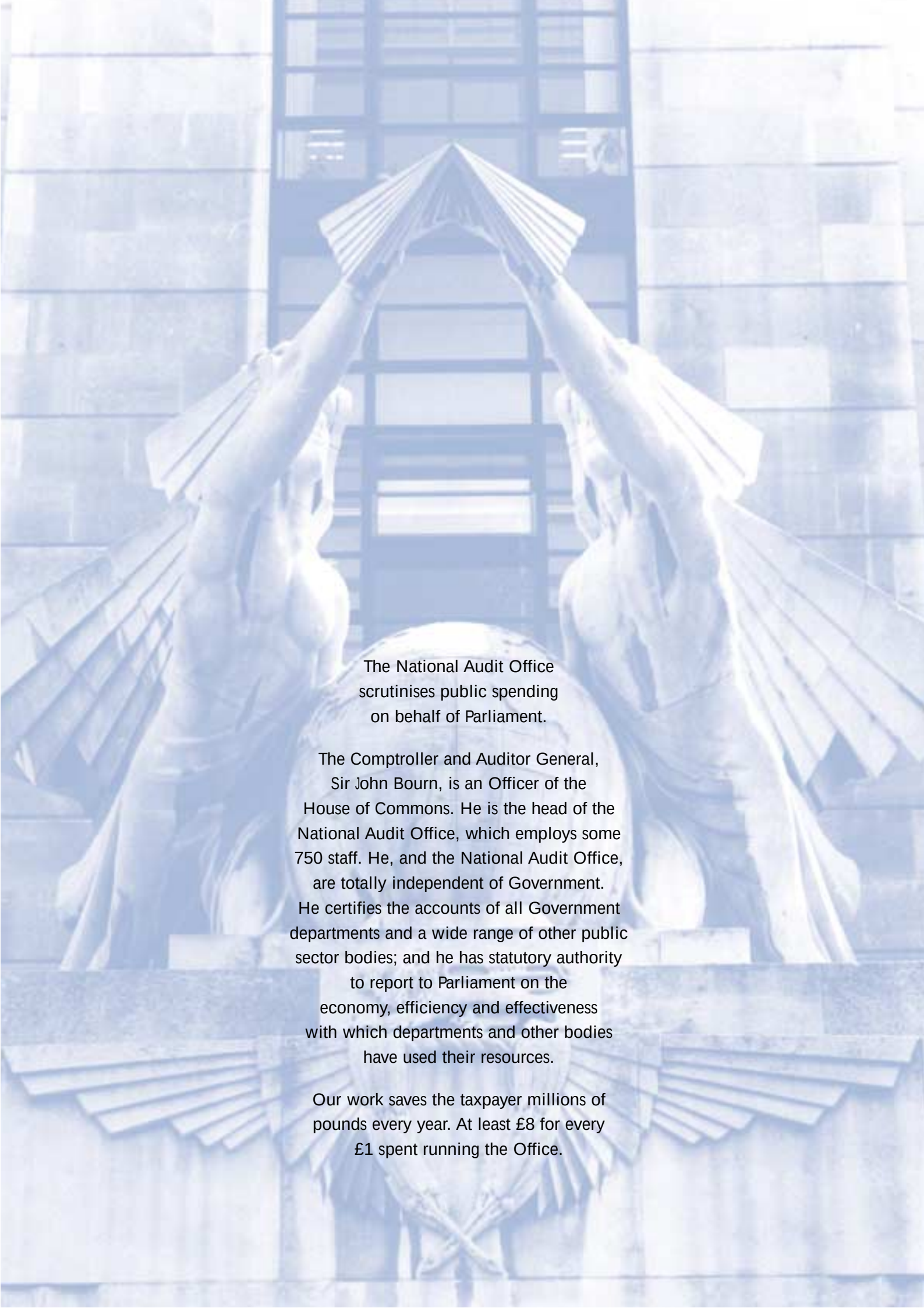
NATIONAL AUDIT OFFICE

Ministry of Defence

Implementation of Integrated Project Teams

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 671 Session 2001-2002: 14 March 2002



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LONDON: The Stationery Office
£0.00

Ordered by the
House of Commons
to be printed on 11 March 2002

This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act.

John Bourn
Comptroller and Auditor General

National Audit Office
11 March 2002

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executive summary

1 The Ministry of Defence's (the Department's) 1998 Strategic Defence Review resulted in fundamental changes in the Department's processes for buying and supporting equipment in the direction of establishing a seamless through-life acquisition system. These changes, now known as 'Smart Acquisition' are intended to 'enhance capability by acquiring and supporting equipment more effectively in terms of time, cost and performance'.

2 Integrated Project Teams (IPTs) are a central enabler of Smart Acquisition intended to improve acquisition by moving from a functional to a project-based organisational structure. They are intended to be responsible for managing an equipment throughout its life-cycle, be headed by an effective and empowered IPT Leader and contain all the skills necessary to manage the project. The introduction of IPTs has involved a major change in culture, processes and relationships for the Department and those doing business with it.

3 This study examines whether the transition to IPTs is being managed effectively. Specifically, we examine whether IPT structures and processes have been successfully introduced (Part 1); and whether the momentum of the transition is being maintained through continued development of IPT leadership, resources and people (Part 2). Our methodology is detailed in Appendix 1. This study is the first in a series of planned outputs examining how well the wide-ranging reforms under Smart Acquisition are contributing to 'faster, cheaper and better' equipment acquisition. The next study, which will cover whether the introduction of IPTs is enabling a through-life approach to acquisition, will be published in late 2002.

4 We have found that IPTs were introduced rapidly and successfully. The Department took a pragmatic approach and reallocated around 10,000 personnel into some 130 IPTs in 18 months. It now needs to ensure that the structures and processes set in place are evolved further to enable continuous improvement. We also found that there is an impressive degree of commitment to Smart Acquisition but firm direction is needed to embed IPTs and maintain momentum. Changes affecting IPT Leadership, resources and people are ongoing and need to be fully embedded.

IPTs were introduced rapidly and successfully but need to evolve further

The Department adopted a pragmatic strategy to achieve early implementation

5 Given the short timescale, the Department adopted a pragmatic approach to devising the IPT structure and relied heavily upon the existing structures. The Department acknowledges that its approach to the creation of the IPT structure is likely to require modification. The Defence Logistics Organisation is undertaking a Business Process Review to identify a number of generic IPT models with the aim of modifying its IPT structure and the Department is developing Maturity Models, which are at various stages of development, to determine which factors are contributing to IPTs' success. Organisations, such as Boeing, use such maturity models to evaluate and sustain the performance of their teams.

IPTs were successfully established but systems to enable continuous improvement need to evolve further

6 When each IPT was created it went through a managed change process known as 'breakthrough'. A key objective of breakthrough was that each IPT should set itself Hard and Stretch targets. The Hard targets were intended to set the IPT testing but potentially achievable goals. The Stretch targets were intended to be set at a level well beyond what was considered achievable in order to encourage innovation and continuous improvement. Many IPTs have met their Hard targets and some have met their Stretch targets and new targets have not always been set. The Department is now examining its approach to ensure that the scrutiny of Hard and Stretch targets is more rigorous.

7 To ensure continuous improvement it is important that best practice is captured quickly and disseminated widely. Lessons learned internally by IPTs from each other are captured and disseminated better than lessons learned from external partners such as industry and overseas counterparts. The Department recognises the need to better capture and disseminate lessons across the acquisition community. In response to this, the Department is developing an Acquisition Knowledge Network.

8 The results expected from IPTs are defined differently in the Defence Procurement Agency and the Defence Logistics Organisation reflecting their different roles in procuring and sustaining equipment capability. Both organisations are continuing to evolve their performance measures. In doing so, it is important that they ensure the measures are coherent and focus on through-life performance as well as acquisition and support performance.

Firm direction is needed to maintain momentum

The initial leadership of the change management process was positive and after some uncertainty is now being given fresh impetus

9 Throughout breakthrough, the Department's senior management demonstrated continuous and visible commitment to lead the change process. Senior managers have also attended events such as project launches and introduced award schemes to recognise good performance and the positive cultures underpinning Smart Acquisition. More recently, there has been a

perceived loss of impetus and direction as the Department has considered how best to take forward Smart Acquisition. For example, the key post of leading the change programme was vacant between August and December 2001. However, in January 2002, the Department appointed a new Director General Smart Acquisition on a long-term basis to drive forward the Smart Acquisition changes and broaden them to extend to non-equipment parts of the Department.

IPTs have strong leadership but some obstacles remain

10 Recognising that the calibre of the IPT Leader will be a key factor affecting the success of an individual IPT, the Department has established a systematic process for recruiting and selecting IPT Leaders. Most IPT Leader posts were initially filled by the person already leading the relevant project, but two-thirds of posts have now been competed, and all leaders will undergo the systematic recruitment process over time. The Department has offered over 23 per cent of the competed posts to external candidates but only three IPT Leader posts have actually been filled by external candidates. The Department recognises the need to gain more private sector expertise and to work with the private sector to create more joint career opportunities at all levels, including IPT Leader.

11 All newly appointed IPT Leaders receive mandated training based on defined acquisition behavioural competencies. Subsequently, IPT Leaders are responsible for ensuring that they continue to develop the competencies relevant to their role and take account of developments in the acquisition field. Nearly three-quarters of IPT Leaders have undertaken further training but there are considerable variations in the amount of further training undertaken. The majority of IPT Leaders said they felt more empowered than before the introduction of Smart Acquisition and that they now had sufficient delegated authority to manage their project(s). However, four-fifths did not consider that they had sufficient flexibility to recruit the personnel they required, largely because they felt constrained by the bureaucratic nature of the Department's recruitment process, by a lack of available personnel with suitable qualifications and by budgetary constraints.

Adopting a through-life approach requires an effective mechanism to review how IPTs are funded and staffed

12 To date, cost reductions in Defence Procurement Agency-hosted IPTs have been the main driver in determining IPT funding. From 2002-03, the focus will change from reductions in operating costs (inputs) to delivering challenging targets for the procurement and sustainment of defence capabilities (outputs). IPTs were created very quickly and the Department's strategy for staffing them was pragmatic but unsophisticated with staff allocated on the basis of existing complements. The allocation of staff to IPTs does not, therefore, necessarily reflect the size and complexity of the projects managed by the IPTs. The Defence Procurement Agency is establishing a team (the Project Team Resource Modelling) to examine this complex and important issue. The Defence Logistics Organisation is undertaking a separate Business Process Review which includes looking at ways in which staff can be deployed more effectively.

13 IPTs reported through the National Audit Office's census that they were overall understaffed by some six per cent against complement, but for the reasons just given current complements may not reflect the staff required by IPTs to deliver their outputs. Also, a small level of vacancies can be expected due to normal staff turnover. Nevertheless, IPTs appear particularly understaffed in the areas of Requirements Management, Integrated Logistic Support Management and Finance and very few IPTs share such scarce staff. These are key functions necessary to ensure a through-life approach.

Good progress has been made to ensure IPT personnel are adequately trained and incentivised

14 Smart Acquisition has introduced fundamental new ways of working and the Department has clearly defined behavioural and functional competencies for acquisition specialists, and has established an Acquisition Training Cell to co-ordinate the provision of acquisition training. Identification of training needs is the responsibility of the individual and his or her immediate line manager. Personal Training and Development Plans are mandatory. In addition, many IPTs have team training plans in place. The Department does not centrally co-ordinate or monitor training undertaken by IPT personnel and is not able, at a corporate level, to identify where there are skills gaps or anticipate future skills gaps. It is developing a process for the strategic evaluation of acquisition training with the aim of enabling future acquisition training to be more coherently focused on meeting business and personal development needs.

Recommendations

15 The Department has made a quick and encouraging start to introducing IPTs. In terms of evolving IPT structures and processes, we recommend that the Department should:

i undertake a stocktake of its existing IPT organisation to ensure that it reflects the experience the Department has gained to date and provides the most effective structure to deliver the benefits anticipated from Smart Acquisition. Without requiring significant cost or time, this stocktake should bring together the outcomes from the various exercises currently being undertaken in different parts of the Department and take account of the experiences of comparator organisations (paragraph 1.9);

ii press ahead with the development of IPT Maturity Models and ensure that the success factors identified are promulgated to drive improved performance across all IPTs. In doing this, the Department should draw where possible on the experiences of other organisations that have successfully used Maturity Models to develop and sustain the performance of their teams (paragraph 1.10);

iii be more rigorous in setting and reviewing Hard and Stretch targets to ensure that targets are set more consistently and reviewed more robustly. Using Hard and Stretch targets as performance measures linked into corporate performance measurement systems would facilitate this and add to their potential to motivate IPTs (paragraphs 1.14 to 1.16);

iv ensure that lessons learned from both internal and, particularly, external sources are captured consistently and disseminated widely to all with an interest in the effective operation of IPTs and Smart Acquisition more generally (paragraphs 1.17 to 1.20);

v rapidly move ahead with introducing its Acquisition Knowledge Network (paragraph 1.21); and

vi ensure that the performance measures being developed by the Defence Procurement Agency and Defence Logistics Organisation focus on through-life performance as well as measuring acquisition and support performance separately (paragraphs 1.23 to 1.26).

