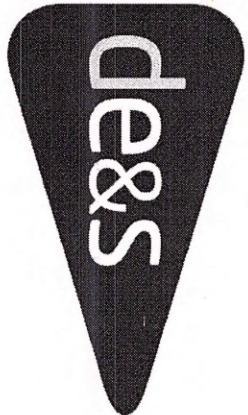
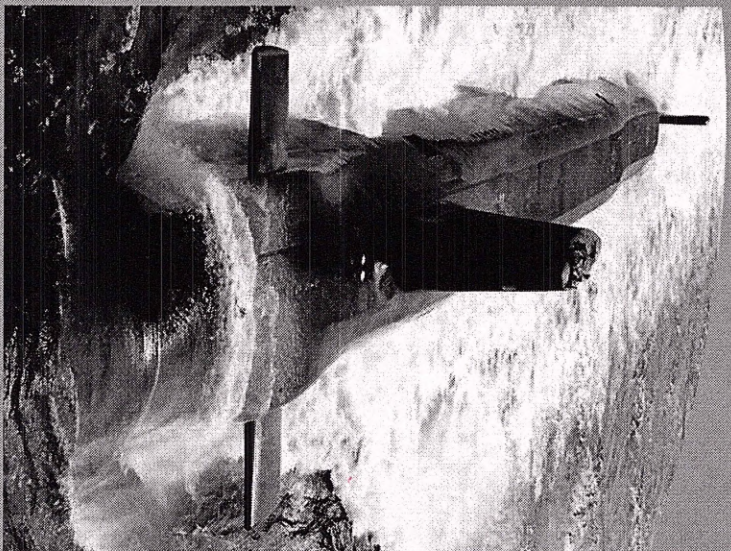


