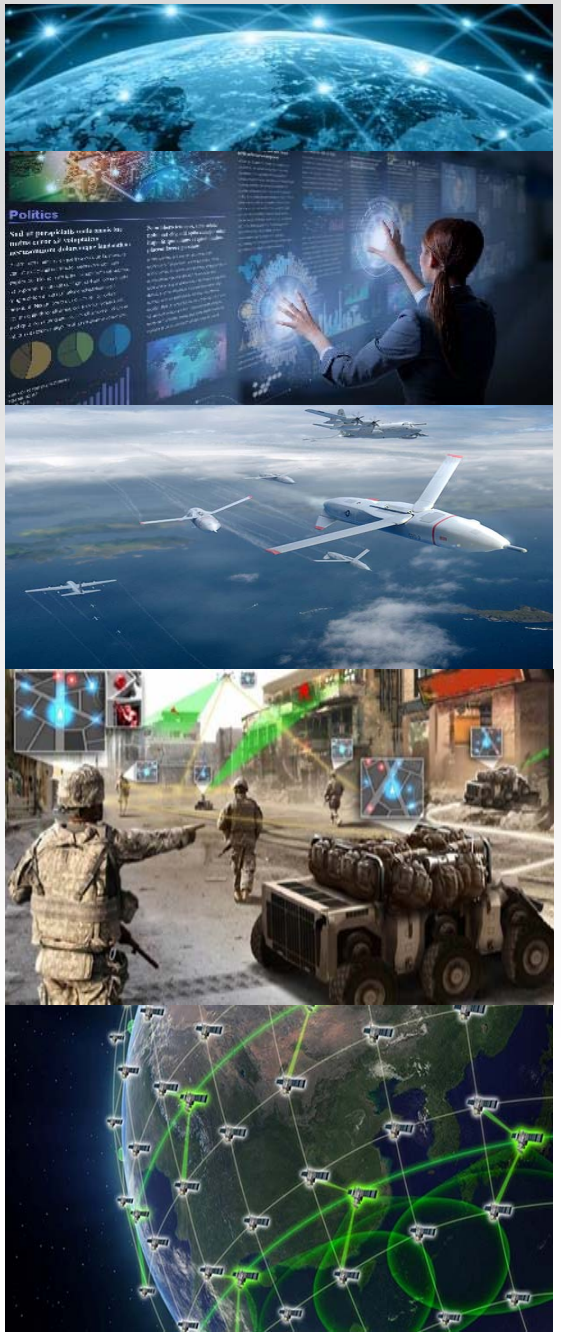
Independent Technical Risk Assessment (ITRA)

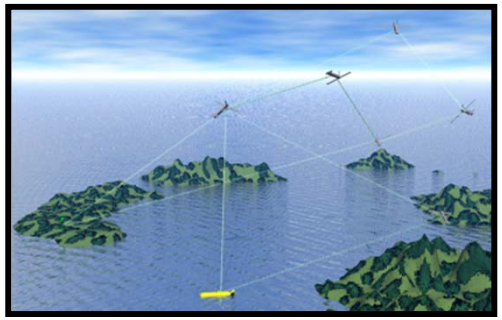


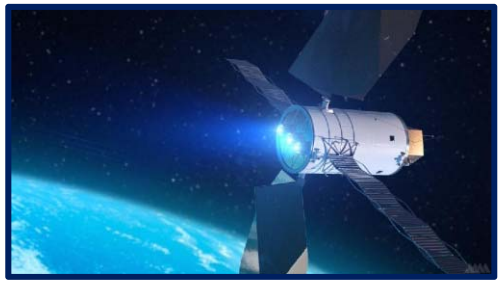
Mr. Scott Menser
Chief Engineer, Fixed Wing Aircraft and Weapons
Mission Integration, OUSD(R&E)

22nd Annual Systems and Mission Engineering Conference
Tampa, FL | October 2019

USD(R&E) Mission

- **Ensure Technological Superiority for the U.S. Military**
  - Set the technical direction for the Department of Defense (DoD)
  - Champion and pursue new capabilities, concepts, and prototyping activities throughout the DoD research and development enterprise
- **Bolster Modernization**
  - Pilot new acquisition pathways and concepts of operation
  - Accelerate capabilities to the Warfighter





"Our mission is to ensure that we, if necessary, reestablish and then maintain our technical advantage."
– Under Secretary Griffin, April 2018

Modernization Priorities

"We cannot expect success fighting tomorrow's conflicts with yesterday's weapons or equipment."
– National Defense Strategy

- Hypersonics
- Fully Networked Command, Control, and Communication
- Directed Energy
- Cyber
- Space
- Quantum Science
- Machine Learning / Artificial Intelligence
- Microelectronics
- Autonomy
- Biotechnology
- 5G

For each modernization priority, a Portfolio Manager (Assistant Director) is responsible for establishing the DoD-wide, mission-focused strategy and execution plan

DDR&E(AC) Goals and Strategy

- **Goal #1: Align with modernization priorities**
  - Strategy: Incorporate Assistant Directors (ADs) into technology investment selection and prioritization
- **Goal #2: Accelerate modernization**
  - Strategy: Establish joint missions as portfolio management framework guiding technology project selection, resource prioritization, and transition plans
- **Goal #3: Maintain a strategically relevant test infrastructure**
  - Strategy: Realign test capability investments based on AD roadmaps and joint missions
- **Goal #4: Enhance credibility and technical excellence of independent review and assessments**
  - Strategy: Tailor independent reviews and assessments to provide more readily available information to decision makers; improve access and caliber of subject matter expertise

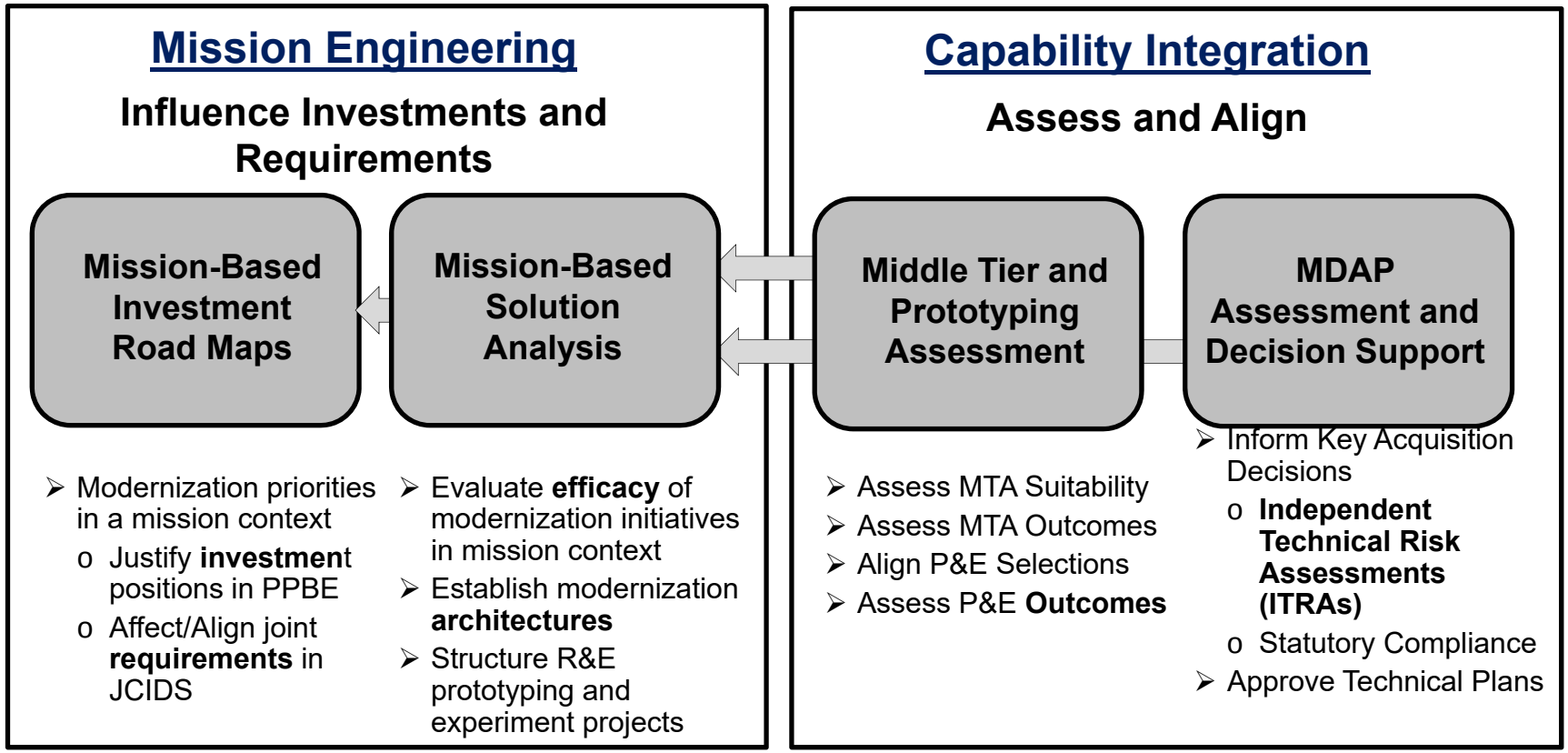
Engineering is a peer-review discipline.