16 In terms of embedding the change to IPTs and maintaining momentum, we recommend that the Department should:

i quickly press ahead with action to embed and drive forward the Smart Acquisition changes under the leadership of the new Director General Smart Acquisition to avoid losing the positive momentum which has been built up in recent years (paragraph 2.7);

ii work, together with its commercial partners, to create more joint career opportunities at all levels including IPT Leader (paragraph 2.12);

iii monitor the continuing professional development of all IPT Leaders and work with them to ensure that opportunities to update and learn new skills are not overlooked (paragraph 2.15);

iv take forward in a coherent manner the ongoing Defence Procurement Agency and Defence Logistics Organisation work to establish realistic staffing levels for IPTs (paragraphs 2.26 to 2.30);

v take into account the experiences of other organisations in staffing IPTs (paragraph 2.31);

vi examine opportunities to share scarce staff between IPTs by making best use of structures such as Defence Procurement Agency Peer Groups and Support Groups and Defence Logistics Organisation Business Units (paragraph 2.34); and

vii improve its corporate monitoring of training ensuring that this is coherent and linked across the different parts of the Department. This would enable the Department to balance and identify gaps in competencies and ensure that opportunities for all IPT staff to update and learn new skills are not overlooked (paragraphs 2.36 to 2.38).


'The Department successfully established some
130 IPTs but systems to enable continuous
improvement need to evolve further'

Part 1

Integrated Project Teams were introduced rapidly and successfully but need to evolve further

1.1 A key concept underlying the Ministry of Defence's (the Department's) 1998 Strategic Defence Review was to establish a seamless through-life system for acquiring defence equipment - Smart Acquisition. Integrated Project Teams (IPTs) are a key enabler of Smart Acquisition. The introduction of IPTs has involved the reallocation of around 10,000 personnel into some 130 teams within 18 months.

1.2 Part One of our Report examines the Department's strategy for introducing and developing IPTs and the robustness of the processes in place to ensure that IPTs can function and improve. Given the pressing nature of the timescale for the introduction of IPTs, the Department adopted a pragmatic strategy to its planning and implementation. These phases were quickly and successfully completed. The Department should now consider the benefits of a stocktake of the established structure and take steps to ensure it further evolves its processes such as Performance Measurement and Learning From Experience systems to enable continuous improvement of IPTs.

The Department adopted a pragmatic strategy to achieve early implementation

1.3 In this section of the Report, we examine the Department's strategy in planning and implementing the IPT concept which was developed during the Strategic Defence Review by joint Departmental, Industry and Consultancy teams as part of the Acquisition Organisation Review. We have also considered what steps the Department should now take to ensure that IPTs evolve further.

IPTs are a key enabler of Smart Acquisition

1.4 Following the review by external consultants, McKinsey and Co.[1], the Department drew up plans to create a new acquisition system based around the IPT and involving all key stakeholders. **Figure 1a** illustrates how, together, these stakeholders comprise the acquisition community and **Figure 1b** illustrates the different relationships between the stakeholders depending on who IPTs are accountable to and the nature of the projects they manage. The McKinsey review recommended a number of changes to the Department's processes for buying and supporting equipment and to the way its acquisition systems were organised. The establishment of IPTs was a key part of these changes and IPTs are a central enabler of the Smart Acquisition reforms[2]. Smart Acquisition aims to 'enhance capability by acquiring and supporting equipment more effectively in terms of time, cost and performance'[3].

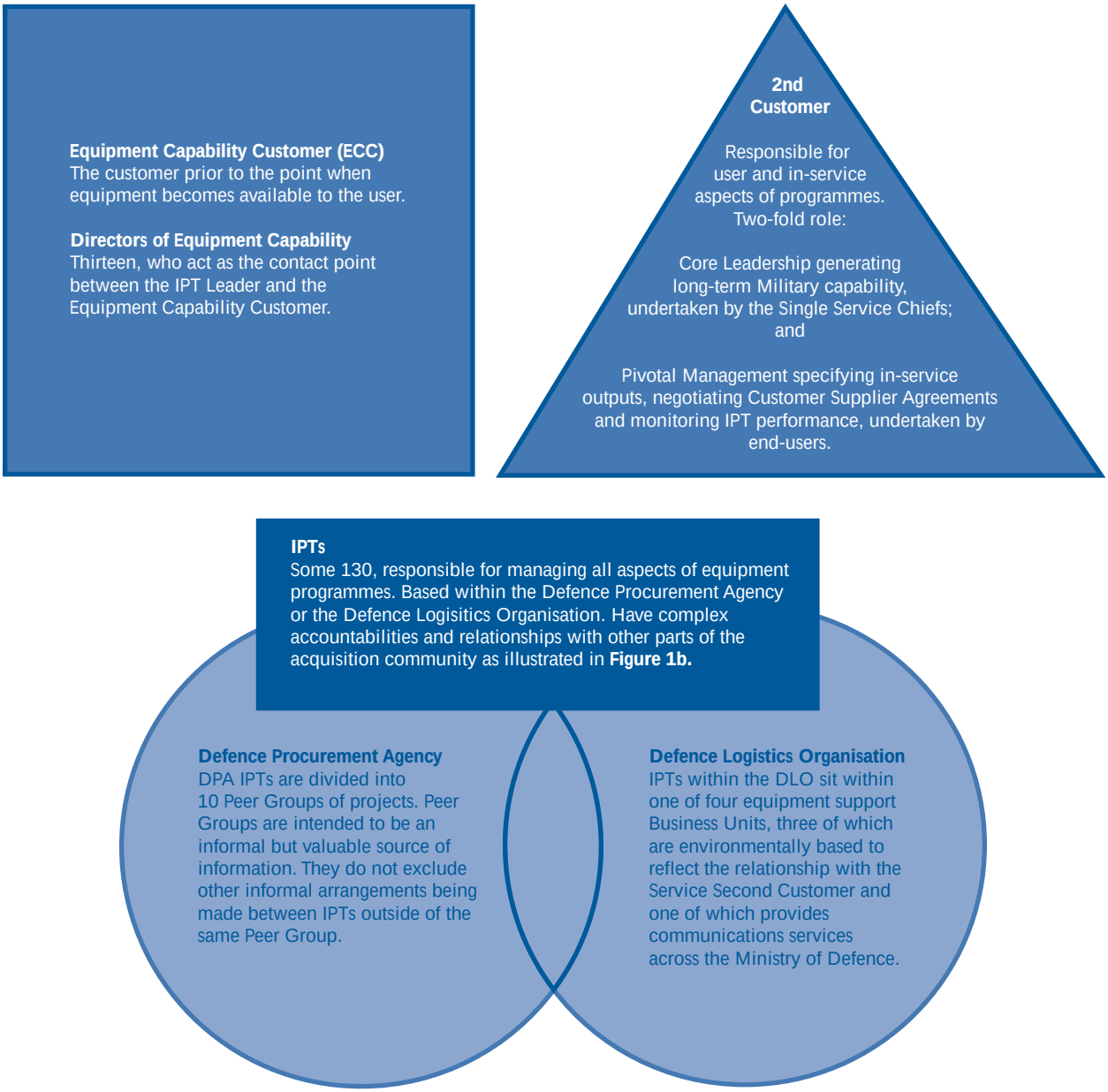
The Department adapted the McKinsey through-life IPT model in some areas

1.5 The McKinsey review concluded that there should be a through-life approach to the acquisition of defence equipment, with each project being managed throughout its life-cycle by a dedicated IPT. This approach is illustrated in **Figure 2**. Projects managed by the Department range widely in size and complexity. For smaller projects where it was not practical to establish a dedicated through-life IPT the Department evolved the model to create 'cluster' IPTs which manage groups of capability related projects. There is a large number of smaller projects and the results of our census highlighted the widespread use of the cluster IPT concept, as only 20 per cent of IPTs were single project IPTs.

1 *'Transforming the UK's Defence Procurement System', McKinsey and Co., February 1998.*
2 *Smart Acquisition was previously known as the Smart Procurement Initiative, which was introduced in July 1998. The change of name, in 2000, reflected the sustainment and reinforcement of the Smart Procurement Initiative across the Department's acquisition community', which comprises the Equipment Capability Customer, the Defence Procurement Agency, the Defence Logistics Organisation and the Service end-user of the equipment.*
3 *Ministry of Defence Smart Procurement Handbook 3rd Edition.*

1a The key stakeholders in the Department's acquisition community

The new acquisition system is based around IPTs and involves all key stakeholders



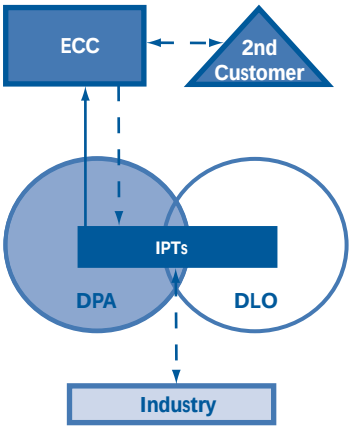
Source: National Audit Office

1b Relationship between the key stakeholders in the Department's acquisition community

Some IPTs are accountable to the Defence Procurement Agency, some to the Defence Logistics Organisation and some are dual-accountable. The relationships between the stakeholders are different for IPTs depending on who they are accountable to and the nature of the projects they manage as illustrated in the examples below.

DPA accountable IPTs (of which there are 53)

This diagram shows the main accountabilities and relationships for IPTs that are accountable to the Defence Procurement Agency and are managing new equipments in acquisition.



The relevant Director of Equipment Capability within the ECC acts as a customer and defines the capability requirements to be met.

The 2nd Customer provides advice on how the equipment will be used in-service.

To enable a through-life approach, the DLO provides advice on in-service support issues.

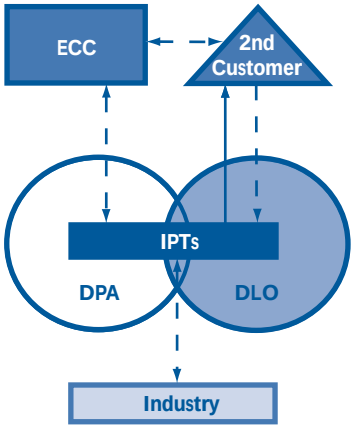
DLO accountable IPTs (of which there are 34)

This diagram shows the main accountabilities and relationships for IPTs that are accountable to the Defence Logistics Organisation and are managing equipments in-service.

The ECC has a through-life responsibility for the equipment capability.

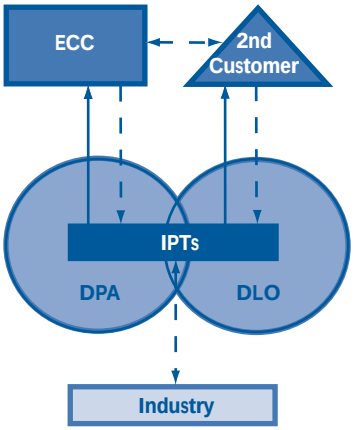
The 2nd Customer is responsible for defining the in-service outputs sought from the IPT and for monitoring their delivery.

To enable a through-life approach, the DPA provides advice on procurement issues.



Dual-accountable IPTs (of which there are 45)

This diagram shows the main accountabilities and relationships for IPTs that are accountable to both the Defence Procurement Agency and Defence Logistics Organisation, managing projects both in the procurement and in-service phases of the acquisition cycle.



Examples where IPTs may be dual-accountable include:

- where an equipment is introduced into service while production of the remaining quantity continues;
- where there is procurement of initial spares alongside the equipment;
- where an IPT has whole-life responsibility for a number of projects (cluster IPTs); and
- major capability upgrades of in-service equipment.

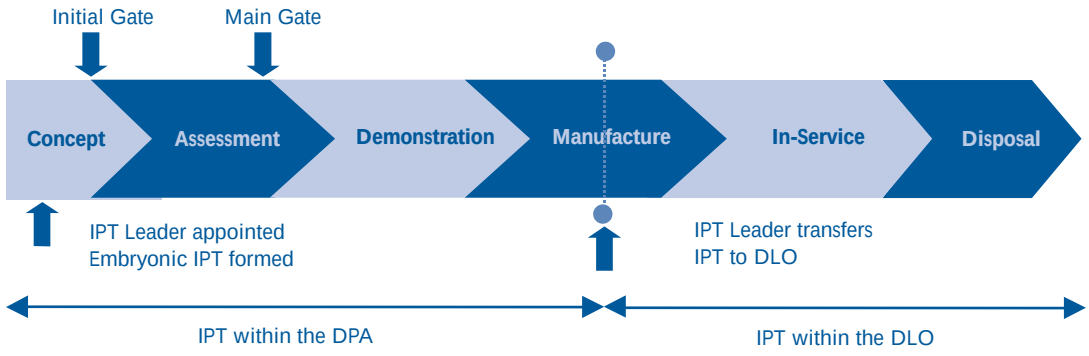
NOTE

The accountability distinctions and associated IPT numbers are based on who delegates financial authority to IPTs. In terms of practical functioning most IPTs have some accountability to both the DPA and DLO.

