

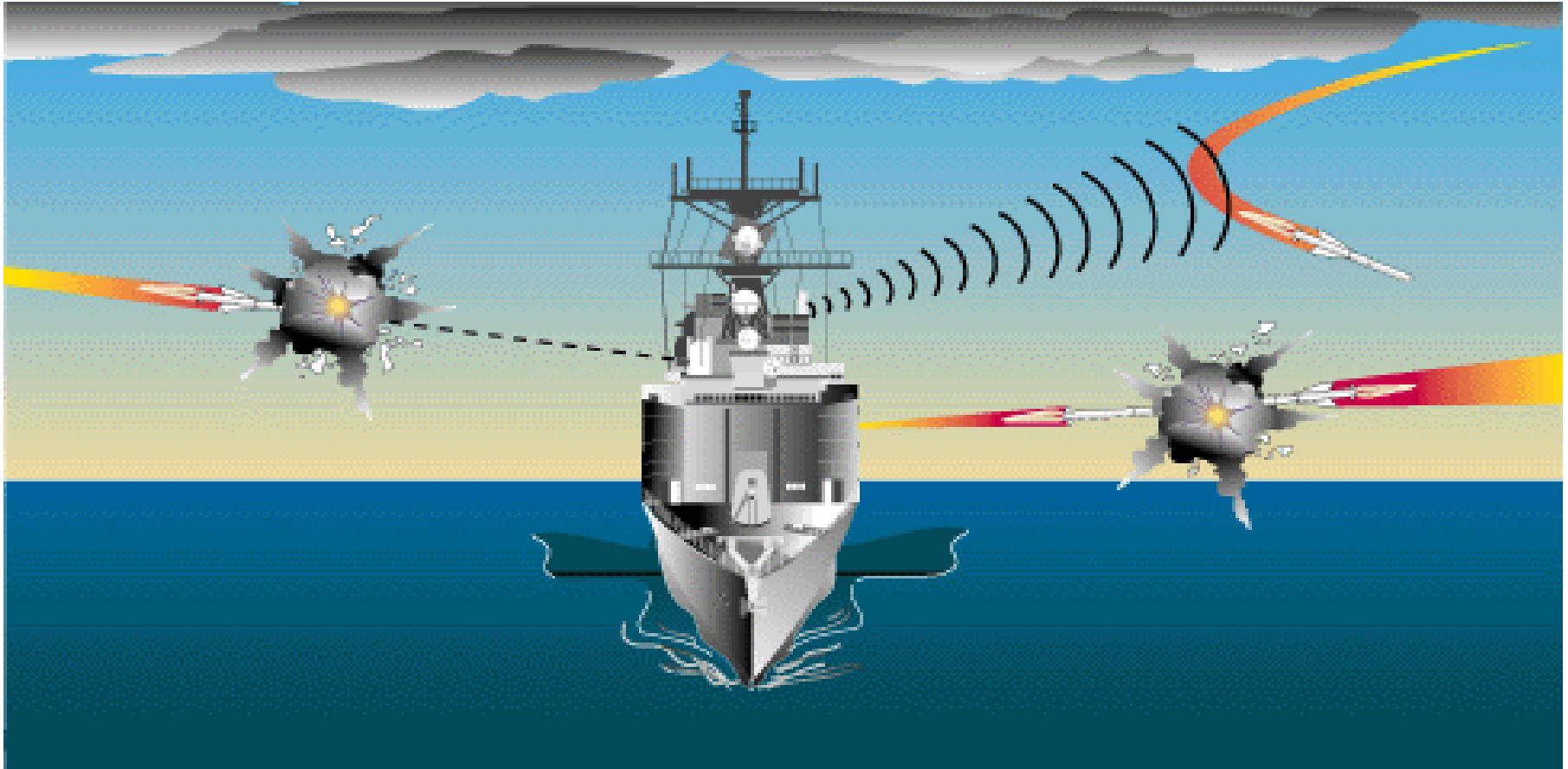


MAST 2008

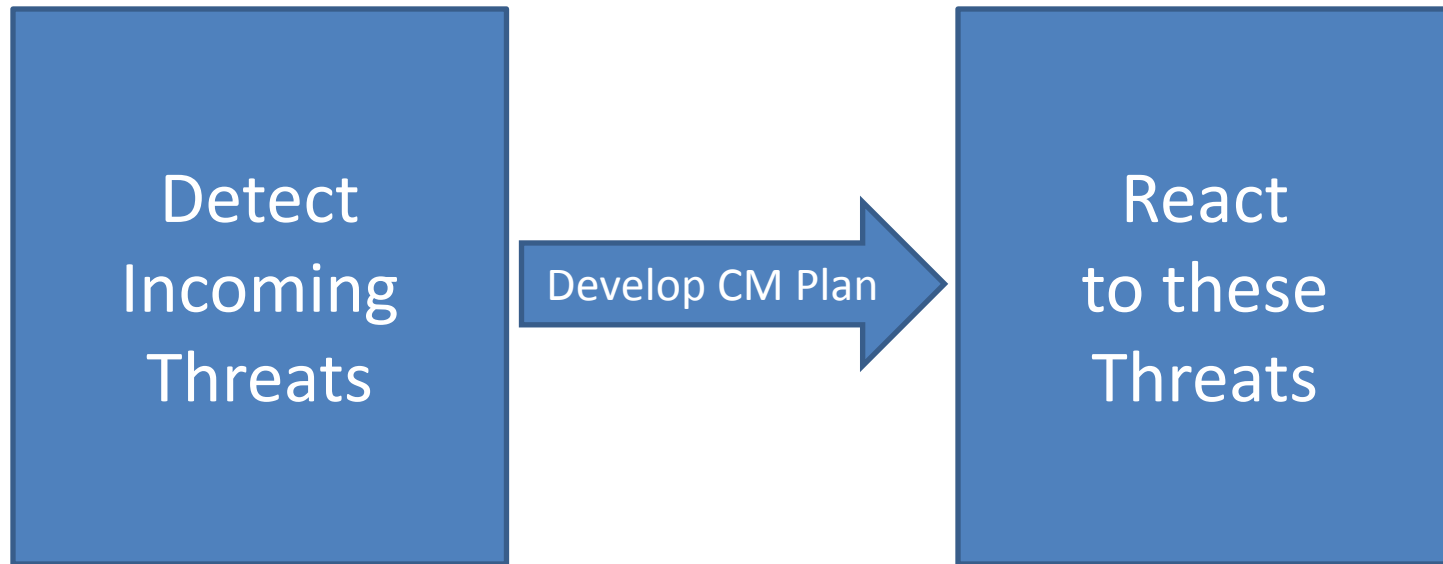


Integrated Anti-Ship Missile Countermeasures Development

By John Bednarz – Tactical Technologies Inc.



Integrated Anti-Ship Missile Defence



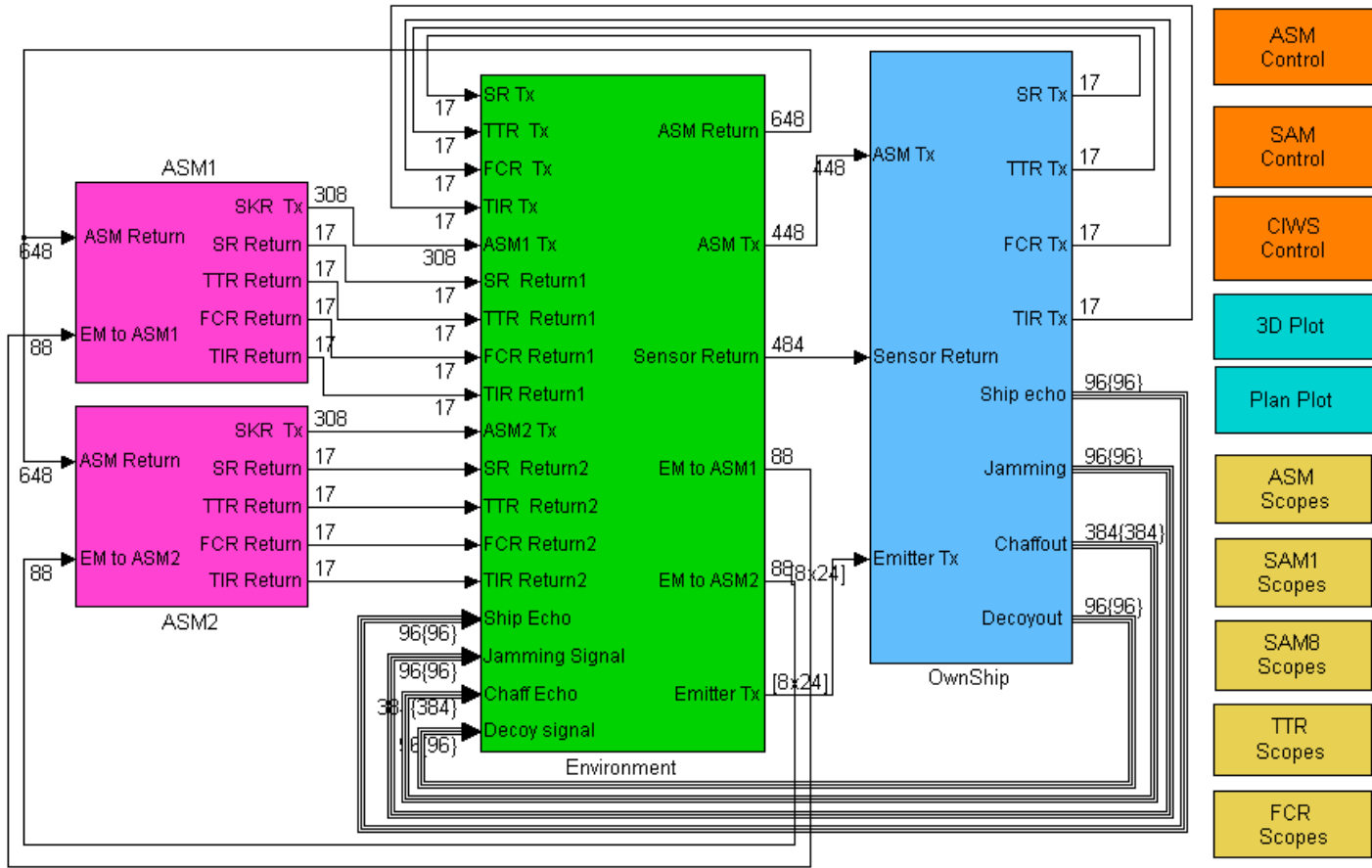
Anti-Ship Missile Problem



engagements in littoral waters...
supersonic threats
+ reduced battle space
