

The following presentation was given at:

SCAF Workshop
“The Impact of Brexit on the Costing Community”

Tuesday 7th February 2017

The Royal Institution of Naval Architects, London

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Strategic Cost Analysis in an Uncertain Future

Dr Stuart Taylor and Andy Nye
7th February 2017



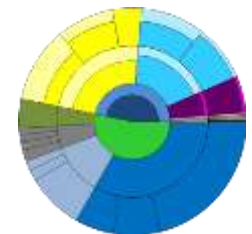
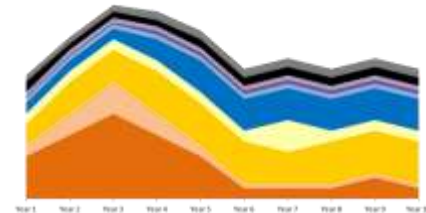
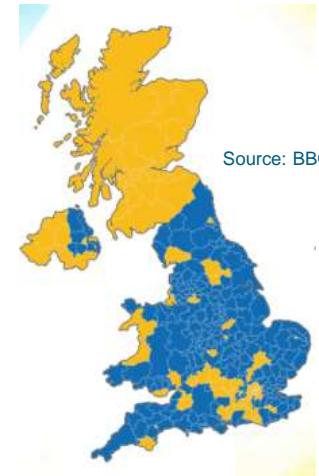
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Overview

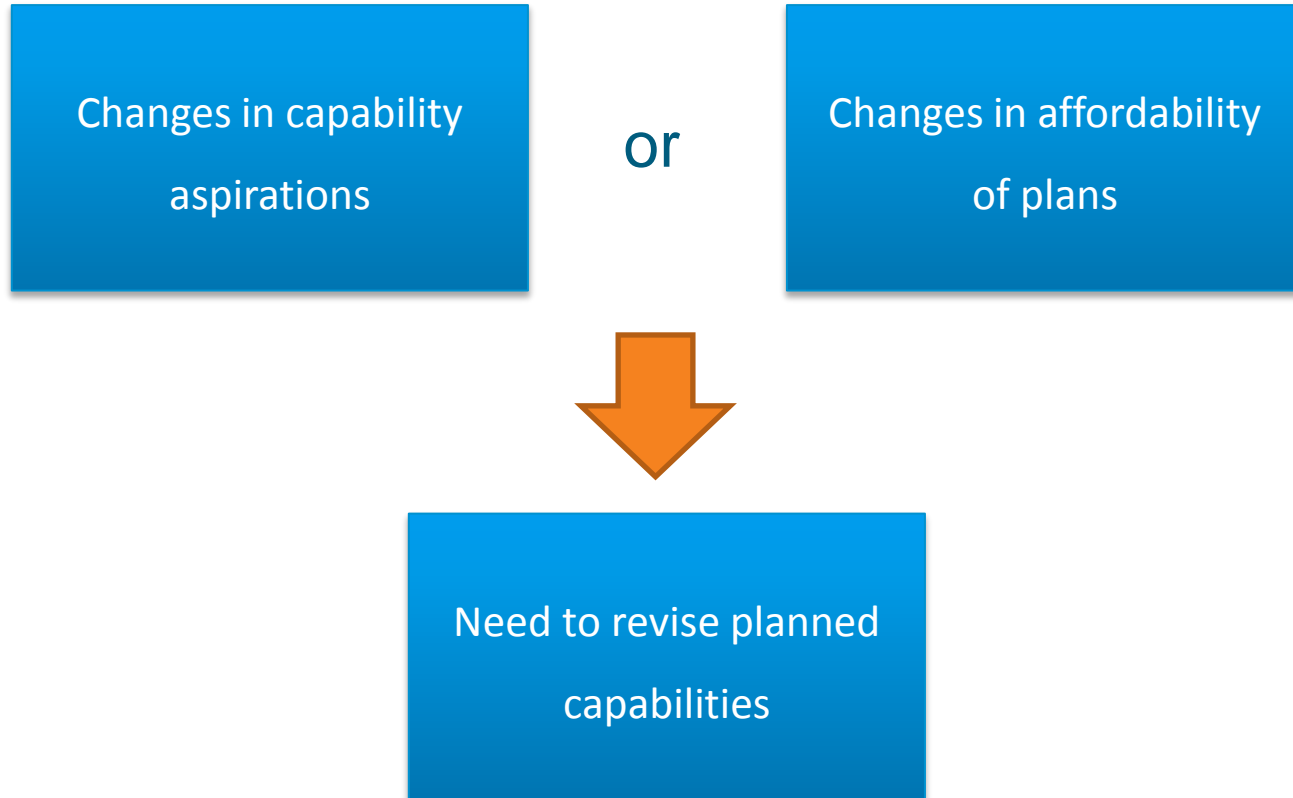
- Uncertainty and Strategic Re-assessment
- Policy and Requirement
- Strategic Cost Models
- Visualising the Cost Base