- **Goal #5: Improve engineering competency DoD wide**
  - Strategy: Revise DoD policy and workforce development to drive measurable engineering results and improve talent access
- **Goal #6: Strengthen Collaboration**
  - Strategy: Enhance partnerships that are working; seek new partnerships that support goals

DDR&E(AC) Role: Accelerate Modernization; Mature Technology to Capability, from Prototyping to Acquisition

Mission Integration – Vision

Mission Integration: ***Engineering rigor to integrate and guide investments toward modernized enterprise-level solutions to mission problems***



Not Only Building Things Right (Program Oversight) but also Building the Right Things (Lethal Modernized Force)

FY 2017 NDAA – Section 807

(with FY19 NDAA changes)

§2448b. Independent technical risk assessments

(a) IN GENERAL.—With respect to a major defense acquisition program, the Secretary of Defense shall ensure that an independent technical risk assessment is conducted—

(1) before any decision to grant Milestone A approval for the program pursuant to section 2366a of this title, that identifies critical technologies and manufacturing processes that need to be matured; and

(2) before any decision to grant Milestone B approval for the program pursuant to section 2366b of this title, any decision to enter into low-rate initial production or full-rate production, or at any other time considered appropriate by the Secretary, that includes the identification of any critical technologies or manufacturing processes that have not been successfully demonstrated in a relevant environment.

§2366a, 2366b, 2366c Cite ITRAs

- **Determination Required before Milestone A:**

> (4) that, with respect to any identified areas of risk, including risks determined by the identification of critical technologies required under **section 2448b(a)(1)** of this title or any other risk assessment, there is a plan to reduce the risk;

- **Brief Summary Report after Milestone A:**

> (B) The **estimated cost and schedule** for the program established **by the military department concerned**…
> (C) The **independent estimated cost** for the program established **pursuant to section 2334(a)(6)** of this title, and any independent estimated schedule for the program…
> (D) A **summary of the technical and manufacturing risks** …, as determined **by the military department concerned**,..
> (E) A **summary of the independent technical risk assessment** conducted or **approved under section 2448b** ….

- **Certifications and Determination Required before Milestone B:**

> (2) … certifies that the technology in the program has been demonstrated in a relevant environment, as determined by the MDA on the basis of an **independent review and technical risk assessment** conducted under section 2448b of this title;

- **Brief Summary Report after Milestone B:**

> (B) The **estimated cost and schedule** for the program established **by the military department concerned**…
> (C) The **independent estimated cost** for the program established **pursuant to section 2334(a)(6)** of this title, and **any** independent estimated schedule for the program…
> (D) A **summary of the technical and manufacturing risks** …, as determined **by the military department concerned**…
> (E) A **summary of the independent technical risk assessment** conducted or **approved under section 2448b** …..
> (F) A statement of whether a **modular open system approach** is being used for the program.

- **Brief Summary Report after Milestone C:**

> (3) A summary of any production, manufacturing, and fielding risks associated with the program

Office of the Law Revision Council at http://uscode.house.gov

Cost, Schedule, and Performance Transparency

Independent Assessments

Service Assessments

§2448b

Independent Technical Risk Assessment

§2448a*

§181/ 925*

Cost & Fielding Targets

MDA

Establishes Cost, Schedule, & Performance Goals

§2366a/b/c

To Congress

Risk Assmt Perf E Rqmts

Sched Estimate

MDA Certifications / Written Determinations (varies by MS)
-e.g. Post-PDR Assessment
-e.g. Technology readiness

Summary Report (varies by MS)
-Program Cost and Fielding Targets
-Service Estimated Cost and Schedule
-Independent Cost Estimate (ICE)
-Any Independent Estimated Schedules
-Military Department Summary of Risks
-Summary of ITRA
-MOSA Statement
-Other Info

§2334

ICE

*P.L 114-328 §925

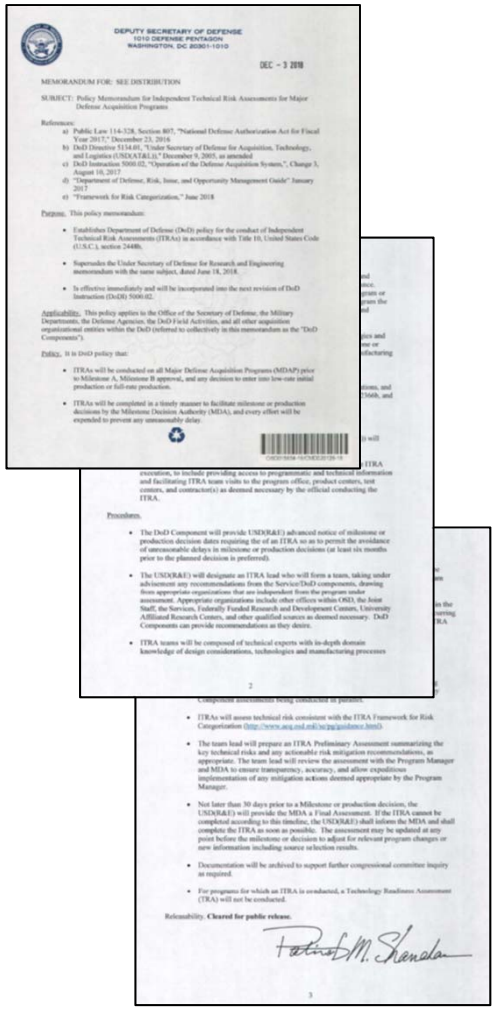
Independent Cost Estimate

Cost Estima

Sched Estimate

DepSecDef ITRA Policy Memorandum

December 3, 2018 (summarized)


DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

DEC – 3 2018

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Policy Memorandum for Independent Technical Risk Assessments for Major Defense Acquisition Programs

Policy. It is DoD policy that ITRAs:

- Are conducted on all MDAPs prior to Milestone or Production decisions
- Will consider the full spectrum of Technology, Engineering and Integration risk
- Are independent of the program
- Facilitate establishment of program cost, schedule, and performance goals as required by title 10 U.S.C., section 2448a
- Support Title 10, U.S.C., sections 2366a, 2366b, and 2366c reporting

Responsibilities:

- USD(R&E) conducts or approves ITRAs. Can be delegated
- Services, Agency, and Program Manager support ITRA execution, providing access to programmatic and technical information and facilitating team visits

Procedures:

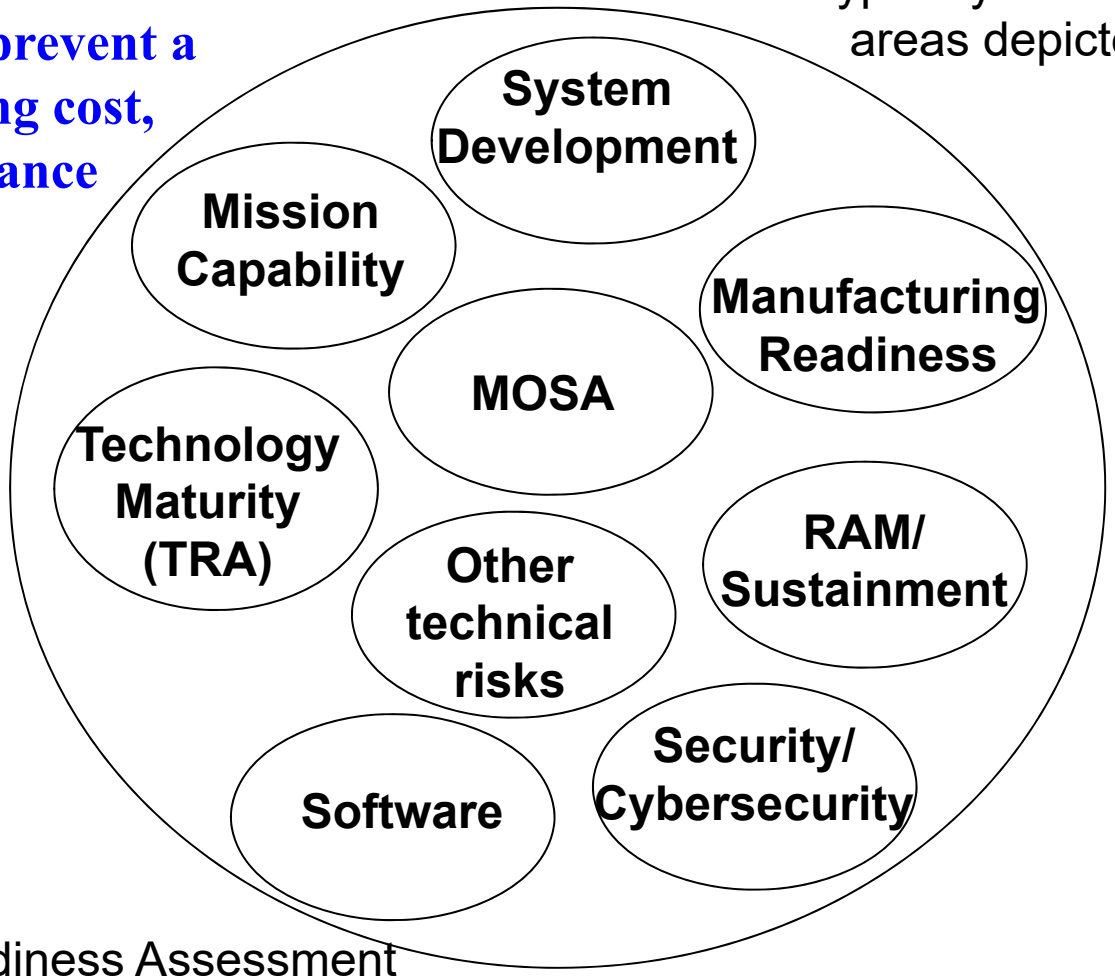
- DoD Components provide advanced notice of milestone or production decisions
- USD(R&E) designate an ITRA lead who will form a team
- ITRA teams will be composed of technical experts
- Establish the team as early in the lifecycle and leverage existing program events, documentation, etc.
- USD(R&E) provides a Final Assessment to the MDA 30 days prior to a Milestone or Production decision

ITRA Considers the Full Spectrum of Technical Risk

Technical risks are those events or conditions that may prevent a program from meeting cost, schedule, or performance objectives

…typically emanate from areas depicted in this diagram

ITRA =



ITRA ≠ TRA

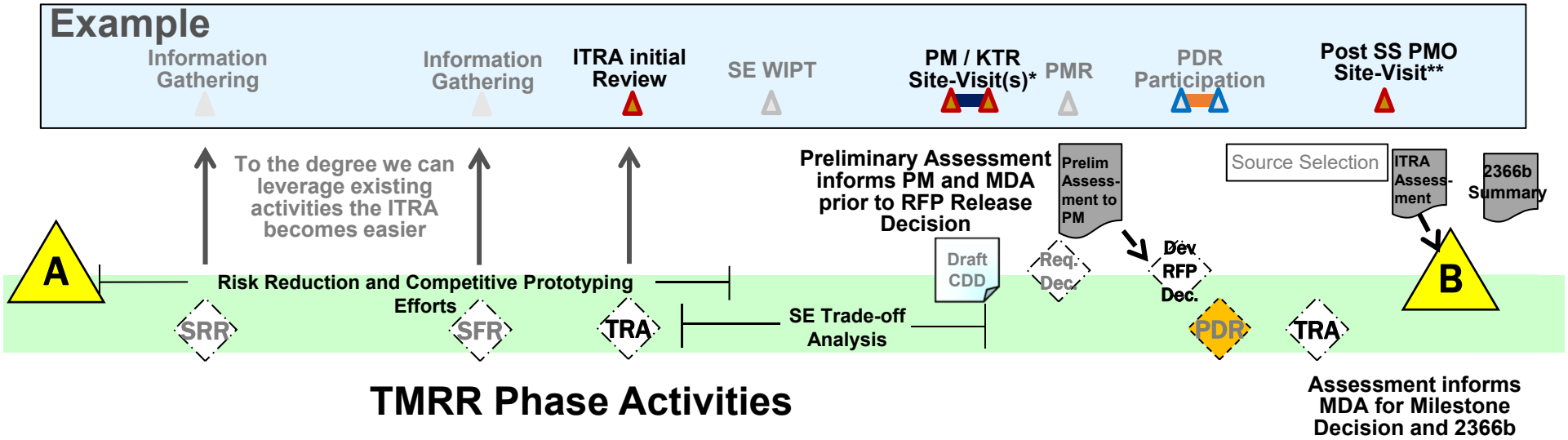
TRA: Technology Readiness Assessment

ITRA: Independent Technical Risk Assessment

Example Implementation

TMRR Phase (Pre-Milestone B) Example

- ITRAs likely include multiple touchpoints with a program to understand and assess technical risk
  - **Document reviews, artifact reviews, data analysis and discussions**
- Planning/coordination initiated 12-14 months prior to Milestone Decision
- Touchpoints ▲ should leverage planned activities, where practical
  - ▲ - ITRA specific team engagement
  - ▲ - Leverage (tactical, e.g., perhaps small 1-4 person engagement)
  - △ - e.g., optional touchpoints potentially available



*May require 3-4 day visits with PMO and KTR(s)
**Follow-up to assess risks in proposed final solution – desire is to limit to selected design

