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# Approaches to structure Agile Acquisition Contracts

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# Purpose

- Briefing provides NCI Agency's view for the incorporation of Agile principles for the procurement of NSIP Software Intensive Projects (SIPs)
- Covers expected benefits, identified obstacles, and ideas about the implementation in contracts and source selections
- Briefing is food for thought for this workshop - purpose is to generate exchange of information and collect feedback from Industry

# Presentation Outline

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- Background – The Problem
- Expected benefits for NATO
- Agile Contracts in practice for NATO
- Source Selection process
- NSIP perceived blockers

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# Background – The Problem

# NATO Software in Figures

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**35 out of 37**
projects more than 24 months late or more than 15% over budget*

**12 out of 37**
projects over 36 months late*

**10 out of 37**
>48 months late or >30% over budget*

**3.5 Years**
to Contract Award

**7 Years**
to deliver to user

**28% Fail**
Projects over $1M in industry (Gartner)

**5 out of 37**
projects cancelled or delivered little*

- Not specific to NATO – Software Intensive Projects are widely recognized as very challenging
- In depth collaboration NATO / Industry is critical to progress and reach success

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* NATO Office of Resources brief to Investment Committee, Oct 2013

# Candidates for Agile 2018+

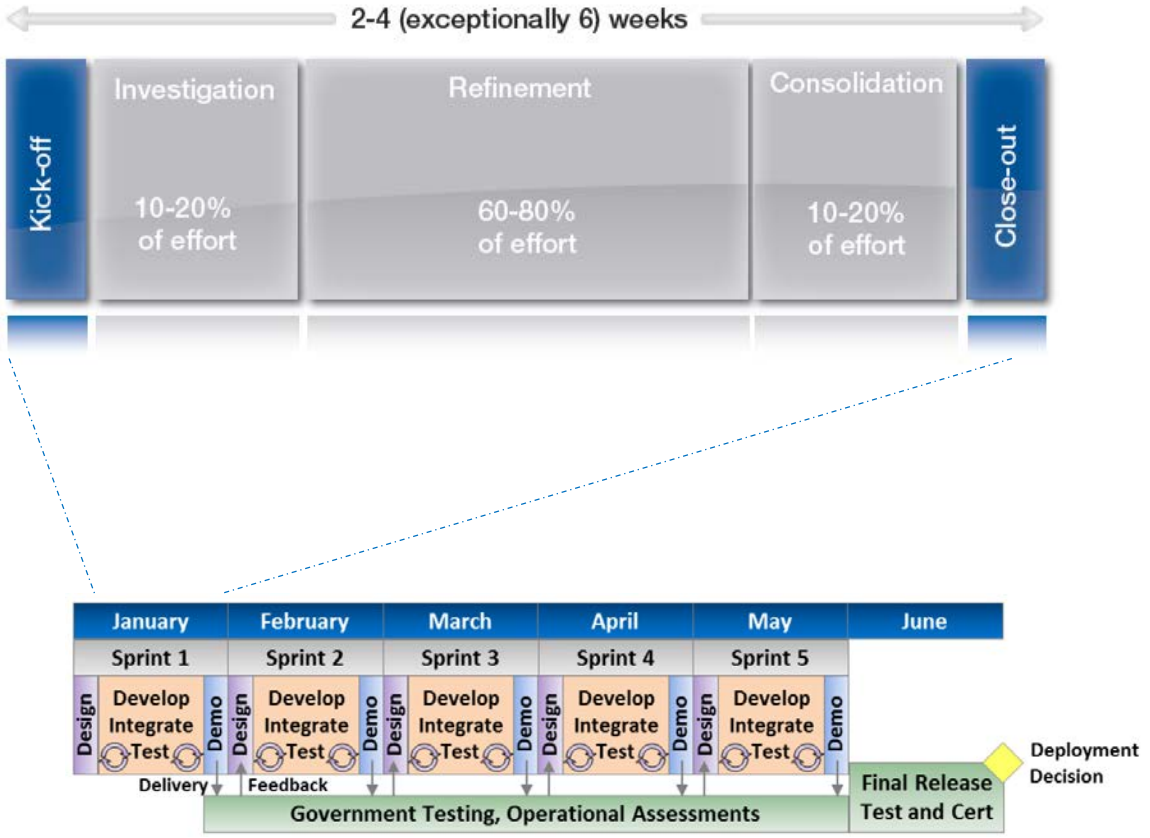
*List not exhaustive*

- NATO Joint Targeting System (NJTS)
- Provide Logistics Functional Services (LOG FS)
- Provide Intelligence Functional Services (INTEL FS) Spiral 2 and BMD Air Command and Control Information System (AirC2IS) Increment 2 and BMD
- Tool for Operational Planning, Force And Simulation (TOPFAS) for BMD
- NATO Common Operational Picture (NCOP) for BMD
- Chemical Biological Radiological and Nuclear Functional Services (CBRN FS) Increment 1

