IntegratedEA '08
Enterprise Architecture Conference

This presentation is from the 2008 Integrated EA Conference

The 2009 event will be held Feb 24-25

see www.integrated-ea.com

De-risking future MOD capability using MODAF to support Warfighter Experimentation

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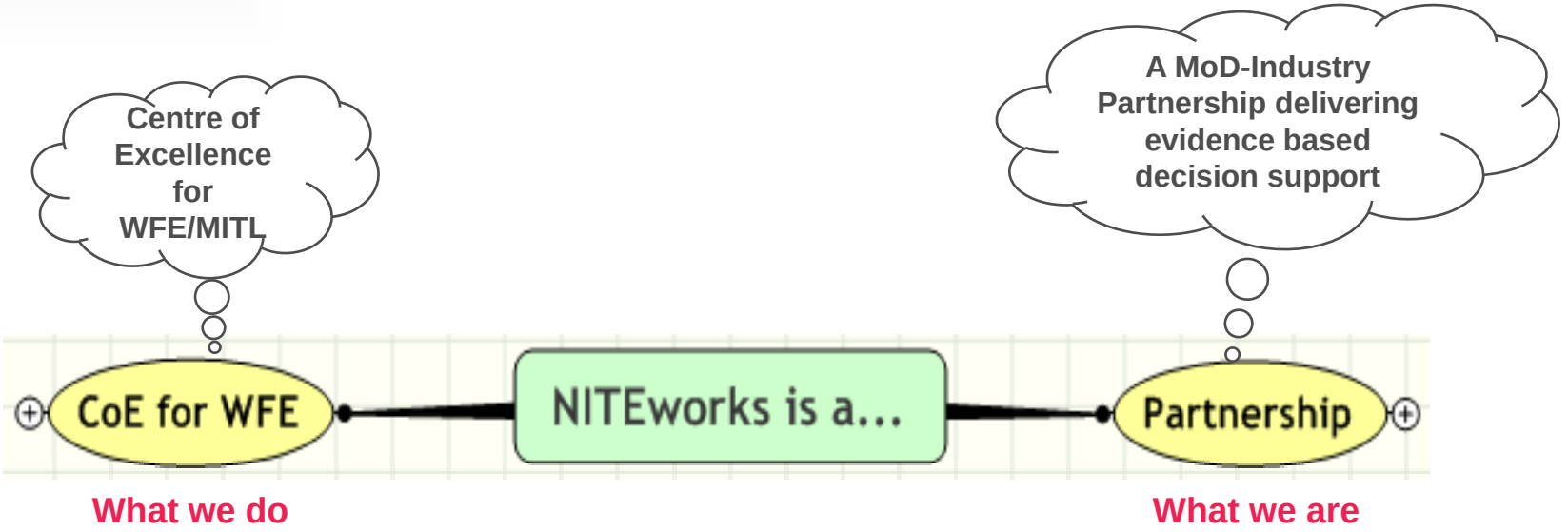
What is NITEworks?

- NITEworks is a problem solving organisation, comprised of a partnership and set of behaviours:
- It is a multi-disciplinary team drawn from MOD and Industry (an intellectual capability)
  - It is not a facility, a synthetic environment ….

