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System Maps – Helping MoD optimise the generation of Capability

ISMOR 31

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Structure

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- Background
- System Map concept
- System Map tool
- Decision Support Approach
- Summary

Background (1)

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Each Command now has responsibility for affordably delivering its set of military capabilities

Commands now have the freedom to chose how Capability is delivered

Commands need to better understand their Enterprise and all its constituent parts

- Organisations
- Activities
- Resources
- Costs
- Dependencies

Background (2)

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MoD analysis questions

- What is the x-DLoD impact (Capability and Cost) of removing System A?
- What are the implications of buying more equipment?
- Where are there opportunities for rationalisation/optimisation?
- How much does it cost to provide Force Element X?
- Which bits of the Enterprise can be contracted out?

Current Tools/Techniques available

- A ‘single’ view isn’t available to capture the richness of the Enterprise
- MODAF – comprehensive but disjointed
- Dynamic Modelling – too detailed, complicated and costly

System map is an approach that can help

- Captures big picture
- Provides responsive analysis

System Map - Introduction

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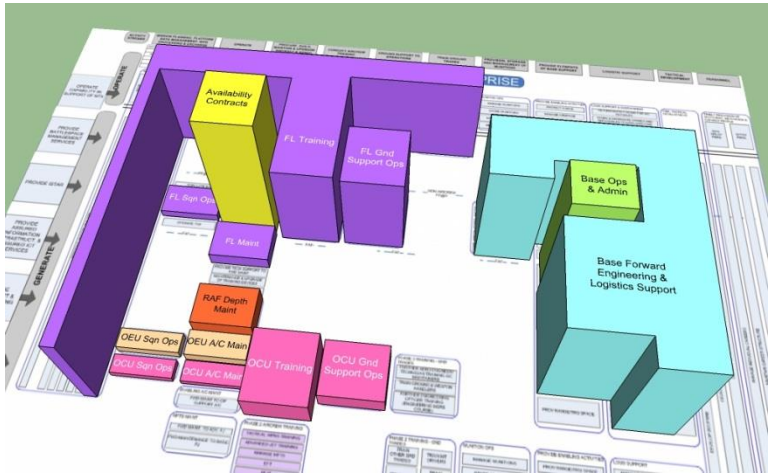
The (MoD) landscape

- Organisational views are inherently how people think and organise their Enterprise
- Cost 'buckets' tend to be based on organisational views
- In complex systems, dependencies need to be understood and analysed
- Impacts of trying to optimise the Enterprise need to be investigated, understood and communicated

The System Map

- Enterprise Map* strengths
  - Activity driven
  - Cross – DLoD or functional view



- Enterprise Maps weaknesses
  - They don't represent organisations well
  - They tend not to show linkages
  - They are static without any 'in built' analysis functionality

- So….

* see ISMOR 2012
http://www.ismor.com/29ismor_papers/29ismor_aubrey.pdf

The System Map - Vision

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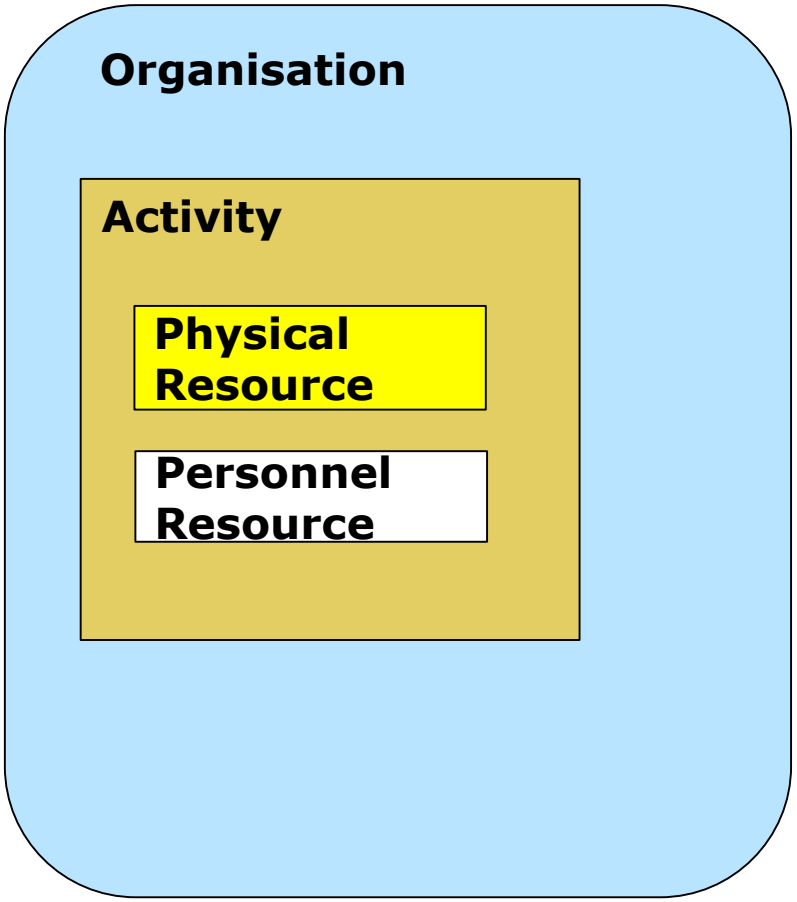
A 'view' that