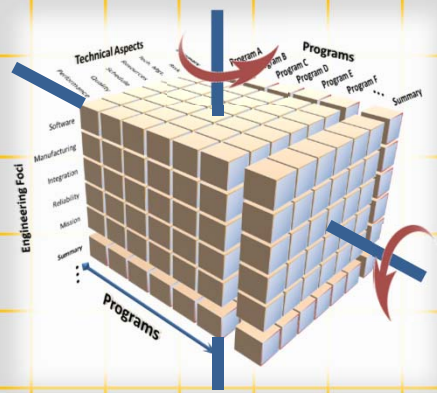
Defense Technical Risk Assessment Methodology (DTRAM)

Framework of Assessment Criteria

- **Areas cross Factors**
- **Multidimensional**
- **Balances coverage**

Factors ***(Technical Aspects)***

Areas *(Engineering Foci)*	Scope and Requirements	Design & Architecture	Control	Schedule	Resources	Eval (V&V)	Performance and Quality
Mission Capability							
Technology							
System Development / Integration							
MOSA							
Software							
Security / Cybersecurity							
Manufacturing							
RAM Sustainment							



Areas

- **Mission**
  - Requirements, SoS/FoS, interfaces, end-to-end performance
- **Technology**
  - Technology maturity, on-off ramp readiness, MOSA
- **System Development & Integration**
  - Design approach, engineering mgt., integration/implementation
- **MOSA –** enabled evolution
- **Software**
  - Realism, architecture, development methodology
- **Security/Cybersecurity**
  - Resiliency, methods, vulnerabilities
- **Manufacturing**
  - Capacity, producibility, tooling, procedures
- **RAM/Sustainment**
  - Design for reliability, sustainment, support

Factors

- **Scope/Requirements**
  - Complete, realistic, achievable
- **Design Process**
  - Analysis, planning, alignment, methodology
- **Decision/Control**
  - Risk mgt, technical measures, decision criteria
- **Schedule**
  - Realistic, healthy, models development, accounts for risk
- **Resources**
  - People, Funding, Facilities
- **Evaluation (V&V)**
  - Matures product, supports decisions, methodology
- **Performance/Quality**
  - Capability meets expectations, quantities

Completed ITRAs

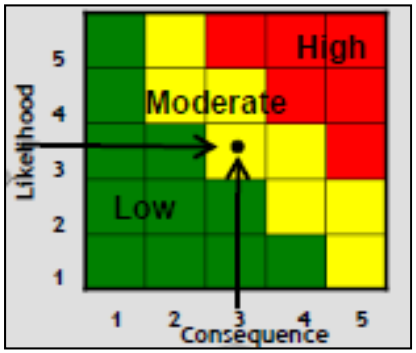
Completed ITRAs	FY19	FY18
Completed/signed	18	2
Initiated but unsigned	2	1

	FY20	FY21
Currently Planned ITRAs	23	6

Breakdown	MS A	MS B	MS C	FRP	Other
ACAT ID		1			2
ACAT IB/IC	1	4	7	3	
804 (IVAS)	1				
MDA (SM-3)			1		
Other (initiated, not signed)	2	1			

Framework for Risk Categorization

Table 3-2. Recommended Likelihood Criteria		
Level	Likelihood	Probability of Occurrence
5	Near Certainty	> 80% to ≤ 99%
4	Highly Likely	> 60% to ≤ 80%
3	Likely	> 40% to ≤ 60%
2	Low Likelihood	> 20% to ≤ 40%
1	Not Likely	> 1% to ≤ 20%



Level	Cost	Schedule	Performance
5 Critical Impact	10% or greater increase over APB objective values for RDT&E, PAUC, or APUC Cost increase causes program to exceed affordability caps	Schedule slip will require a major schedule rebaselining Precludes program from meeting its APB schedule threshold dates	Degradation precludes system from meeting a KPP or key technical/supportability threshold; will jeopardize program success [2] Unable to meet mission objectives (defined in mission threads, ConOps, OMS/MP)
4 Significant Impact	5% - <10% increase over APB objective values for RDT&E, PAUC, or APUC Costs exceed life cycle ownership cost KSA	Schedule deviations will slip program to within 2 months of approved APB threshold schedule date Schedule slip puts funding at risk Fielding of capability to operational units delayed by more than 6 months[1]	Degradation impairs ability to meet a KSA.[2] Technical design or supportability margin exhausted in key areas Significant performance impact affecting System-of System interdependencies. Work-arounds required to meet mission objectives
3 Moderate Impact	1% - <5% increase over APB objective values for RDT&E, PAUC, or APUC Manageable with PEO or Service assistance	Can meet APB objective schedule dates, but other non-APB key events (e.g., SETRs or other Tier 1 Schedule events) may slip Schedule slip impacts synchronization with interdependent programs by greater than 2 months	Unable to meet lower tier attributes, TPMs, or CTPs Design or supportability margins reduced Minor performance impact affecting System-of System interdependencies. Work-arounds required to achieve mission tasks
2 Minor Impact	Costs that drive unit production cost (e.g., APUC) increase of <1% over budget Cost increase, but can be managed internally	Some schedule slip, but can meet APB objective dates and non-APB key event dates	Reduced technical performance or supportability; can be tolerated with little impact on program objectives Design margins reduced, within trade space [2]
1 Minimal Impact	Minimal impact. Costs expected to meet approved funding levels	Minimal schedule impact	Minimal consequences to meeting technical performance or supportability requirements. Design margins will be met; margin to planned tripwires

Acronyms and Abbreviations

- ACAT – Acquisition Category
- AD – Assistant Director
- CDD – Capability Development Document
- FoS – Family of Systems
- FY – Fiscal Year
- ICE – Independent Cost Estimate
- ITRA – Independent Technical Risk Assessment
- JCIDS – Joint Capabilities Integration and Development System
- KTR – Contractor
- MDA – Milestone Decision Authority
- MDAP – Major Defense Acquisition System
- MOSA – Modular Open Systems Approach
- MS – Milestone

Acronyms and Abbreviations

- MTA – MidTier Acquisition
- NDAA – National Defense Authorization Act
- PDR – Preliminary Design Review
- P&E – Planning and Evaluation
- PMO – Program Management Office
- PPBE –Planning, Programming, Budget, and Evaluation
- RAM – Reliability, Availability, and Maintainability
- RFP – Request for Proposal
- SE – Systems Engineering
- SoS – System of Systems
- TRA – Technology Readiness Assessment
- USD(R&E) – Under Secretary of Defense for Research and Engineering
- V&V – Verification and Validation

https://www.cto.mil

Questions?

