

Measuring Research Value for Money

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What is defence research for?

- Research can:
 - Improve future military capability
 - Reduce the cost of future military capability
- By:
 - Introducing new technology
 - Developing new approaches to delivering capability
 - Improving decision making
 - Facilitating incremental development
- Innovation should not be limited to new technology

What is the value of research?

- Best to wait 10-20 years to find out
- Back in the real world, however, answers are needed more quickly:
 - How much should be spent on research overall?
 - How should spend be prioritised?
- Historical analysis is indispensable
- Analysis is also essential *now* to answer investment questions

How can analysis help?

- Caveats:
 - Research is inherently risky
 - Never going to get the analysis 100% right
- Analysis delivers:
 - Evidence to underpin decision making
 - Justification for the direction and level of spend
 - A cumulative body of historical knowledge

Measures of research value

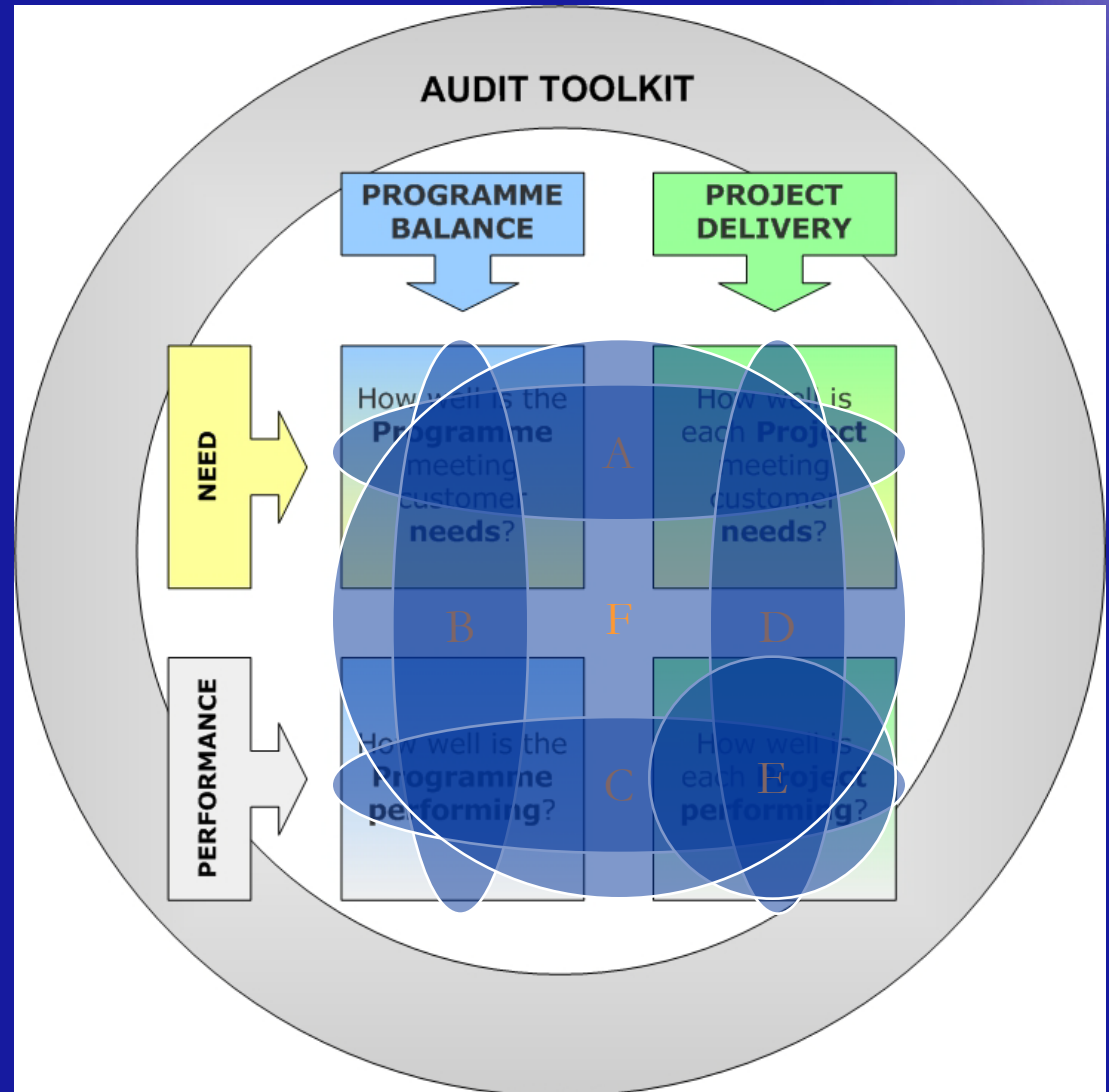
- Does it close a capability gap?
- Does it meet a defence policy priority?
- Does it reduce WLC?
- Does it maintain a vital defence research area?
- Does it pull through international research?
- Is the research exploitable?
- Is the research progressing to plan?
- Is the research unique?
- How much will it cost to finish the research?