= seconds from detection-to-impact...
very little reaction time

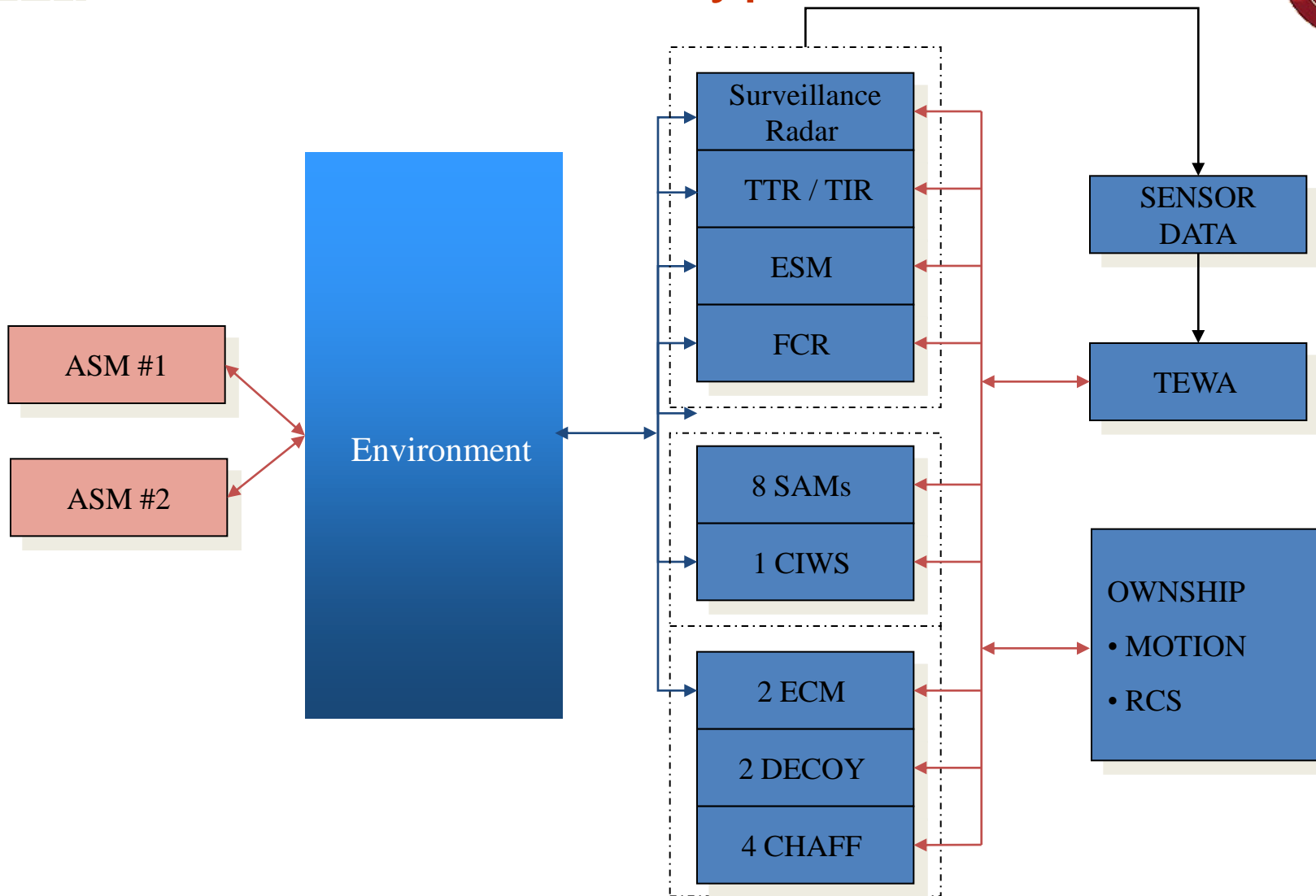
“automated detect-through-engage capability”
is a real requirement.

