Army Information Sub-Strategy (2015 – 2018)

Purpose

1.   To articulate the Army Information sub-strategy which:

- Sets out the Information vision and required Information outcomes, drawing upon both the emerging Army Strategic Objectives and Defence Information Strategy; and

- Outlines the ways that the vision and outcomes will be achieved.

2.   At the heart of this information sub-strategy is the imperative to improve decision making both in the context of a mission thread on operations to enable Command 'tempo' and in making smart value for money decisions in the business of running the Army. Much of what follows will only come to fruition if the Army's culture and behaviours towards information are changed.

Context

3.   The two-star led Directorate of Information was established with a clear responsibility to take in hand all Army HQ Information activity and enhance the concept of operating in a single information environment.[1] In doing so, D Info was directed to develop the Information sub-strategy, establish a system that manages, protects and exploits information in support of business need and establish the governance framework to **support the dual role of the Army's Chief Information Officer (CIO) and Senior Information Risk Owner.**

4.   The emerging Defence Information Strategy is built around three strategic thrusts: Defence as a Platform[2]; rapid procurement; and putting customers at its heart. For the Army, this means that there is an emphasis on common core Defence-wide Information platforms which are developed centrally but reflect some of the needs of the Commands. To a greater extent, the design of these platforms will be in-house reducing the requirement to procure Information solutions externally. Through increased sharing of best practice, pan-Defence, it is anticipated that information capabilities can be better utilised for operational and business effectiveness. To effectively inform pan-Defence capability, **the Army must be better at defining its distinct user requirement and demonstrate the value of key Army Information services**.

5.   The implications of the emerging Army Strategy are becoming more apparent with greater clarity on the strategic priorities for the Army Change Portfolio, balanced with the need to provide ongoing "BaU" activities. In line with the emerging nature of the strategy and the direction from the Army Operating Model for a clearly established strategy-led, resource-informed planning cycle, the Information sub-strategy will both point to strategy delivery pressures and also enable choice and flexibility to make Balance of Investment decisions. Although, further elaboration of the strategy will be required, it is clear that the Army must be more strategically agile, both at home and abroad and capable of war fighting in coalition with allies and partners. This must be achieved with increasingly restricted and competed resources. **In this context, the ability to use information as a force multiplier across the single information environment must be viewed as a key enabler of the Future Army.**

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[1] Single Information Environment (SIE), "…a logical construct whereby assured information can pass unhindered from point of origin to point of need, the SIE will incorporate a Single Intelligence Environment" Defence Information Strategy , pg 11, Nov 15.

[2] Information capabilities are delivered through the Defence as a Platform approach, providing users with a set of common corporate and differentiated commoditised services.

ENDS

Vision

"Information is valued, exploited and protected as a critical Army asset to maximise advantage in a trusted Single Information Environment"

6.   The context for the vision is one in which we operate in a world of persistent, concurrent, diverse engagement within a contested environment. In the Information domain, there will be no distinct line between 'at war' and 'at peace'. Engagement will include information manoeuvre[3] as much as conventional physical activities. The vision incorporates the need for an organisational cultural shift in the approach to information, recognising that it is the critical asset in the contested global information domain. **In our future vision, information is a capability in its own right – a core capability.**

7.   To maintain the golden thread between Strategic Direction and lower level delivery activity, a clear line of sight will be maintained between the vision and allocated tasks, this includes lines of accountability and performance management metrics. At the top level, a set of high-level KPIs linked to the strategic outcomes and vision will be used to demonstrate success against the strategic direction.
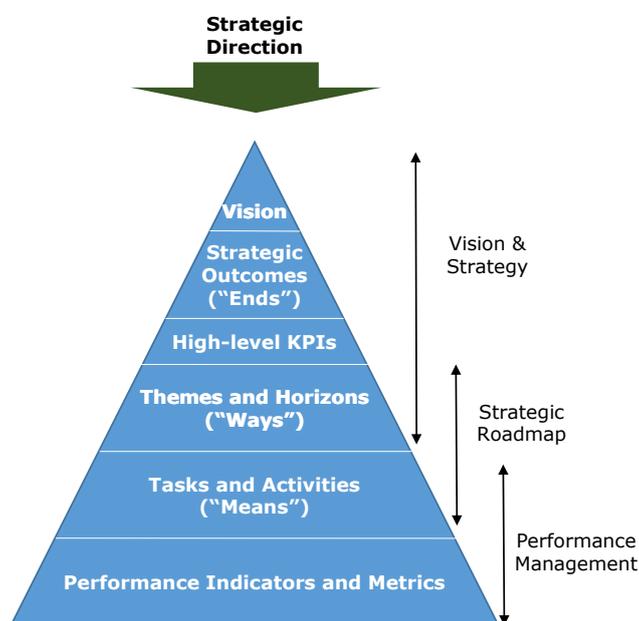