Challenges to analysis

- “The money would be better spent on real research”
- The costs of audit should be proportional to their benefit
- “Expert opinion should decide what research to undertake”
- But opinion should be structured, validated and related to hard data.
- “Analysis can lead to paralysis”
- Only if it fails to answer relevant management questions.
- “It takes too much data to provide useful results”
- Use whatever data is available, coupled with structured judgement
- “A ‘black box’ can provide any answer you like.”
- Ensure transparency and traceability: don’t let a tool dictate decisions
- “Openly available data and analysis can be misleading”
- Openness breaks down vested interests

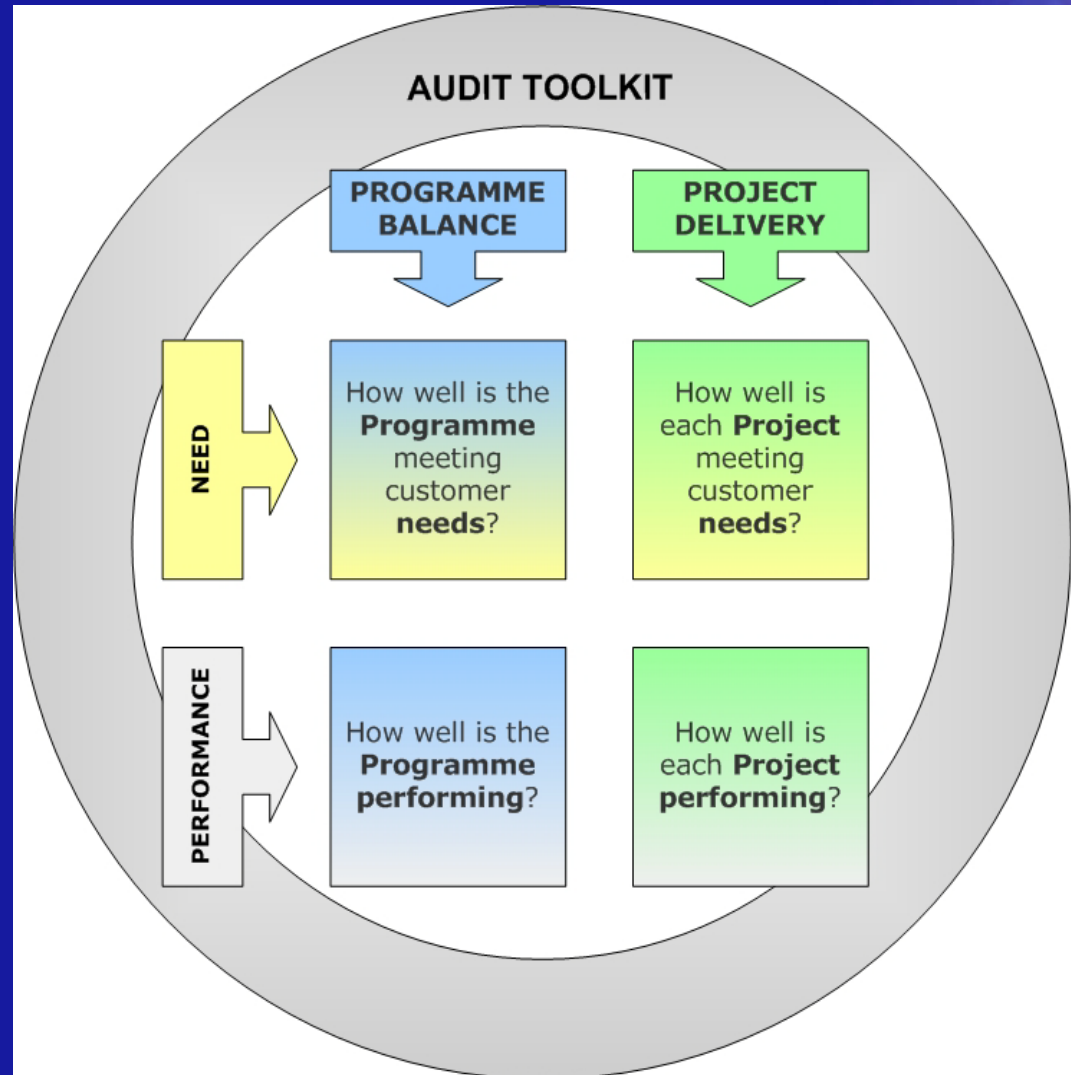
Audit Toolkit

- A. Relevance to strategic priorities
- B. Balance of investment
- C. Performance against expectation
- D. Likelihood of exploitation
- E. Technical and project risk
- F. Complete balanced scorecard



