakeholder community with its deep knowledge of the challenges of programme and portfolio management in defence, BSI could readily shape the outputs of such a group into the standards of the future, standards to transform defence procurement.

Industry experts lead the world in **structuring knowledge**

Section 1

Strategic Issues for Procurement

Programme and Portfolio Management – An Association for Project Management Overview.

Adapted from a presentation given by **Andrew Bragg**, Chief Executive, Association for Project Managers (APM)

Definitions

What differentiates projects, programmes and portfolios?
The APM define projects as 'unique transient endeavours undertaken to achieve objectives', focusing on outputs, which can be both tangible and intangible. Programme management in contrast is all to do with the coordinated management of projects and change management activity, with a particular focus on benefits. Whereas portfolio management is defined as selection, prioritization and control of an organization's projects and programmes in line with strategic objectives and capacity to deliver.

Differences

Each of these different disciplines has to evolve to achieve different purposes over different timescales but collectively they are an indissoluble, completely inter dependent trio. What matters particularly is that each discipline requires completely different key roles and accountabilities, meaning completely different skill sets and behaviours. It also highlights the importance of clarifying the roles of client, deliverer and user. Recognizing the distinctions and acting upon them provides a framework for effective governance of project management and enables the client to act as an 'intelligent client'.

To break these disciplines into further distinctions, project management focuses on deliverables and individual projects; programme management focuses on benefits and inter dependent projects and business-as-usual; whilst portfolio management focuses on strategic objectives and considers the total system with its common pool of resources.

The skills sets and behaviours can also be distinguished. If project managers can be stereotyped as focusing on individual projects dealing with detail and delivery, the programme managers' focus on inter dependent projects whose benefits are coordinated means that they deal with priorities, stakeholders, change, uncertainty, ambiguity and conflict management, requiring skills such as emotional intelligence, interpersonal skills and political canniness. Portfolio managers deal with the total system and so require skills in strategy and finance as well as the project management big picture.

Benefits

The different approaches deliver different benefits. Effective project and programme management increases the likelihood of achieving the desired result, ensures the efficient and best value use of resources, and satisfies the different needs of the project's stakeholders. Portfolio management operates at a different level, seeking to maintain a balanced and strategically aligned portfolio during change such as that which characterizes the defence sector, optimizing the allocation of available resources and seizing the opportunity to leverage investments across an organization. Portfolio management is informed by an overview of risk, dependencies and capacity.

Achieving this joined-up and informed approach across project, programme and portfolio management delivers the four major components of effective governance of project management – portfolio direction, project sponsorship, project management capability, and effective disclosure and reporting.

It is not without reason that it has been suggested by some that 'there is no such thing as project management failure, only a failure of governance'.

So effective coordination of the different aspects of project, programme and portfolio management represents a prize worth winning.

Section 2

Factors Inhibiting Delivery of Efficient Programme, Portfolio and Asset Management.

An edited panel discussion

— What we're really talking about here is inculcating habits and I think we are talking about creating the habit of doing the right thing with the framework around it being one that facilitates it and makes it easier for people to do the right thing than the wrong thing.

— What would you actually do to take that forward?

— I use, as a model, the space industry where not only has NASA been running its Academy of projects and programme leadership for 21 years but after the Columbia disaster they merged it with the Engineering Academy to become the Academy of Project Programme and Engineering Leadership. This is because they believed that both the systematic and systemic approach to creating habits is necessary, but also over the last three years they've taken a really good lead in the international dimension by working together with six or seven of the world's space agencies, including Japan, Germany, Korea and Canada, and creating an International Programme Management course specifically for people in the space industry. I think that they're absolutely leading the way in creating these habits. It's interesting that in NASA's Academy over 40 % is spent on the knowledge structure and less than 25 % on classroom training.

— How do you actually make people work together to a joint endeavour? Better leadership is part of it but there's more than that. Culture is part of it.

— They're not really held to account because it's not the culture of the environment that operates in the MoD. Until we can get that mindset shift and until we can get that change of focus of accountability for benefits realization rather than for project delivery and I think there's a wider government piece in this because we insist on driving down approvals and holding people to account at the project level rather than at programme level.

— If you look at the internal complications there has been an increasing emphasis on identifying the benefits, the outcomes, again trying to make people responsible for realizing those benefits. It's something that we could possibly get out of the new structure because it does bring together the people who are responsible for managing the portfolio and who ought to be the people who will, as it were, appreciate or benefit from the benefits.

— The power of unrealistic expectations! In the safety arena they set a target that there would be no fatalities on the Olympic games and they achieve it by saying that we know it's unrealistic but actually we are going to completely change behaviours at entry level.