Figure 1: Hierarchy of Ends, Ways and Means

Strategic Deductions and Information Outcomes

8.   The recurrent strategic objective both within the Army and across Defence is for a more strategically agile and responsive organisation able to provide the broadest range of political choice. In the context of Army 2020, reducing manpower numbers and being asked to do more with less, the ability to use information as a force multiplier, making all other tools at the Army's disposal more effective, will become critical. Therefore, a key cross-cutting Information outcome is **to transform Army culture to recognise the value of information as a force multiplier and where its exploitation and protection become second nature.**

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[3] Information manoeuvre relies on the need for free flowing information between the cognitive, virtual and physical domains in order to deliver tactical effect and achieve desired strategic outcomes.

Manning

9.   A challenge for Defence as a whole is to recruit and retain suitably qualified and experienced people to deliver the Information requirements of the future from an increasingly competitive market. To enable a shift towards a service orientated model ("hardware past to software future"), we must identify the specialist skills that we are going to need in 2-3 years time and either retrain and retain, recruit or procure 3rd parties to provide this skill set, adopting a whole force approach. Furthermore, our approach to supporting an agile people organisation with 21st century skills does not only focus on the specialist Information professionals but also will support and incentivise the development of the generalist user of Information to enhance their utility. Throughout, we will ensure that the **expectations of our people are met and both generalists and specialists (information professionals) are equipped with the knowledge, skills and experience to succeed.**

Modernisation

10.   Information must sit at the heart of the modernisation agenda through the provision of modern, resilient and common information services (not systems) to Army users. This includes leading or supporting the development of critical Army capability (e.g. LE TacCIS Programme) and leading the Army implementation of new Information capability (e.g. New Style of IT). Innovation in conjunction with Research, Development, Analysis and Experimentation (RDA&E) are key to achieving modernisation through the creation and exploitation of new and evolutionary capabilities, services, ways of working and adoption of best practices to deliver value for the Army. The Army needs to take the behavioural leap and start to accept that failure is acceptable in an era of continuous improvement. We should be prepared to try novel approaches and technology on the understanding that failing fast, safe and at relatively low cost is a success in its own right. We seek to **embed an innovation culture, with funding available, across the Army.**

11.   Cyber and Electro-Magnetic Activity (CEMA) has not yet been embraced by the Army and is a priority area of modernisation with the intention for CEMA to be integrated into Land Environment tactical operations to support success in the Information Age. Land forces will benefit from offensive and defensive CEMA activities, that deliver planned, assured and synchronised full spectrum cyber effects and are orchestrated with the Joint and National levels to ensure freedom of action. For the Army, we need to ensure that **Commanders, Staffs and Force Elements are organised, trained and equipped to operate and manoeuvre in Cyberspace and Electromagnetic Environments.**

Productivity and Utility

12.   An internal assumption supporting the Army Strategic Objectives is the requirement for improved information management to enable effective decision making. Information is most powerful when it is both available and visible to the right person. In addition to enable true insight by the decision maker both the necessary skills and behaviours must be present and the information presented in a meaningful way. We seek to provide **trusted information, in an appropriate presentation to enhance productivity, enabling evidenced-based decision making at all levels across the Army and Land Environment supporting efficient, effective and economic delivery of Army outputs.**

13.   How the Information Directorate engages with the wider Army, captures user requirements, informs the "art of the possible" and then jointly delivers capabilities in an agile approach is crucial for future success. To maximise productivity, we will have a governance and control framework that optimises the overall delivery of information services, avoiding duplication and maximising re-use of existing services. This framework will be informed by and nested coherently in the overall Defence information framework and Information Operating Model. This will include adopting the Defence Information approach to rapid procurement and publishing **an architectural control framework delivering a coherent and governed approach to creating and exploiting information services for the Land Environment.**

Defence as a Platform

14.   A core component of the Defence Information Strategy is the "Defence as a Platform" approach which provides a move away from bespoke FLC IS solutions and pulls together core IS platforms to deliver the requisite services in a more commoditised approach that drives down cost and enables integration. The Army must embrace this cultural shift to add pan-Defence consistency and structure to the Information environment in order to maximise our ability to exploit and protect Information in the future. The Army will work closely with ISS (through the more structured interface captured in the ISP) and the Defence Authority to both inform Defence of Army specific requirements and constructively input into or lead the development of Information Capability. The foundation of this is the ability of the **Information Directorate to be trusted within the Joint, Combined and inter-agency environments to deliver agile and beneficial change.**

