



Material Development Decision (MDD) Development Planning Templates

Version 1, December 2011

**For additional information about the Development Planning Initiative, contact the
ODASD(SE) Deputy Director for Development Planning at devplng@osd.mil
or visit http://www.acq.osd.mil/se/initiatives/init_devplng.html**



Development Planning Policy Memo (DTM 10-017)



Additional MDD Technical Considerations

The DoD Components shall provide evidence at the MDD Review that will facilitate the MDA's determination that:



1. The candidate materiel solution approaches have the potential to effectively address the capability gap(s), operational attributes and associated dependencies.
2. There exists a range of technically feasible solutions generated from across the entire solution space, as demonstrated through early prototypes, models, or data.
3. Consideration has been given to near term opportunities to provide a more rapid interim response to the capability need.
4. The plan to staff and fund analytic, engineering, and programmatic activities supports the proposed milestone entry requirements.

Post-MDD ASD(R&E) [formerly DDR&E] Engagement

- Cooperate with the Director, Cost Assessment and Program Evaluation, and, as agreed upon with that organization, serve as a standing participant and technical advisor in the development of Analysis of Alternatives (AoA) Study Guidance and on the AoA Study Advisory Group for potential programs under USD(AT&L) oversight to facilitate the consideration of technology and engineering risks for the alternatives under consideration.
- Monitor and review the effectiveness of the policy in this DTM and develop additional development planning guidance as needed for incorporation into acquisition policy and the Defense Acquisition Guidebook

Reference: <http://www.acq.osd.mil/se/docs/USD-ATLMemo-DTM-10-017-Dev-Planning-13Sept10.pdf>



DTM Evidence to Facilitate MDD



- **Not anticipating need for new analysis but rather information sharing of prior activities**
- **Draft MDD Templates**
- **Examples are notional and should be tailored to best convey information to enable MDA's determination of effective DP**
- **Information suitable for IIPT level meeting**
 - Issues will continue to be raised through MDD DAB



Matériel Solution Approach(s) Which Could Address the Capability Gap

DTM 1 & 2

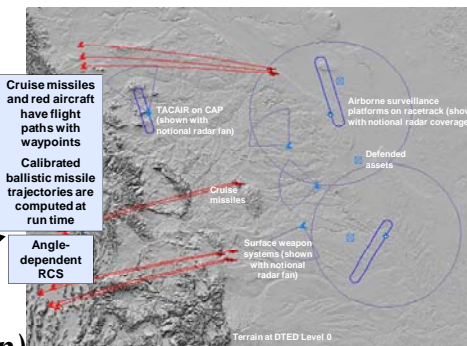
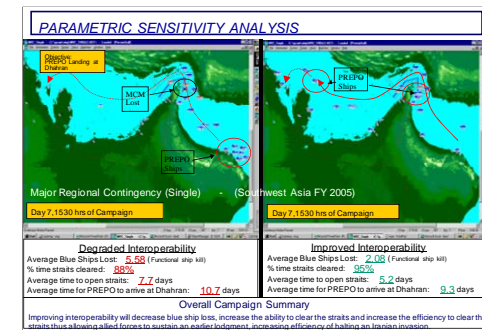


- What matériel approaches (i.e. ‘matériel concepts’) could address the capability gap?
- What is the evidence that these approaches provide the desired operational attributes?
- Which matériel approaches are included in the AoA guidance and/or analysis plan?

Simulation-based analysis used to validate approach

Example

| Matériel Approaches | Potential Operational Impact | Supporting Evidence | Included in AoA? |
|---------------------|------------------------------|---------------------|------------------|
| Sensors | | | Yes |
| Weapons | | | |
| Network | | | |
| | | | |
| | | | |



Supporting evidence (backup)



Alternatives Considered & Included in the AoA

DTM 1 & 2



- **What alternatives were considered for inclusion in the AoA? (Alternative ways to implement the viable approaches)**
- **Technical Feasibility**
 - The basic capabilities of the alternatives has the ability to fill the capability gap (mission effectiveness) and can do so within the needed timeframe
 - Summarize the available evidence that the alternatives included in the AoA are technically feasible (e.g. models, analysis, prototypes, existing systems)
- **For each alternative, what are the implications or dependencies?**
 - Depending on the context this may include portfolio implications, existing system impacts, related Initial Capabilities Document (ICDs), additional capabilities needed to address the gap
- **How are these dependencies factored into the planned analysis of alternatives?**

Example

| Alternative Considered | Technical Assessment | Evidence of Technical Feasibility | External Dependencies | How are dependencies reflected in AoA Plan? |
|------------------------|----------------------|-----------------------------------|-----------------------|---|
| Alternative 1 | | | | |
| Alternative 2 | | | | |
| Alternative 3 | | | | |
| Alternative 4 | | | | |
| Alternative 5 | | | | |
| Alternative 6 | | | | |

Assessment of Each Alternative

| Alternative Concept | Name and ID |
|---|---|
| | <p>Evaluations – Identify evaluations performed and results that support this concept</p> <ul style="list-style-type: none"> - Parametric studies - M&S - Prototyping (performed and planned) - Analyses <p>- Conclusions from all evaluations</p> |
| <p>Description: Describe this concept and how it fits into the architecture</p> <p>Conclusions: Conclusions about this concept</p> <p>Risk Assessment: (high, medium, low):</p> <ul style="list-style-type: none"> - Operational: - Program (cost, schedule, performance): - Technology: - Intelligence: - Overall Risk Assessment: | <p>Program characterization</p> <ul style="list-style-type: none"> - Cost and schedule - Design characteristics - Critical Technology Elements and maturity - Test and Evaluation - Operating Concept and DOT_LPF Implications - Supportability <p>Basis for assessment</p> |