Sources of Uncertainty for MOD

- Demand
 - Inherently unpredictable, in contrast to most other government departments
- Policy
 - Governments change quicker than Defence Capabilities
- Budget
 - 5 year spending plans, but there have been more frequent readjustments
- Exchange rates / Import Costs
- National / International Developments
- Costs
 - Significant proportion of Defence cost is from a small number of large and technologically complex projects

Uncertainty and Strategic Decisions



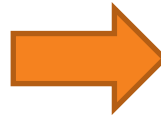
Linking Defence Policy to Force Structures

- Defence policy options tested using illustrative scenarios
 - Requirements for scenarios explored and tested through campaign modelling and wargaming
- Exploration of Policy Alternatives
 - Different combinations of scenarios
 - Different concurrency assumptions

Linking Defence Policy to Force Structures

- Concurrency Analysis Tool (CAT)

Scenarios	Tanks	Ships	Planes
1	3	0	1
2	2	2	2
3	0	4	3



Concurrency Cases	Tanks	Ships	Planes
1 & 2	5	2	3
1 & 3	3	4	4
2 & 3	2	6	5

- Strategic Balance of Investment (Strat Bol)
 - Optimise requirement by allowing ‘cost-optimised’ substitutions

Force Structure Cost Model (FSCM)

- Requirement to support High Level Operational Analysis studies
- Understand costs of 'Force Elements'
 - MOD data needs to be appropriately mapped and apportioned
 - Previously generated ad-hoc
- FSCM created to support numerous studies
 - Includes costs for the whole of MOD
 - Reduces overall time and effort required for cost analysis
 - Costs based on consistent assumptions
- High level model used to support strategic decisions with force structural implications

Force Structure Cost Model

Defence Programme



Shared costs allocated to Force Elements for analysis as this allows us to better represent the elements' full costs



What the FSCM includes

Non Scalable Costs

Cost of core functions such as headquarters and procurement agencies
Costs are not allocated to force elements