Interoperability and Integration

15.   The intention to underpin activity across a spectrum of effect with Integrated Action to harness all levers of influence requires an approach that is international by design. As a result, Information development must be aligned to enable interoperability and be integrated with the range of platforms across the Army. An open IS architecture is critical to enable the seamless integration of soldiers and platforms with information services as well as enabling interoperability with other services, nations and agencies. This will also support innovation of tactical solutions whilst facilitating agile integration of new technology and service improvements. Establishing an Army Technical Integration Authority which brings together Army delivery Directorates with DE&S and ISS is an important first step. **C4I interoperability is enshrined in a CJIIM context which is prioritised to work with key allies (USA, FRA, GER and other JEF partner nations).**

Security

16.   The need to protect the Army's and allocated Defence assets - notably our people, our information, our material (infrastructure and equipment) and our reputation, from a wide range of threats, notably terrorism, espionage, sabotage, subversion and organised crime but also including the insider threat from careless, disaffected or corrupt staff - must become everyone's instinctive business. These multitudes of threats manifest themselves externally, internally and in cyberspace. ECAB has recognised that a severe breach of security is a TLB level risk which needs to be mitigated to an acceptable level. **Active management and consideration of security of information, personnel, material and infrastructure must become second nature to the Army across all aspects of operational and BaU activity.**

WAYS

Themes

17.   To deliver the Information outcomes outlined above, themes have been identified which will be used to cohere various strands of Information activity. These themes have been mapped to the outcomes; refer to Annex A. Planning is underway to work through the sequencing and resourcing of these activities, however an early view of pressures is outlined in paragraph 19.

Theme	Key Activities
Informed Decision-Making	• Derive, capture & prioritise critical information requirements from analysis of business processes and mission threads • Establish single sources of trusted & relevant information • Normalisation of the Army Data Warehouse (ADW) Data Layer • Understand analytics requirement & develop toolsets • Exploit what we have got now and identify areas for investment (e.g. visualisation & predictive analytics)
Service Capability and Delivery	• Baseline current capabilities • Define future state (focus service delivery – our systems must deliver a common set of services) • Rationalise and simplify the number and variety of services & systems (commoditise) • Utilise Defence Platforms wherever possible • Create federated cloud of Army/Land Environment Information • Deliver existing projects and programmes in Information sub-portfolio (e.g. LE TacCIS, LE ISR, NSoIT (Based & Deployed)) • Inform gap analysis / BoI to enable Army 2020 Refine[4]
Innovation & Experimentation	• Identify how technology can enable new ways of doing things • Give the front line latitude to innovate ("fail fast and safe") • Focus on software and applications • Exploit social media
Control Framework	• Define and establish all elements of control framework • Establish and adopt the enterprise architecture • Define taxonomy / common language • Define portfolio function • Establish core team of enterprise level architects • Define and execute the Army Information operating model • Embrace agile approach and support Defence CDIO in pursuing acquisition at pace
People and Skills Development	• KSE Audit (skills, training) and maturity model • Define information generalist and specialist 'personas' to illustrate competency requirements • Develop roadmap for implementation • Develop and establish Information Specialist and Generalist career development paths (including reward and incentivisation) • Scan / assess skills / expectations of the younger generation

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[4] Army 2020 Refine is the evolution of Army 2020 to meet the Army proposition within the context of SDSR 15

Business Engagement and Interoperability	• Design solution and roadmap for a single "front door" for all information requirements • Outreach to assist the Army in understanding and exploiting its information (iHub, roadshows etc) • Establish / run information requirements prioritisation process • Deliver JANUS • Understand and exploit NSoIT & Grapevine 2 • Build stakeholder map (wider JFC / ISS relationship / NATO / allies) • Map capabilities from those organisations. • Establish Technical Integration Authority • Place interoperability on a programmatic footing
Cyber & Electromagnetic Activity (CEMA)	• Contiguous with conventional operations – get into mainstream thinking • Invest in defence, offence and exploitation capabilities (weight of early effort towards cyber Defence) • Engage with, influence and gain leverage from National and Defence Cyber Programme • Early investment in monitoring and management capabilities for defence of land tactical environment • Establish Army CEMA Programme
Security	• Establish enabling security architecture • Drive cultural change "everyone's business" • Link to Defence and cross-government activities • Use technology and procedures to make it easy to do things right
Business Resilience	• Develop Army Business Resilience Policy • Identify emergency response/crisis management BR measures • Conduct business impact analysis (BIA) through programmed vulnerability and resilience assessments • Establish governance through a BR management system • Prioritise rectification activities, informed by robust understanding of risks