14

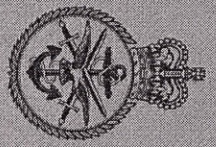
Future Nuclear Deterrent



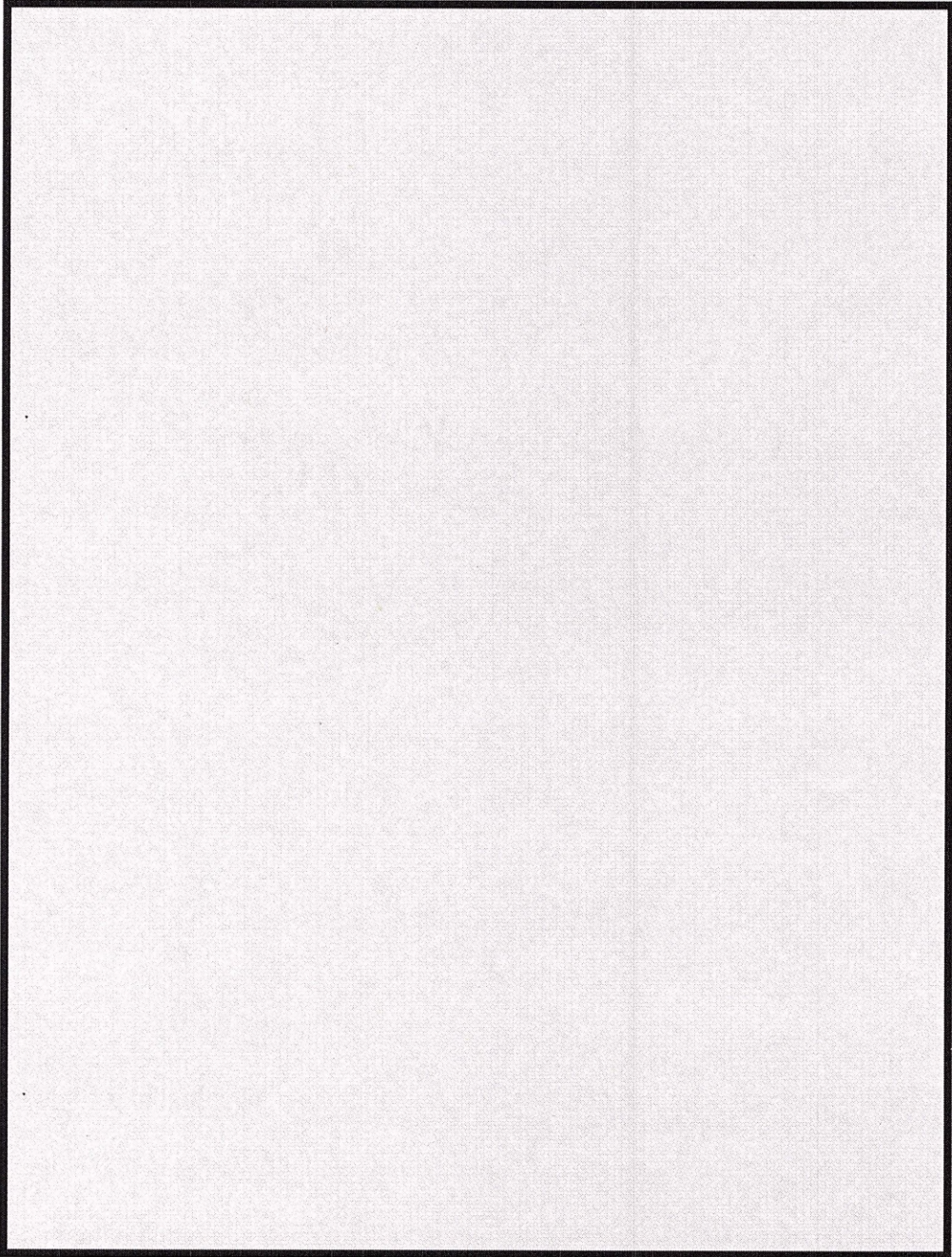
Strategy for delivery



Mr Andy Mackinder
Director Future Submarines



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Footage courtesy of BAE Systems



FSM IPT Vision

Work as a high performing MOD and industry enterprise to deliver the concept and assessment phase of the Future Submarine programme which will develop a deterrent capability fit for purpose through life.

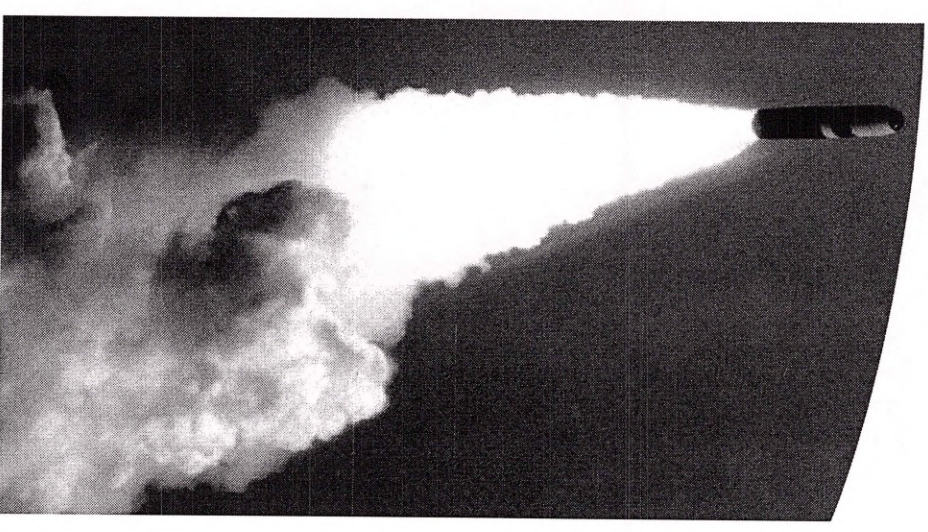


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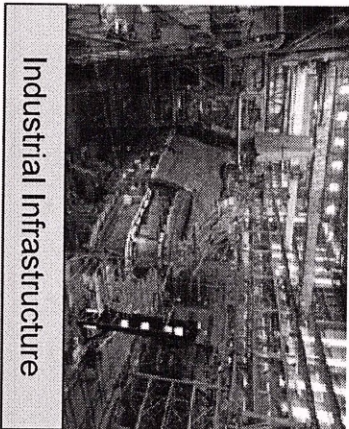
FSM IPT Objectives

- Setting the overall context for the delivery of a successor deterrent system, including the associated approvals and required resources.
- Providing the overall programme co-ordination across all Defence Lines of Development to ensure delivery of the total system (Platform, Missile, Warhead, and all associated facilities) to meet the agreed capability.
- Managing the delivery of the integrated platform, its infrastructure and associated training facilities; and by taking the design leadership role.
- Providing the business management arrangements to deliver efficiently and effectively.