— It's about shaping the trajectory at the procurement stage that will lead to the long term gain.

— The feeling that something is your responsibility for the next 30 years because you've put it there, and perhaps it's the view of the project manager while he's not there to deliver something to time and budget, but something that will be there for another 30—50 years and that's your responsibility and perhaps that will change the focus within procurement.

Planning the Management of Assets at the Procurement Stage

The Defence Industrial Ecosystem White Paper

Adapted from a presentation given by **Professor Taylor**, Professional Research Fellow, Head Defence Industries and Society, Royal United Services Institute

The problem with defence acquisition really lies with expensive, specialist military projects. The vast majority of smaller military and non-specialist military projects actually work quite well. With regard to the problematic big projects, there are several related but separate questions that are often not distinguished. Is it that they cost more than expected, or cost more than they should? Is it that they take longer than expected or necessary, or do not perform as specified? Or is it that the UK is buying the wrong things and/or failing to buy things that are needed?

There are two main messages here. Firstly, defence acquisition is complex. Secondly, value for money is a problematic term at the centre of the discourse.

Complexity

What does complexity look like?

- Systems with a lot of variables, and a lot of variables that actually interact with each other across many dyads.
- Systems with variables that evolve over time and a significantly changing environment.
- Systems that involve people (because people are conscious, wilful and also evolve).
- Systems where small developments can cause major changes.

Systems that involve all of the elements above are beyond the understanding of any individual and have difficult-to-predict outcomes.

The lesson that comes out of complexity management is that complexity must be recognized and some readiness to tolerate failures put in place. Many defence acquisitions are complex and therefore are not going to go well all the time. Success should therefore be judged in light of these considerations.