Source: National Audit Office Census of June 2001

2 The acquisition life-cycle

The IPT is intended to manage the equipment project throughout its life



Source: Ministry of Defence Acquisition Handbook, Edition 3

1.6 The Department also developed the concept of conveyor belt IPTs whereby projects pass between cluster IPTs in the Defence Procurement Agency (DPA) and cluster IPTs in the Defence Logistics Organisation (DLO) depending upon their stage in the acquisition life-cycle. Usually, the DPA is responsible for procuring the equipment and the DLO is responsible for its in-service support. We will examine the implications of conveyor belt IPTs in our second study which will cover whether IPTs are enabling a through-life approach to acquisition.

IPTs aim to integrate the core acquisition specialisms

1.7 IPTs are intended to improve equipment acquisition and support by moving from the old structure (whereby separate organisations contributed to managing the different functions of acquisition) to a new project-based structure which involves all key stakeholders. It is intended that each IPT will contain the core acquisition skills necessary to manage the project, as shown in **Figure 3**. The balance of skills will vary according to the project's stage in its life-cycle. The aim of this 'integrated approach' is to ensure the close and effective involvement of all major stakeholders at key decision points, including, where appropriate, industry.

The Department adopted a pragmatic approach to creating IPTs

1.8 The Smart Procurement Implementation Team (SPRINT) was created in September 1998 and was tasked with creating the IPT structure by April 2000. Given the extremely short timescale, the SPRINT adopted a pragmatic approach to devising the IPT structure. **Figure 4** shows the major milestones between the Strategic Defence Review being announced in May 1997 and implementation of the final wave of IPTs in 2000.

3 Integrated Project Team core roles

The IPT Leader is responsible for constructing a team that contains the specialist core skills and knowledge to manage the project. The balance of skills will vary according to the project's stage in its life-cycle.

Role	Responsibilities
Requirements Management	Ensuring that the projects take proper account of the Director of Equipment Capability (DEC)'s operational requirements as recorded in the User Requirement Document (URD) and Systems Requirement Document (SRD).
Project Management	Managing the overall programme and co-ordination between those reporting directly to the IPT Leader. For example co-ordination of production of the Through Life Management Plan, defining the optimum procurement strategy, risk management across the project and performance monitoring.
Project Engineering	Ensuring that the equipment delivered by industry fulfils the performance requirement as laid down in the URD and SRD and for technical monitoring of equipment performance while in service.
Support Management	Ensuring that logistic support functions are addressed to cover all stages of a project's life.
Commercial Management	Ensuring that the Department's interests are safeguarded and that its contract with industry secures best value-for-money in meeting the Customer's requirement.
Financial Management	Ensuring the regularity and propriety of the business conducted by the IPT and its consistency with the requirements of Government Accounting and Ministry of Defence financial regulations.
Industry IPT members	As a core member of the IPT for most of the project's life, Industry is expected to be fully engaged in reducing whole-life costs and improving timescales.

Source: National Audit Office

It shows that the year long study and decision-making phase was followed by a relatively brief period during which the structure was planned. In essence, SPRINT consulted with the existing procurement and support organisations to ascertain the best way to convert to the new structure. Given the premium placed on speed the Department relied heavily upon the existing structures. Two options were identified (involving either 130 or 250 IPTs) and the Department opted for a simpler and more straightforward structure involving the smaller number of IPTs.

The Department should now consider reviewing the effectiveness of the IPT structure

1.9 The Department acknowledges that its approach to the creation of the IPT structure was pragmatic and therefore likely to require modification. Since inception, the Department has made modifications on a case-by-case basis through the creation of new IPTs, termination of existing IPTs and transfer of projects between IPTs as it has learnt from experience and its capability requirements have changed. The Department should now assess the benefits of a stocktake of the existing structure, incorporating lessons learned since inception across the board and drawing on the experiences of other organisations that use IPTs. The DLO is currently undertaking a Business Process Review which seeks to identify a number of generic IPT models with the aim of modifying its IPT structure to be more efficient.

Recommendation

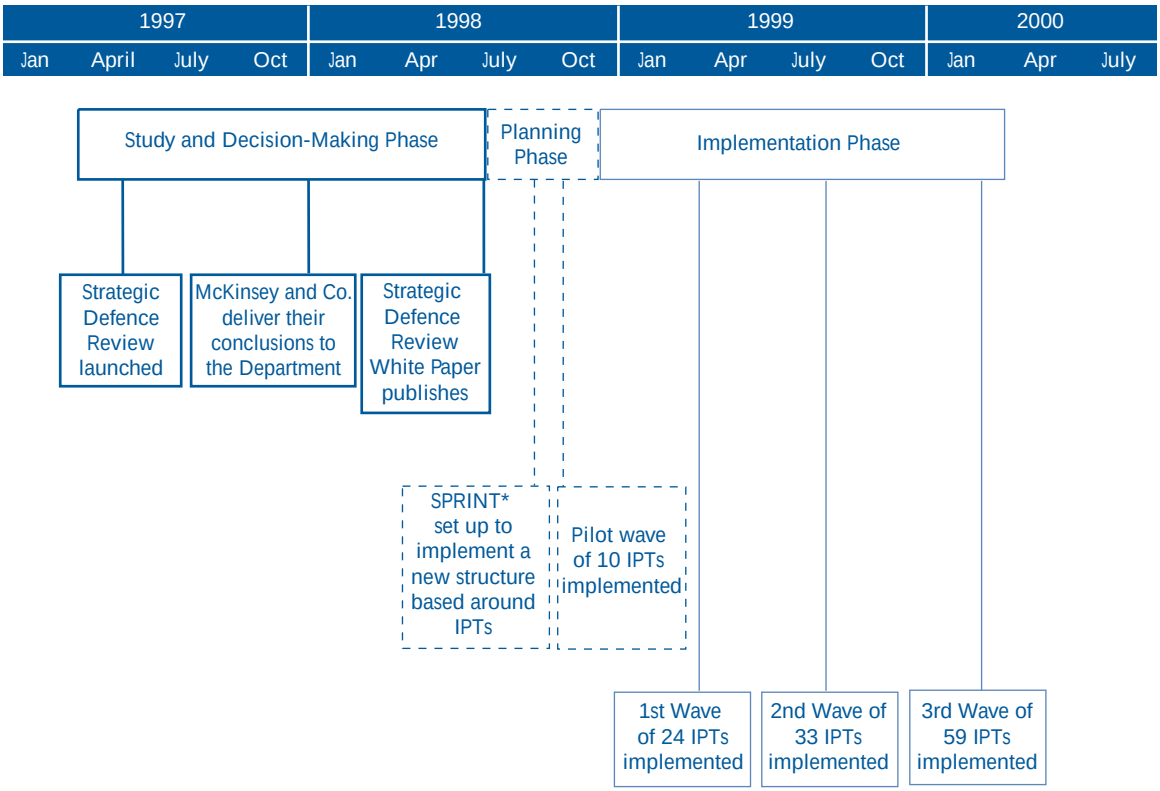
The Department, in conjunction with industry, should undertake a stocktake of its existing IPT organisation to ensure that it reflects the experience the Department has gained to date and provides the most effective structure to deliver the benefits anticipated from Smart Acquisition. Without requiring significant cost or time this stocktake should bring together the outcomes from the various exercises currently being undertaken in different parts of the Department and take account of the experiences of comparator organisations.

1.10 When establishing IPTs the Department identified a series of broad factors that it expected would make IPTs successful. It is now developing Maturity Models to determine which factors are contributing to IPTs' success in practice. These models, are at various stages of development. The DPA Procurement Development

4 Chronology of the change management process

The Department introduced IPTs rapidly

Chronology of the implementation of IPTs



Source: National Audit Office

Group is currently piloting a Risk Management Model and a Project Management Maturity Model. Other models in development include a Through-Life Management Model and a Gainshare with Industry Model. We support these initiatives and recommend that in taking forward the use of these models the Department should seek to draw on good practices used by other organisations where possible. For example, Boeing has developed models for measuring the success of its project teams which it considers so effective it will not release this information for proprietary reasons.

Recommendation

The Department should press ahead with the development of IPT Maturity Models and ensure that the success factors identified are promulgated to all stakeholders to drive improved performance across all IPTs. In doing this, the Department should draw where possible on the experiences of other organisations that have successfully used Maturity Models to develop and sustain the performance of their teams.

The Department successfully established some 130 IPTs but systems to enable continuous improvement need to evolve further

1.11 This section examines the processes and systems that the Department put in place to establish IPTs initially and then to ensure that they evolve through continuous improvement. These processes include:

- the initial 'breakthrough' process for setting up IPTs;
- systems for capturing best practice, both internally and from external organisations;
- guidance for defence equipment acquisition; and
- performance measurement.

The initial breakthrough exercise was robust but some elements have not been followed up with sufficient rigour

1.12 When it is created, each IPT goes through a managed process of change called 'breakthrough' designed to encourage team members to think radically and develop innovative ways of working with industry and other stakeholders. Breakthrough is intended to be the foundation for creating and sustaining the change process and to facilitate this, each IPT was supported by a team of consultants. In order to develop closer relationships with key stakeholders, the involvement of the Customer and Industry was a major part of the breakthrough process.

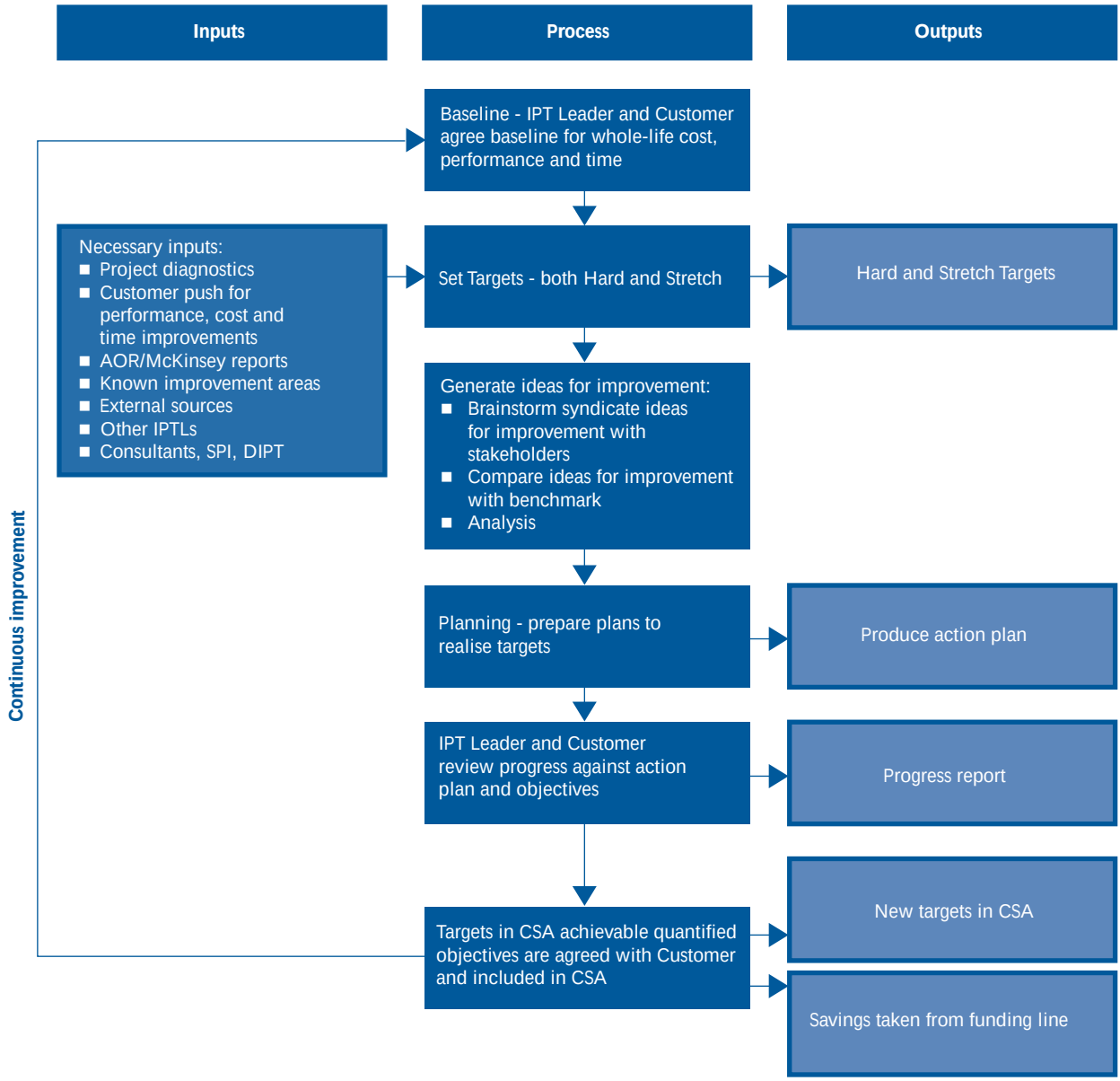
1.13 Breakthrough lasted 12 weeks and **Figure 5** shows the key objectives of the process. The key milestones were: a one-week IPT Leader training course followed by breakthrough 'kick-off'; a senior management review around week 8/9; and in week 12 the production of a final report and action plan. The consultants prepared a weekly report for each IPT undertaking breakthrough to ensure that issues raised were subsequently addressed. All 130 initial IPTs went through breakthrough as intended, meeting the overall milestones set. At the end of each phase there was an After Action Review in order that positive lessons could be incorporated in the next wave. For example, the IPT Leaders initial training course evolved as a direct result of feedback from participants.