Approach

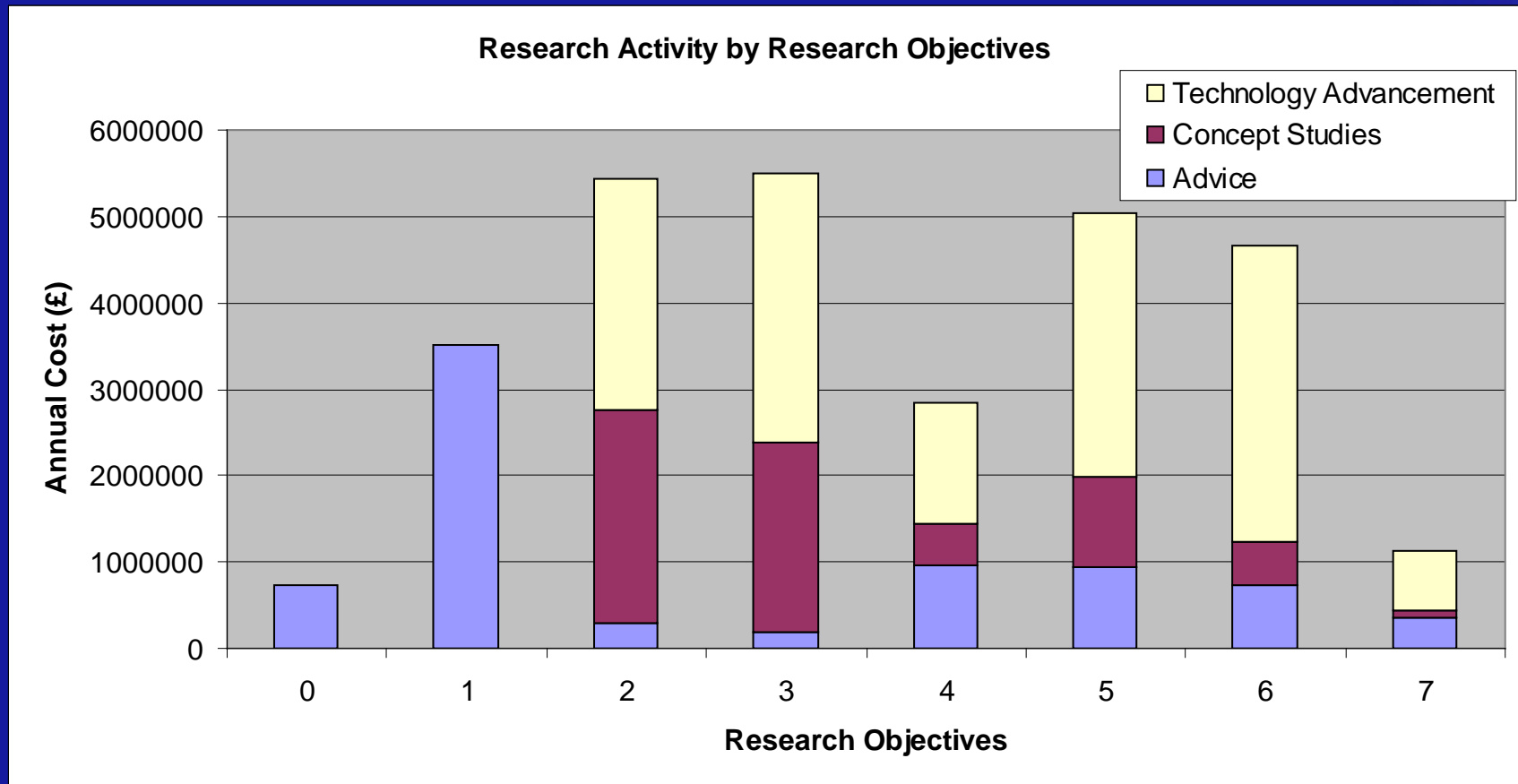
- Set the management question
- Generate meaningful performance metrics
- Gather and validate information
- Provide an audit trail
- Use evidence to *inform* decision making
- Build stakeholder consensus