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For Additional Information

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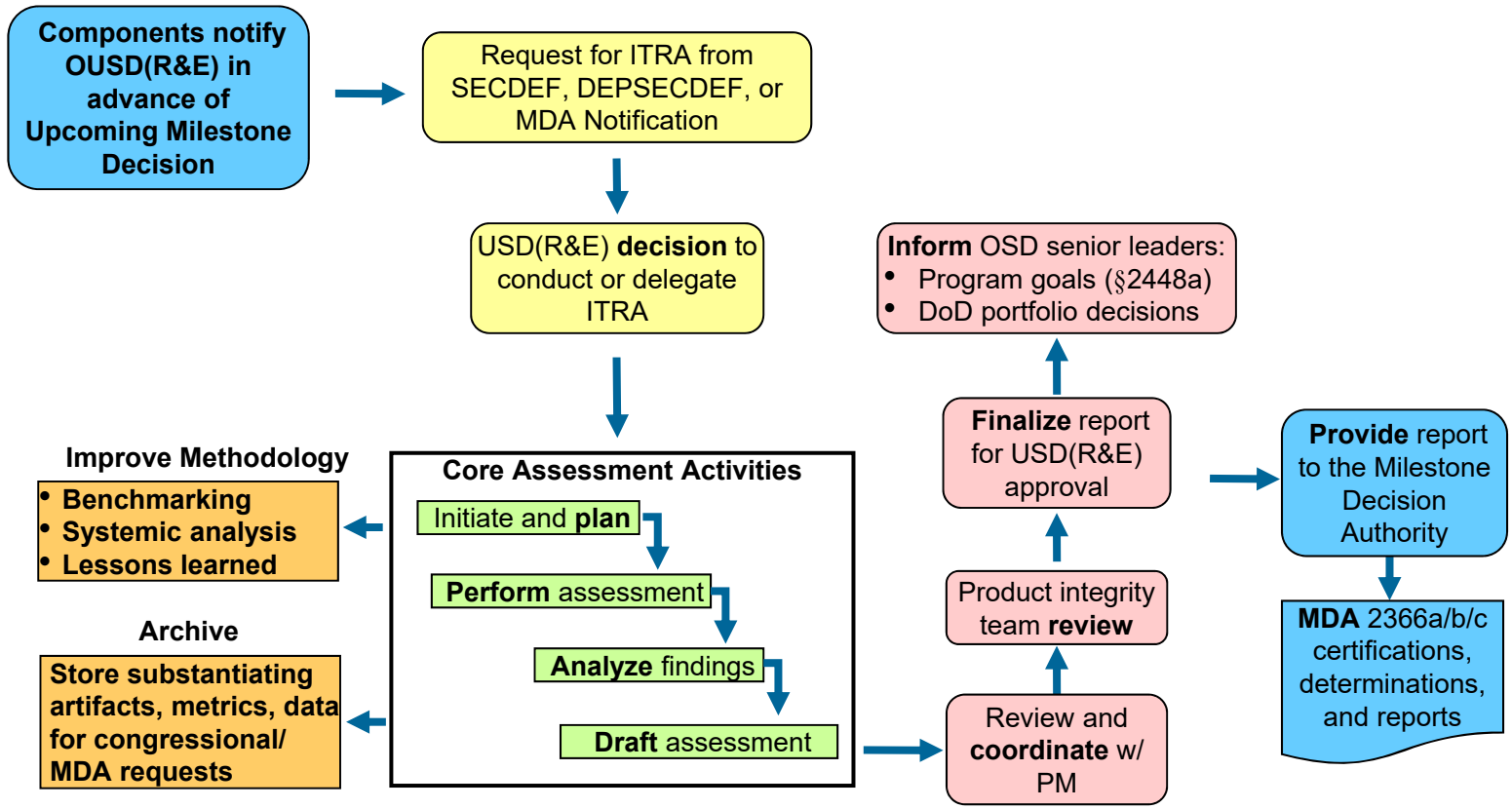
BACKUP

ITRA Process Overview



Example Implementation

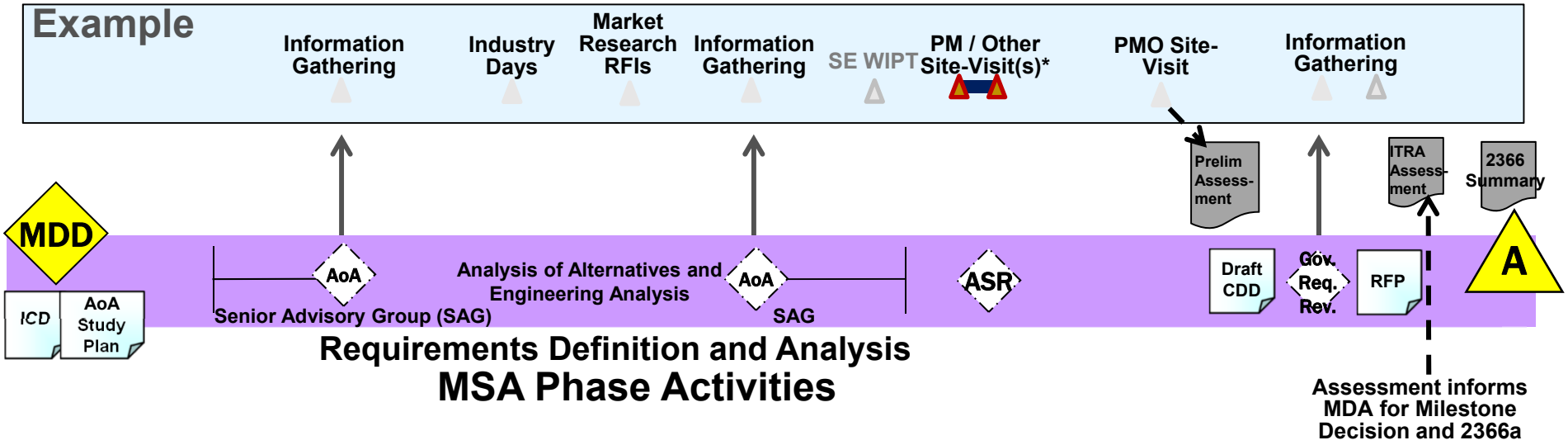
MSA Phase (Pre-Milestone A) Example

- An Independent Technical Risk Assessment will likely include multiple touchpoints with a program to understand and assess technical risk
  - May include review/assessment of AoA results; review of Market Research, Industry RFIs and participation in Industry Days; and exchanges with PMO/user
  - Document reviews, artifact reviews, data analysis, research, and discussions
- Touchpoints △ may leverage already planned activities, where practical

▲ - Full assessment team engagement

△ - Data/analysis review or small 2-4 person engagement

△ - e.g., optional touchpoints potentially available



*May require 2-4 day visits with PMO and other offices

Example Implementation

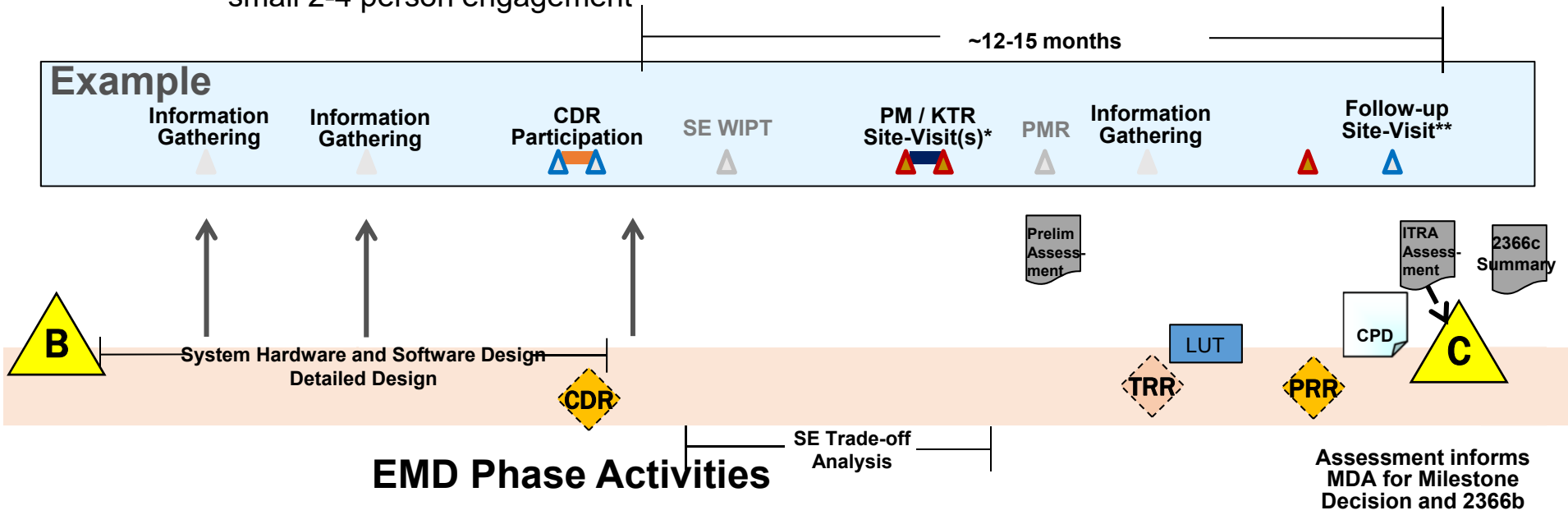
EMD Phase (Pre-Milestone C) Example

- ITRAs will leverage multiple touchpoints
  - **Document reviews, artifact reviews, data analysis, and discussions**
- Ideally we'll leverage already planned activities, whenever practical

