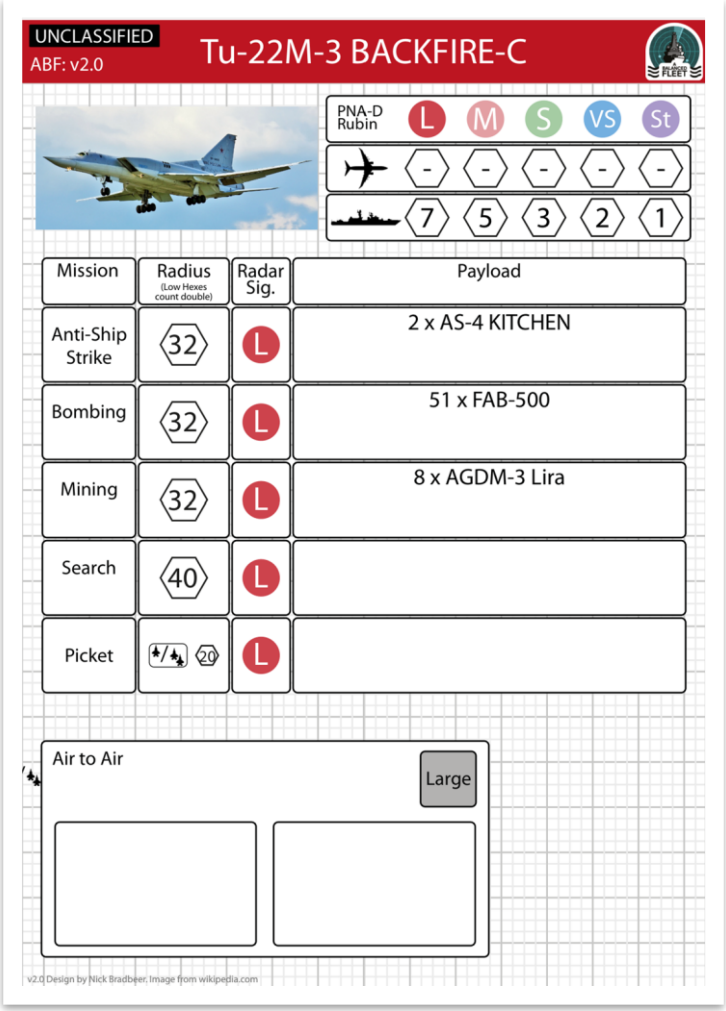
OA and Wargaming for Defence Procurement

Dr Nick Bradbeer RCNC

1. BLUF

- We're used to OA informing Wargaming
- Wargaming can be really useful for informing OA
- It's often more useful to use a wargame to inform a different analytical process rather than running an analytical wargame.



Outline

The Problem
- Why procurement is hard
- Why OA is hard

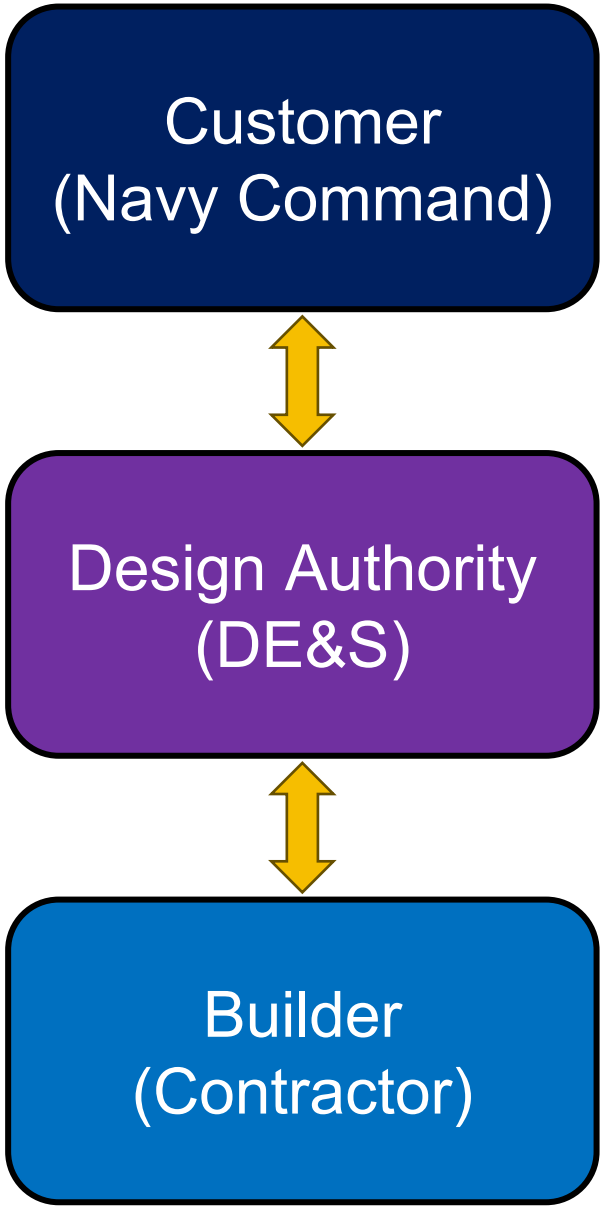
Wargaming and OA
- Typical problems
- A typical game