Shared (supporting) Costs

Elements that directly support force elements, e.g. Training and barracks

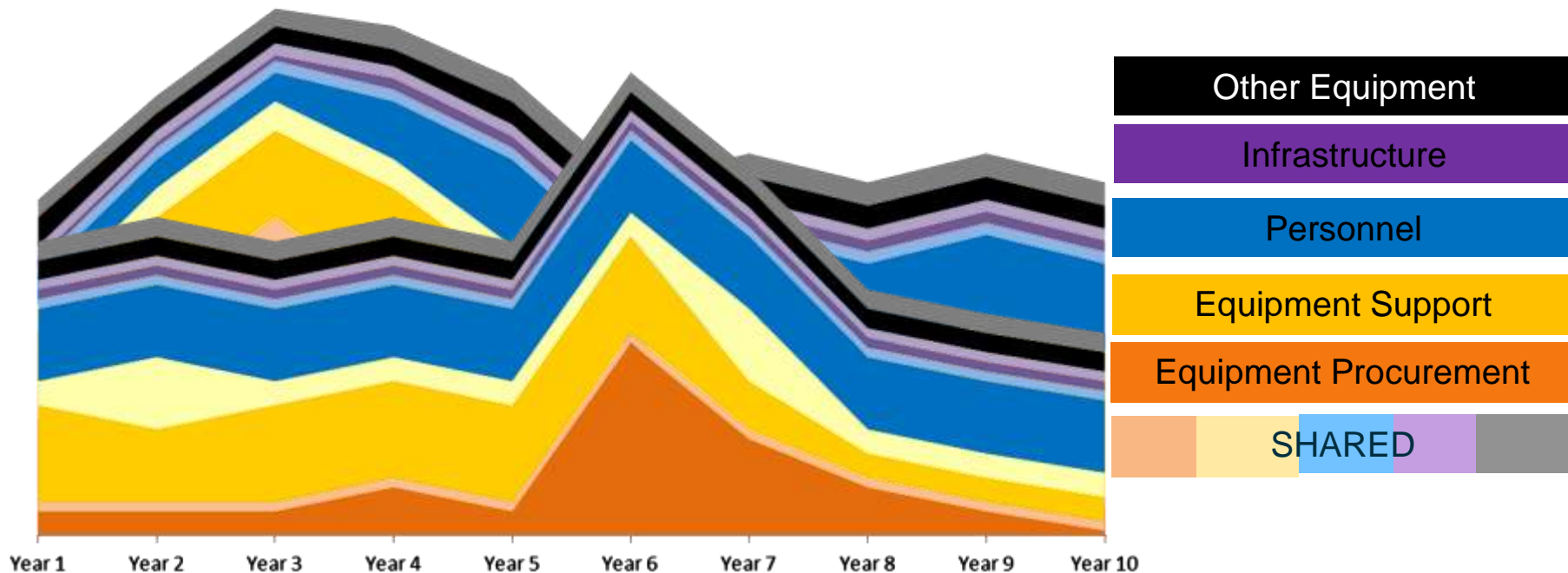
Force elements

Current and Future (out to 50 years)

Whole Life Cost including:
Manpower
Equipment Development and Procurement
Equipment Support

FSCM Outputs

- Pan-DLoD Cost Profiles
- Used to generate cost inputs to a variety of studies
- Provides EACs to Bol studies (e.g. Strat Bol)