IASMD Model in MATLAB & Simulink

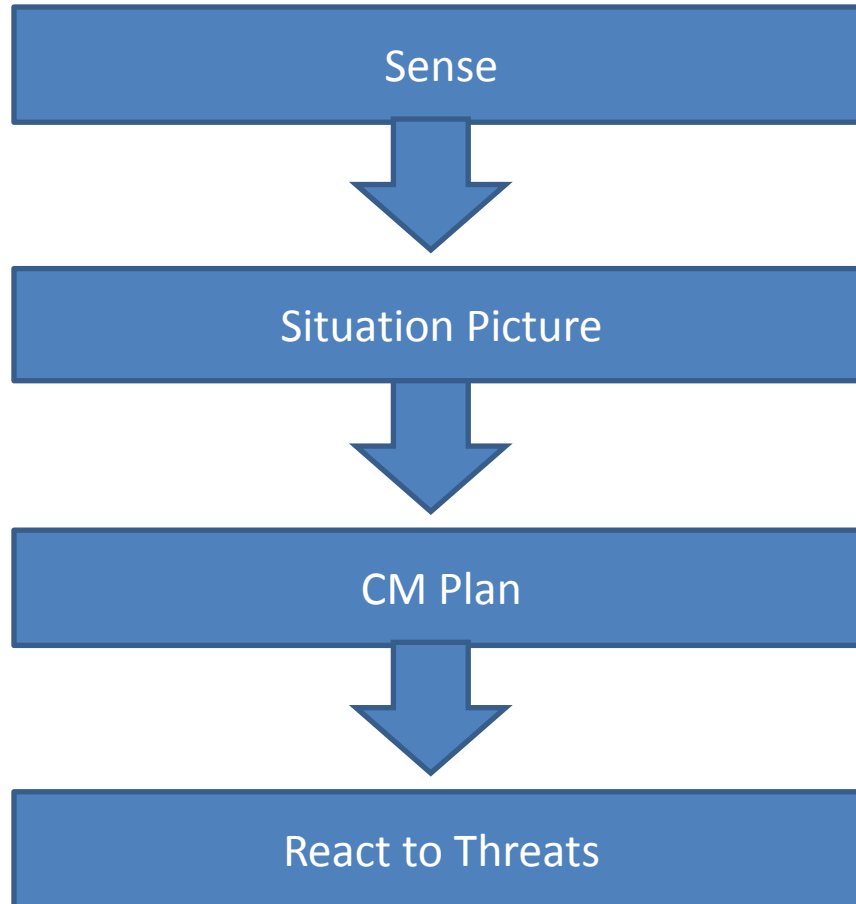


Integrated Anti-Ship Missile Defence Simulation (Version 1.1)
 DIR/DND & Tactical Technologies Inc.,
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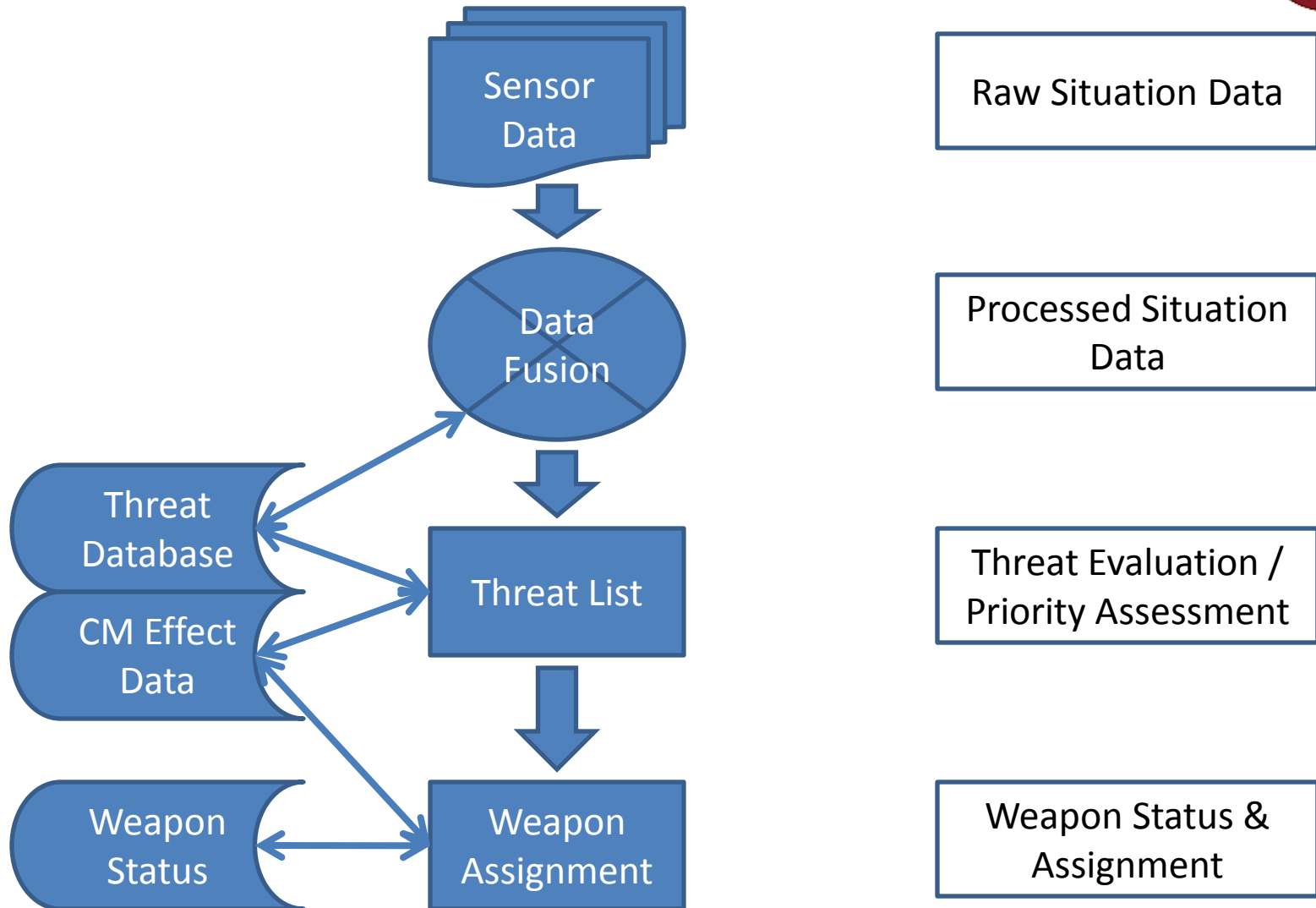
IASMD Prototype 2003-04