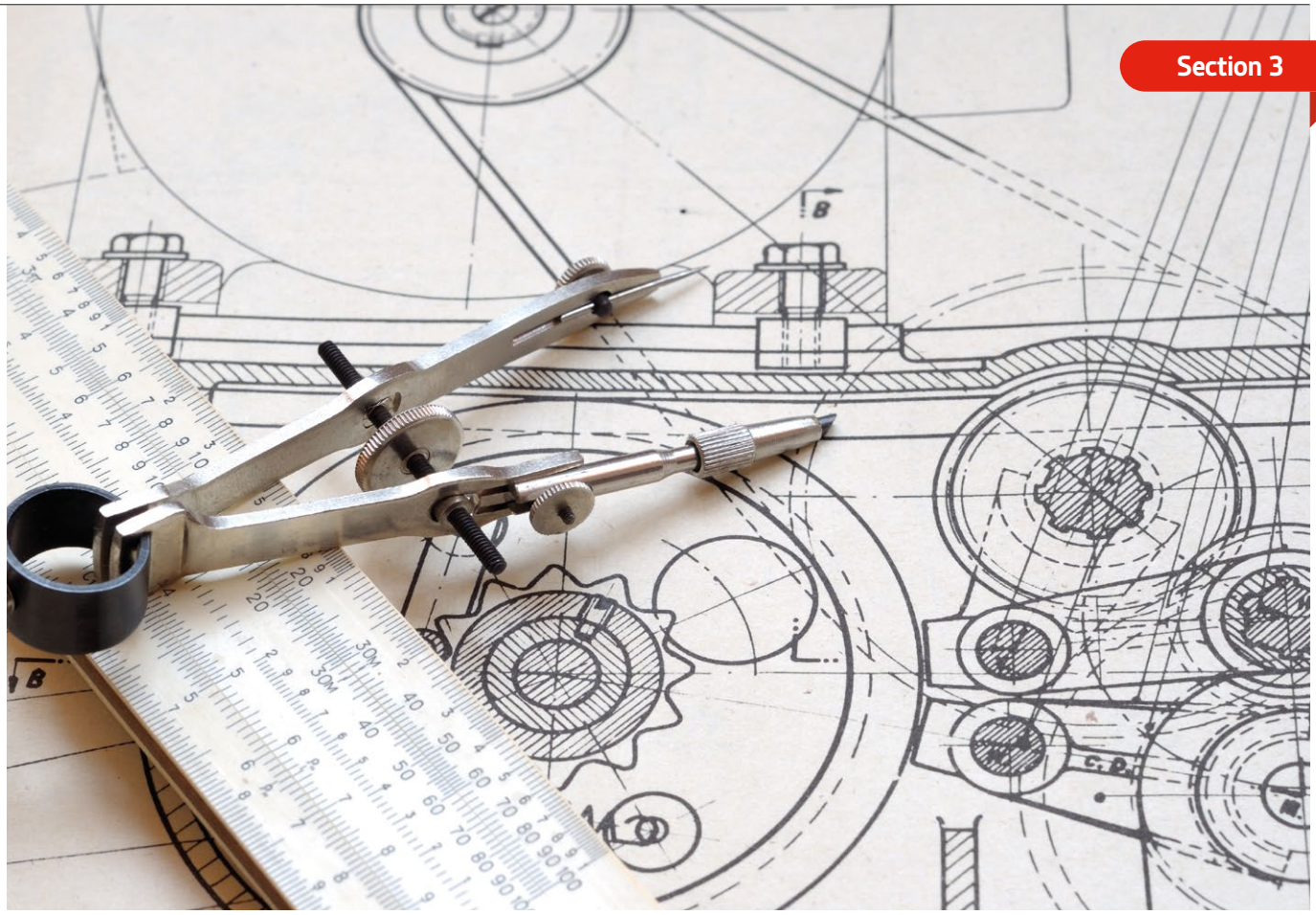
Value

The MoD is interested in goods and services but its high level concern is with capability, with being able to do relevant things in a changing world. Some of the goods and services it buys helps achieve this, but the focus should be on capability.

The MoD also sees the advantages of the confrontation with industry and an emphasis on competition. In this perspective, value for the MoD is about getting as much as possible for as little as possible and for industry it is about giving as little as possible for as much as possible. That confrontational view is an element and certainly a part of the White Paper and is pertinent to some areas of acquisition. On the other hand the MoD recognizes that it needs cooperation and partnering with industry. The balance and timing of competition and partnering can be problematic, not least because each impacts on the other.

The Defence Capability Framework in British defence doctrine suggests that everything the military does is either to do with preparing, projecting, informing, commanding, operating, sustaining or protecting. If you consider a major platform, it is often concerned with all seven capabilities and their interaction. The MoD seeks to get the optimum mix of those variables, which is not straightforward.

Things are even more tricky with 'disruptive systems', which are novel items of equipment which have drastic implications for the other elements of capability, defined in the UK as Training, People, Infrastructure, Doctrine, Organization, Information and Logistics. The introduction of unmanned air systems for use at both tactical and operational levels require many changes in all these factors. Trying to understand the full implications and costs, and therefore 'value' of such systems is very hard.



Section 3

Finally, the term 'value for money' in defence acquisition should be associated with three streams of value:

1. **Defence capability**, distinguishing between:

A. superficial dependent defence capability, which is something you have in your inventory but you do not know necessarily how it works, you do not have assurance of parts and you are dependent on an external source for the sustained use of that equipment;

and

B. assured independent defence capability, which is something within your control, as you know how it works and how it can be modified, and have assured access to parts and technical help.

The White Paper states that 'the essence of sovereignty is that you can use your Armed Forces as you see fit' – so it must be presumed that the Government would pay a significant premium for assured independent capability.

2. **Employment, technology and tax revenue.** If you want to get a picture of the tax implications when the MoD places a contract with a UK company take a look at 'The Destination of the Defence Pound' at www.rusi.org. It is too complex to go in to the details here, but tax revenues are too often overlooked when considering value – it is something that needs to be factored in, as does employment, technological learning and so on.

3. **Impact on foreign relations.** If you are able to export equipment that you have made then you will have contact with foreign governments and an opportunity for some influence there, particularly where others become dependent on what you are supplying. On the other hand, when buying from external suppliers, the choice of supplier often has implications for foreign relationships.

The important thing to take away here is that when somebody says a decision represents 'value for money' we are not quite sure what they are talking about. Value for money is a powerful but also a subjective idea. So, the suggestion I'd like to close with is that the MoD and politicians voluntarily ban themselves from talking about 'value for money'. The English language is rich enough to enable them to say exactly what they mean without resorting to that term.

Planning the Management of Assets in the New Defence Procurement Landscape

An edited panel discussion

— My propensity as the frontline customer was to say: you get me the best equipment you can, fix me the support solution to ensure I'm not ripped off on spares for the next 30 years, get me the information requirements I need, but leave the integration to me. I am the person who is responsible for achieving effect i.e. capability with that platform and weapons system. So, when it comes to personnel, organization, doctrine and training, that is what I do. If we can bind the programme management problem to those tangibles that would make a difference.

— So ring fencing, trying to limit the range of issues that one is dealing with at any one time.

— It would make life easier and in many areas you can do it. But perhaps the difficult projects are difficult because you can't ring fence so easily. There is a danger that you focus just on the kit and that you have the best equipment. But what about the interaction between the kit and the user?

