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TOMCAT

A Framework to Assess Obsolescence Management Capability

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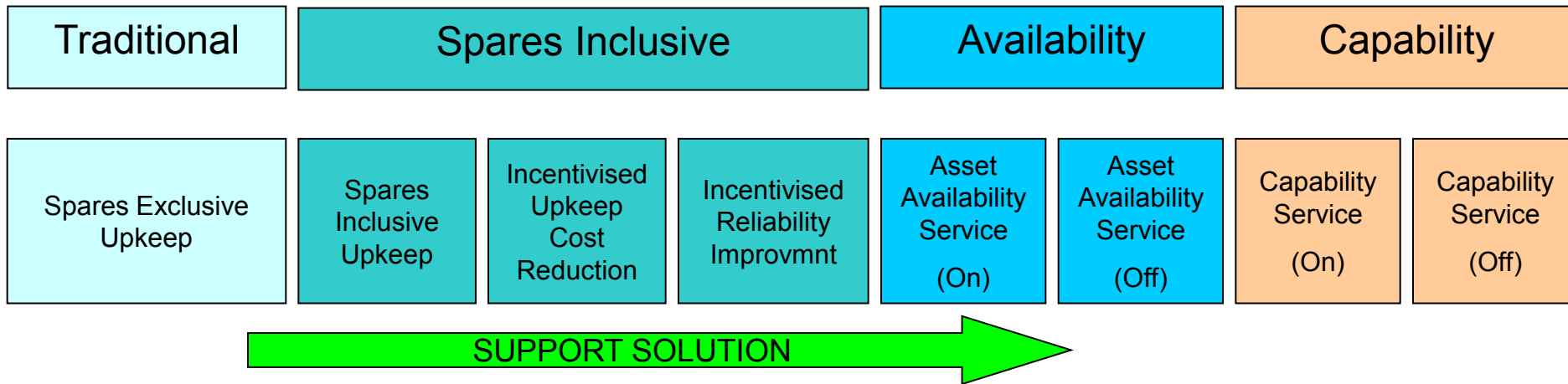
Overview



- Introduction
- TOMCAT Development
- Capability Metrics
- TOMCAT Validation
- Concluding Remarks



Shifting the Risk



As the UK Ministry of Defence (MoD) moves across the Support Options Matrix away from the Traditional Support Solutions contracts to Availability / Capability contracts (Performance-Based Logistics), it is essential that MoD has confidence in Industry's capability to manage the risk of obsolescence.

Obsolescence Management Capability Assessment



If the MoD can measure OM capability, they will:

- Be able to improve OM capability across the supply chain.
- Be able to report on the status of an OM strategy.
- Provide incentives for a contractor.
- Ensure the risk is placed in the right place.

How can we do this consistently across Defence?

TOMCAT

Total **O**bsolence **M**anagement **C**apability **A**ssessment **T**ool

Collaborators



Project Sponsored by UK Ministry of Defence



Industrial Collaborators

- BAE Systems
- Selex Galileo
- General Dynamics
- Component Obsolescence Group (COG)
- Joint Obsolescence Management Working Group (JOMWG)