Programme Scope

Dawson



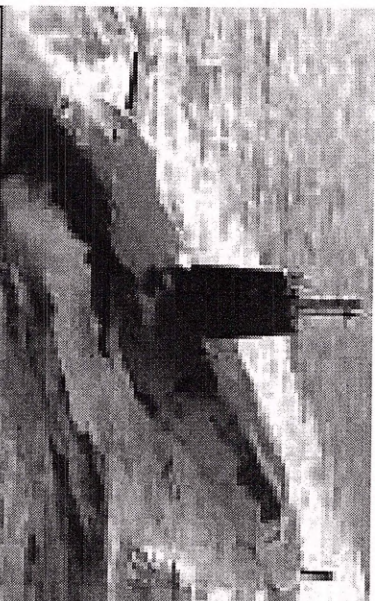
Industrial Infrastructure



Test and Development



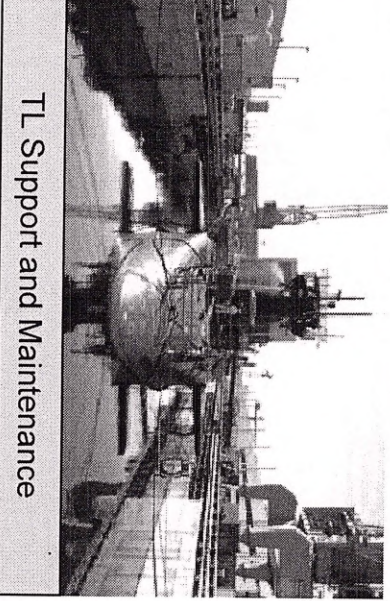
Operational Infrastructure



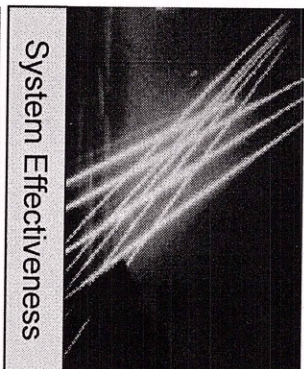
Vanguard LOP



Future Submarine Design and Build



TL Support and Maintenance



System Effectiveness



SWS/SWSS Integration



Manning



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Principles

- Principle of joint working as FSM programme will be delivered through collaborative MoD/Industry Organisation
 - Programme Management: links other DLODs, related technology management and change initiatives
 - Financial and Cost Management: identify UPC and TLC savings
 - Safety and Assurance Management: audited and maintained evidence that programme presents tolerable risk
 - Enduring Commercial Framework: enables industry to work collaboratively and efficiently
 - People Selection Strategy: exploit the best skills and knowledge across MoD/industry
 - Industrial Governance: to develop and control MoD supply arrangements
 - FSM Culture: facilitates collaboration and timely decision-making
 - Continuous Business Improvement



Programme Management Principles

- Tailored best practice
- Federated approach ('light touch')
- Governance, Control and Assurance
- Programme Management Approach
 - Programme Framework
 - Programme Objectives
 - Programme Federated WBS
 - Programme Co-ordination
- Internal and External Assurance & Performance Management