— I'm going to follow that up slightly and say I think the answer is no, you cannot ring fence with today's MoD and today's resources in the DE&S.

— The role of the end user in acquisition is problematic but important and how you get it right I think is challenging because when you make the end user central, as some countries do, then they choose not just the type of solution but the answer. Absolutely I think the end user has to be significantly involved and now with the sort of frameworks we have there's more reason for articulating how they might be involved.

— I would say that there are several end-users. Is it the frontline command, is it the pilot actually flying the plane, is it the officer who is responsible for the maintenance team, is it the DE&S? All of these users here have slightly different objectives in what they're trying to do with this platform. Are they trying to upgrade it or are they trying to refit it or are they trying to deliver it at the point of use?

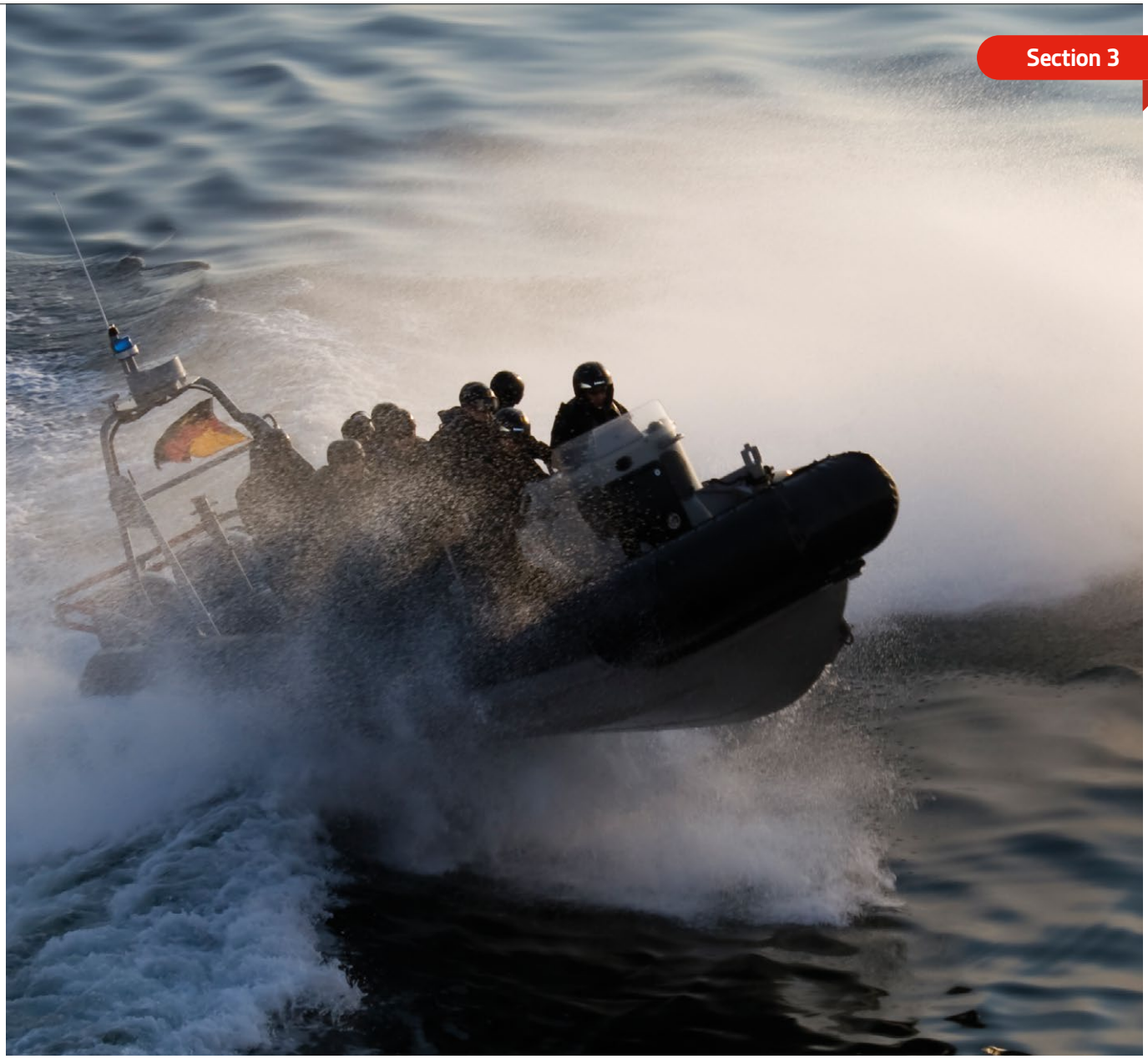
— You are separating end users from procurement rather than talking about one project from now until you throw the thing away, and that makes the difference as I think by definition it excludes the possibility of buying off the shelf. Because when you buy off the shelf you buy something that is by definition equipped for many different sorts of people and so will almost certainly need to be modified to get it to do what you want or to fit it into your infrastructure. I see too many conflicting things going on. You want off the shelf but you want it to fit into what the MoD wants and I don't see how you can have those two things.