Outputs
- Insight generation
- Challenges to remember

Disclaimer: The contents of this presentation are my opinions not the position of the MoD. All examples presented are fictional, not drawn from real procurement work.

2. The Procurement Problem

- Customer / DA / Builder relationship
- Defining Requirements
- Need analytical data to base that on

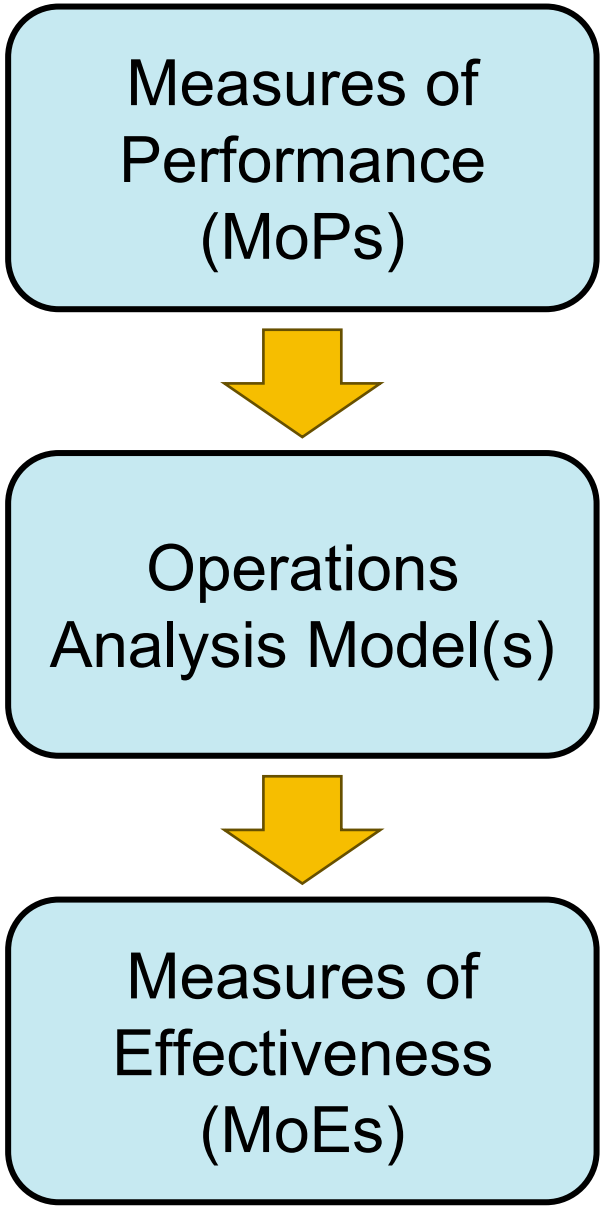


3. The OA Problem

- OA produces models to derive MoEs from MoPs.

- *What metrics do we care about?*
- *How do they interact?*

- We have finite, limited OA resource.