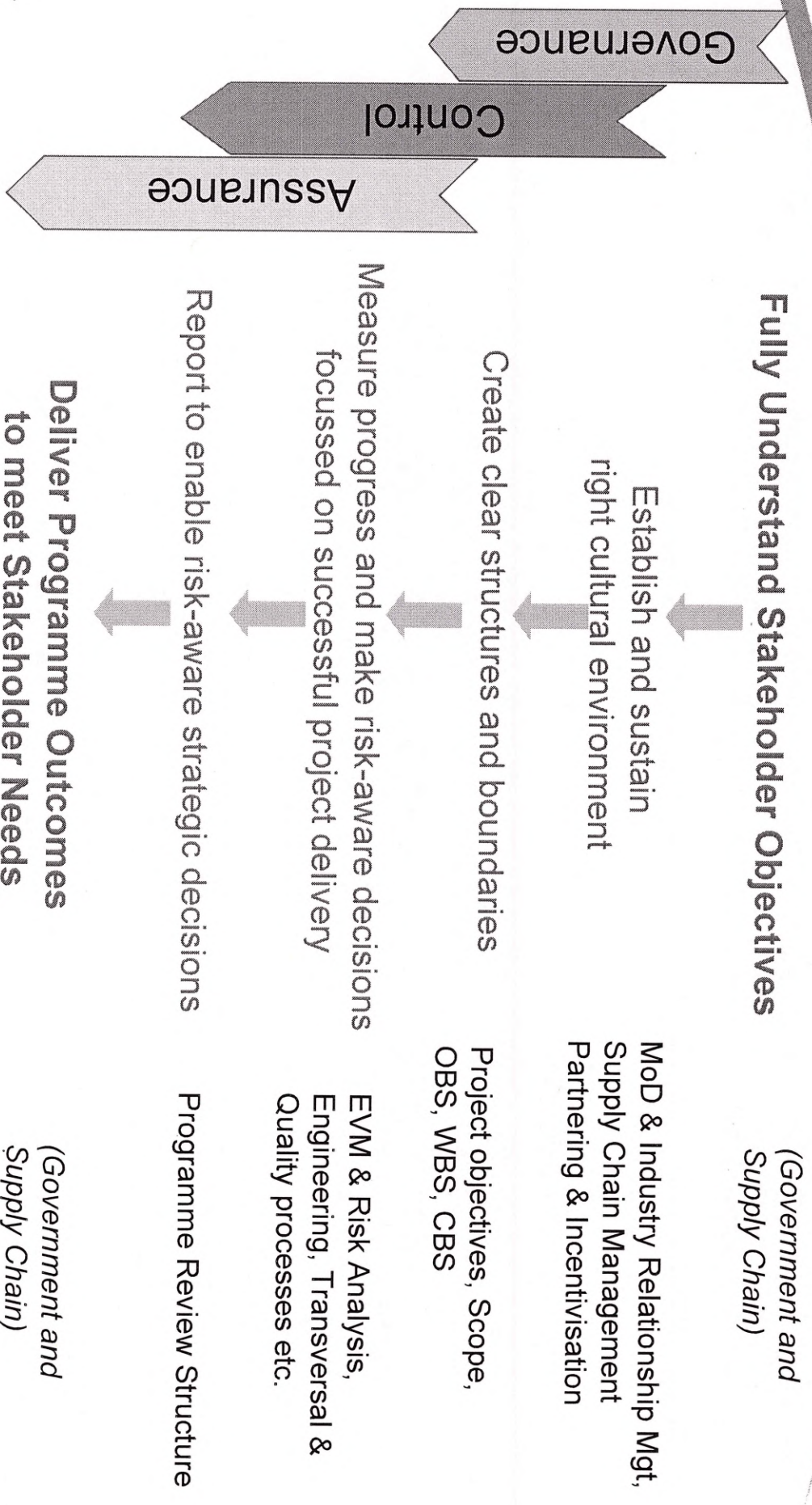


Tailored Best Practice

- MOD Acquisition Operating Framework
 - Project and Programme Management
 - PM Handbook
- Office of Government Commerce:
 - Frameworks / Tools
 - Managing Successful Programmes, PRINCE2, Management of Risk
 - Gateway Reviews
- National Audit Office studies (Defence Value for Money)
 - Collaborative Working
 - Effective Contracting
 - Project Control (“The Gold Standard”)