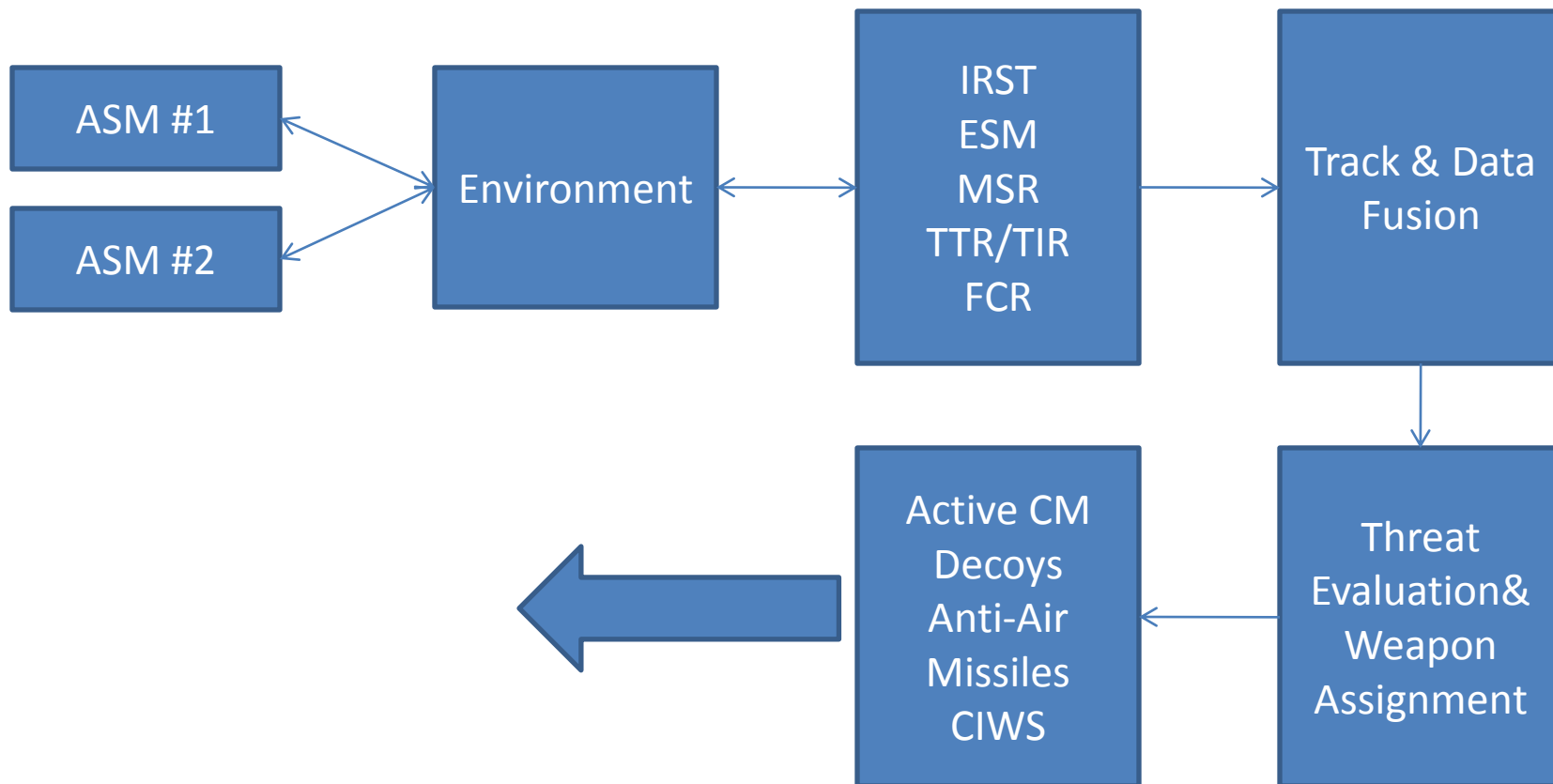
Anti-Ship Missile Solution



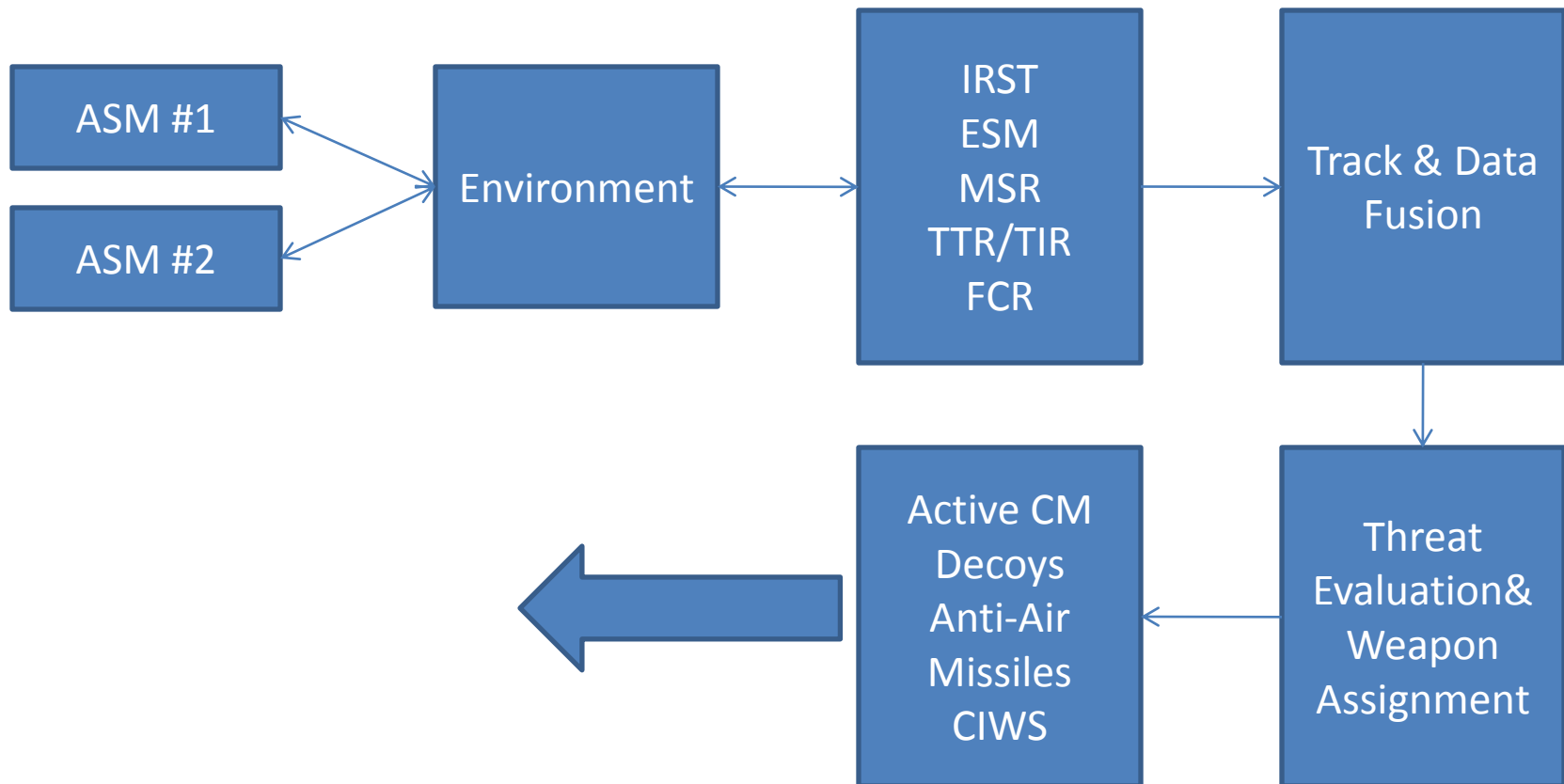
Integrated Anti-Ship Missile System



Integrated Anti-Ship Missile System Model



Integrated Anti-Ship Missile System Model



Complicating Factors



Detecting & tracking in noise

Fusing data from multiple sensor systems

Numerous launch platforms

Wide range of threat systems

Coordinated missile attacks


Layered defence in restricted confines

Confounding influence of task force



Proposed Solution / Approach



1. Use of verifiable physics-based system models – first principles
 2. Verifying & validating the models
 3. Running thousands of simulated engagements
 4. Develop the insight into what is happening ...and why
- 



Conclusion



Commercial-of-the-shelf physics based
weapon system models are available
Radar and infrared based sensors and weapon
systems are covered
Provide a low-risk advanced baseline and
framework for integrated systems
development
Allow users to work from first principles...up

