TOMCAT
A Framework to Assess Obsolescence Management Capability

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# Report Documentation Page

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<td>Cranfield University, Decision Engineering Centre, UK,</td>
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<th>13. SUPPLEMENTARY NOTES</th>
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<td>Presented to: DMSMS and Standardization Conference, Hollywood, FL August 29- Sept 01 2011</td>
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Standard Form 298 (Rev. 8-98)  
Prescribed by ANSI Std Z39-18
Overview

- Introduction
- TOMCAT Development
- Capability Metrics
- TOMCAT Validation
- Concluding Remarks
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.
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 Obsolescence Management Capability Assessment Tool
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)
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

Data collection from Industry and MoD

Academic Study

Mindmap

Ranking

IIF Study

Classification in terms of Importance, Impact and Feasibility
Capability Metrics Development

- O. M. Governance
- Supplier
- Design for Obsolescence
- Risk Assessment
- Obsolescence Monitoring
- Communication
- Obs. Resolution Process

60 metrics in 7 categories
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%]

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%]

www.cranfield.ac.uk
Metrics selection

Workshops

60 metrics

25 metrics finalized
**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**

**Section Weight**
- 40%
**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.

**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 specialist involved in the development of the initial OM requirements for the contract.

**Extra question**
1.

**Sub question**

**DESIGN FOR OBSOLESCENCE**

**SectionWeight**
40%
### Obsolescence Metrics

#### Section 1: Obsolescence Management Governance

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
<th>Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has the MOD defined the appropriate requirements / contractual conditions in order to proactively manage the obsolescence risk?</td>
<td>70</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>How has Obsolescence Management been considered as part of the organisational strategy for the project?</td>
<td>100</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>What evidence is there of an individual who has the delegated responsibility for managing the obsolescence risk to this project?</td>
<td>0</td>
<td>Not Applicable</td>
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#### Section 2: Supplier

<table>
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<tr>
<th>Question</th>
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<th>Applicability</th>
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<tr>
<td>What arrangements are in place, with Supplier(s), to ensure that the obsolescence risk to the project is managed effectively?</td>
<td>60</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>How are the payment arrangements defined for the obsolescence mitigations and resolutions that are identified by Supplier(s)?</td>
<td>20</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>How has Obsolescence Management capability been considered as a factor for Supplier evaluation?</td>
<td>90</td>
<td>Not Applicable</td>
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#### Section 3: Design for Obsolescence

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<th>Question</th>
<th>Score</th>
<th>Applicability</th>
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<tr>
<td>How has obsolescence risk been incorporated within design procedures and processes?</td>
<td>80</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>To what extent is modularisation / technology transparency applied in the system? (If so, to what indenture level?)</td>
<td>50</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>How has component end of life cycle been considered as part of the design process?</td>
<td>90</td>
<td>Not Applicable</td>
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<tr>
<td>What level of understanding does the Design Team-Leader have of obsolescence and its impact?</td>
<td>20</td>
<td>Not Applicable</td>
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#### Section 4: Risk Assessment

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

For further information please contact:

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Tel: +44 (0) 1234 750111

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