Governance, Control and Assurance



Slide redacted under S35

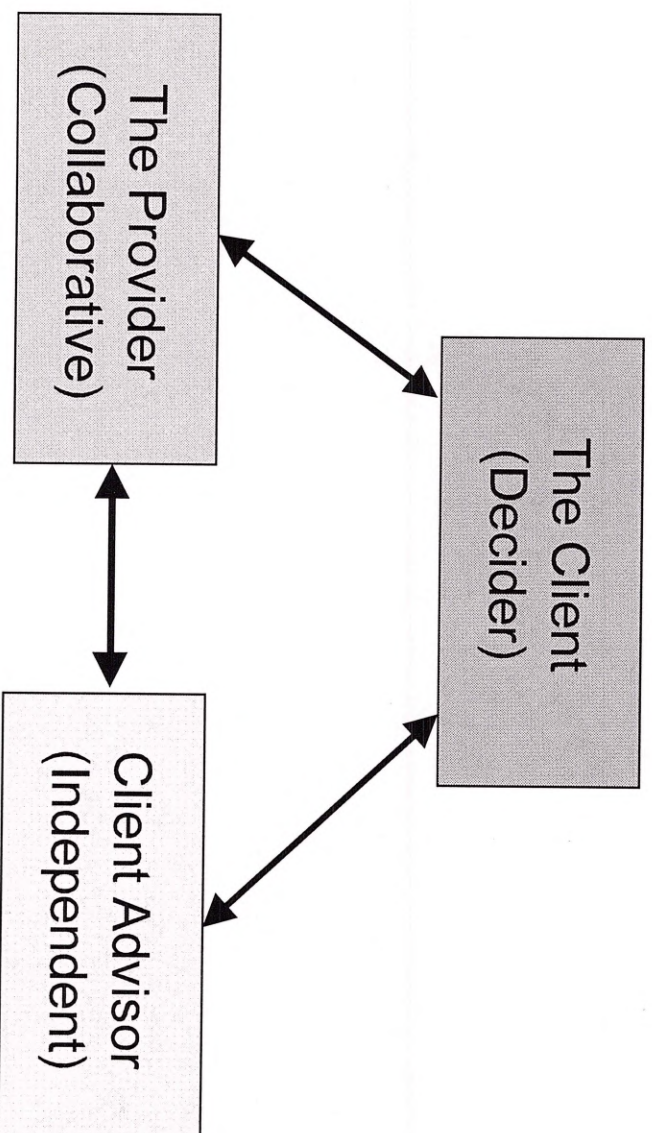


Design Principles

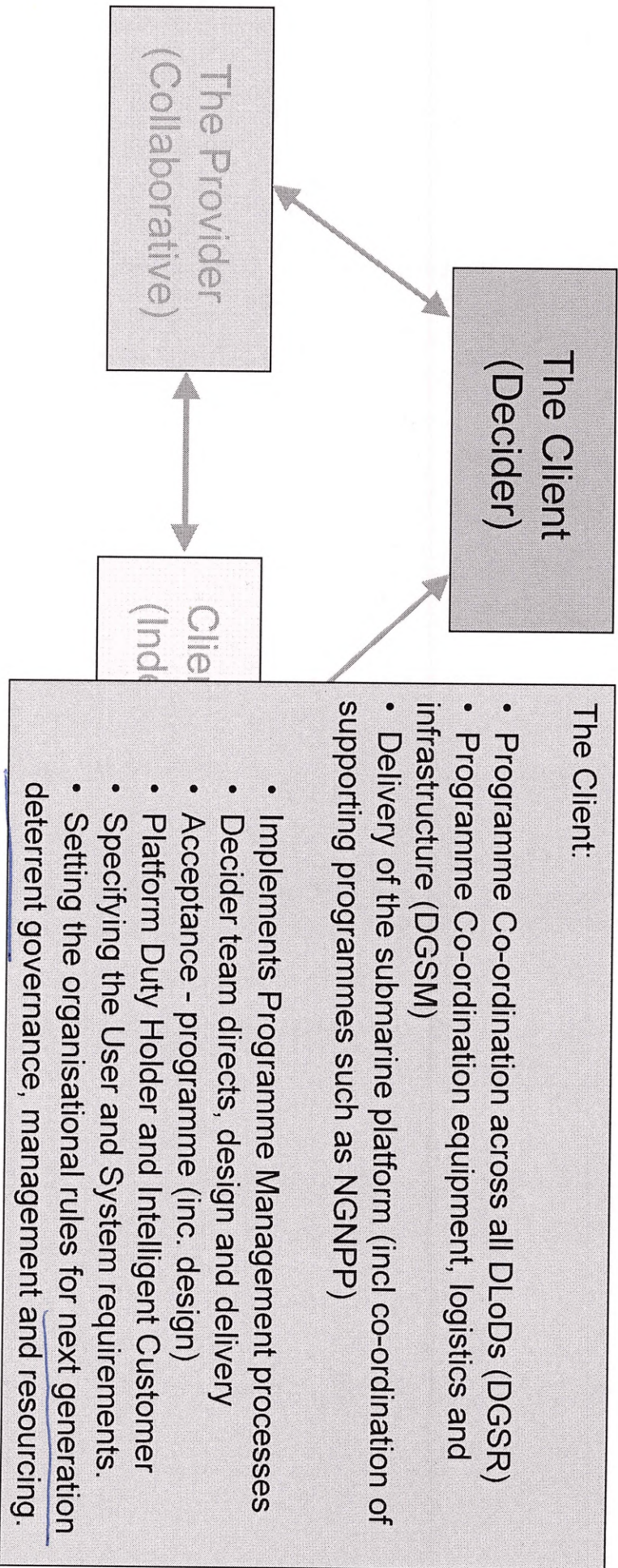
- **Simpler and Cheaper**
 - challenge requirements at platform, system and sub-system level to ensure the **minimum required capability** is specified
 - Develop a **rationalised system/equipment**, spatial and modular architecture that satisfies the functional requirements and allows system simplification.
 - **Simplify system** solutions through a rationalised approach to standards, availability and redundancy
 - To structurally **modularise** to enable reductions in radiated noise, improvements in collective protection and build strategy
 - Concurrent approach to Naval career development and the submarines solution with the goal of **reducing manning** and enabling increased automation.
 - **Reduce numbers** of different equipment and component types to reduce material costs
 - Adopt **open architectures** to enable ease of upgrade
 - Reduce, minimise and standardise penetrations for cabling, pipework, in hull and bulkheads to improve damage control and reduce cost.
 - **Utilising COTS** wherever possible to reduce the cost of equipment
 - Identify solutions that **minimising additional infrastructure requirements**
 - A controlled **relaxation of platform density** to improve both buildability and supportability
- **Stealthier**
 - **Minimise all energies** being transmitted to/from the hull to meet the required and potential enhancements in stealth
 - **Energy efficiency** across all areas of platform and payload systems to improve core life and the need to manage undesirable emissions
- **Safer**
 - **Integrate continuous safety improvement** within the design approach to achieve an adequately safe design
- **Sooner**
 - Avoiding any high risk developing technologies to maintain an accelerated Schedule
 - **Minimise critical path activities** through reductions in interdependent solutions.