- Includes elements to represent organisations, activities and resources
- Captures dependencies between the elements
- Has data stored for each element
- Is developed in a tool that provides analysis functions
- Is simple to use and flexible

System Map Vision



- Organisations 'do' activities
- Activities have resources
- Links can be between organisations, resources and activities
- Parent and child relationships are possible
- Analyst has choice how they want to represent the system of interest

Example – Resource Link

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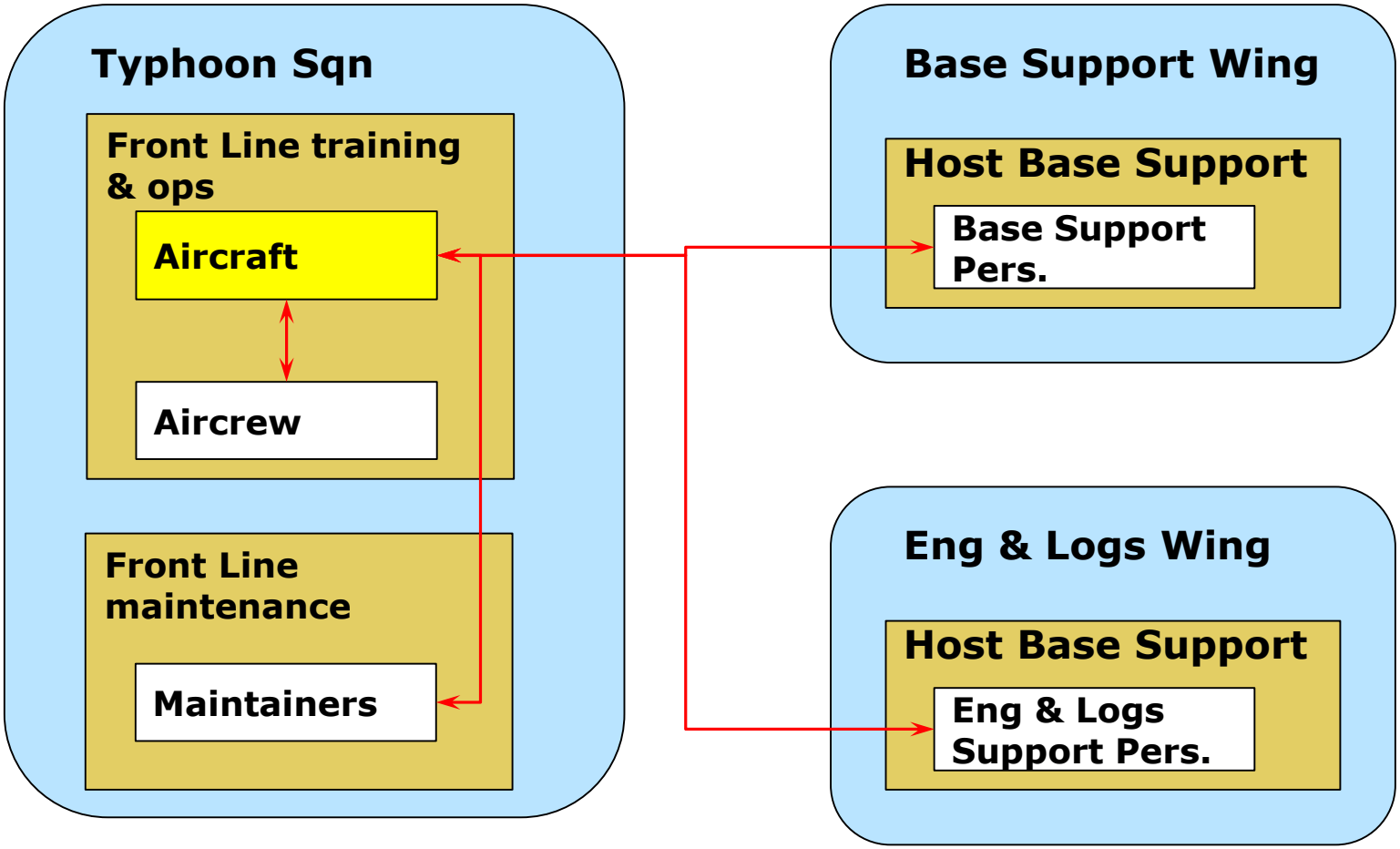
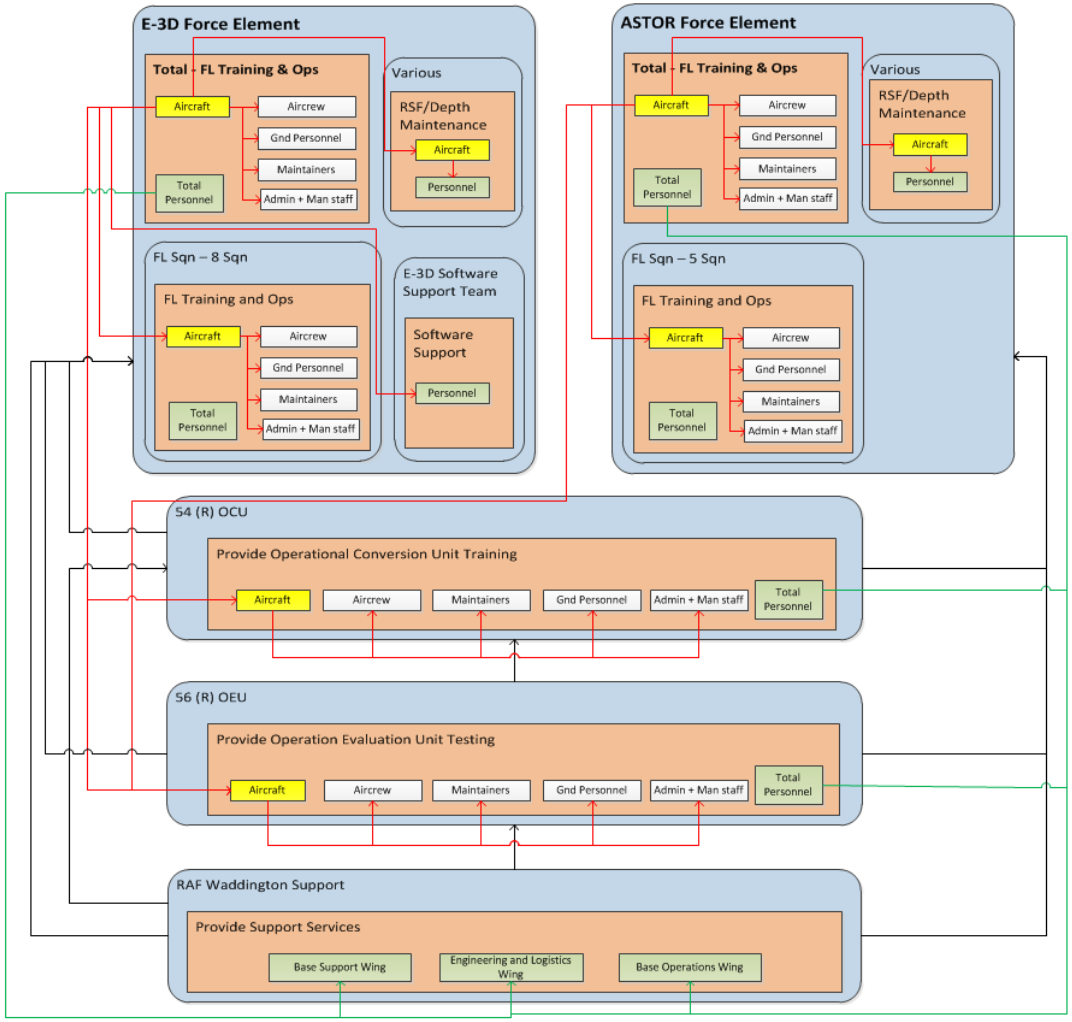