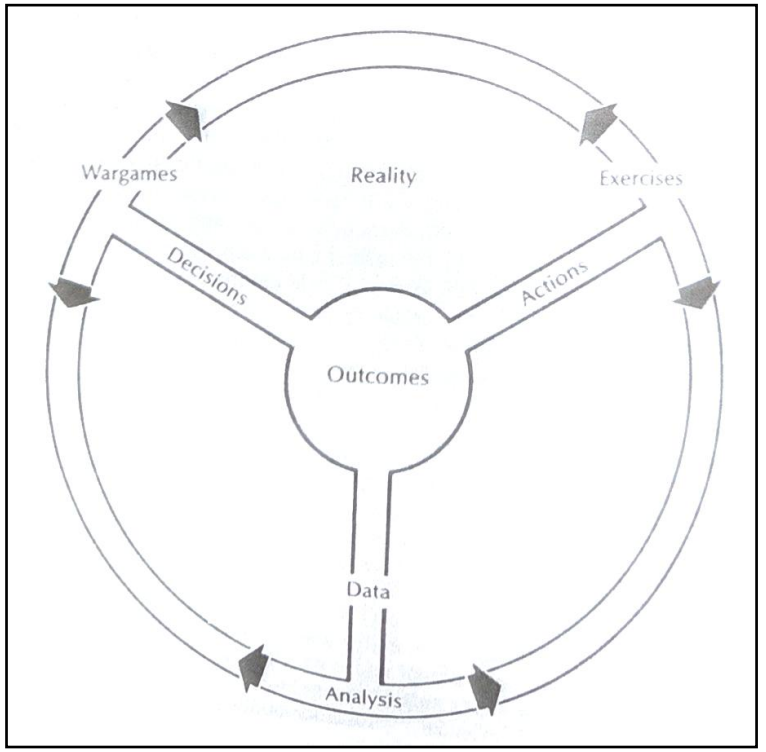


4. OA and Wargaming

- We're used to OA feeding into wargaming – vice versa is also useful

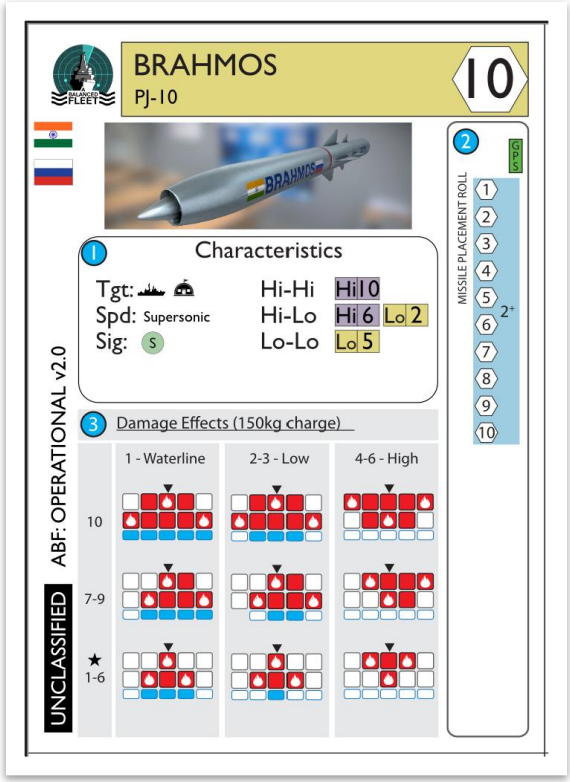
- What attributes are important?
- Where are the performance thresholds?