FSM - Organisation Framework



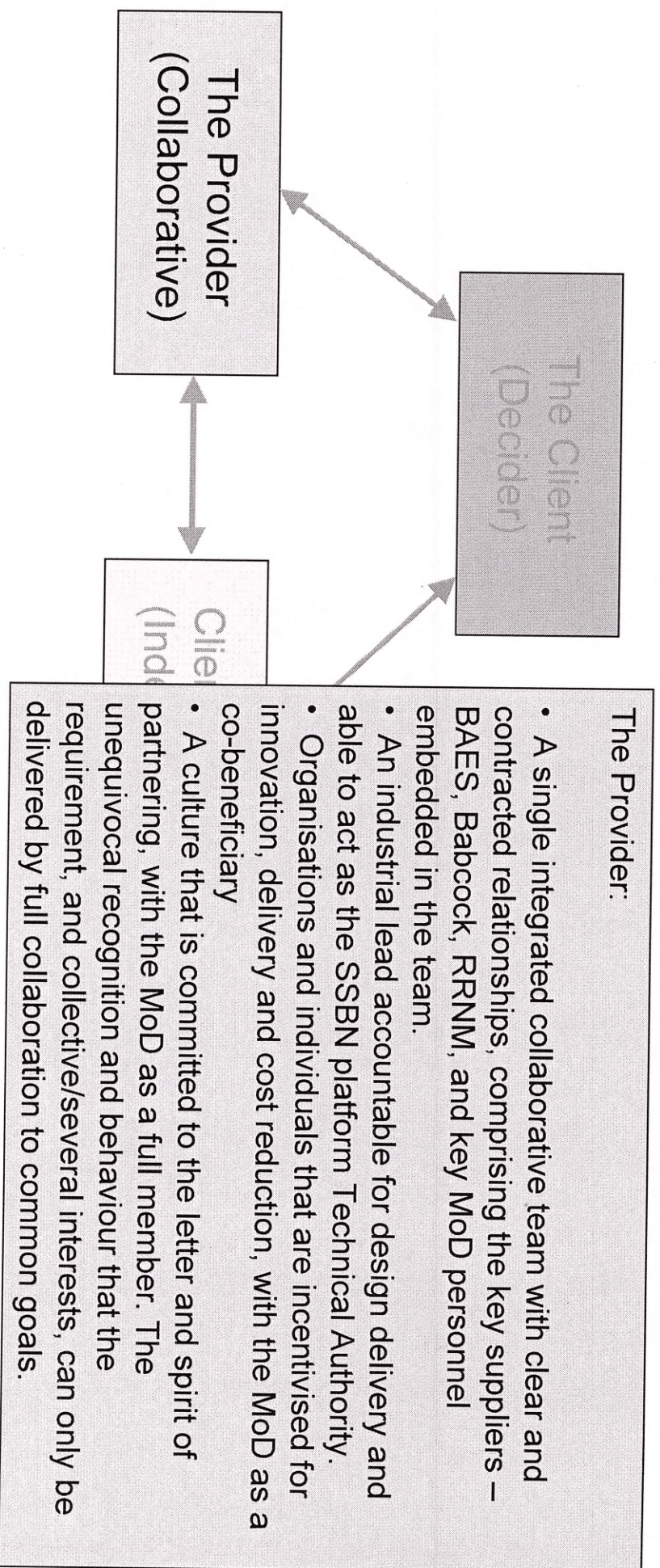
FSM - Organisation Framework



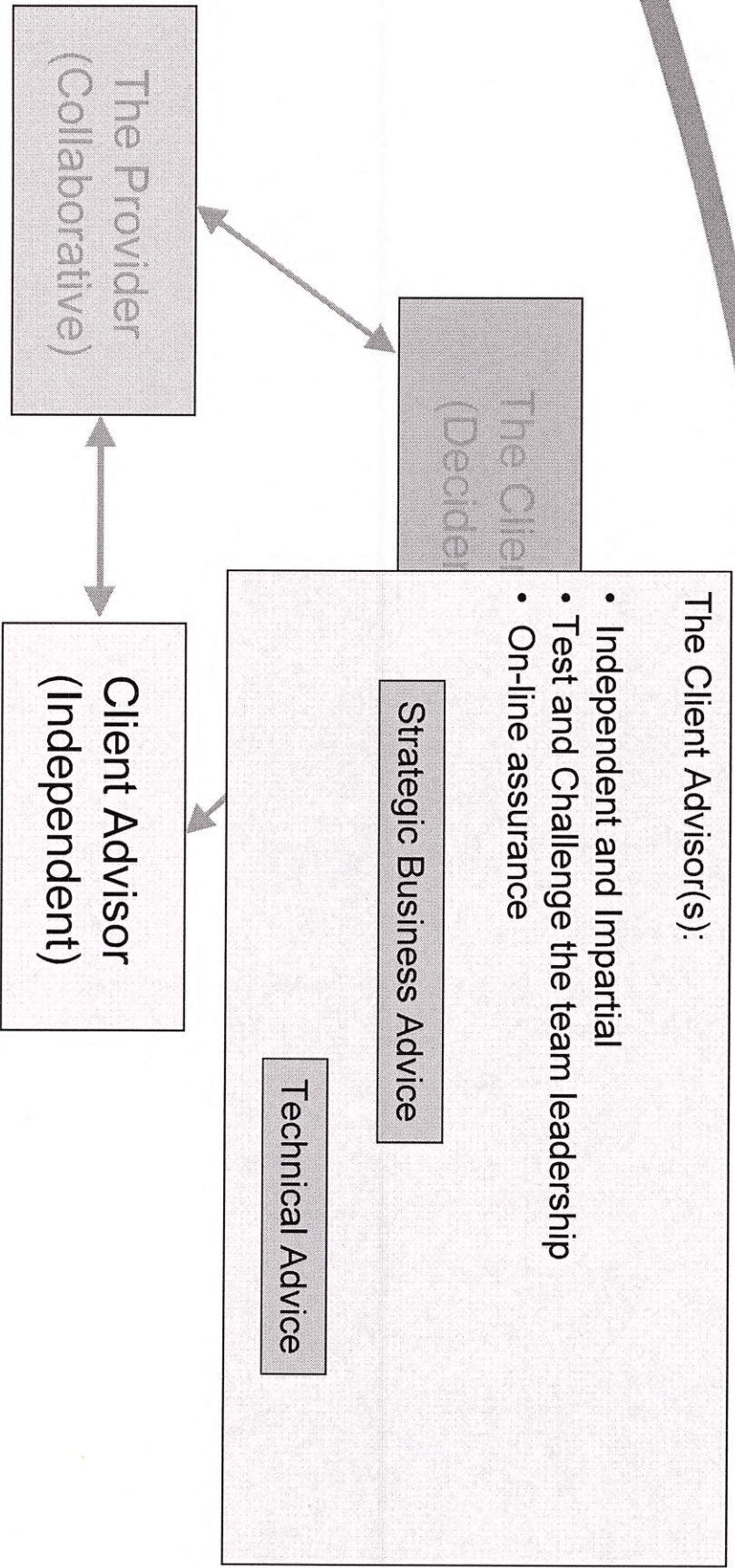