# Expected Benefits For NATO

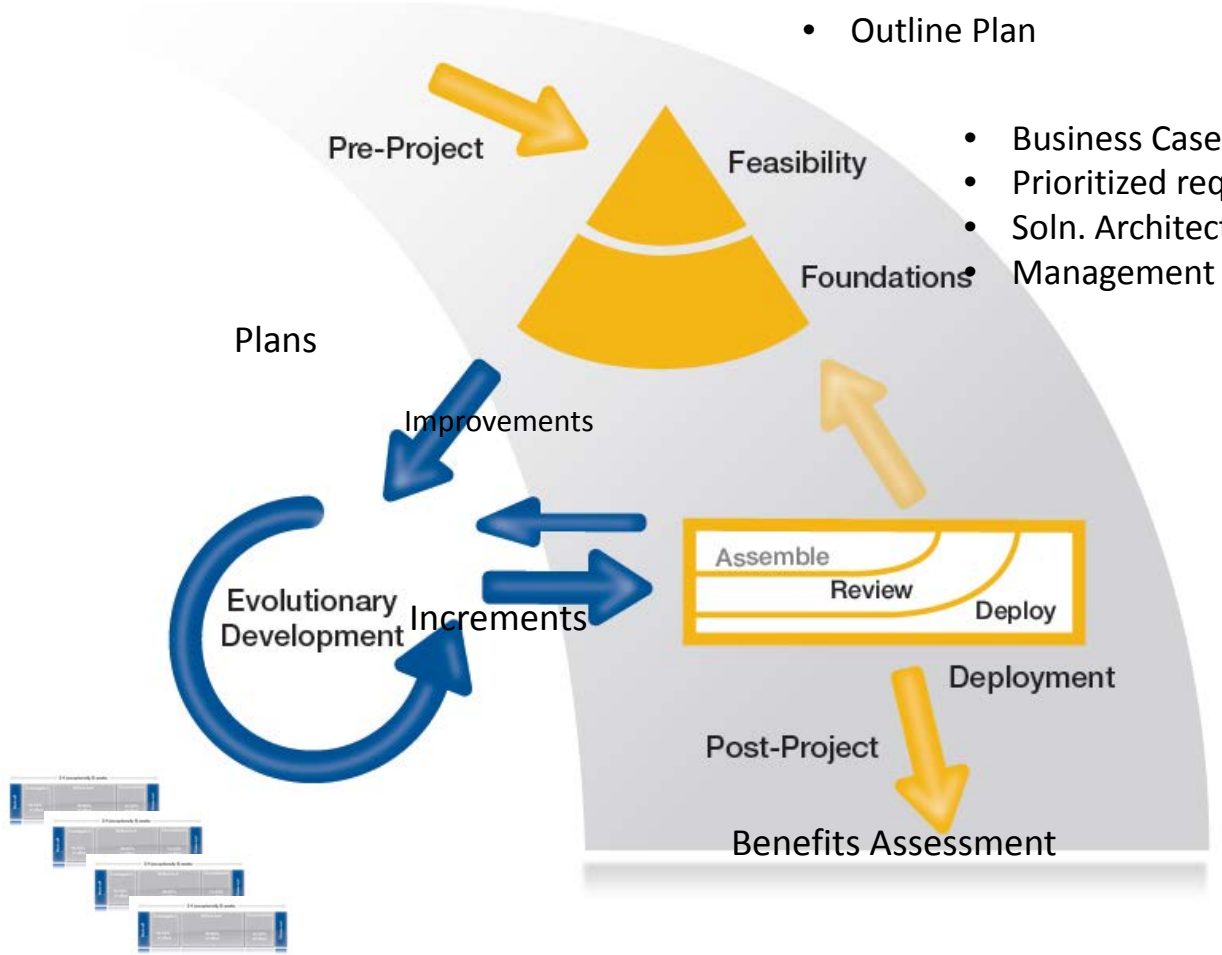
# Develop Iteratively e.g. monthly

- Short time-boxes (sprints)
  - Design
  - Develop
  - Test
- Always deliver on time
- Manages risk
- Continual user feedback
- Prioritised scope