BAE SYSTEMS



GENERAL DYNAMICS

TOMCAT Development



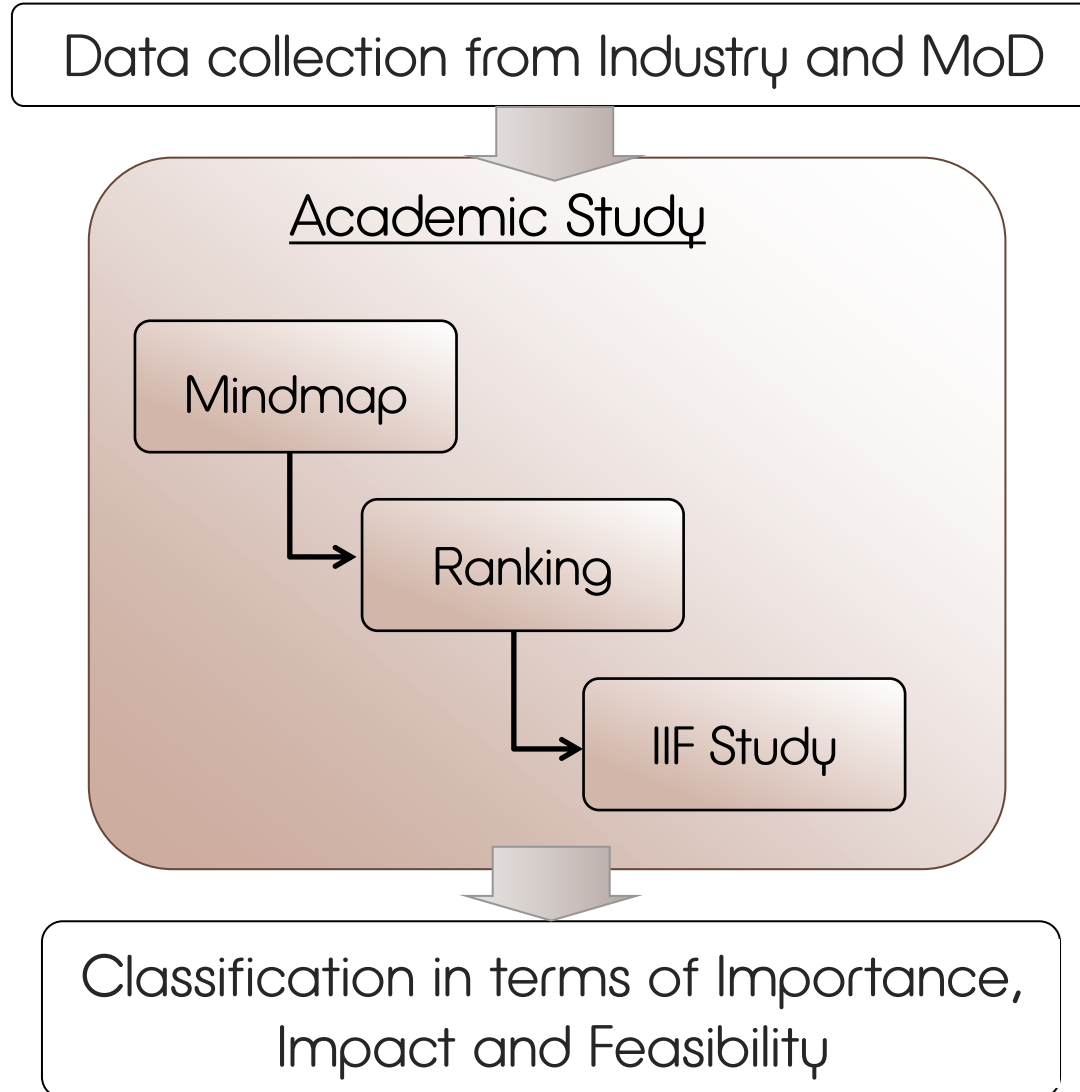
Aim

To develop a set of metrics for the MoD which will allow them to measure the current capability in obsolescence management of the contractors