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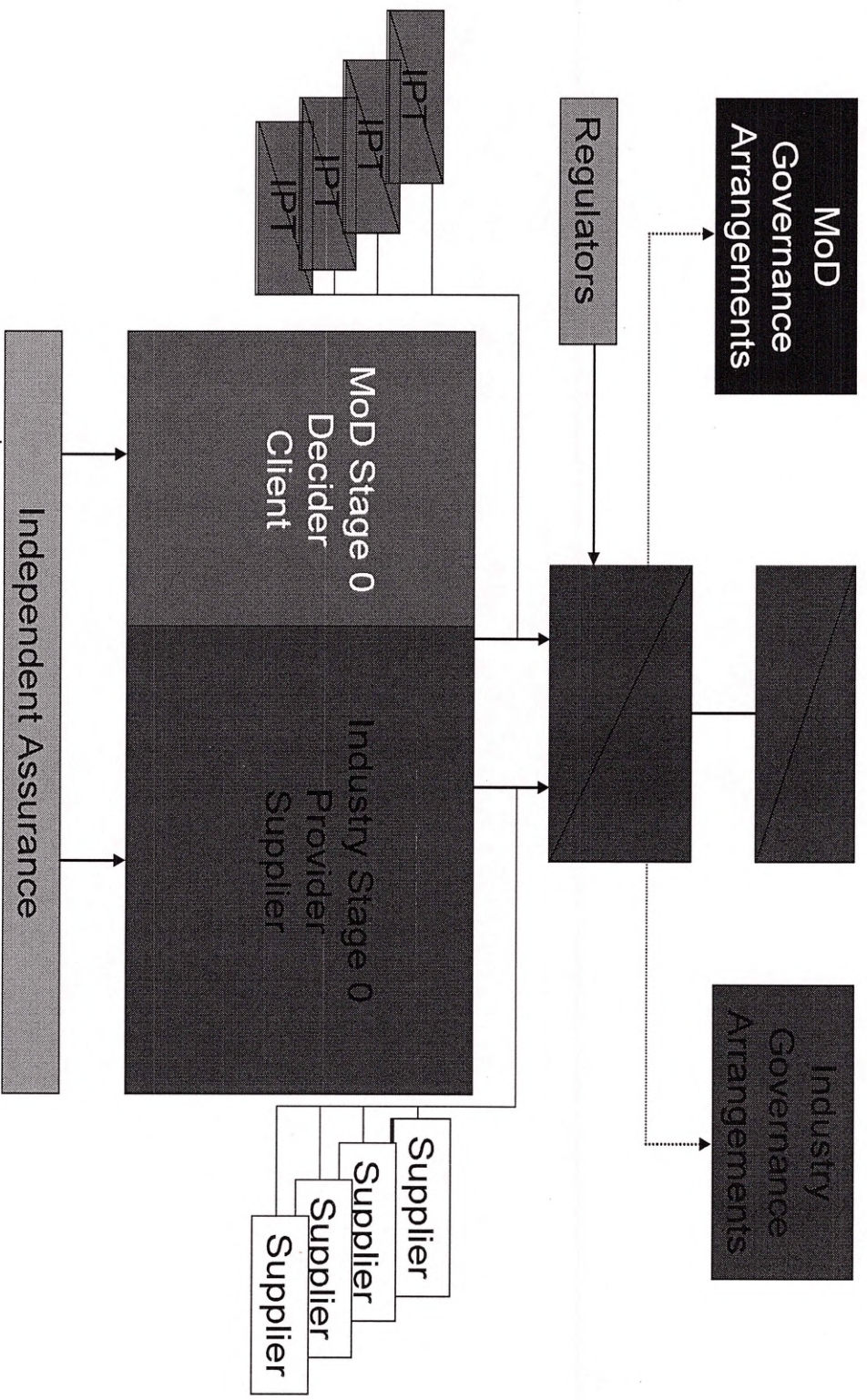
FSM - Organisation Framework