1.14 The setting of Hard and Stretch targets was a key objective of the breakthrough process and the targets were reviewed during breakthrough by senior management. The Department's intended purpose in setting the targets was that Hard targets should be testing but achievable and Stretch targets should be well beyond what is considered achievable in order to encourage innovation and continuous improvement. Some examples of Hard and Stretch targets set by an IPT during breakthrough are shown in **Figure 6 (on page 14)** together with some of the IPTs' ideas for achieving them. The Department has not used Hard and Stretch targets as performance measures as it has considered that this could be counterproductive to their intended purpose by engendering a disposition to 'aim low' to avoid disappointment and criticism. However, the Department does intend that Hard and Stretch targets should be in line with corporate targets and should be reviewed at management level through Customer Supplier Agreements, Quarterly Reviews, etc.

1.15 The vast majority of IPTs set Hard and Stretch targets but there has been some inconsistency in target setting. **Figure 7 (on page 14)** illustrates the extent to which the sample of IPTs we surveyed set Hard and Stretch targets initially and have subsequently met or are projected to meet their targets. Given the intended aspirational nature of Hard and, more particularly, Stretch targets, our survey results indicate that more IPTs are likely to achieve their Hard and Stretch targets than might be expected. This indicates that targets may not have been set on a consistent basis and some IPTs may have misunderstood the concept of Hard and Stretch targets by setting targets that were more easily achievable than intended. We accept, however, that the survey results are based on IPTs' projected achievement as well as reporting actual achievement and may include over-optimistic assessments. Our survey of a sample of IPTs also shows that less than half of IPTs achieving their initial targets have set new targets.

5 The 'breakthrough' process

The 'breakthrough' plan included clear objectives



Hard Targets
- Testing but achievable
- Work as a true team to overcome barriers and share ideas
- Team required to adopt novel approaches to identify savings
- If the team can easily achieve these they are set too low

Stretch Targets
- Encourage team to think 'out-of-the-box'
- Target is out of reach, but not out of sight
- Stretch objectives are significantly harder than Hard ones
- Stretch objective gives a requirement and mandate to address all boundaries and contraints, even 'impossible' ones to uncover all possible savings
- Team must determine 'what needs to come true' for the Stretch objective to be met and then make it happen

Source: Ministry of Defence Acquisition Handbook, Edition 3

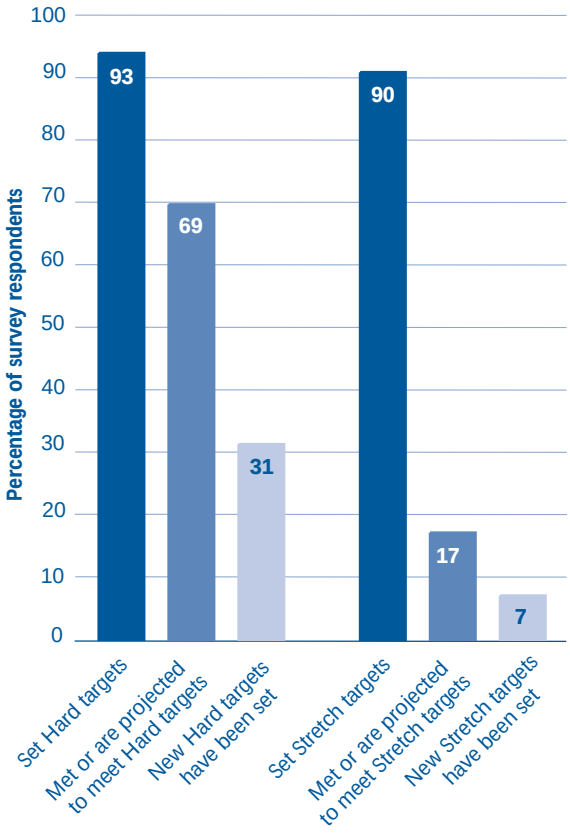
6 Examples of IPT Hard and Stretch Targets - The Type 45 Destroyer IPT

Area	Baseline Target	Hard Target	Stretch Target	Ideas/proposals for achievement
Performance	Baseline target includes achievement of First of Class specification plus a fitted sonar, enhanced platform management system, a second electro-optical sight and remote weapons system at In-Service Date	Achieve baseline capability plus Merlin helicopter deck handling system at In-Service Date	Achieve baseline capability, Hard Target and use of existing Combat Management System equipment on board ship to simulate a training environment	1. Use of cost versus capability trade-off process 2. Use SMART requirements management
Time	To meet In-Service Date set at Main Approval	To meet In-Service Date set at Main Approval	To achieve In-Service Date set at Main Approval less one month	1. Operate an integrated project control system 2. Make efficient use of computer-aided design
Cost	Baseline target requires an equivalent annual cost for operation and support of £**x** million (classified) less than that for the Type 42 Destroyer	Achieve 5 per cent reduction in baseline	Achieve 10 per cent reduction in baseline	1. Incentivisation of contractors 2. Design to minimise ships complement

Source: Ministry of Defence.

7 The extent to which IPTs have set and have subsequently met Hard and Stretch Targets

The majority of the surveyed IPTs have set Hard and Stretch targets. Of those which have met, or are projected to meet, their Hard and Stretch targets, less than half set new ones



Source: National Audit Office Survey

1.16 We conclude from our survey results that the process of setting and reviewing Hard and Stretch targets is not progressing as envisaged. There is a need for greater rigour to ensure that targets are set more consistently and reviewed more robustly as part of the Department's performance management system. The Department is examining its guidance for Quarterly Reviews and aims to ensure that the scrutiny of Hard and Stretch targets is rigorous.

Recommendation

The Department should be more rigorous in setting and reviewing Hard and Stretch targets to ensure that targets are set more consistently and reviewed more robustly. Using Hard and Stretch targets as performance measures linked into corporate performance measurement systems would facilitate this and add to their potential to motivate IPTs.

The Department's approach to capturing best practice needs to evolve further

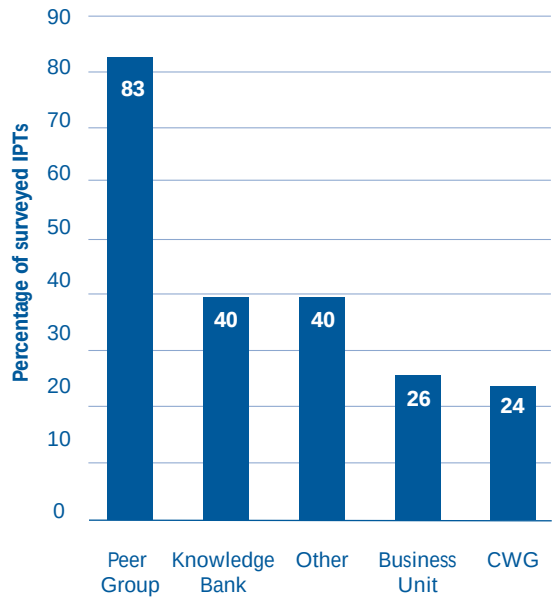
1.17 To ensure continuous improvement it is important that best practice is captured quickly and disseminated widely. Our survey of a sample of IPTs revealed that 90 per cent of IPTs considered that they were able to effectively share lessons with other teams. **Figure 8** shows the ways in which IPTs learn lessons from other teams. The main mechanism reported by IPTs in our survey was through Peer Groups. DPA IPTs are gathered into Peer Groups of projects sharing similar characteristics. Peer Groups are intended to be a valuable but informal source of advice for IPT Leaders and other team members. The DLO has a similar though less formalised mechanism, which operates most directly within the Business Units. There is some limited

communication across organisational boundaries, but this is more difficult to facilitate than in the DPA given the geographical separation of the Business Units. The corporate knowledge bank (intranet based information) was also reported by IPTs as an important learning mechanism. As part of the corporate knowledge bank, the Department's Learning From Experience Cell maintains a database for disseminating lessons learned and best practice. This database is currently focused primarily on procurement issues.

1.18 Other learning mechanisms include DPA 'Learning From Experience Seminars' supplemented by 'Lunchtime Briefings' which are targeted at spreading specific lessons learned or an important experience that an IPT has undertaken. Seminars held to date have included requirements management and the experiences of the C-17 IPT. DPA Support Groups also have a role in capturing and spreading best practice through the application of 'Subject Matter Experts' who own common processes such as assessing bids and executing contracts and sponsor relevant skills training across the Agency. There are also less formal learning mechanisms for example networking, day-to-day communication and consultation with other IPTs on specific issues.

8 The proportion of IPTs that learn from each other in different ways

IPTs are able to learn lessons from other IPTs in a number of ways



NOTE

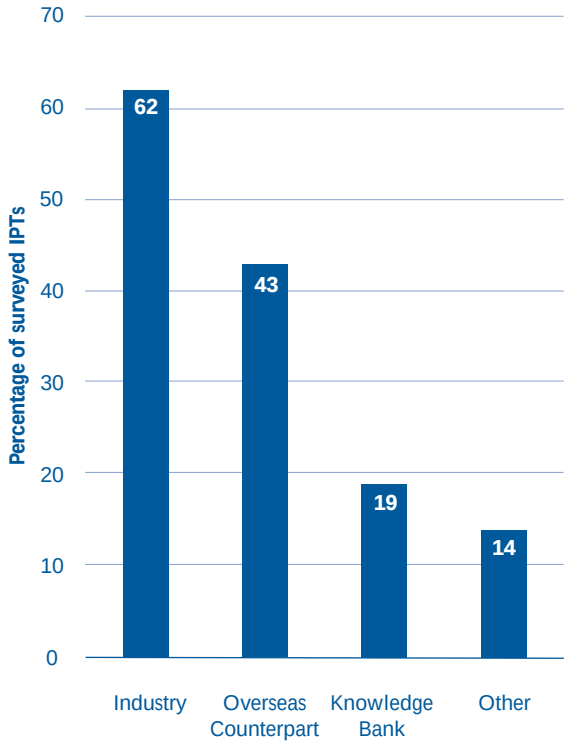
CWG is capability Working Group; a stakeholder group responsible to a Director of Equipment Capability for managing a group of related capability areas.

Source: National Audit Office Survey of July 2001

1.19 In addition to learning lessons from each other, over 75 per cent of the IPTs surveyed indicated they were able to learn lessons from external partners. **Figure 9** shows that this is mostly through direct contact with industry and overseas counterparts on an individual team basis rather than through a corporate depository of external lessons learned. Only 19 per cent of surveyed IPTs used the corporate knowledge bank to learn lessons from external sources. The Department should ensure that external lessons captured by individual teams are disseminated more widely. One way to do this would be to make the Learning From Experience database more outward-looking. This database is currently mostly inward-looking focusing on internal lessons learned by DPA and DLO projects and generally does not incorporate lessons from external partners.

9 Ways by which IPTs capture external Best Practice

Most IPTs learn external lessons through direct contact with Industry or overseas counterparts



Source: National Audit Office Survey of July 2001

1.20 There is scope for the Department and other organisations, including overseas defence ministries and Industry, to share best practice more widely with each other. For example, the Integrated Product Teams of the Advanced Amphibious Assault Vehicle (AAAV) programme in the United States have had success through putting into practice many of the principles which IPTs in the UK are implementing. Notable features of the AAAV experience are summarised in **Box 1**. Also in the UK and US, industry uses 'councils' to share best practice amongst their teams and their customers, for example 'process councils' on issues such as marketing, human resources, supply chain and programme management.

Recommendation

The Department should ensure that lessons learned from both internal and, particularly, external sources are captured consistently and disseminated widely to all with an interest in the effective operation of IPTs and Smart Acquisition more generally.

Box 1: Good practice drawn from the experiences of the US Advanced Amphibious Assault Vehicle (AAAV) Integrated Product Teams

- mandating within the contract that the Contractor co-locate with the Integrated Product Teams and provide front-end training for the co-located teams;
- commissioning a conflict resolution adviser to help establish and continue effective relationships within teams and between teams and those they interface with such as their customers and Industry;
- providing continuous booster training every 18 months to two years to revitalise teams as the programme progresses and team dynamics change with staff turnover;
- basing end-users, in this case the United States Marine Corps, with the Integrated Product Teams to identify and resolve practical problems at an early stage;
- developing a culture of empowerment through actions and experience with senior managers learning to 'let go' more and junior staff being prepared to take on more responsibility;
- incentivising contractors through 'contract reward fees' whereby a pre-established portion of the contract fee is awarded based upon improving performance, with the criteria for award being flexible to allow it to be directed at areas of weak performance;
- incentivising Government personnel to generate innovative ideas through 'reward contests', for example putting forward ideas for cost reductions and rewarding the best idea with time-off; and
- identifying and developing relationships with other teams to share ideas and learn lessons, and formalising these contacts through 'interface control documents'.

1.21 The Department recognises the need for capturing lessons across the acquisition community and dissemination of best practices. In order to address this issue the Department is in the early stages of developing an Acquisition Knowledge Network. The Department is still deciding on the objectives and timescale for this initiative.

Recommendation

The Department should rapidly move ahead with introducing its Acquisition Knowledge Network.