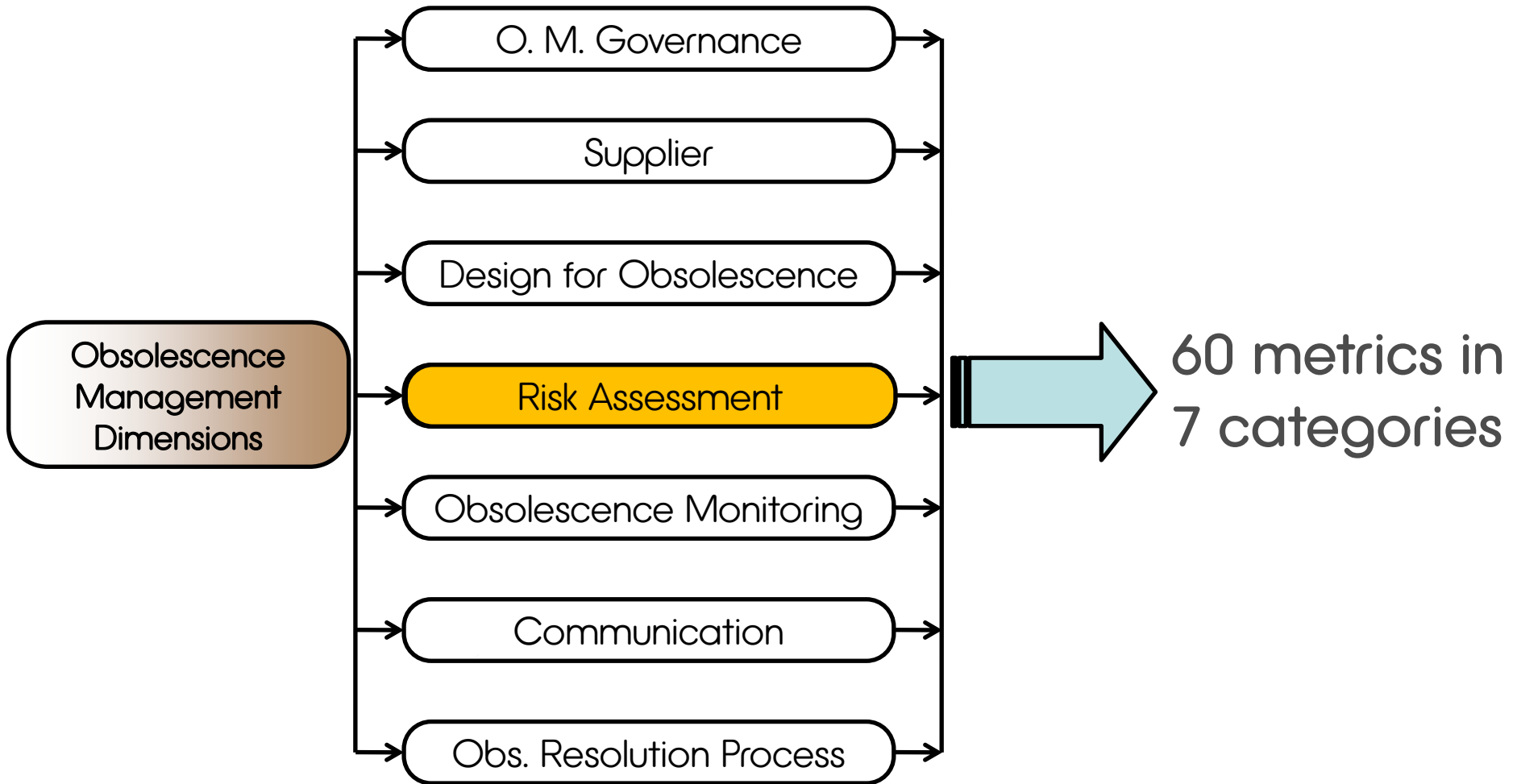
Development

- Developed over two years at Cranfield University
- 3.5 man years of effort
- Phases:
 - MSc group project
 - Commercial development
 - Knowledge Transfer project for professional tool development
- Extensive data collection from the major stakeholders within both MoD and Industry (semi-structured interviews, workshops and document analysis)

Capability Metrics Development



Capability Metrics Development



Capability Metrics Development



How is the impact of change to legislation assessed and actioned as part of the risk assessment process? [10%]

How often is the risk assessment, formally revalidated? [20%]

How is the process to ensure the accuracy of data for the risk assessment defined? [10%]

RISK ASSESSMENT

How is the risk assessment conducted to identify and implement mitigation processes for the obsolescence risk? [40%]

How are decisions from the obsolescence risk assessments, obsolescence approach selections and the derived mitigation actions recorded on an appropriate OM risk register? [20%]

Metrics selection



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60 metrics

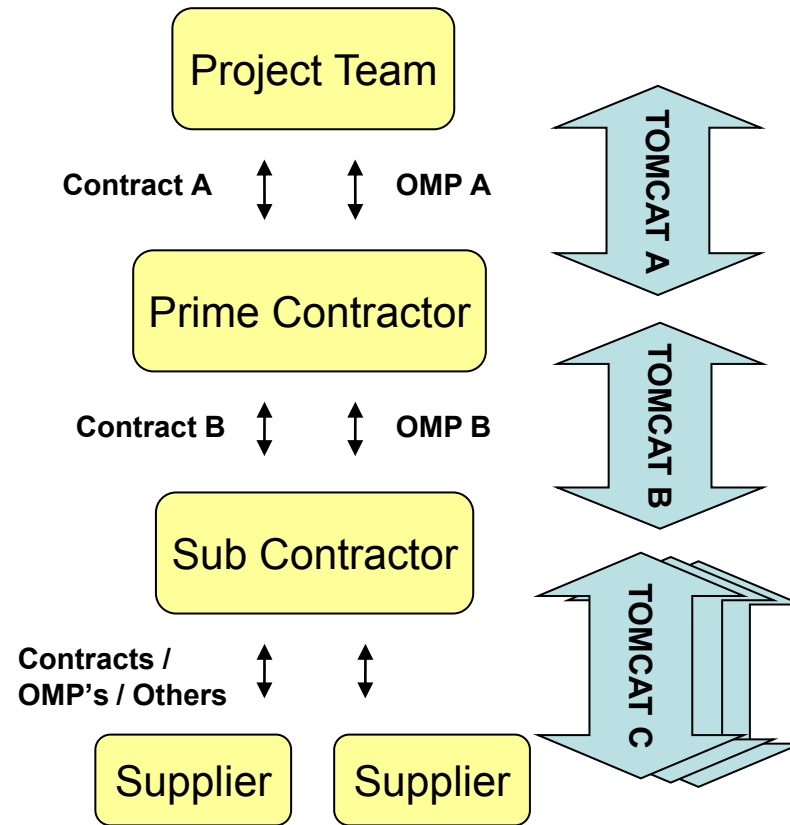


Workshops



25 metrics
finalized

TOMCAT Assessment Model



Default Assessments

▲ RISK ASSESSMENT ▼ SectionWeight ▲ ▶ 30 %

▲ Metric 4.1

Metric

How is the risk assessment conducted to identify and implement mitigation processes for the obsolescence risk?