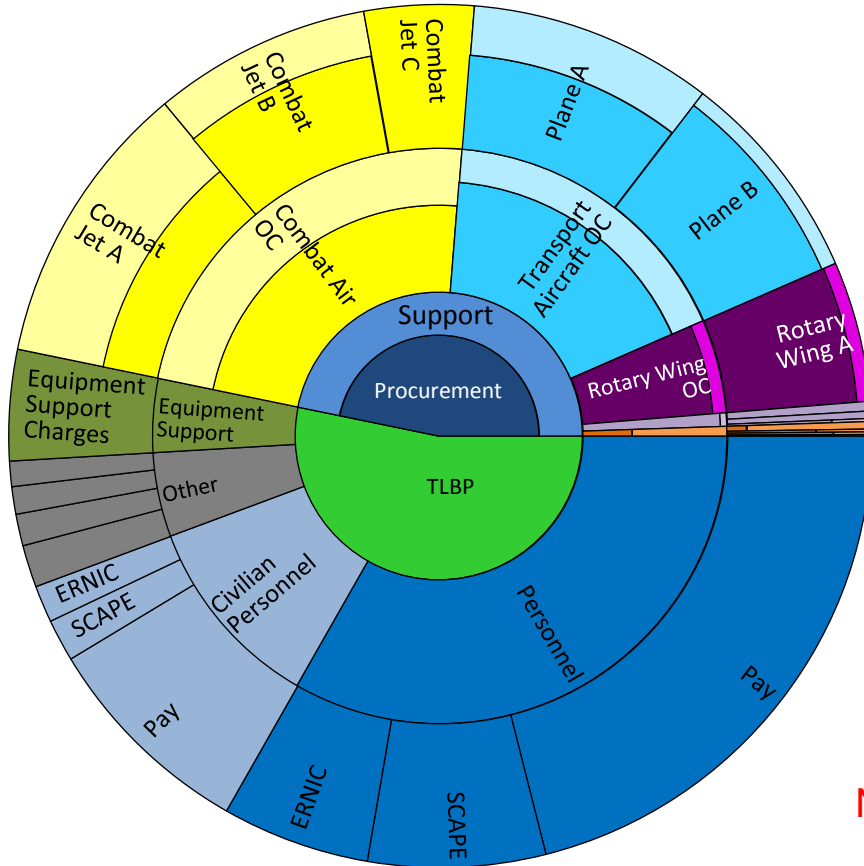
Costing Alternative Force Structures


- Affordability Evaluator
 - Alternative Force Structures provided by CAT / Strat Bol
 - Extrapolates planned FSCM costs
 - Buys new platforms
 - Explores different cost pressures
 - Allows comparison with different budget scenarios
- Limitations
 - Economies of scale
 - Industrial base factors
 - Precedes detailed understanding of implementation


Understanding the Cost Base


- Visualisation techniques increasingly used to articulate output costs and support specific decisions
- Also used to describe other MOD data
 - Help senior decision makers understand cost drivers
 - Support budget holders in identifying opportunities for efficiencies

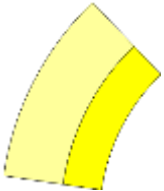
Radial Diagrams



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Multiple levels of breakdown
- 

Grouped into Operating Centres
- 

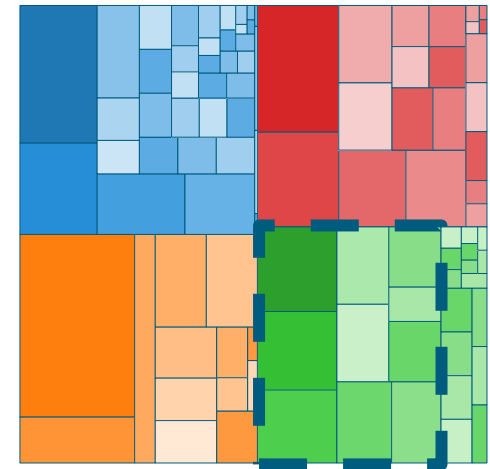
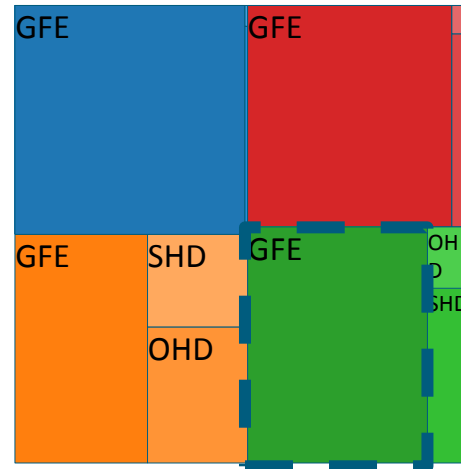
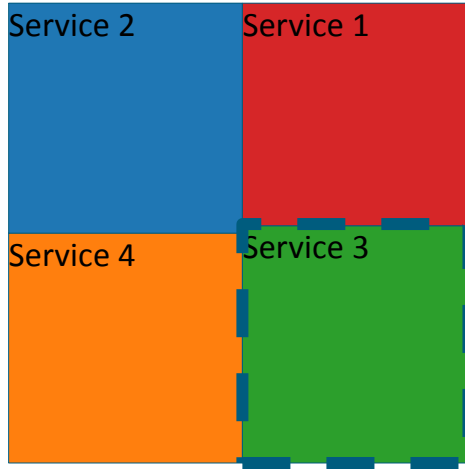
High production
- 

Low production
- Negatives! ■ Receipts -£m

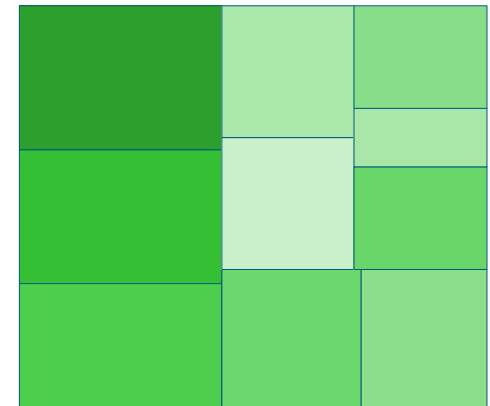
Cost of Defence Squares

GFE – Generic Force Element
SHD – Shared Force Element
OHD – Overhead Force Element