Sanitised *Example*

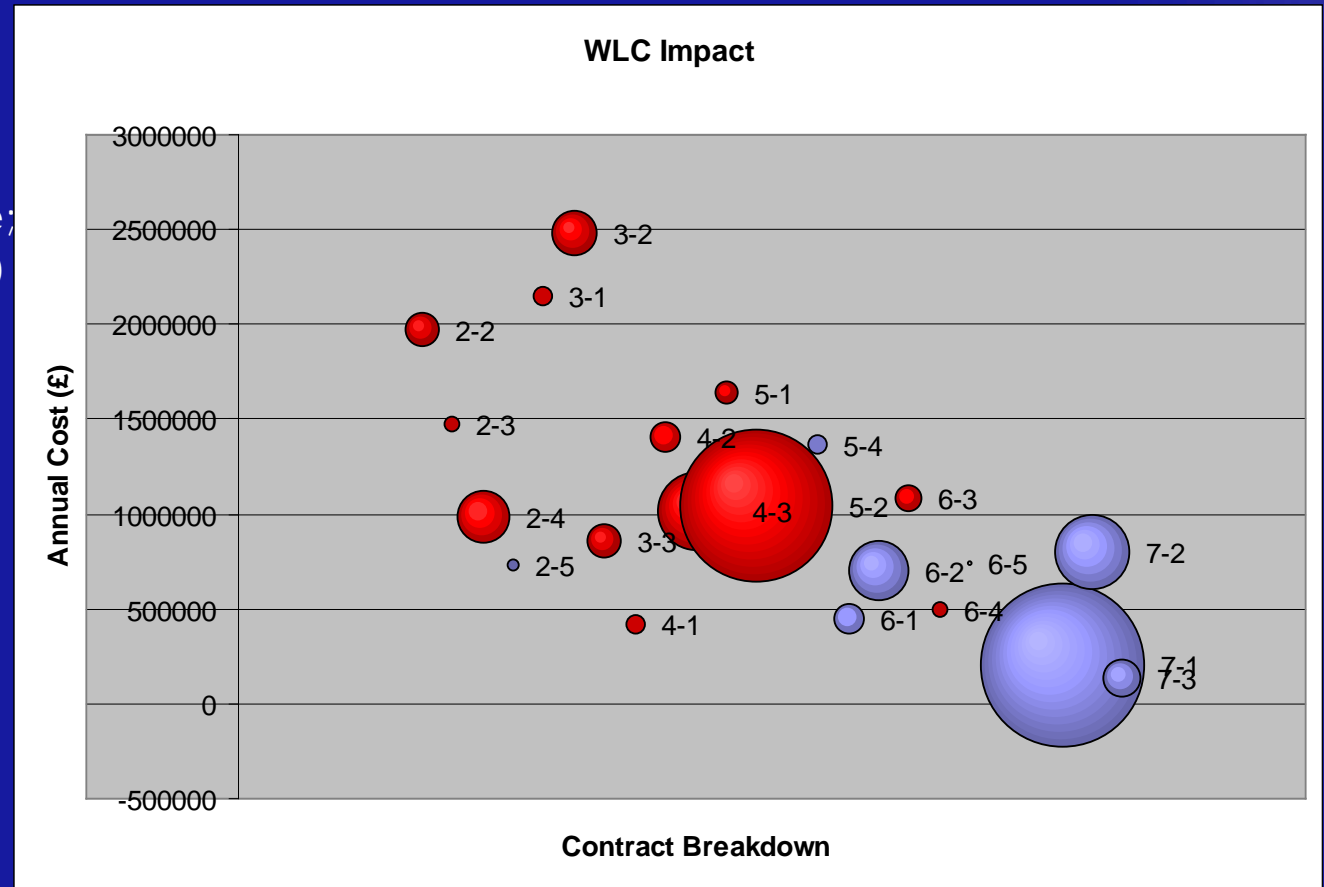
- Selection of views and recommendations from previous analysis of MOD research

Example Package Composition



Example Whole Life Cost Impact

- Size of WLC bubble shows level of impact (red = increase; blue = savings)



Example Project Review

Title	Should the research be conducted at all?	What are the potential benefits of the work?	Will the research be exploited?	SUMMARY	What are the risks?
RP39					
RPXX					
RP33					
RP24					
RP30					
RP32					
RP10					
RP43					
RP03					
RP20					
RP23					
RP25					
RP01					
RP14					

The value of research analysis

- Government spending will have to be cut in the decade
- Defence spending will be under intense pressure
- Defence research will have to demonstrate value
- Research analysis is vital to prioritise and optimise research spend