# Incremental Deliveries *e.g.* 3-6 months

- An increment comprises multiple timeboxes/sprints
- Fully working subset of project
- Deployed operationally at frequent intervals
- Business case continually reviewed

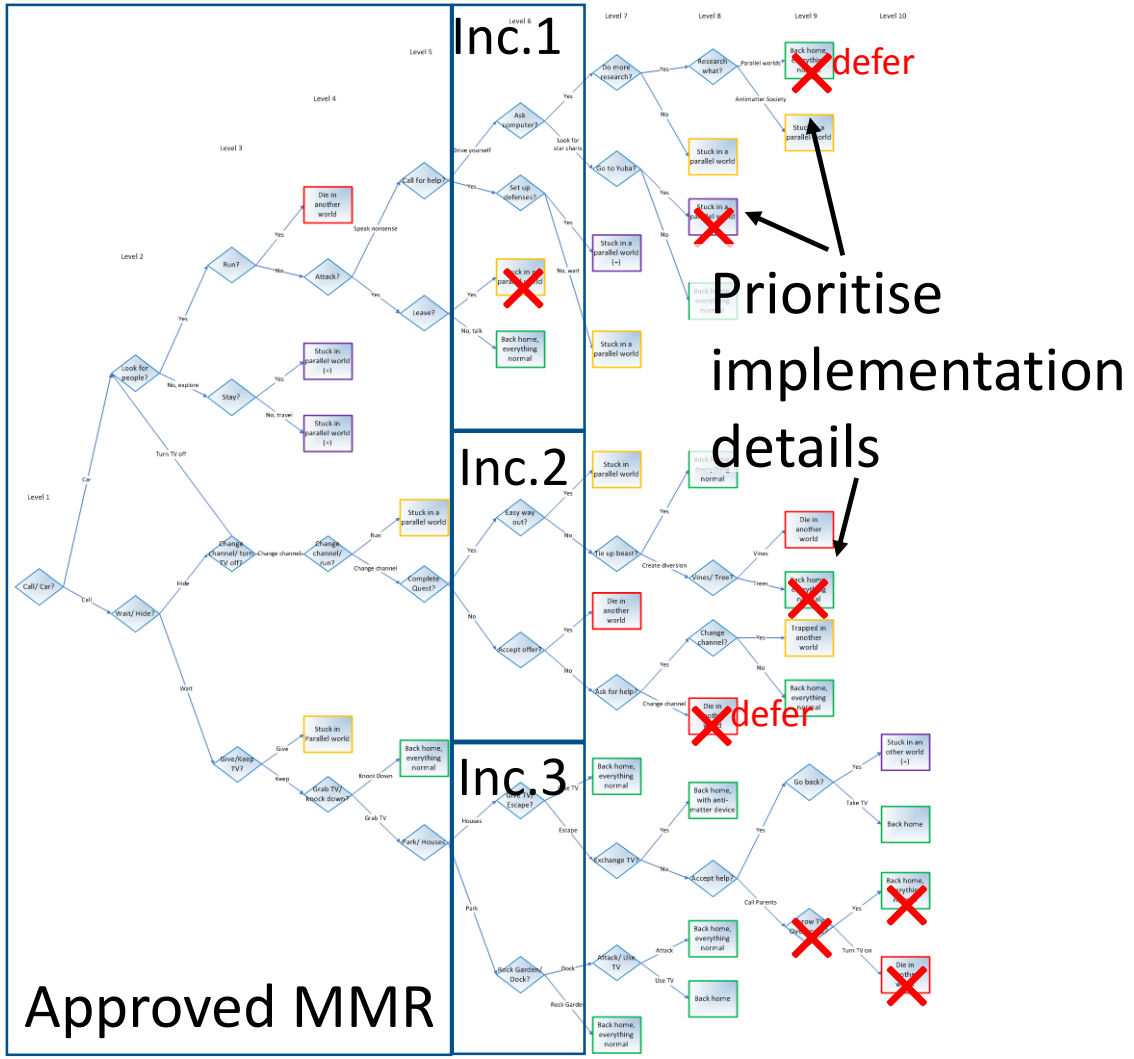



- Business Case
- Outline Plan

- Business Case
- Prioritized req's
- Soln. Architecture
- Management plans

# Prioritising Scope to Deliver on Time

- MoSCoW
  - **M**ust-have
  - **S**hould-have
  - **C**ould-have
  - **W**on't-have
- Always plan to deliver everything!