Information Sub-Portfolio

18.   Within the existing Information sub-portfolio, aside from LE TacCIS, the LE ISR Delivery Group, DLMC and JANUS, most of the change projects and programmes are focused on delivering outputs and outcomes over the early years (1-3). The majority are under £1M and will deliver benefits to establishing the A2020 Refine force structure, readiness and a more productive, efficient and simpler organisation. Information support will also be continued as mandated to enable delivery of other sub-portfolio projects and programmes (e.g. support to ARTD with RPP ICT). **The assumption is to continue to deliver existing change project and programme benefits given significant resource has already been invested and it would be inefficient / counter-productive to change now.**

19.   Furthermore, the sub-strategy suggests there are a number of key omissions which will need to be included in the Information sub-portfolio. For example, it is not clear yet what C4I adjustment will be needed to move from the current Army 2020 path to deliver Army 2020 Refine (Army SDSR Proposition). **The pressures which are expected to require additional resourcing (finance and / or people) investment are:**

- Establish the Army CEMA programme

- Enabling Army 2020 Refine

- Place technical integration and interoperability on a programmatic footing

- Understand and exploit NSoIT and Grapevine 2 as they are delivered by Defence over the next two years.

- Establish and adopt enterprise architecture (in the short term, D Info will exert greater control and governance over all ICT expenditure across the Army)

- Rationalise and consolidate existing services and applications (commoditise)

- Improve decision making through a refreshed data analytics capability that fully meets the needs of the Army and can be exported pan-Defence

- Develop and establish Information Specialist and Generalist career development paths

Acronyms

ADW: Army Data Warehouse

ARTD: Army Recruitment and Training Division

BaU: Business as Usual

BIA: Business Impact Analysis

BoI: Balance of Investment

BR: Business Resilience

C4I: Command, Control, Communication, Computers and Intelligence

C4ISR: Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance

CDIO: Chief Digital and Information Officer

CEMA: Cyber and Electro-magnetic Activity

CIO: Chief Information Officer (Army)

CJIIM: Combined, Joint, Intra-governmental, Inter-agency and Multinational

D Info: Army Director of Information

DE&S: Defence Equipment and Support (Defence Delivery Organisation)

DLMC: Defence Learning and Management Capability Programme

ECAB: Executive Committee of the Army Board

FLC: Front Line Command

JFC: Joint Forces Command

LE TacCIS: Land Environment Tactical Communications and Information Systems Programme

LE ISR: Land Environment Intelligence, Surveillance and Reconnaissance

ICT: Information and Communications Technology

iHUB: Information Hub

IS: Information Systems / Services

ISP: Information Support Plan

ISS: Information Systems and Services (Defence Delivery Organisation)

KPI: Key Performance Indicator

KSE: Knowledge, Skills and Experience

NSOIT: New Style of IT Programme

RDA&E: Research, Development, Analysis and Experimentation

RPP: Recruiting Partnering Project ...

SDSR: Strategic Defence and Security Review

SIE: Single Information Environment

TLB: Top Level Budget

Mapping of Themes to Information Outcomes

Enabling Themes	Information Outcomes	Vision
Informed Decision-Making	More efficient and effective evidenced-based decision making at all levels across the Army and Land Environment	
	Critical information and data identified, assured, managed and trusted, and then made available / disseminated wherever it is needed	
	Trusted information provided to enhance productivity via the more efficient, effective and economic delivery of Army outputs	
Business Resilience	Proven value for money business continuity plans incorporated into Army business as usual	
People and Skills Development	Army culture changed to recognise the value of information as a force multiplier and where its exploitation and assurance becomes second nature	
	Expectations of our people and information professionals who have the knowledge, skills and experience to succeed are met	
Business Engagement and Collaboration	The Information Directorate is trusted within the Joint, Combined and inter-agency environments to deliver agile and beneficial change	**Information is valued, exploited and protected as a critical Army asset to maximise advantage in a trusted Single Information Environment**
	Improved C4I interoperability is enshrined in a CJIIM context which is prioritised to work with key allies (USA, FRA, GER and other JEF partner nations)	
Service Capability and Delivery	Army is enabled by the provision of modern, resilient and common information services (not systems)	
Innovation & Experimentation	Innovation embraced through continuous agile development	
Cyberspace and Electromagnetic Activities (CEMA)	Commanders, Staffs and Force Elements are organised, trained and equipped to operate and manoeuvre in Cyberspace and Electromagnetic Environments	
Security	Active management and consideration of security of information, personnel, material and infrastructure becomes second nature to the Army across all aspects of operational and Business As Usual activities.	
Control Framework	An architectural control framework delivering a coherent and governed approach to creating and exploiting information services for the Land Environment	
	Agile and proportionate acquisition processes which enable continuous service improvement	