▲ - Larger or full assessment team engagement

△ - Opportunities for data/analysis review or small 2-4 person engagement

△ - e.g., optional touchpoints potentially available



*May require 3-4 day visits with PMO and multiple KTRs
**Follow-up to assess risks in proposed final solution – desire is to limit to selected design

FY 2017 NDAA – Section 807

(with FY19 NDAA changes)

§2448a. Program cost, fielding, and performance goals in planning major defense acquisition programs

(a) Program Cost and Fielding Targets.—

(1) Before funds are obligated for technology development, systems development, or production of a major defense acquisition program, the designated milestone decision authority shall ensure, by establishing the goals described in paragraph (2), that the program will—

(A) be affordable;

(B) incorporate program planning that anticipates the evolution of capabilities to meet changing threats, technology insertion, and interoperability; and

(C) be fielded when needed.

(2) The goals described in this paragraph are goals for—

(A) the procurement unit cost and sustainment cost (referred to in this section as the 'program cost targets');

(B) the date for initial operational capability (referred to in this section as the 'fielding target'); and

(C) technology maturation, prototyping, and a modular open system approach to evolve system capabilities and improve interoperability.

§2448b. Independent technical risk assessments

(a) IN GENERAL.—With respect to a major defense acquisition program, the Secretary of Defense shall ensure that an independent technical risk assessment is conducted—

(1) before any decision to grant Milestone A approval for the program pursuant to section 2366a of this title, that identifies critical technologies and manufacturing processes that need to be matured; and

(2) before any decision to grant Milestone B approval for the program pursuant to section 2366b of this title, any decision to enter into low-rate initial production or full-rate production, or at any other time considered appropriate by the Secretary, that includes the identification of any critical technologies or manufacturing processes that have not been successfully demonstrated in a relevant environment.

FY 2017 NDAA – (§2366b)

Certification Required Before Milestone B Approval

§2366b. Major defense acquisition programs: certification required before Milestone B approval

(a) Certifications and Determination Required.-A major defense acquisition program may not receive Milestone B approval until the milestone decision authority-

(1) has received a preliminary design review and conducted a formal post-preliminar
likelihood of accomplishing its intended mission;

(2) further certifies that the technology in the program has been demonstrated in a r
technical risk assessment conducted under section 2448b of this title;

(3) determines in writing that-

(A) the program is affordable when considering the ability of the Department of

(B) appropriate trade-offs among cost, schedule, technical feasibility, and perfo
total life-cycle cost;

(C) reasonable cost and schedule estimates have been developed to execute, with the concurrence of the Director of Cost Assessment and Program Evaluation, the product development and production plan under the program;

(D) the estimated procurement unit cost for the program and the estimated date for initial operational capability for the baseline description for the program (established under section 2435) do not exceed the program cost and fielding targets established under section 2448a(a) of this title, or, if such estimated cost is higher than the program cost targets or if such estimated date is later than the fielding target, the program cost targets have been increased or the fielding target has been delayed by the milestone decision authority;

(E) funding is expected to be available to execute the product development an

(F) appropriate market research has been conducted prior to technology devel

(G) the Department of Defense has completed an analysis of alternatives with

(H) the Joint Requirements Oversight Council has accomplished its duties with
program;

(I) life-cycle sustainment planning, including corrosion prevention and mitigati
sustainment, and disposal of the program, and any alternatives, and that such

(J) an estimate has been made of the requirements for core logistics capabilities and the associated sustaining workloads required to support such requirements;

(K) there is a plan to mitigate and account for any costs in connection with any anticipated de-certification of cryptographic systems and components during the production and procurement of the major defense acquisition program to be acquired;

(L) the program complies with all relevant policies, regulations, and directives

(M) the Secretary of the military department concerned and the Chief of the armed force concerned concur in the trade-offs made in accordance with subparagraph (B); and

(N) the requirements of section 2446b(e) of this title are met; and

(4) in the case of a space system, performs a cost benefit analysis for any new or follow-on satellite system using a dedicated ground control system instead of a shared ground control system, except that no cost benefit analysis is required to be performed under this paragraph for any Milestone B approval of a space system after December 31, 2019.

(2) further certifies that the technology in the program has been demonstrated in a relevant environment, as determined by the milestone decision authority on the basis of an independent review and technical risk assessment conducted under section 2448b of this title;

(B) appropriate trade-offs among cost, schedule, technical feasibility, and performance objectives have been made to ensure that the program is affordable when considering the per unit cost and the total life-cycle cost;

(D) the estimated procurement unit cost for the program and the estimated date for initial operational capability for the baseline description for the program (established under section 2435) do not exceed the program cost and fielding targets established under section 2448a(a) of this title, or, if such estimated cost is higher than the program cost targets or if such estimated date is later than the fielding target, the program cost targets have been increased or the fielding target has been delayed by the milestone decision authority;

(N) The requirements of section 2446b(3) of this title are met (MOSA)

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FY 2017 NDAA – (§2366b)

Submission to Congress on Milestone B

(1) Brief Summary Report.—Not later than 15 days after granting Milestone B approval for a major defense acquisition program, the milestone decision authority for the program shall provide to the congressional defense committees and, in the case of intelligence or intelligence-related activities, the congressional intelligence committees a brief summary report that contains the following elements:

(A) The program cost and fielding targets

(B) The estimated cost and schedule for

(i) the dollar values estimated for the program acquisition unit cost, average procurement unit cost, and total life-cycle cost, and

(ii) the planned dates for each progra

(C) The independent estimated cost for t
schedule for the program, including—

(i) the dollar values and ranges estin

(ii) the planned dates for each progra

(D) A summary of the technical and man
including identification of any critical tec
environment.

(E) A summary of the independent techn
any critical technologies or manufacturi

(F) A statement of whether a modular op

(G) Any other information the milestone

(2) Certifications and Determinations.—

(A) The certifications and determination
congressional defense committees with the first Selected Acquisition Report submitted under section 2432 of this title after completion of the certification.

(B) The milestone decision authority shall retain records of the basis for the certifications and determination under paragraphs (1), (2), and (3) of subsection (a).

(3) Additional Information.—

(A) At the request of any of the congressio
congressional intelligence committees, th
certifications and determination under pa
further information or underlying docume
independent cost and schedule estimates

(B) The explanation or information shall b

(1) **Brief Summary Report**.—**Not later than 15 days after granting Milestone B approval** for a major defense acquisition program, **the milestone decision authority for the program shall provide** …

(B) The **estimated cost and schedule** for the program established **by the military department concerned**…

…

(C) The **independent estimated cost** for the program established **pursuant to section 2334(a)(6)** of this title, and **any independent estimated schedule** for the program…

…

(D) A **summary of the technical and manufacturing risks** associated with the program, as determined **by the military department concerned**, including identification of any critical technologies or manufacturing processes that have not been successfully demonstrated in a relevant environment.

(E) A **summary of the independent technical risk assessment** conducted or **approved under section 2448b** of this title, including identification of any critical technologies or manufacturing processes that have not been successfully demonstrated in a relevant environment.