What is NITEworks? – Fixed reference points



Analysis with a human pulse

NITEworks
capability through partnering

Unique MoD-Industry Partnership

NITEworks
capability through partnering

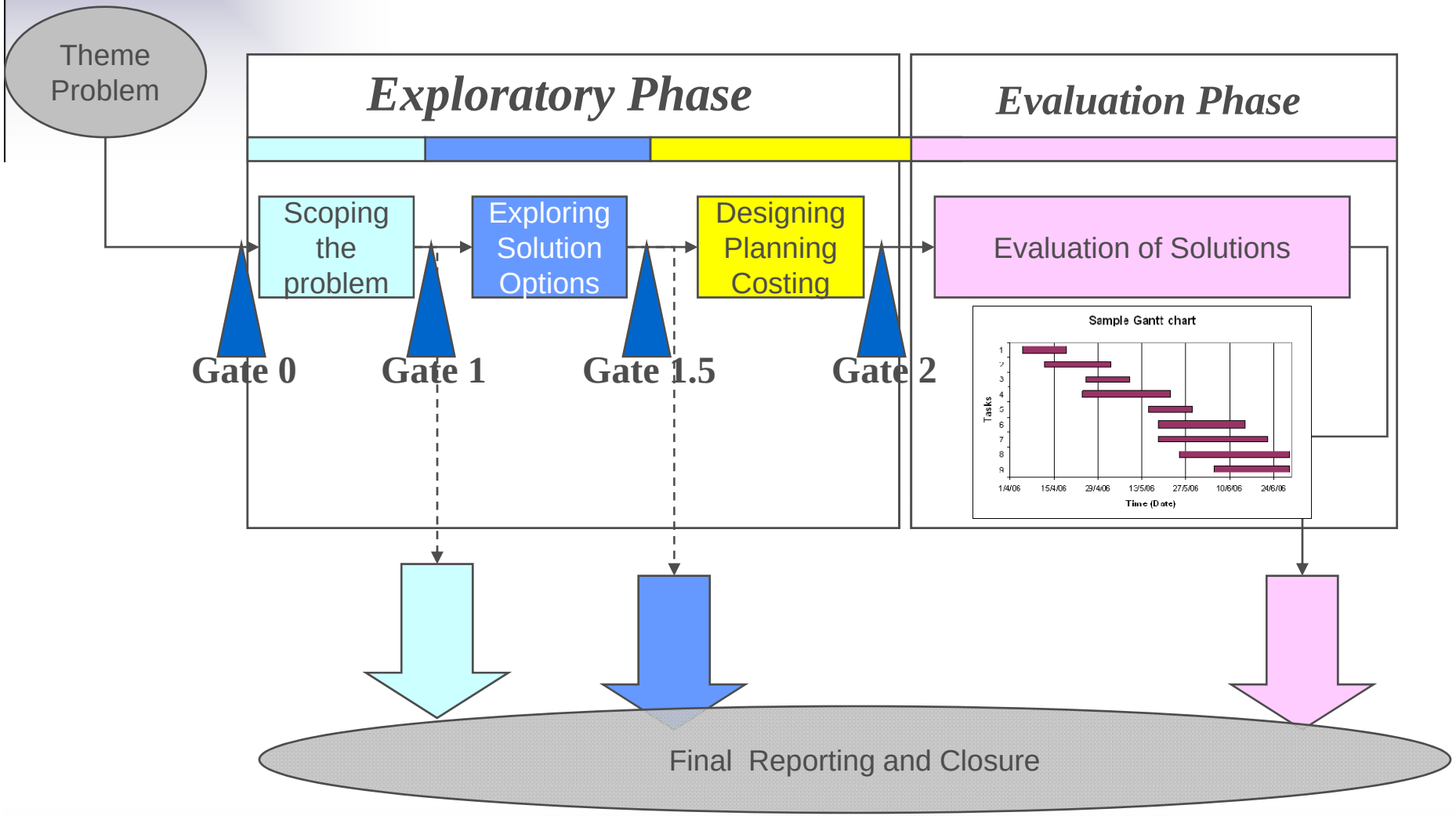
Rainbow Team

M-ISTAR Experiment Team

Current activities

- Integrated Air Defence against difficult targets
- Intelligence and Information (I2) (DABINETT)
- ‘Test range’ for C4I capabilities
- Exploitation of Full Motion Video from UAVs
- Force Protection of Convoys
- Future Rapid Effect System (FRES)
- Broadband to Battlegroup level
- Integrated Picture Management (Maritime, Land, Air)
- Geospatial and temporal errors
- Rapid Capability Insertion De-risking Service
- Urban Strike

Theme Operating Process



How do we use MODAF

- Model the baseline architecture
- Model the experimental architecture
- Capture warfighter behaviour
- Demonstrate an understanding of platform and system of systems capability