— How does the MoD justify reducing the numbers of standards experts when buying equipment requires a greater understanding of standards portfolios?

— I was somewhere else this morning and in the presence of a junior minister and the question came up about what should be done by the private sector, what should be done by civil servants, what should be done by the military and I said that I could make the case that the MoD is in severe danger of outsourcing its brain.

— Technical expertise is absolutely vital to retain that. Can I come back to the overarching issue which is about trying to capture those issues, the knowledge that we want around best practice in this area? So this morning we had a big discussion which came around to the importance of behaviours, culture, habit and how to motivate and collaborative working. There is BS 11000, Collaborative business relationships, which the MoD have been involved in, which is actually addressing parts of these issues. In this complex area of the ecosystem what else do we need to capture to take this discussion forward?

— There's a money dimension and there's a time dimension. If we're doing this we should follow up the GAO (Government Accountability Office, US) approach to this issue which is about levels of understanding about the individual technologies and levels of understanding of how the system works. In other words, how those technologies work together and then levels of understanding about production and support and reliability. They are doing a job on the joint strike fighter programme in this regard. I have a time thing, that as a rule of thumb, and there are some allies in the MoD with this view, which says we shouldn't make a final decision about a piece of equipment unless it is normally within five years of coming into service. And my argument is, if it is going to take hundreds of bright people more than five years to complete the task then there's a lot of risk left in it, it is intrinsic to the situation. Some of the acquisition reform people wanted to bring in that kind of thinking.



— It's the German model.

— The GAO goes for that sort of thing as well I think. But it's a bit too principled an approach for the pragmatic British. There's a time element as well as a money element that we ought to feed in. But the question is about the final decision, about precisely what the capability will be, precisely how many you will buy and how much you pay for it.

— Clearly we've been round and round about how to run projects better for at least my 35 years in the MoD and we've made good progress. But it's a very narrow focus. I think the big issue is actually the APM point: start to treat projects as change management, recognize that they take real leadership of people, that the job is not done until it is out of service approach and manage to deliver that effectively. Then you might start to answer some of these problems. I don't think you address the industry, the finance, the value for money, whatever that means, and all of those issues without treating the whole.

Conclusion

Defence procurement in the UK is undergoing transformation as never before to achieve budgetary, organizational and skills coherence. The relationships between the MoD and industry will be realigned through open competition and off-the-shelf products. Organizational change will address behaviours contributing to overheated programmes, and skills will be put in the right place at the right time to rebalance qualifications and experience. This gives an opportunity to improve performance through better and consistent use of standards, codes and best practice.

Building on the technical specification and later process driven standards, the third type of principle-based standards can assist an organization to reach its full potential to transform industry or organizational performance through better behaviours, such as risk, leadership, corporate social responsibility and organizational development.

Unintended impacts of transferring defence to civil standards should be considered in terms of the life cycle of standards. Civil standards undergo systematic reviews and maintenance cycles whereas defence material life cycles can span 20 to 30 years. However, risks are mitigated at a national and international level at development and ongoing maintenance stages to ensure both contractors and suppliers are consulted in accordance with standards development rules and directives.

BSI demonstrates open and transparent standards development. To achieve this, committees comprise a broad selection of stakeholders and interested parties and there are a number of online public consultation portals which are freely available. The message needs to go out that BSI strives for full and fair representation of standards users on various platforms of engagement.

The complexity of defence acquisition is characterized by the variables of a system and their interaction, the variables or environment may evolve over time and the people involved in systems are conscious, wilful and also evolve. There are also a number of end-users, such as the procurer, an operator or support personnel. Complexity should be recognized and managed, and can be supported by the consistent application of the three classes of standards to provide a more holistic approach.

If UK industry has to export to different standards around the world, costs increase and are passed on. The development of a set of international or European civil standards increase exportability and customer bases.

Transferring a defence standard to a civil standard requires a business case, but the success of a case is not solely reliant on a forecast for commercial success. BSI is committed to considering historical context, purpose and justification, relevant public policy, health and safety issues and benefit for UK business in its decision making process.

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