The Department created a comprehensive set of guidance for defence equipment acquisition

1.22 The key source of Departmental guidance for defence equipment acquisition is the Acquisition Management System which aims to provide IPTs and other personnel throughout the Department and Industry with the information they require to perform their day-to-day acquisition role. This was a new initiative launched as part of Smart Acquisition. The Acquisition Management System is an electronic system available on the Department's intranets, the Internet and on CD-ROM. It is updated monthly and 64 per cent of IPTs in our survey indicated that they found the Acquisition Management System to be user-friendly. The remainder did not find the Acquisition Management System easy to navigate. The Department is seeking to address this shortfall through user-led improvement.

The Department's approach to Performance Measurement is still evolving

1.23 The McKinsey and Co. report on 'Transforming the UK's Defence Procurement System' emphasised the importance of defining clear improvement targets with key performance measures that would enable progress to be tracked and reviewed over time. We examined whether the Department has set performance measures in place for IPTs and whether performance is regularly monitored.

1.24 Both the DPA (in combination with the European Foundation for Quality Management Excellence Model) and the DLO use a 'balanced scorecard' approach to manage their performance. The results expected from IPTs are defined differently within the DPA and the DLO, reflecting the different roles and the differing scope of their IPTs' activities. The DPA's role is to manage procurement of equipment and IPT results are defined primarily in terms of achieving the cost, time and capability requirements forecast when projects are approved. IPT performance drives the Agency's Key

Targets which are supported by more detailed measures such as IPT achievement of in-year plans and project milestones.

1.25 The DLO's objective is to sustain equipment capability and IPT results are defined primarily in terms of equipment availability and achieving annual operating (in-service support) costs. IPT performance is measured through the levels set out in Customer Supplier Agreements[4], which include cost and time parameters for equipment availability. The achievement of Customer Supplier Agreements is measured alongside other targets covering financial performance, innovation and learning, and internal processes for each IPT. IPT performance is linked to aggregate performance measured at Business Unit and corporate level.

1.26 The performance measurement systems in both the DPA and the DLO are still evolving. The DPA is introducing a Strategic Goal committing it to deliver 90 per cent of major projects within approved (time, cost and capability parameters) by 2005 and is developing a new productivity measure (see paragraph 2.24). The DLO set a Strategic Goal in April 2000 to reduce output costs by 20 per cent by 2005 while maintaining service to the Customer. IPTs are developing more comprehensive targets to underpin this. The DLO aim is to ensure that quantifiable and measurable Customer Supplier Agreements are in place for all IPTs for 2002-03. In evolving these systems, the Department should ensure that they focus on through-life performance and encompass appropriate measures of this as well as measuring acquisition and support performance separately.

Recommendation

The Department should ensure that the performance measures being developed by the Defence Procurement Agency and Defence Logistics Organisation focus on through-life performance as well as measuring acquisition and support performance separately.

4 *A Customer Supplier Agreement (CSA) is an agreement between the Customer and Supplier setting out the working relationship between them and recording other key project information such as deliverables required, and performance measures and targets.*

'The Department has taken steps to ensure that IPTs have strong leadership but some obstacles remain'

'Firm direction is now needed to maintain momentum'

Part 2

Firm direction is now needed to maintain momentum

2.1 Part One of our Report concluded that the Department's strategy of rapidly and pragmatically establishing IPTs was successful but that IPT structures and processes need to evolve further. This part of the Report examines enablers critical to the success of IPTs. These are:

- the extent to which the implementation and sustainment of the IPT concept is being guided through visible and committed leadership by senior management;
- the steps the Department have taken to ensure that IPTs have strong leadership;
- action taken by the Department to ensure that IPTs are appropriately resourced; and
- whether IPT personnel are adequately trained and incentivised.

2.2 During the implementation of IPTs, the Department was visibly committed to the change process and this momentum must be maintained. We conclude that the Department has taken largely successful steps to ensure that IPTs are led by skilled and empowered individuals and should work to resolve the remaining obstacles to strong leadership.

The initial leadership of the change management process was positive and after some uncertainty is now being given fresh impetus

2.3 The report produced by McKinsey and Co. as part of the Acquisition Organisation Review stated that transforming the acquisition system and introducing IPTs would require a major multi-year change programme. The report outlined key areas that the Department would need to address to ensure that the change process was successful. These included:

- selection of a senior, full-time management team led by a high-calibre individual at three-star level, and including Industry involvement; and
- continuous and visible commitment of top management, supported by clear and frequent communication around the need for change and the benefits that it will deliver both to individuals and to the organisation they represent.

2.4 This section examines how the Department has addressed these two points and demonstrated its commitment to the implementation of IPTs so far and how it proposes to continue to demonstrate its commitment to maintain momentum.

During the implementation of IPTs, the Department has been visibly committed to the change management process

2.5 Figure 1 illustrates that the acquisition community is composed of several organisations and stakeholders. As a result, the Department did not appoint an individual as leader as recommended in the report by McKinsey and Co. Instead, the Department set up a steering group to represent the key stakeholders and owners of the Smart Acquisition process. This group comprised; the Deputy Chief of Defence Logistics, the Deputy Chief Executive of the DPA and the Deputy Chief of Defence Staff (Equipment Capability). To lead the change programme itself, the Department established the Smart Procurement Implementation Team (SPRINT) which included four Industry secondees. The SPRINT subsequently evolved into the Smart Acquisition team led by Team Leader/Smart Acquisition, reflecting the Department's greater emphasis on through-life acquisition. The Smart Acquisition changes are now being taken forward by a new Director General Smart Acquisition and the functions and structure of his organisation are currently being developed.

2.6 Top management demonstrated continuous and visible commitment to successful change during the implementation of IPTs in a number of ways:

- each IPT Leader had a review with the steering group during breakthrough;
- each IPT Leader breakthrough course is attended by senior members from either the DPA or DLO. The Chief of Defence Procurement, Chief of Defence Logistics, Deputy Chief of Defence Staff (Equipment Capability), the Deputy Chief Executive of DPA and Deputy Chief of Defence Logistics all have an active role in presenting the course; and
- strong commitment at senior level through for example, attendance at project launches, breakthrough course, industry days (where IPTs build on their relationship with industry) and the Minister of Defence Procurement and Chief of Defence Procurement Award Schemes.

Highly visible continued support is needed to fully embed IPTs

2.7 Typically, a large organisational and cultural change would be expected to take at least five years and McKinsey and Co. recognised that transforming the acquisition system and implementing IPTs would require a major multi-year change programme. It is only two and a half years since the first wave of IPTs were created and the third wave of IPTs have only been in place for two years, as shown in Figure 4. IPTs and Smart Acquisition generally need continued support and momentum to fully embed the major cultural and process changes involved. There has been some loss of impetus and direction as the Department has considered how best to take forward Smart Acquisition. The key post responsible for leading the change programme was vacant between August and December 2001. However, in January 2002, the Department appointed a new Director General Smart Acquisition on a long-term basis to drive forward the Smart Acquisition changes and broaden them to extend to non-equipment parts of the Department. After a transition period he will also be responsible for supporting the Department's planned Investment Approvals Board.

Recommendation

The Department should quickly press ahead with action to embed and drive forward the Smart Acquisition changes under the leadership of the new Director General Smart Acquisition to avoid losing the positive momentum which has been built up in recent years.

The Department has taken steps to ensure that IPTs have strong leadership but some obstacles remain

2.8 The success of an IPT is largely dependent on the calibre of the IPT Leader and the extent to which he or she is empowered to take decisions on the management of the project such as trading-off cost, time and performance and the management of the team. We examined three areas important in ensuring IPTs have strong leadership and in each case, the Department has made progress in ensuring that IPTs are led by high-calibre and empowered people but some obstacles remain:

- recruitment of IPT Leaders, and the extent to which the Department has brought in private sector expertise;
- the extent to which IPT Leaders are adequately trained both before and after they take up post; and
- the extent to which IPT Leaders are empowered.

There is a clear strategy for recruiting IPT Leaders but little private sector expertise has been brought in

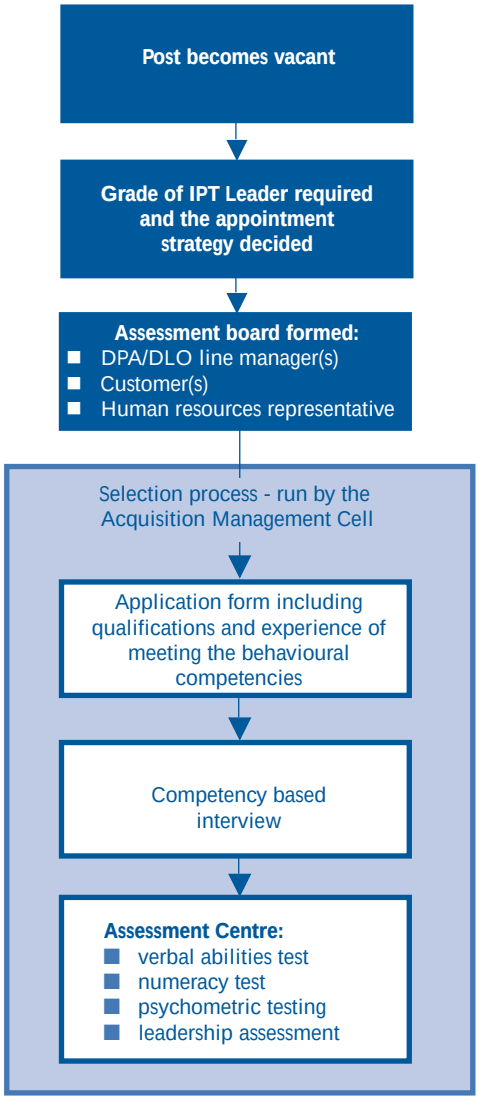
2.9 The Department has established a systematic process for recruiting and selecting IPT Leaders as outlined at **Figure 10**. The selection process is based on clearly defined acquisition competencies and involves competence-based interviews and a range of numerical and critical reasoning tests. The Department's competition strategy is that in principle all posts could be competed although in practice special circumstances may dictate that a managed move is undertaken, where the arguments for this approach outweigh the arguments for a limited or open competition. In order that IPTs benefit from the leadership expertise found in Industry, the Department's policy is to offer competitions to industry whenever opportunities arise that are advantageous to both the Department and Industry and, that as a founding principle 10-15 per cent of competitions should be offered to Industry. The Department has established two routes through which posts can be filled by external candidates. They are:

a **Limited Competition** whereby suitable candidates from the defence industry are nominated as secondees by the Defence Industries Council (DIC) - an external trade association. Both the DIC nominees and internal candidates will compete for the post; and

b **Open Competition** carried out through the advertising of a post in the national press or other journals.

10 The Department's strategy and selection process for recruiting IPT Leaders

The Department's selection process for IPT Leaders is based on clearly defined skills and competencies and involves structured interviewing and testing procedures

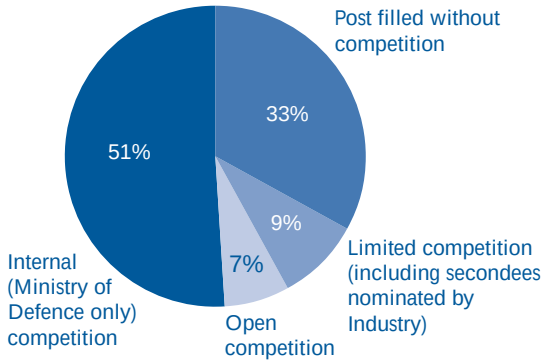


Source: National Audit Office

2.10 In practice, many IPT Leader posts were initially filled by the person in charge of leading the project(s) before the IPT was created. This was a pragmatic solution predicated by the need for continuity. **Figure 11** shows that 67 per cent of posts have now been competed. Of the 33 per cent of posts that have not yet been competed, many were filled by the previous project leader. This number is expected to go down over time as these posts become vacant. The Department has offered over 23 per cent of the competed posts to Industry, through open or limited competition, more than achieving its target of 10-15 per cent, but only three IPT Leader posts have been awarded to external candidates through competition. In all three cases the external candidate accepted the post.

11 Competition Strategy for IPT Leader posts

Sixty seven per cent of IPT Leader posts have been competed, but only three of these posts have actually been filled by external candidates



No. of IPT Leader posts competed:	89
No. of IPT Leader posts filled by external candidates:	3

Source: National Audit Office Census of June 2001

2.11 No IPT Leader posts have been turned down when offered to external candidates, but the Department has encountered obstacles to high-calibre external candidates coming forward for competitions. These include candidates from Industry not seeing secondments with the Ministry of Defence as a good career path, Industry being reluctant or unable to release valuable staff in the required timescales and gaps in pay rates and other material employment benefits between the sectors.

2.12 The Department recognises that it needs to gain more private sector expertise and to work with the private sector to create more joint career opportunities at all levels, including IPT Leader. It is exploring initiatives to overcome some of the obstacles to external candidates coming forward such as identifying potential IPT Leader vacancies early, where possible, and giving Industry early notification to facilitate the identification and release of candidates. Ultimately, if pay differentials prove to be an obstacle to attracting high-calibre, experienced leaders from the private sector, the Department will need to offer more comparable remuneration packages and find ways of funding this, for example by sharing remuneration costs with Industry where appropriate and possible.