# Proposed Points For Discussion

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- Is that realistic to prioritise requirements but not at the Minimum Military Requirements level?
- What are the real-life experience in a similar environment?
- What would be the adequate development / deployment pace?
- How can the end users practically contribute to support development?
- What would be the most adequate approach between baby-steps or a total revolution?

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# Agile Contracts In Practice For NATO

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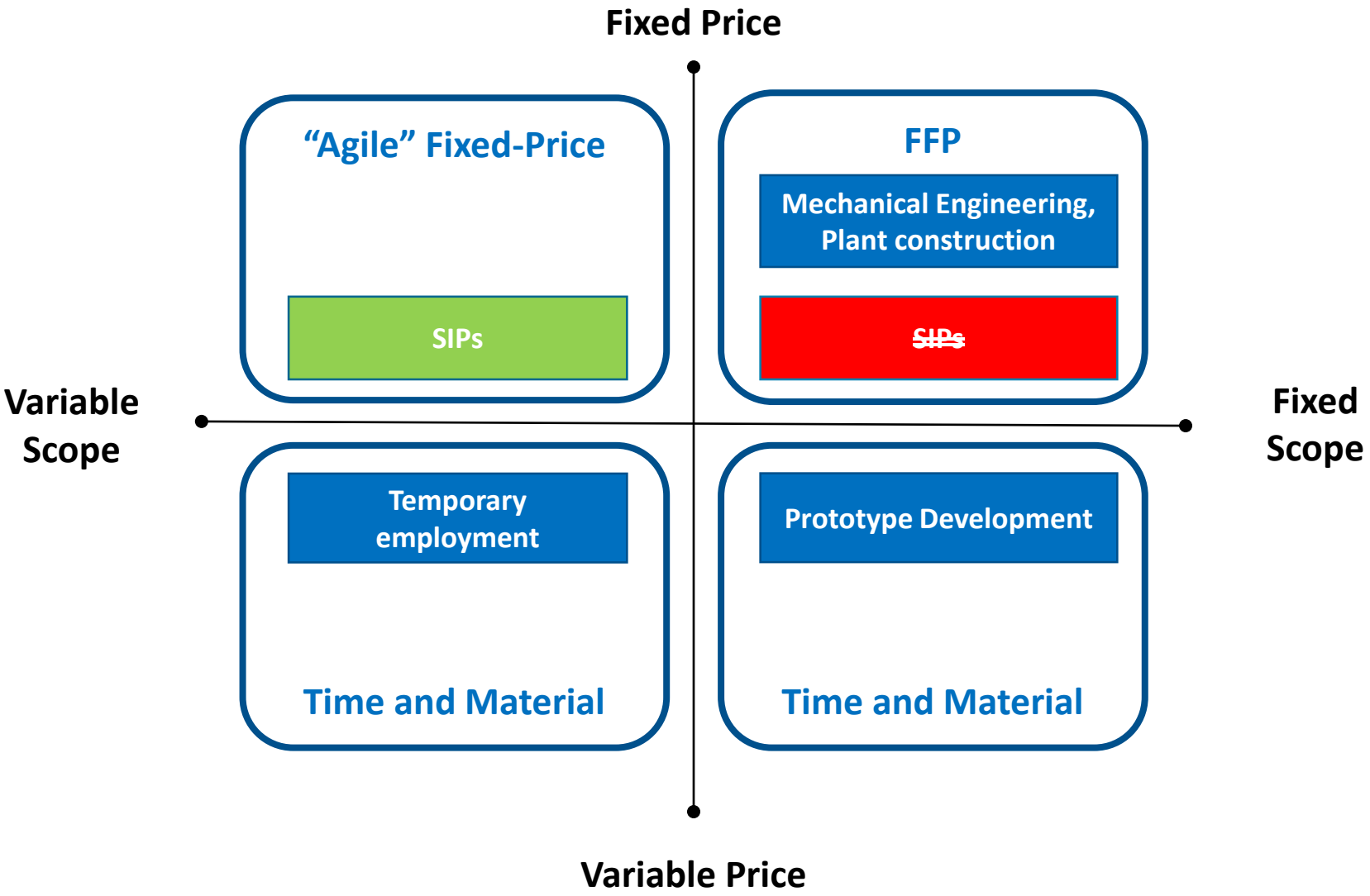
# Comparison Of Contract Types



# Tentative Agile Fixed-Price Contract

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- Time and costs agreed within price ceiling
- No detailed scope upfront; requirements are refined just it time
- Structured approach to define and prioritize scope
- Allows emerging complexity and changing scope without cost increase ("trade space")
- Cooperative agreement; maintains mutual motivation