- Wargaming is really good for generating these sorts of insights

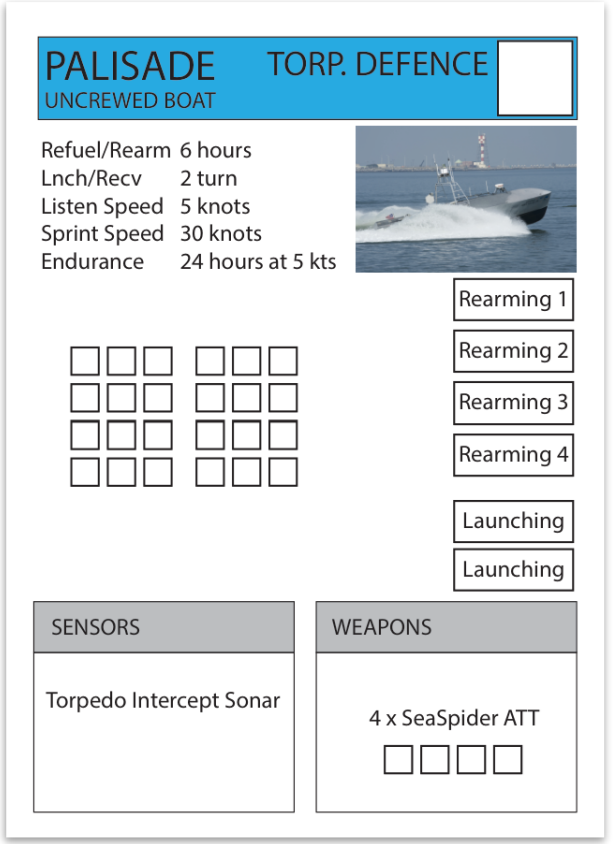


5. Typical Problems

- A new warship – What weapons? How many? How fast? What sensors? How much survivability?
- A new missile system – Speed? Warhead? Stealth? EW?
- A novel capability, like USVs – Size? Payload? Autonomy? Comms?



6. Necessary Assumptions



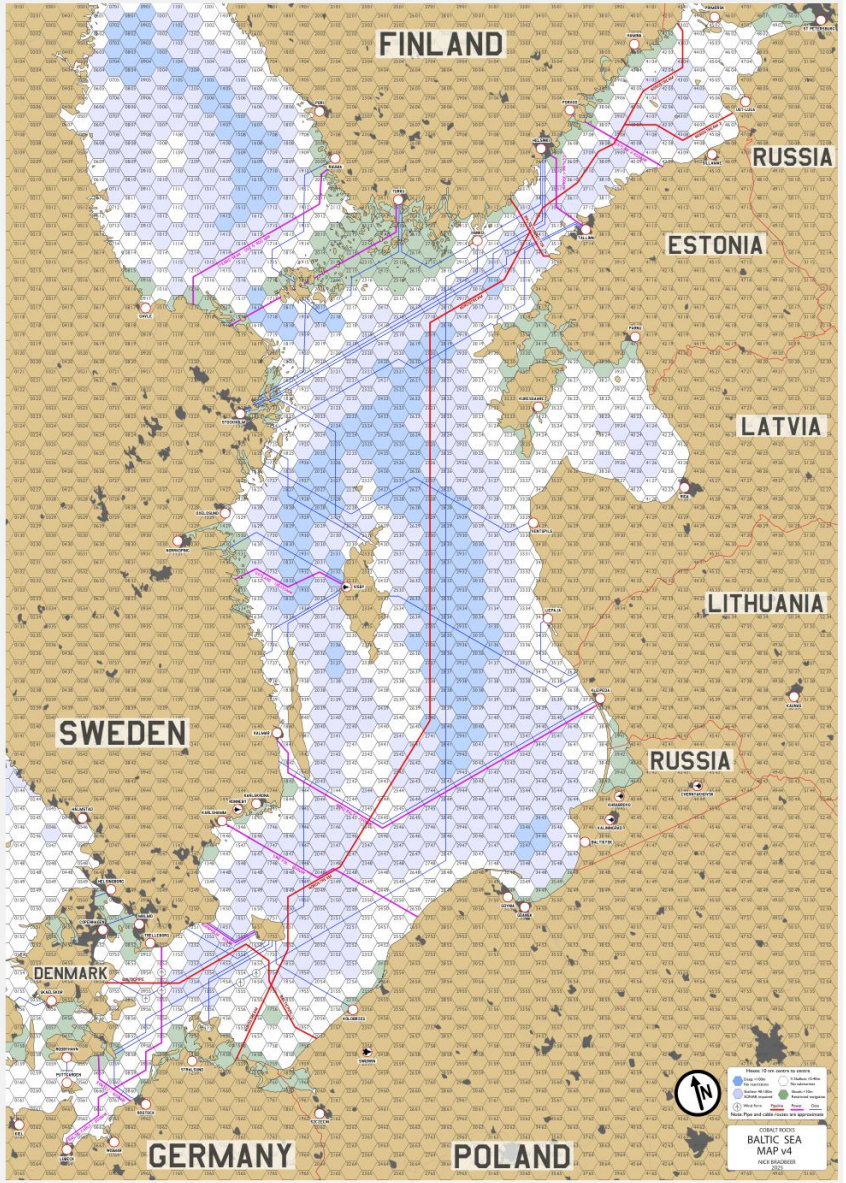
- How to tactically employ?
- How will it interact with other friendly systems?