Example System Map



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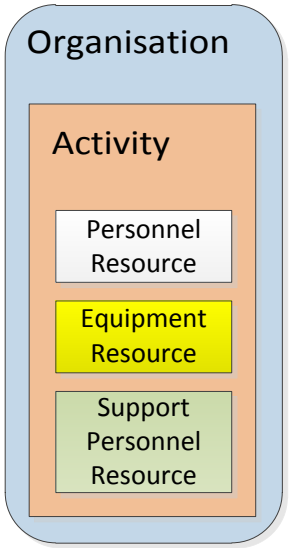

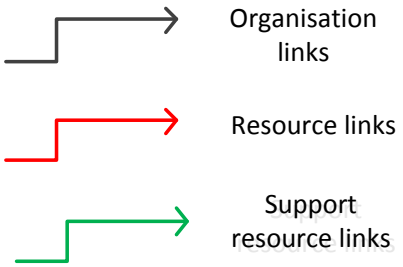

System Map tool functionality
(Command Mapping Decision-Support Tool)

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Allows user to capture System of Interest

Visually builds System Map and can add data

Caters for cost and resource data

Has 'special' links with defined properties

- Service link or dependency
- Resource link or dependency
- …….

Provides analysis functions to the user

- Resource percolation
- Dependency traces
- Cost analysis
- Strength of dependency

Decision Support Approach

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Understand

Understand the activities within an enterprise, how much they cost and the key issues and the impacts

Formulate

Formulate "what-if" options for addressing an environment question, issue or risk

Evaluate

Evaluate the benefit of different options and decide which should be taken forward

Benefits

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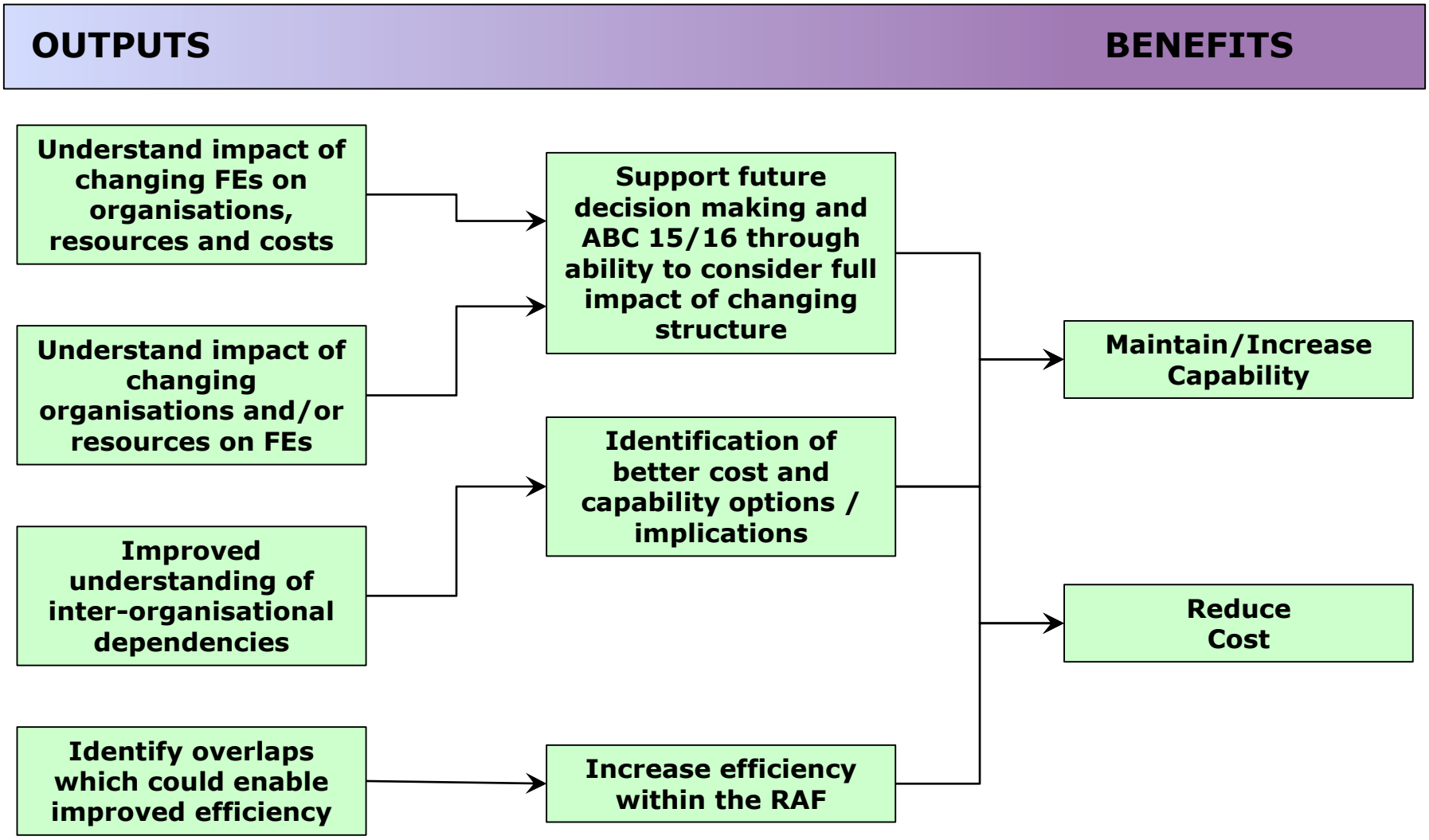

Summary

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System Map

- Way of capturing, understanding and analysing a complicated Enterprise
- Organisations
- Activities
- Resources
- Costs
- Dependencies

Way forward

- Currently expanding coverage of Air Command
- Extend the concept to all 4 Commands