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# Agile Fixed-Price Contract Features

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- Scope defined at high-level by “user stories”, prioritized by operational value
- Relative complexity of functionality defined by estimated “story points”, per story, used to measure productivity of team (velocity)
- Risk-share defined up-front, based on risk-buffer requirements prioritization
- Risk mitigated by a checkpoint-phase
  - Assess performance over fixed time period
  - Verify assumptions on complexity and productivity
- Frequent exit points defined
  - Linked to end of increments / operational deliveries
  - Can switch suppliers

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# Contract Acceptance Criteria



- Success is defined as delivery of all Must-haves
  - Delivering “Shoulds” and “Coulds” does not necessarily increase payments
- Based on operational user satisfaction
- Not delivering all Must-haves means no payment, or a partial payment
  - Can recover payment if delivered later
- Insufficient “Shoulds” or “Coulds” for two reasons
  - Unexpected complexity: can choose to continue contract
  - Poor performance: can choose to exercise an exit point

# Exit Points

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## Reasons to Exit

- Business case no longer valid; value not being delivered; poor performance
- Acceptable to end user as already has working software
- Potential to switch to better performing contractor

## Reasons to Continue

- Normally, neither party wants to exit contract
- Valid business case
- Maintain customer satisfaction
- Costs and time of switching contractor

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# Proposed Points For Discussion

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- How to fix an initial fixed price ceiling without detailed scope?
- Can an Agile contract really be different from Time and Materials type?
- What are the major contracts obstacles to efficient change control, and how can they be overcome?
- What are the key contract aspects to enable fruitful collaboration instead of negotiations / verifications?
- How to define the success / acceptance criteria?

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# Source Selection process

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# Competing an Agile Contract

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**IFB**

- Scope defined by sized user stories ranked by Operational Value
- Risk Buffer (MoSCoW) with ratio (60/20/20)
- High-level architecture and management/technical approaches
- Collaboration development NATO – Contractor(s)

**Bidding Evaluation**

- Assessment complexity "points" per story, supported by interactions between NATO and the Bidders
- Proposed MoSCoW breakdown
- Plans and high-level technical solution

**Checkpoint**

- One or two best bidders short-listed for 6 months trial (checkpoint phase)
- To de-risk performance and complexity assessment
- Results in final Contract based on BAFO

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# Bid Evaluation of Agile Contract

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- Similar to current approach (high-level technical solution, implementation plan…)
- More emphasize on bidder's ability to successfully run an agile project
  - Proven, recent experience
  - Assessment of key team members
- If feasible, short-list two bidders for the checkpoint phase
  - Dedicated short contract
  - Final evaluation stage
  - Already delivers value to the customer

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# Proposed Points For Discussion

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- Do user stories provide sufficient information for bidders to submit a quote?
- How can fruitful communication happen during bidding?
- To which level of details should bids describe the submitted technical solution?
- What would be the critical aspects of the bidders qualifications to be evaluated?
- Under which conditions can a proposed team remain available for contract execution?
- Under which conditions the proposed checkpoint phase would remain fair and beneficial to the various parties?

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# NSIP Perceived Blockers

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# NSIP Blockers - 1

- ICB regulation (“2261”) states “unless otherwise agreed by the Committee, fixed price contracts are to be used”
- Not compliant with Cost-reimbursable Contracts
- “Agile Fixed Price” compliant with 2261
  - Price fixed under the conditions that all Must are delivered
  - Automatic payment reduction instead of delay and LDs
- More a cultural issue than procedural
- User’s involvement perceived as additional burden
- Everything is possible as long as authorized by Investment Committee

# NSIP Blockers - 2

- Bidding phase offers limited and formal exchanges between NATO and Industry (bidders' conf. and Q/A)
- Inadequate for Agile tender
  - Operational requirements at high level only (user stories)
  - Assessment of complexity by bidders relies on availability of user's business expertise
- Request For Bidders' View including user stories can be used for one-to-one meetings before an IFB is submitted
- Idea:
  - Negotiated best value - bidders first submit the technical proposal
  - A series of workshops is held with each bidder to consolidate complexity assessment and to finalise the price proposal

# Proposed Points For Discussion

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- How can the mindset be positively influenced to mitigate resistance to change?
- Are there any well-known and recognized procurements on the National side that can be largely promoted?
- What are the limitations imposed by a widely applied Request For Bidders' View?
- Would negotiated best value facilitate Agile procurement?

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