- How will the enemy react to counter it?
- How might we react to their counter?

- Are there enabling capabilities which would make it work better?

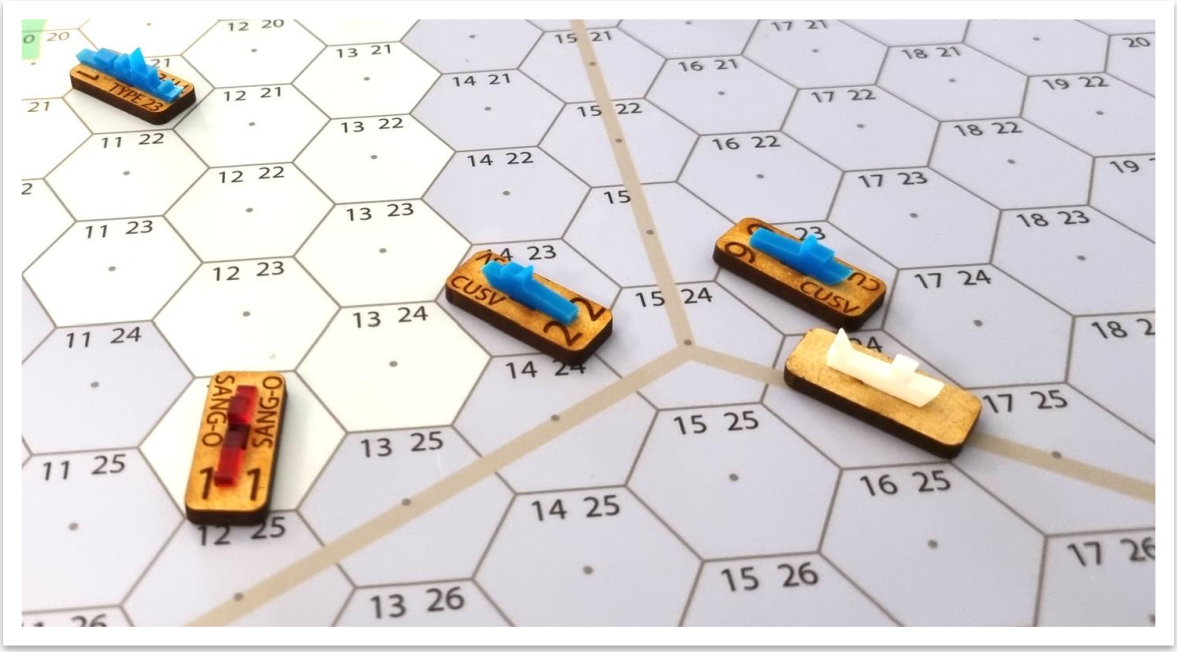
7. A Typical Game

- 3 days – half day training, four games, half day washup
- 15-30 people (heavy on WHITE cell)
- OAs and SMEs on hand for advice and reachback
- Hotwash after every game
- Iterate between games



8. Insight Generation

- Game research phase
- TTX
- Wargame, via hotwash
- Non-player SME observations



- We shift the question from “what capabilities should this have” to “how would I use this operationally” – which is easier to game

9. Challenges and Limitations

- Sensitivity to Assumptions
- Data Gaps
- Non-Repeatability