(F) A statement of whether a **modular open system approach** is being used for the program.

(A) **At the request** of any of the congressional defense committees… the **milestone decision authority shall submit** to the committee… **further information or underlying documentation** for the information in a brief summary report submitted under paragraph (1), including the independent cost and schedule estimates and the independent technical risk assessments referred to in that paragraph.

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FY 2017 NDAA – (§2366c)

Submission to Congress on Milestone C

§2366c. Major defense acquisition programs: submissions to Congress on Milestone C

(a) Brief Summary Report.—Not later than 15 days after granting Milestone C approval for a major defense acquisition program, the milestone decision authority for the program shall provide to the congressional defense committees and, in the case of intelligence or intelligence-related activities, the congressional intelligence committees a brief summary report that contains the following:

(1) The estimated cost and schedule for the program established by the military department concerned, including—

(A) the dollar values estimated for the program acquisition unit cost, average procurement unit cost, and total life-cycle cost; and

(B) the planned dates for initial operational test and evaluation and initial operational capability.

(2) The independent estimated cost for the program established pursuant to section 2334(a)(6) of this title, and any independent estimated schedule for the program, including—

(A) the dollar values estimated for the program acquisition unit cost, average procurement unit cost, and total life-cycle cost; and

(B) the planned dates for initial operational test and evaluation and initial operational capability.

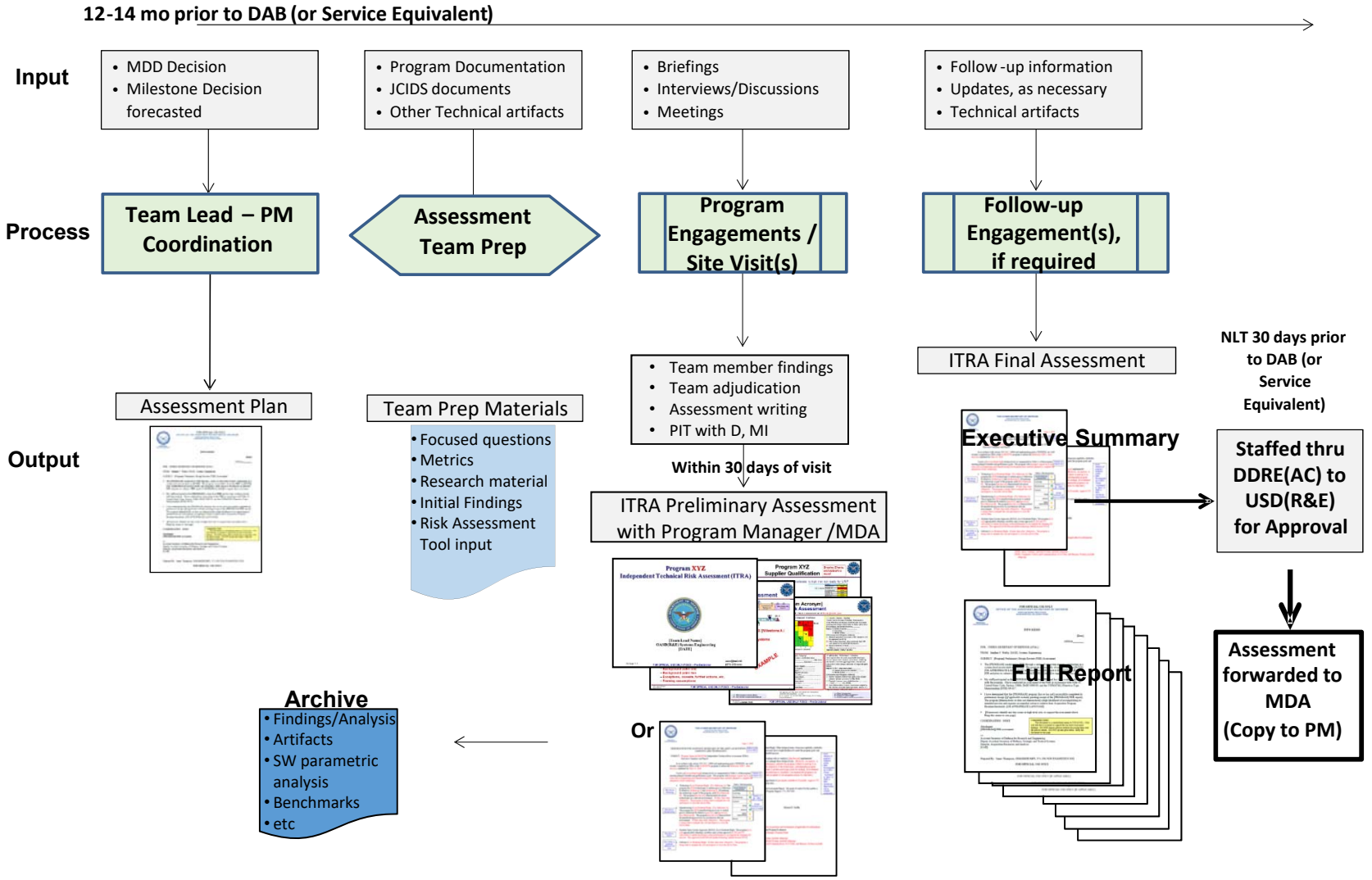
(3) A summary of any production, manufacturing, and fielding risks associated with the program

(b) Additional Information.—At the request of any of the congressional defense committees or, in the case of intelligence or intelligence-related activities, the congressional intelligence committees, the milestone decision authority shall submit to the committee further information or underlying documentation for the information in a brief summary report submitted under subsection (a), including the independent cost and schedule estimates and the independent technical risk assessments referred to in that subsection

(3) A summary of any production, manufacturing, and fielding risks associated with the program

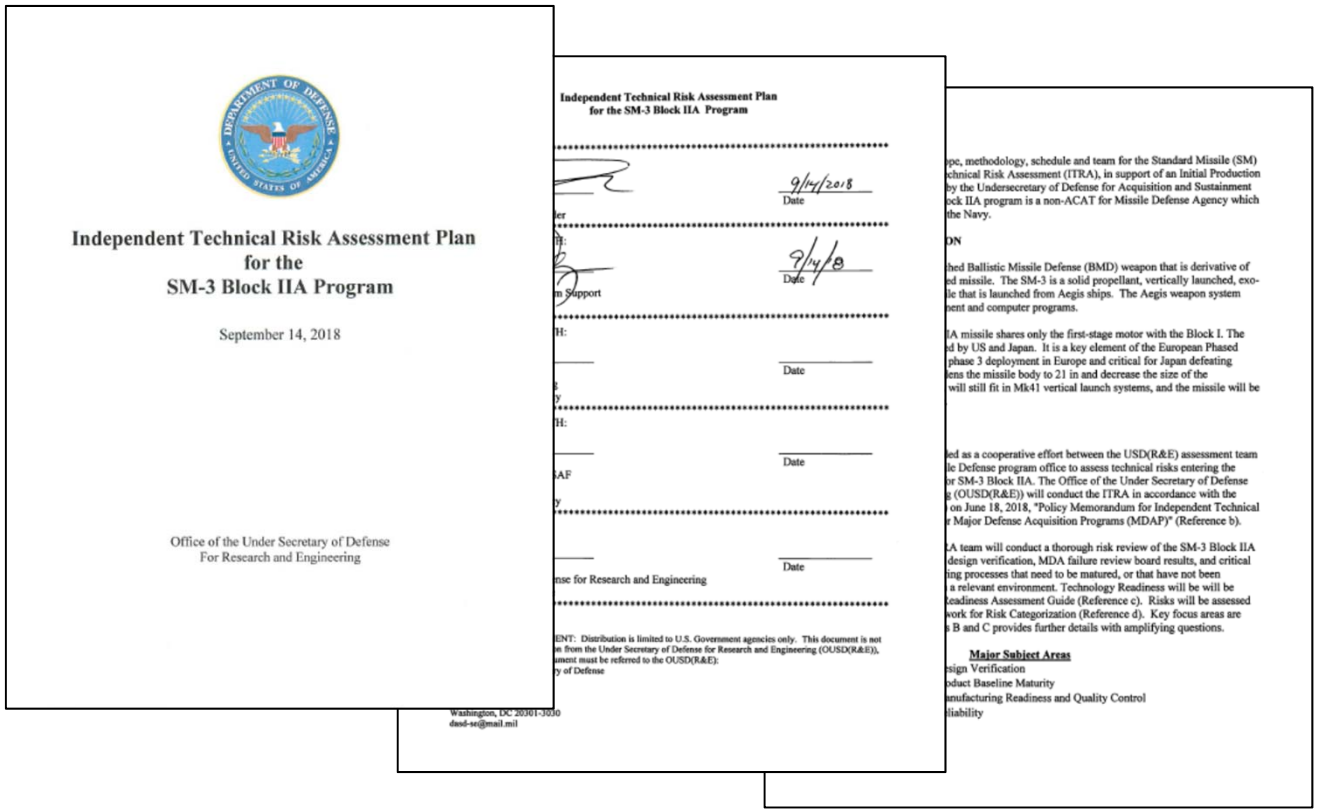
Office of the Law Revision Council at http://uscode.house.gov