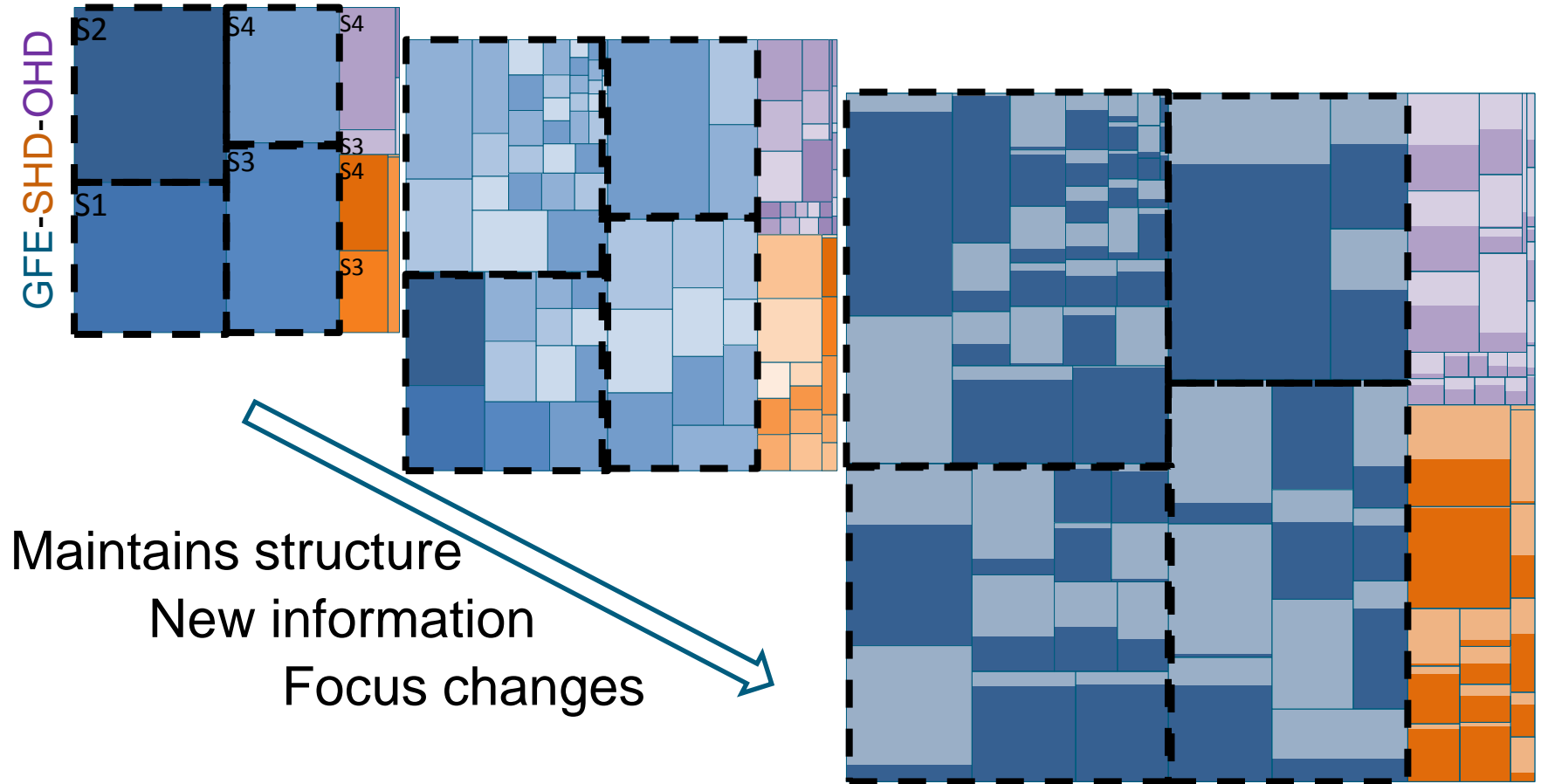
Different Levels of Breakdown



Interactive



Cost of Defence Squares



Questions?

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