Definition

This metric is intended to validate if an effective risk assessment and mitigation process is in place.

Regulatory
Compliance

BS EN 62402:2007, paragraph 7.1.3 – Obsolescence Management in the context of risk management to paragraph 7.1.5 – Assessment of

Recommended
Evidence

OMP, procedures, reports from an OM risk register

Relative Weights

▲ ▶ 60 %

▲ Sub question

1

Is the risk assessment process conducted in accordance with the IEC 62402:2007 triplet of Impact, Probability and Cost?

▲ Extra question

1

▶ Sub question

DESIGN FOR OBSOLESCENCE ▼ SectionWeight ▲ ▶ 40 %

+

-

Save

Cancel

Default Assessments

OM GOVERNANCE ▾ SectionWeight ◀ ▶ 30 %

Metric 1.1

Metric	How has the MOD defined the appropriate requirements / contractual conditions in order to proactively manage the obsolescence risk?
Definition	This metric is to evaluate how well the responsibility for managing the obsolescence risk has been defined contractually or within
Regulatory Compliance	JSP 886 Volume 7 Part 8.13 Obsolescence Management and / or the Commercial Policy Statement
Recommended Evidence	Contract, Requirement Document
Relative Weights	◀ ▶ 60 %

Sub question

1 Was an OM specialised involved in developed the initial OM requirements for the contract.

Extra question

1

Sub question

DESIGN FOR OBSOLESCENCE ▾ SectionWeight ◀ ▶ 40 %



Save

Cancel



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Results

Section 1

Obsolescence Management Governance

1	How has the MOD defined the appropriate requirements / contractual conditions in order to proactively manage the obsolescence risk?	70		☐ Not Applicable
2	How has Obsolescence Management been considered as part of the organisational strategy for the project?	100		☐ Not Applicable
3	What evidence is there of an individual who has the delegated responsibility for managing the obsolescence risk to this project?	0		☒ Not Applicable

Section 2

Supplier

1	What arrangements are in place, with Supplier(s), to ensure that the obsolescence risk to the project is managed effectively?	60		☒ Not Applicable
2	How are the payment arrangements defined for the obsolescence mitigations and resolutions that are identified by Supplier(s)?	20		☐ Not Applicable
3	How has Obsolescence Management capability been considered as a factor for Supplier evaluation?	90		☒ Not Applicable

Section 3

Design for Obsolescence

1	How has obsolescence risk been incorporated within design procedures and processes?	80		☐ Not Applicable
2	To what extent is modularisation / technology transparency applied in the system? (If so, to what indenture level?)	50		☐ Not Applicable
3	How has component end of life cycle been considered as part of the design process?	90		☐ Not Applicable
4	What level of understanding does the Design Team-Leader have of obsolescence and its impact?	20		☐ Not Applicable

Section 4

Risk Assessment

1	How is the risk assessment conducted to identify and implement mitigation processes for the obsolescence risk?	0		☐ Not Applicable
2	How are decisions from the obsolescence risk assessments, obsolescence approach selections and the derived mitigation actions recorded on an appropriate OM risk register?	100		☒ Not Applicable



TOMcat*

Assessment

COMPONENT OBSOLESCENCE

Overview

Total

Your score !

52.71%

OM Governance

39.20%



Validation



The TOMCAT tool has been subjected to rigorous Industry scrutiny through a number of means:

- JOMWG meetings
- TOMCAT workshops
- Piloting sessions with:
 - Selex Galileo
 - General Dynamics
 - Typhoon Radar Project (BAE Systems)



The piloting sessions enabled enhancing the TOMCAT:

- Refining the metrics (eg. use of open-ended questions)
- Refine weighting for metrics
- Assessment range: [0 – 100] (rather than yes/no answers)
- Assess contract stakeholders rather than organisation
- Identify supporting documentation required (evidences)
- Generate supplementary questions for each metric
- Identifying non-applicable metrics / supplementary questions
- Enabling self-assessment
- Web-based application



Concluding Remarks

- In the transition towards Availability / Capability contracts (Performance-Based Logistics), the MoD requires to have confidence in Industry's capability to manage the risk of obsolescence.
- The TOMCAT tool provides a way to assess the contractor's capability for each particular project.
- The systematic use of TOMCAT across defence will allow:
 - Improving OM capability across the supply chain.
 - Reporting on the status of an OM strategy.
 - Providing incentives for a contractor.
 - Ensuring the risk is placed in the right place.



Thank you!

Questions?

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