ITRA Process Flow



ITRA Plan – Coordinated with Program

- Describes the team members, timeline, and focus areas of the assessment
- Spells out logistics needs and other coordination requirements
- Similar to “Terms of Reference” used by other organizations



Independent Technical Risk Assessment Plan
for the
SM-3 Block IIA Program

September 14, 2018

Office of the Under Secretary of Defense
For Research and Engineering

Independent Technical Risk Assessment Plan
for the SM-3 Block IIA Program

9/14/2018
Date

Date

Date

Date

Date

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y of Defense

Washington, DC 20301-3010
dasd-se@mail.mil

pe, methodology, schedule and team for the Standard Missile (SM)
chnical Risk Assessment (ITRA), in support of an Initial Production
by the Undersecretary of Defense for Acquisition and Sustainment
ock IIA program is a non-ACAT for Missile Defense Agency which
the Navy.

ON

hed Ballistic Missile Defense (BMD) weapon that is derivative of
d missile. The SM-3 is a solid propellant, vertically launched, exo-
le that is launched from Aegis ships. The Aegis weapon system
nent and computer programs.

IA missile shares only the first-stage motor with the Block I. The
d by US and Japan. It is a key element of the European Phased
phase 3 deployment in Europe and critical for Japan defeating
ens the missile body to 21 in and decrease the size of the
will still fit in Mk41 vertical launch systems, and the missile will be

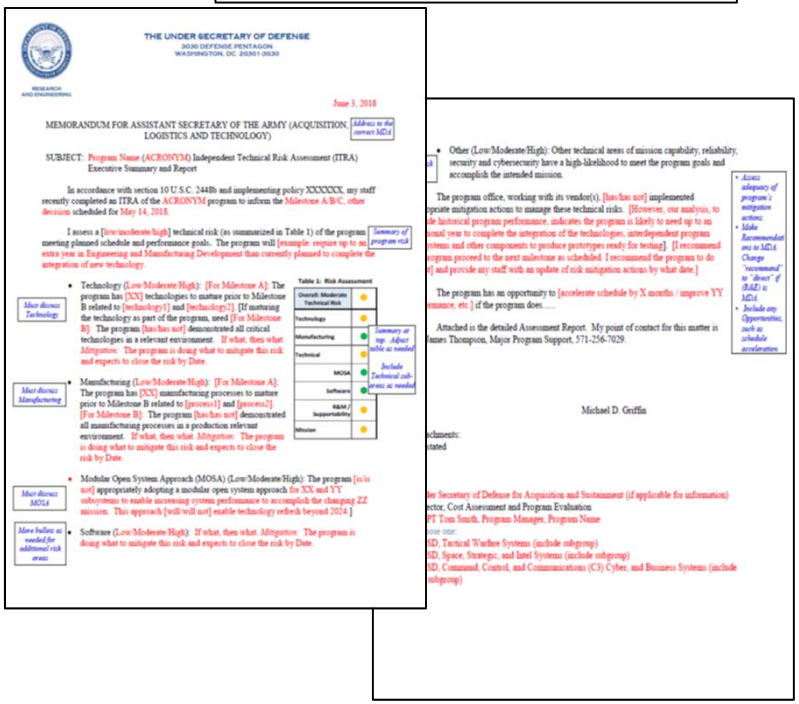
ed as a cooperative effort between the USD(R&E) assessment team
le Defense program office to assess technical risks entering the
or SM-3 Block IIA. The Office of the Under Secretary of Defense
g (OUSD(R&E)) will conduct the ITRA in accordance with the
on June 18, 2018, "Policy Memorandum for Independent Technical
r Major Defense Acquisition Programs (MDAP)" (Reference b).

A team will conduct a thorough risk review of the SM-3 Block IIA
design verification, MDA failure review board results, and critical
ing processes that need to be matured, or that have not been
a relevant environment. Technology Readiness will be will be
eadiness Assessment Guide (Reference c). Risks will be assessed
work for Risk Categorization (Reference d). Key focus areas are
s B and C provides further details with amplifying questions.

Major Subject Areas
sign Verification
oduct Baseline Maturity
anufacturing Readiness and Quality Control
liability

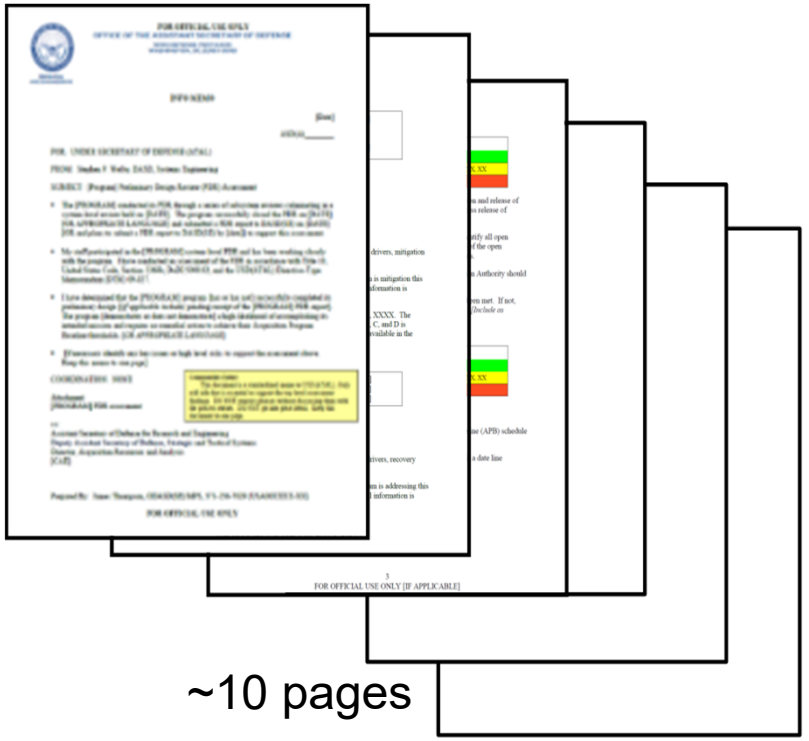
Final Technical Assessment

Executive Summary



2 pages

Final Assessment Report



~10 pages