Integrity - Service - Excellence

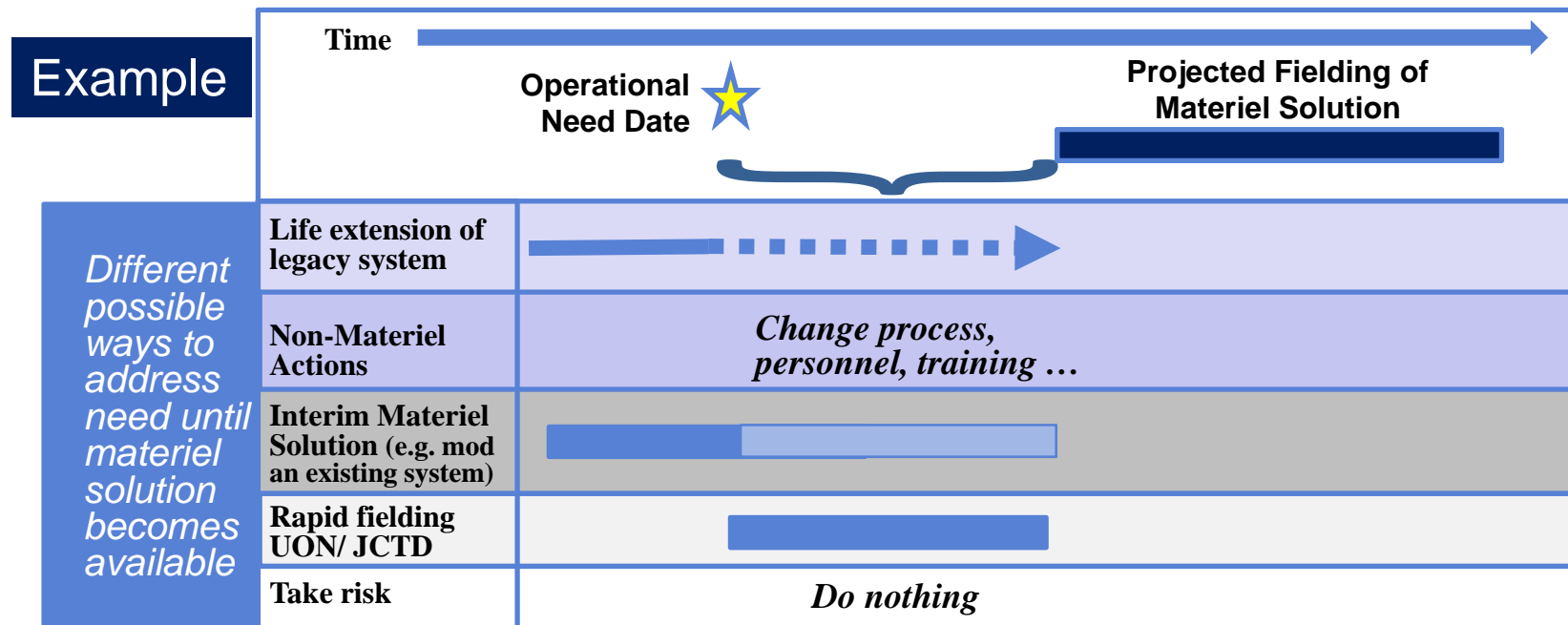


Timeliness to Capability Need

DTM 3



- **When is the capability needed?**
(Documented need date? Supporting evidence?)
- **When do we expect a proposed materiel solution be available?**
(Based on acquisition timelines of similar solutions)
- **If necessary, what is being done to address the gap until the material solution becomes available?**





Next Phase Funding & Staffing

DTM 4



- Propose entry point into the acquisition process and provide plans for the next phase including funding and staffing plans (organization chart)
- For Materiel Solution Analysis (MSA) phase, for example, include all funding and staffing plans for the AoA and the engineering analysis and planning for the next milestone including the milestone certification requirements
 - People, organization, function, and funding to conduct the AoA
 - People, organization, function, and funding to conduct the engineering analysis of Potential System Solution(s)
 - Engineering analysis to develop and document sound technical planning (TDS, SEP, TES, RAM-C)
 - Engineering analysis to develop contractual technical documentation (SRD) for the next phase of acquisition
 - Engineering analysis to inform the Milestone A Independent Cost Estimate (ICE)

Examples

| | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 | Month 7 | Month 8 | Month 9 | Month 10 | Month 11 | Month 12 | Month 13 | Month 14 | Month 15 | Month 16 | Month 17 | Month 18 | |
|--------------------------|----------------|---------|---------------|---------|---------|---------|---------|---------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--|
| Analysis Of Alternatives | AoA Study Plan | | | | | | | | | | | | | | | | | | |
| | | | AoA Execution | | | | | | | | | | | | | | | | |
| | | | | | | | | | AoA Report | | | | | | | | | | |
| Engineering Analysis | | | | | | | | | | | | | | | | | | | |
| Planning | | | | | | | | | | | | | | | | | | | |
| Staffing | | | | | | | | | | | | | | | | | | | |
| Org 1 - Cat | # | # | # | # | # | # | # | # | # | # | # | # | # | # | # | # | # | # | |
| Org 2 - Cat | | | | | | | | | | | | | | | | | | | |
| Org 4 - Cat | | | | | | | # | # | # | # | # | # | # | # | # | # | # | # | |
| Org 3 - Cat | | | | | | | | | # | # | # | # | # | # | # | # | # | # | |
| Funding | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ | |