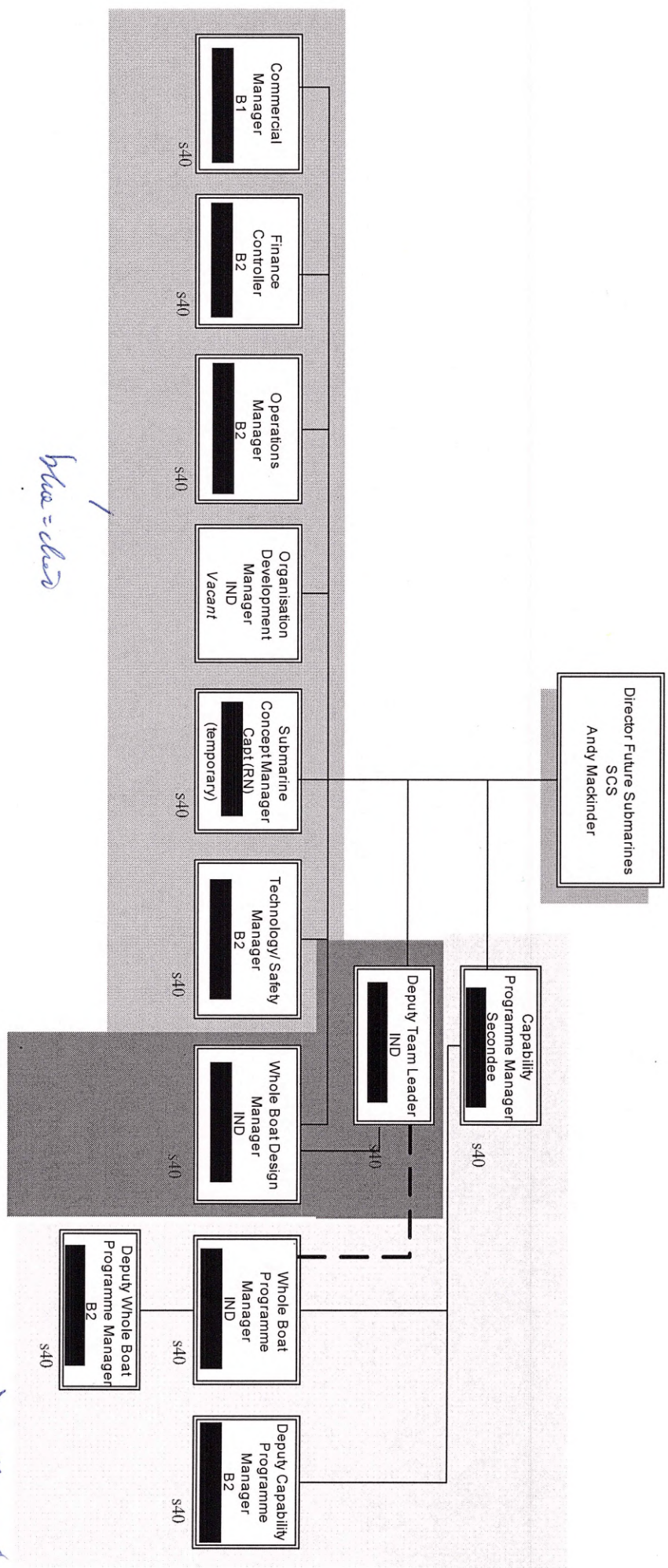
FSM - Organisation Framework



FSM - Organisation Framework



FSM IPT Organisation



blue = clear

gn = provide

yellow = clear



Where are we now?

- FSM IPT – Stood up in April 2007
 - Decider is forming
 - Relationships with provider Mod IPT's well developed
 - Limited SQEP and industry support is required
- Provider side is standing up now
 - Embryonic
 - Best Athlete's required
- Client Advisor roles
 - Piecemeal
 - Competition this year



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Opportunities

- Stage 0 Platform Definition Design and Engineering Programme
 - Support to Tier 1 Suppliers
 - Development of Design Strategy and Engineering Policy
 - Definition of System architectures and major components
 - Product and Technology Development Programmes
 - Technical and Safety Advice/Assurance
- Business Development, Commercial and Financial Management
 - Commercial and Business frameworks to engender and realise collaborative working
 - cost systems, audit and control to support programme accounts
 - Advice/Assurance in support
- Programme Management
 - Establishing best practice in programme management



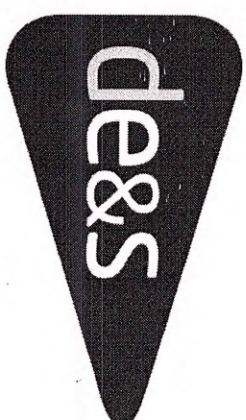
Name	Position	E-mail	Telephone
Andy Mackinder	Team Leader	DES-SM-F-D [Redacted] s40	[Redacted] s40
[Redacted] s40	Industry Leader	[Redacted] s40	[Redacted] s40
[Redacted] s40	Commercial	DES-SM-F-Comrci	[Redacted] s40
[Redacted] s40	Capability Programme Manager	DES-SM-F-CPM	[Redacted] s40
[Redacted] s40	Submarine Concept Manager	DES-SM-F-SCM	[Redacted] s40
[Redacted] s40	Operations Manager	DES-SM-F-OpM	[Redacted] s40
[Redacted] s40	Technology and Safety Manager	DES-SM-F-TM	[Redacted] s40
[Redacted] s40	Financial Controller	DES-SM-F-FC	[Redacted] s40



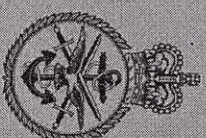
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Future Nuclear Deterrent



Questions



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