2.13 Since 1998, the DPA has operated a 'delegated interchange programme' under which over 50 secondments, loans and exchanges at levels other than IPT Leader have taken place with Industry in the UK and overseas, and with other Government departments and international partners. The Department is committed to maintaining these valued exchanges and is considering increasing the number of short-term attachments between IPT members and Industry in the future as a way of obtaining benefits without staff having to leave their parent organisation.

Recommendation

The Department should work, together with its commercial partners, to create more joint career opportunities at all levels, including IPT Leader.

Initial IPT Leader training is mandatory but uptake of subsequent training is variable

2.14 Initial training for all IPT Leaders was mandated and involved attendance at a five- day course prior to breakthrough, loosely based on the acquisition behavioural competencies. This course remains mandatory for all newly appointed IPT Leaders and has been reduced to three days in duration. This is because the Department has concluded that the breakthrough elements of the course are no longer needed. The results of our survey of a sample of IPT Leaders showed that all respondents received this mandatory training with 90 per cent receiving it prior to taking up post. Our survey indicated that the majority of IPT Leaders had found the course useful.

2.15 Further training is available to IPT Leaders through the Acquisition Leadership Development Scheme and the DLO Management Development Programme. Nearly three-quarters of the surveyed IPT Leaders had received further training since breakthrough; an average of 4.7 days per IPT Leader. About half of this further training was geared towards development of leadership skills; the remainder towards technical or human resources issues. IPT Leaders are responsible for exercising their own judgement over what further training they need. This has resulted in considerable variation in the amount of further training undertaken, with some of the IPT Leaders in the survey sample taking up to 20 days training and nearly a third taking none at all. The Department has defined competencies for all acquisition staff, including IPT Leaders, and it is the responsibility of IPT Leaders to ensure that they personally continue to meet the IPT Leader competencies to take account of developments in the acquisition field. It is, therefore, somewhat surprising that nearly a third of IPT Leaders have not taken the opportunity to train further since taking up post.

Recommendation

The Department should monitor the continuing professional development of all IPT Leaders and work with them to ensure that opportunities to update and learn new skills are not overlooked.

The Department has done much to empower IPT Leaders but some constraints to empowerment have not been fully resolved

2.16 **Figure 12** shows the levels of delegation contained within a typical letter of delegated authority received from the appropriate Chief Executive by each IPT Leader detailing the IPT Leader's responsibilities and boundaries of empowerment. The results of the survey demonstrated that the majority of IPT Leaders felt more empowered than prior to the implementation of Smart Acquisition and IPTs are clear on when to involve the Chief Executives, Executive Directors and their Customer(s) in decisions. For the purposes of reporting on their personal performance, IPT Leaders are accountable to the relevant Executive Board member in the DPA or line Director in the DLO/other agency.

2.17 The Department has identified that some constraints to IPT Leader empowerment are necessary. For example, the DLO has identified the need to balance IPT Leader empowerment with the need for co-ordination in delivering of overall outputs i.e. providing logistic support for the Armed Forces. Individual IPTs all contribute to this overall objective and there is a need to ensure that in operating and taking decisions independently they do not act in an unco-ordinated way. For example, in the Land Business Unit of the DLO, all 11 IPTs must deliver in a co-ordinated way in order to meet the objective of deploying a Brigade in the field. Similarly, as contractor logistics support solutions are

12 The IPT Leader's Delegated Authority

The IPT Leader receives a letter of delegation outlining his responsibilities and boundaries of empowerment

The IPT Leader's Letter of Delegation includes:

- Conduct of Business
- Sources of Advice
- Delegated Personnel Authority
- Delegated Commercial Authority
- Delegated Financial Authority
- Government Procurement Card
- Inventory Management
- Delegated Security Authority
- Delegated Safety Authority

Source: National Audit Office

developed by different IPTs, often with the same supplier, the Department needs to avoid placing an unmanageable demand on Industry by expecting it to adopt different procedures to support different equipments. The Business Unit's role is to ensure that the IPTs are able to deliver their outputs by providing their different elements of support in a 'joined-up' way.

2.18 Eighty per cent of the surveyed IPT Leaders did not consider that they had sufficient flexibility to recruit the personnel they needed. **Figure 13** shows the barriers to recruitment perceived by the IPT Leaders surveyed and some of these are illustrated by the experiences of the Sonar 2087 team. The Leader of this small (14-strong) team estimated that he and his team had spent the equivalent of approximately four months out of the past two years on recruitment of staff.

2.19 In the US, the empowerment of 'Programme Managers' (equivalent to IPT Leaders) is reinforced by a part-time advisory group of experienced functional specialists, for example finance, logistics, contract, and weapons testing specialists, who can help facilitate the resolution of issues and rapid decision-making. These specialists are a central resource with each having responsibility for tracking around a dozen programmes. The Programme Manager is the chairman of the advisory group and is empowered to convene meetings whenever he or she considers that issues require the group's specialist advice to resolve them.

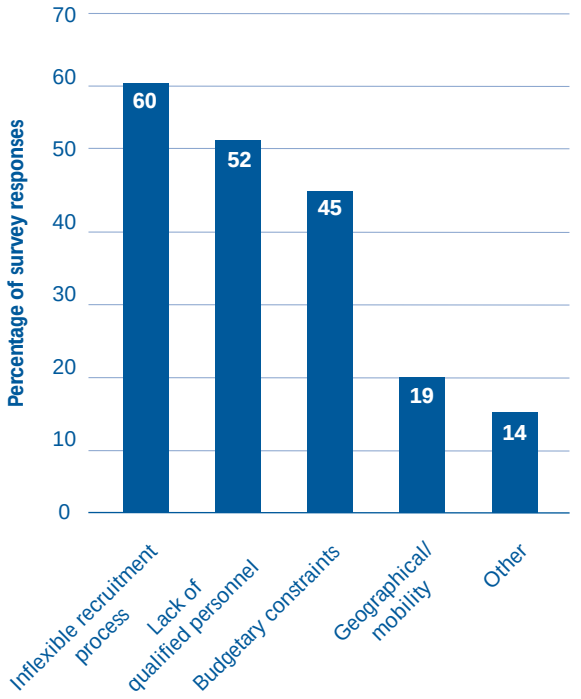
The through-life approach to acquisition requires an effective mechanism to review how IPTs are funded and staffed

2.20 This section examines:

- how the Department is changing the way in which DPA IPT running costs are managed;
- the steps the Department is taking to review its strategy for staffing IPTs; and
- where there are shortages in IPT personnel and how this could impact on the through-life approach envisaged by Smart Acquisition.

13 Barriers to the IPT Leader's flexibility to recruit personnel

Inflexibility in the Department's recruitment process, lack of qualified personnel and budgetary factors are the main barriers to recruitment perceived by IPT Leaders



Source: National Audit Office Survey of July 2001

The Department is changing the way IPTs' operating costs are managed

2.21 Since the Strategic Defence Review in 1998 there has been a drive to reduce costs across the Department. The DPA undertook to reduce its IPT output costs by 20 per cent by 2001-02 in relation to the 1997-98 running costs of the Procurement Executive which the DPA replaced. The DLO as a whole has a target to reduce running costs by 20 per cent by 2005-06. The DPA now expects to achieve a 22 per cent reduction in running costs by 2001-02 and is developing a new measure of Agency efficiency for 2002-03 and later years.

2.22 The need to make these cost reductions has been the main driver in determining IPTs' running costs to date. For example, in planning IPT resources for the four years beginning 2002-03, the DPA required a three per cent reduction on previous plans. IPTs worked with the other IPTs within their Peer Group to determine how this money could be saved.

2.23 The Department is changing the operating cost regime for IPTs in the DPA, to allow more flexibility from 2002-03 between programme and operating costs, with the aim of changing the focus from reductions in operating costs (inputs) to delivering challenging performance, cost and time targets on equipment programmes (outputs). In November 2001 the DPA Ministerial Advisory Board approved a proposal that from 2002-03 responsibility for programming DPA internal running costs should transfer from the Department's central resourcing and planning unit to the Equipment Capability Customer.

2.24 This proposal acknowledged that focusing exclusively on reductions in running costs, a relatively small element of Agency costs was inhibiting the aim of faster, better, cheaper acquisition of equipment and led to unbalanced decision-making. Under the new regime the focus on efficiency will change to the DPA delivering challenging performance, cost and time targets on its equipment programme within its overall resource control totals. The Agency's new efficiency target will be framed accordingly and detailed measures are currently being finalised. We welcome the Department's efforts to address this issue and will review how the new regime is working in practice in our future study on whether IPTs have been successful (Study III in the series).

2.25 The DLO does not separate IPTs' running costs from the rest of their budget. The IPTs are, however, covered by the DLO's Strategic Goal to reduce output costs by 20 per cent by 2005. The Fleet Wide Systems (FWS) IPT is an example of where running costs have been reduced by the need to meet the corporate cost reduction target. In real terms, the running costs for the FWS IPT have decreased by nearly 8 per cent (accompanied by a similar percentage reduction in planned complement) over the two years since the IPT was set up. The reductions in complement and operating cost are driven by the DLO's corporate aim to reduce manpower costs as part of the commitment to achieve the 20 per cent Strategic Goal, and to ensure the most efficient use of resources following from the convergence of three support organisations into the DLO. The FWS IPT hopes to be able to make the necessary savings by becoming more efficient in inventory management or supply chain management but has not yet fully assessed how this will be done or what impact it may have on the team's effectiveness.

The Department is now taking steps to review its initial unsophisticated IPT staffing strategy

2.26 IPTs were initially created very quickly and the Department's strategy for staffing IPTs was pragmatic but unsophisticated. The Department did not have sufficient time to do detailed bottom-up analysis to determine the staff required by the new teams in order to deliver the requirement. The total available staff were divided up between the new teams based on existing complement. The allocation of staff to IPTs does not, therefore, necessarily reflect the size and complexity of the projects managed by the IPTs.

2.27 The Department also does not have a systemised approach for determining the staff required by a new IPT, based on bottom-up assessment of the IPT's required output. Instead, the Department looks to similar existing IPTs as comparators. This means that any uncertainty in the level of staffing required by IPTs is perpetuated. If the through-life approach to acquisition is to be successful, the Department should have a system in place for redistributing staff between IPTs as they progress through the acquisition cycle. We have not examined how this will work as part of this study; rather we will address it in our second study of IPTs which will look at whether IPTs have been established to deliver a through-life approach to acquisition.

2.28 In 2000, the DPA examined whether IPTs were staffed appropriately and whether the personnel available could be rebalanced more effectively between them. This exercise required considerable effort from IPTs in collection of the data, and central analysis of the data, but it resulted in minimal rebalancing of staff. Due to the complexity of the data, and the assumptions that needed to be made to analyse it, the Department was unable to justify any more than minimal rebalancing on the basis of the results. The DPA is now seeking to review the staffing of IPTs more rigorously.

2.29 The DPA is establishing a small team (the Project Team Resource Modelling) to take a long-term look at whether IPTs are appropriately staffed for efficient and effective performance. This team aims to develop a model for determining appropriate IPT operating cost levels to support the introduction of the new operating cost regime (see paragraphs 2.23 and 2.24), and to identify and disseminate best practice in operating and resourcing IPTs. The DPA plans to have a more mature operating-cost model available by April 2003.

2.30 The DLO is also addressing the size and make-up of its IPTs within its Business Units. It is conducting a Business Process Review, due to be completed in June 2002, which is examining how the IPTs can be provided with all of the skills and competencies needed to deliver their required outputs. This review follows directly from Business Process Review work in both the DLO Headquarters and in the headquarters organisations in the Business Units, which has identified how better to provide a range of corporate technical services to the IPTs across the DLO. Now that this review has been completed, the DLO should be able review its IPTs to ensure that they can acquire the specialist advice they need without necessarily having to provide for this within each IPT. Pooling of skills in this way is designed to make better use of the expertise available and reflects practice in some parts of UK industry.

Recommendation

The Department should take forward in a coherent manner the on-going Defence Procurement Agency and Defence Logistics Organisation work to establish realistic staffing levels for IPTs.

2.31 In the US Department of Defense, 'Programme Managers' (equivalent to IPT Leaders) have flexibility to staff their teams as they feel necessary (including buying in external personnel) to deliver the required output. Staffing is usually based on bottom-up analysis of what is required to deliver the desired output.

Recommendation

The Department should take into account the experiences of other organisations in staffing IPTs.

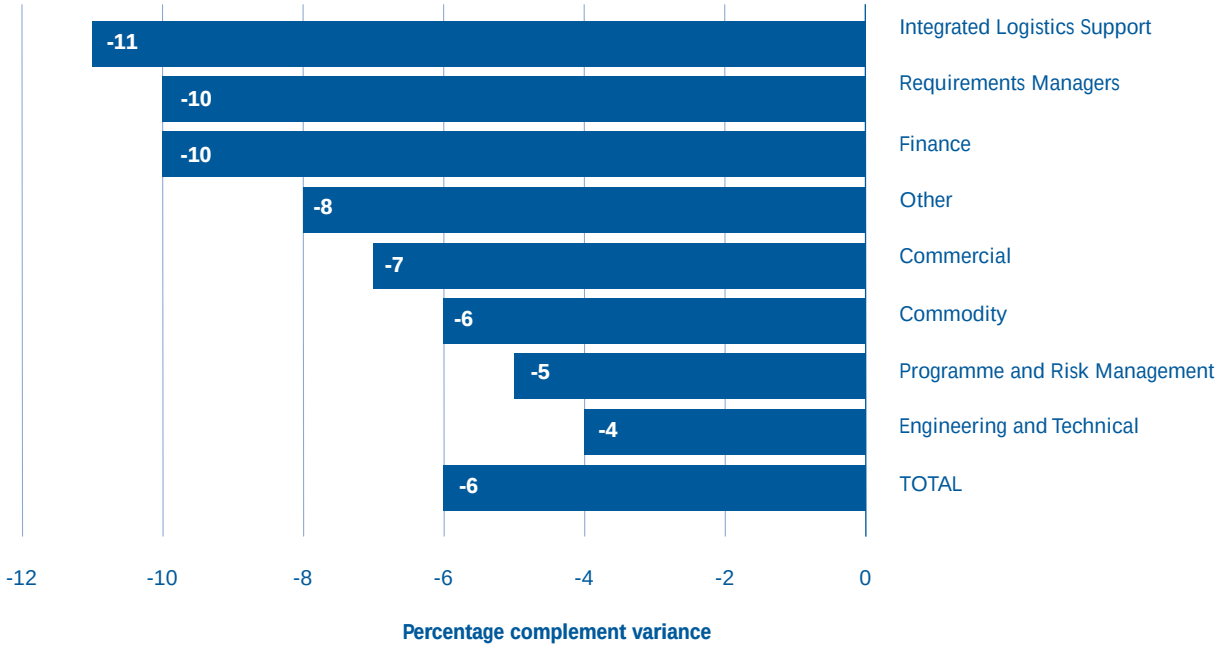
The shortage of key IPT personnel may undermine the through-life approach envisaged by Smart Acquisition

2.32 **Figure 14** shows the extent to which core acquisition functions in IPTs are understaffed as highlighted by our census of IPTs. Overall IPTs across the DPA and DLO were understaffed by some six per cent below planned complements at the time of our census in June 2001. However, in the absence of bottom-up analysis of staff requirements, it is unclear whether planned complements accurately reflect the staff required by IPTs to deliver their outputs.

2.33 Figure 14 shows that there are some areas where IPTs were particularly understaffed against complement. These were Requirements Managers (10 per cent under), Integrated Logistic Support Managers (11 per cent under) and Finance staff (10 per cent under). These are key functions necessary to ensure a through-life approach to acquisition in accordance with Smart Acquisition principles (see Figure 3). Case Example work illustrated that the Air Command and Control Systems IPT Leader has had problems maintaining his IPT's complement because of the disjoint between notice periods (rarely longer than 6-12 weeks) and the

14 Total percentage shortfalls in core acquisition functions as compared with the IPTs' planned complements

In total, IPTs were under-staffed against complement by six per cent. Acquisition functions that were particularly short in supply included Integrated Logistic Support, Requirements Managers and Finance



Source: National Audit Office Census of June 2001

length of time it takes to fill a post using the JOB system (3-4 months). Examples include a finance post which was vacant for 6-8 months and an Integrated Logistics Support post which took one year to fill.

2.34 The census also indicated that there was scope for IPTs to share staff more. Only one per cent of IPTs currently shared staff although Case Example work indicated that some IPTs were identifying opportunities to share more. The Department should seek to identify ways to increase the degree of sharing of staff between teams, particularly in the Requirements Management and Integrated Logistics Support Management specialisms. One way this could be done is through DPA Peer Groups and DLO Business Units.

Recommendation

The Department should examine opportunities to share scarce staff between IPTs by making best use of structures such as Defence Procurement Agency Peer Groups and Support Groups and Defence Logistics Organisation Business Units.

The Department has made good progress in ensuring that IPT personnel are adequately trained and incentivised

2.35 Smart Acquisition has introduced fundamentally new ways of working. The Department's guidance states that 'individuals will need to develop new skills to exploit the opportunities a career in acquisition will offer. Both the Acquisition Management Cell and the recently formed Acquisition Training Cell are responsible for ensuring extant personnel and training policies are enhanced to support Acquisition processes and for working with personnel authorities, both civil and military, to achieve this'. We have examined the extent to which IPT personnel are adequately trained and incentivised.

The Department's approach to training IPT personnel is still evolving

2.36 The Acquisition Training Cell was established in April 2001 in response to the Defence Training Review and is responsible for co-ordinating the provision of acquisition training. In conjunction, as part of ongoing work to develop widespread use of available career development tools, the Acquisition Management Cell has defined acquisition behavioural and functional competencies and is mapping competencies to posts using the Acquisition Competencies Framework. Personnel can ascertain what training opportunities are available to develop these competencies through the Acquisition Training and Development Directory on the Acquisition Management System.

2.37 At the corporate level, the Department is currently unable to identify where there are current skills gaps or anticipate future skills gaps. The Department does not centrally co-ordinate or monitor the training being undertaken by IPT personnel. The Acquisition Training Cell is currently developing a process for the strategic evaluation of acquisition training with the aim of enabling future acquisition training to be more coherently focused on meeting future business and personal development needs. The Acquisition Training Cell will produce a draft evaluation framework using Department and Industry best practice by the end of January 2002. This will be applied to selected areas of acquisition training and development during the first half of 2002 in order to produce guidance which will inform wider Departmental policy.

2.38 The Department is making good progress in the identification of training needs at the individual and team levels. Identification of training needs is the responsibility of the individual and his or her immediate line manager. Personal Training and Development Plans are mandatory. In addition, around 50 per cent of the IPTs we surveyed had team training plans in place. Case Example work has highlighted instances of good practice. The Fleet Wide Systems and the Air Command and Control Systems IPTs had a number of systems in place to ensure that training needs were identified across the team. The teams had nominated a permanent Training Liaison Officer and had Team Training Plans which drew together details of training and development needs for staff and the financial and other resources necessary to deliver these needs. These plans were produced annually and were based around behavioural and functional competencies.

Recommendation

The Department should improve its corporate monitoring of training ensuring that this is coherent and linked across the different parts of the Department. This would enable the Department to balance and identify gaps in competencies and ensure that opportunities for all IPT staff to update and learn new skills are not overlooked.

The Department has made some progress in rewarding and recognising staff achievement

2.39 The Department recognises that it raised the expectations of the acquisition community when the concept of Smart Acquisition was introduced, by implying that high performers would be financially rewarded, as in the private sector. It has subsequently found that the inflexibility of public sector pay traditionally presents a barrier to replicating commercial systems for financial reward. In addition to normal public sector performance related pay arrangements for civilian staff, the Department currently has two principal mechanisms for rewarding staff:

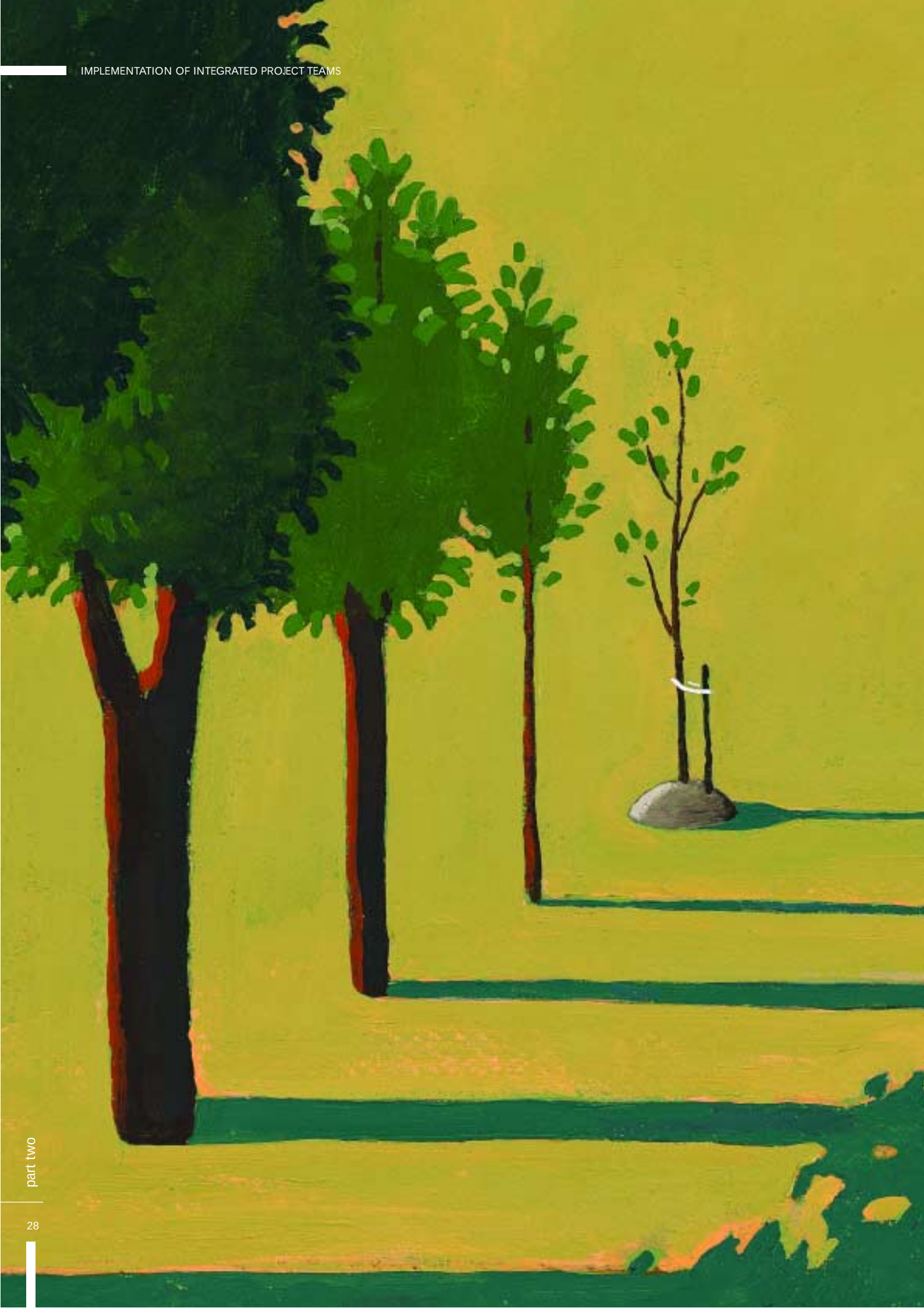
- the GEMS scheme which seeks to encourage and reward constructive ideas for improving efficiency and organisation anywhere in the Department from all civilian and Armed Forces personnel, ex-employees, contractors and their staffs. Rewards can range from under £500 to in excess of £5000; and
- the Special Bonus Scheme, which is available solely to civilian personnel, under which bonuses can be awarded to either an individual or a team in recognition of exceptional performance or a significant personal development activity such as the achievement of a professional qualification. The value of awards to individuals may be any sum up to £2000, and there is no upper limit for a team award, although no team member should receive more than £2000.

2.40 Team and individual rewards in the acquisition community are principally focused on the Special Bonus Scheme. The DLO, for example, holds a proportion of the Department's civilian pay budget for awards in recognition of IPT activity such as the achievement of Stretch targets or significant milestones. However, the Department has identified weaknesses with the Special Bonus Scheme, specifically that the current funding provision is unlikely to provide the financial inducement to change behaviour and improve performance and it is not available to Military personnel under current Armed Services' rules. The Department has found that IPT Leaders and other key groups within acquisition regularly indicate their dissatisfaction with progress towards delivery of the significantly improved reward mechanisms that were widely advertised during the early days of Smart Acquisition.

2.41 As part of his role, the new Director General Smart Acquisition will be undertaking further work on the scope for improving reward mechanisms. This work will address issues such as the potential to extend the Special Bonus Scheme and GEMS to provide greater team and individual incentives, whether Military personnel working in acquisition should be rewarded for achieving business targets and communicating the Department's vision and strategy on reward. The Department believes that changes to policy and budgetary delegation may be required to facilitate a more innovative approach to rewarding good performance. In the US, Department of Defense 'Programme Managers' (the equivalent of IPT Leaders) each have a financial 'reward pool' which they have freedom to allocate to civil team members (outside the normal performance reporting arrangements) in recognition of outstanding contributions. However, they face similar restrictions to the UK in financially rewarding Service personnel.

2.42 The Department has made better progress in ensuring that the achievements of IPT members are recognised through a number of recognition schemes. These schemes are designed to recognise high-performing teams or individuals in acquisition, instil pride, provide positive feedback and publicity, and inspire and motivate others. They are an important contributor to delivering the major culture change required from Smart Acquisition. Schemes include:

- the Minister for Defence Procurement's Awards Scheme created to commend those teams who have produced an outstanding contribution towards defence acquisition, particularly in driving forward the principles of Smart Acquisition. The first awards were in May 2001 and in future awards are planned to be given on an annual basis;
- the DPA Executive Board Team Excellence Award. This is an annual award to emphasise the importance of team working, recognising that developing and motivating effective team work is fundamental to the Agency's success. Although primarily a recognition scheme, a financial award is made to civilian staff in the winning team; and
- the DLO Award Scheme including Chief of Defence Logistic's commendations presented biannually (the first presented in October 2001) and commendations by Chief Executives/Director Generals in the DLO presented quarterly. These commendations publicly recognise meritorious service to the DLO and exceptional effort by DLO personnel, individually or collectively.



Appendix 1 Study scope and methodology

Study Scope

1 This study is the first in a planned series of three examining whether IPTs are helping to improve defence equipment acquisition. It has addressed the question of whether IPTs have been implemented on a robust basis and fully established as intended by investigating the following detailed issues:

- whether the Department's strategy for introducing and developing IPTs was robust and processes have been put in place to ensure that IPTs can function effectively and improve (Part 1); and
- whether the momentum behind the transition to IPTs is being maintained through appropriate leadership of both the change management programme and IPTs, through appropriate resourcing of IPTs and through adequate training and incentivisation of IPT personnel (Part 2).

2 The remaining two studies in the series plan to address the following questions:

- Study II - are stakeholders in the Smart Acquisition Community engaging effectively to enable a through-life approach to acquisition, examining the interrelationships between IPTs and between their host organisations (DPA and DLO), between IPTs and the Customer organisations and between IPTs and Industry; and
- Study III - have IPTs improved acquisition performance, examining the time, cost and technical performance of a sample of 'Smart' projects managed by IPTs and identifying the factors contributing to their performance.

Study Methodology

3 In the course of this first study we utilised a range of methodologies including: a census, a survey, interviews with key stakeholders, case studies and review of key Departmental documentation. These methodologies are outlined in greater detail below.

Preliminary Study

During preliminary work to scope the issues examined in this Report we used the following methods:

- interviews with ten IPT Leaders and a number of other key personnel;
- a series of professionally facilitated cognitive mapping focus groups involving key acquisition stakeholders; and
- review of Departmental and academic documentation.

Main Study

A. Census of IPTs

We collected a comprehensive set of core data by undertaking a census of all IPTs across the Defence Procurement Agency and the Defence Logistics Organisation. The census was focused on key issues including:

- the number of projects managed;
- IPT operating costs;
- personnel numbers and functions; and
- customer/supplier relationships.

Most of the census questions were of the 'closed' form so as to allow quick and easy tabulation, analysis and comparison. The questions sought straightforward factual and numerical information from the respondent. A questionnaire helpline, staffed by members of the National Audit Office study team, was available to provide assistance at all times. The census was in an electronic format and distributed to IPT Leaders on a floppy disk. We received a 100 per cent response rate. Each response was usable for the purposes of the census. The data returns were collated and analysed in a spreadsheet.

B. Survey of IPTs

We also carried out a survey of 50 IPT Leaders to assess their perceptions and experiences of several key aspects of their role. An unstratified sample was selected at random (using random number generation) from the IPT population. The survey response rate was 84 per cent (42 out of 50), producing results at a 90 per cent confidence level, and with a precision of plus or minus 11 per cent.

The questionnaire covered the following issues:

- empowerment;
- training;
- the 'breakthrough' process;
- knowledge management;
- resourcing; and
- stakeholder relationships.

Most of the questions were of the 'closed' form so as to allow quick and easy tabulation, analysis and comparison. A questionnaire helpline, staffed by members of the National Audit Office study team, was available to provide assistance at all times.

This survey was conducted in a similar manner to the census, by distribution on a floppy disk to each IPT Leader. The data returns were then collated in a spreadsheet which enabled the team to rapidly analyse and draw conclusions.

C. Case Studies

To provide practical illustrations of several of the issues highlighted in our study and particularly to examine further the way in which IPTs are resourced, we undertook three case studies of IPTs, namely the Sonar 2087 IPT, the Air Command and Control Systems IPT and the Fleet Wide Systems IPT. We selected the three teams on the basis of a number of criteria (see table below) including size, capability area, number of projects managed, and levels of staffing and resourcing.

IPT	Accountability	Number of Projects	2001-02 Operating Costs (£m)	Planned Complement	Actual Complement
Air Command and Control Systems	DPA	13	1.7	44.8	36.8
Fleet Wide Systems	DLO	324	4.5	147.5	120
Sonar 2087	DPA	1	0.6	16	13

The audit programme for the case studies was based around the results emerging from our census and survey. The key questions addressed in the case study work included:

- Does the allocation of resources take account of the size and complexity of projects and the skills required?
- Are efficiency targets for operating costs based on clearly identified scope for savings?
- Are the areas where there is scope for efficiencies clearly communicated to IPTs?
- Are IPTs fully resourced with the planned skills mix?
- Are IPTs able to make up shortfalls, e.g. by sharing resources?
- Do team members receive appropriate training?

D. Interviews with Key Stakeholders

A significant aspect of our study fieldwork involved interviewing a wide range of key stakeholders within and outside the Department; the table below shows the range of individuals and organisations consulted and the issues addressed.

Interview	Issues Examined
Senior Management Chief of Defence Procurement Chief of Defence Logistics Deputy Chief Executive (DPA) Deputy Chief of Defence Logistics DPA Executive Directors Director General Equipment Support (Land) Director General Equipment Support (Air) Chief Executive Warship Support Agency Chief Executive Defence Communications Services Agency	Leadership of the change management programme IPT Leadership Strategy for setting up IPTs Performance measures Future evolution of IPTs
Acquisition Management Cell	IPTL recruitment and selection Acquisition Competencies Framework Acquisition Management System Incentivisation of IPT personnel
Acquisition Training Cell	IPTL and IPT personnel training
Smart Acquisition Sustainment Team	Strategy for setting up IPTs Performance measures Future evolution of IPTs 'Breakthrough' process
Command Support Information Systems IPT Leader	Strategy for setting up IPTs
DPA Learning from Experience Cell	Use of corporate knowledge/lessons learned
DPA Future Business Group	Creation of new IPTs Allocation of IPT resources
DPA Central Finance and Planning Group DLO Finance and Business Plans	Allocation of IPT resources
DPA Press Office	Communications strategy
BAE SYSTEMS Boeing Lockheed Martin Raytheon	Use of IPT concept in other organisations Industry involvement in IPTs
US Department of Defense	Use of IPT concept in other organisations

E. Review of Departmental documentation and papers

Throughout the course of our fieldwork we examined a wide range of Departmental documentation and guidance. This included reviews of:

- IPT Leader selection criteria;
- definitions of IPT Leader and team member skills and competencies;
- guidance on empowerment and letters of delegation;
- IPT personnel recruitment and retention strategy;
- guidelines on personal training needs development; and
- the 'breakthrough' plan, objectives and milestones.

F. Expert Panel

At key stages of the study we consulted a panel of experts which included: Professor David Kirkpatrick of University College London; Professor Keith Hayward of the Society of British Aerospace Companies and Mr Derek Marshall of the Defence Industries Council.

Appendix 2 Glossary of Terms

Acquisition	The process of requirement setting, procurement management, support management and disposal, implying a whole-life approach.
Acquisition Competence Framework	A competence-based framework of skills, values and success factors relevant to the Acquisition Stream.
Acquisition Leadership Development Scheme (ALDS)	A scheme to provide an effective development environment that will support Military, civilian and Industry acquisition staff who wish to develop a career in acquisition and who aspire to become a Team Leader.
Acquisition Management System (AMS)	An on-line 'one-stop shop' for authoritative guidance, templates, best practice and user expertise relating to defence equipment acquisition under Smart Acquisition.
Acquisition Organisation Review (AOR)	Part of the Strategic Defence Review that looked at the Department's procurement organisation and processes.
Acquisition Stream (AS)	Those staff, both civilian and Military, who wish acquisition to be one of their career anchors and aspire to develop, or can demonstrate that they have developed, the skills necessary to contribute effectively to the acquisition business.
Approval Point	Either Initial Gate, at the end of the Concept Stage, or Main Gate, at the end of the Assessment Stage.
Assessment Stage	The second stage of six, beginning after a project has passed Initial Gate. The IPT produces and baselines a Systems Requirement Document and identifies the most cost-effective technological and procurement options for the requirement. Risk is reduced to a level consistent with delivering an acceptable level of performance to a tightly controlled time and cost. A Business Case is assembled for the Main Gate Approval.
CADMID	The acronym for the new acquisition cycle comprised of six stages - Concept, Assessment, Demonstration, Manufacture, In-Service and Disposal.
Capability	An operational outcome or effect that users of equipment need to achieve.
Capability Working Group (CWG)	A stakeholder group responsible to a Director Equipment Capability for the development of strategy in their area, the consideration of options in the annual planning process, and the development of specific equipment options to meet capability gaps.
Concept Stage	The first stage of six, during which the IPT is formed. The DEC, assisted by the CWG, produces a User Requirement Document. A Business Case is assembled for the Initial Gate Approval.
Customer	The body to which the IPT is answerable for meeting agreed cost and performance targets within agreed and approved resources. In the early project stages, the Customer is the Equipment Capability Customer, in the in-service stages it is the Second Customer.

Customer Supplier Agreement (CSA)

An agreement between the Customer and Supplier setting out the working relationship between them and recording other key project information such as deliverables required, and performance measures and targets. Such agreements will exist between the Equipment Capability Customer and each IPT for the procurement stages of a project.

Defence Logistics Organisation (DLO)

The new tri-Service logistics organisation formed on 1 April 1999 under the command of the Chief of Defence Logistics. The DLO Mission is to provide joint logistics support to the Armed Forces.

Defence Procurement Agency (DPA)

An agency of the Ministry of Defence formed on 1 April 1999 replacing the Ministry of Defence Procurement Executive. It procures new equipment for the Armed Forces in response to approved requirements and provides other procurement-related services to its customers.

Demonstration Stage

The third stage of six, immediately after Main Gate Approval. During the Demonstration Stage the Prime Contractor will often be selected (in some cases this will have happened earlier) and a contract based on the SRD placed. The ability to produce an integrated capability will be demonstrated.

Director Equipment Capability (DEC)

The single point of contact between the IPT Leader with the Equipment Capability Customer, responsible for a defined area of capability. Manages the work of Capability Working Groups.

Disposal Stage

The final stage of six, during which plans are carried out for the efficient, effective and safe disposal of the equipment.

Equipment Capability Customer (ECC)

The customer prior to the point when equipment becomes available to the user and for upgrades to in-service equipment that reflect a change to the user's requirement.

Hard Target

A target for which a plan for achievement can currently be envisaged, but may require novel approaches and team working to achieve.

Initial Gate

A relatively low approval hurdle, between the Concept and Assessment Stages, intended to encourage early and full exploration of a wide range of options for meeting a particular capability.

In-Service Stage

The fifth stage of six. The IPT, now under DLO line management, provides effective support to the front line. It maintains the levels of performance agreed with the Second Customer and carries out approved upgrades or improvements, refits or acquisition increments.

Integrated Logistic Support (ILS)

Integrated Logistic Support is a disciplined, through-life, management approach affecting both the Department and Industry, aimed at providing equipment in-service support at the optimum whole-life cost. It considers all support elements to influence equipment design and determine support requirements to provide supportable and supported equipment.

Integrated Logistic Support Manager (ILSM)

The ILS Manager is a core member of the IPT and is responsible for the support aspects of the whole project. He or she is the central point of contact for all ILS elements affecting the project.

Integrated Project Team (IPT)

The body responsible for managing a project from Concept to Disposal. The Smart Acquisition IPT is characterised by its 'cradle to grave' responsibility, the inclusion of all the skills necessary to manage a project, and its effective and empowered leader.

IPT Leader	The person with overall responsibility for the IPT, and the line manager of all its core members. The IPT Leader may have an extensive background in any one or more of the core IPT membership areas, or the Industry equivalent.
Main Gate	An exacting approval hurdle, between the Assessment and Demonstration Stages. A Business Case at Main Gate should recommend a single technological and procurement option.
Manufacture Stage	The fourth stage of six. The IPT delivers the solution to the Military requirement, completing system development and production. The Capability Manager conducts Systems Acceptance. The transfer of the line management of the IPT to the DLO, and of the lead customer function to the Second Customer, takes place.
Peer Group	DPA IPTs will be gathered into Peer Groups of projects sharing similar characteristics. Peer Groups are intended to be a valuable but informal source of advice for an IPT Leader and members.
Performance Measure	A direct measure of output performance against which targets can be set.
Requirements Manager	The individual, usually a Military officer, responsible to the IPT for interpretation of the DEC's User Requirement Document (URD) and construction of the System Requirement Document (SRD). The Requirements Manager normally has the IPTL as 1st Reporting Officer and a member of the ECC as 2nd Reporting Officer.
Second Customer	The Customer responsible for user and in-service aspects of the programme. The role is two-fold, with Single Service Chiefs undertaking the Core Leadership role in support of the Equipment Capability Customer, and the end-users of equipment (primarily the Front Line and Training Commands) undertaking the Pivotal Management role, with responsibilities for specifying the in-service outputs required, negotiating CSAs and monitoring IPT performance.
Strategic Defence Review (SDR)	A foreign policy-led Strategic Defence Review to reassess Britain's security interests and defence needs and consider how the roles, missions and capabilities of our Armed Forces should be adjusted to meet the new strategic realities.
Stretch Target	A target which is currently out of reach, but not out of sight. Significantly more difficult than Hard targets, Stretch targets require the breaking of previous boundaries and constraints.

Source: The Acquisition Handbook, 3rd Edition, Ministry of Defence