Theme Architecture

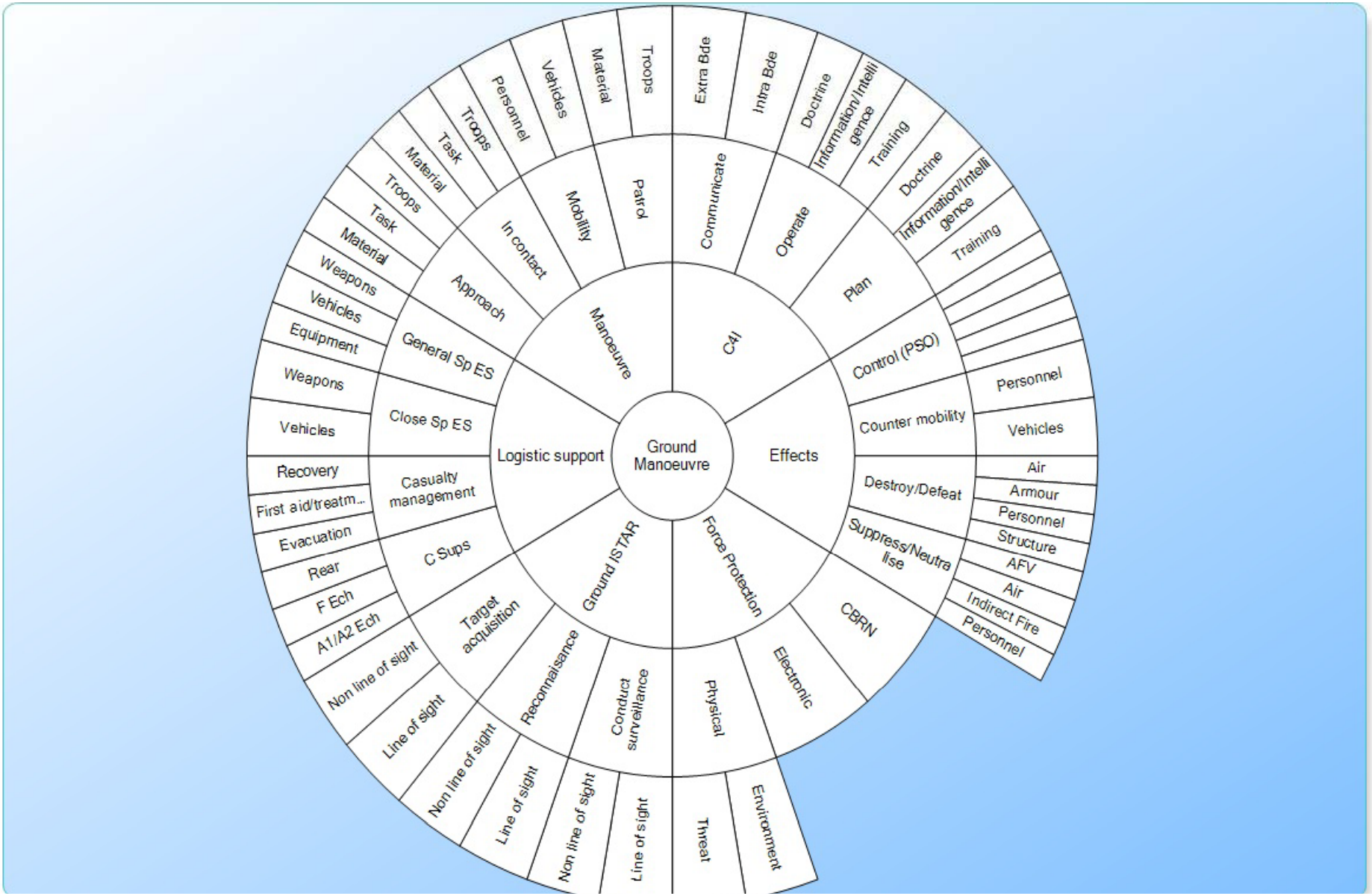
- *Think and Design Top down*
  - Capability
  - System of Systems
  - Systems
  - Components
- *Check and Validate bottom up*

Theme Question – StV1

Example Question:

- *What Maritime ISTAR capability is required to deliver Force Protection and Force Projection capability to support an Amphibious Task Group in the 2015-20 epoch?*

StV2 Capability Taxonomy

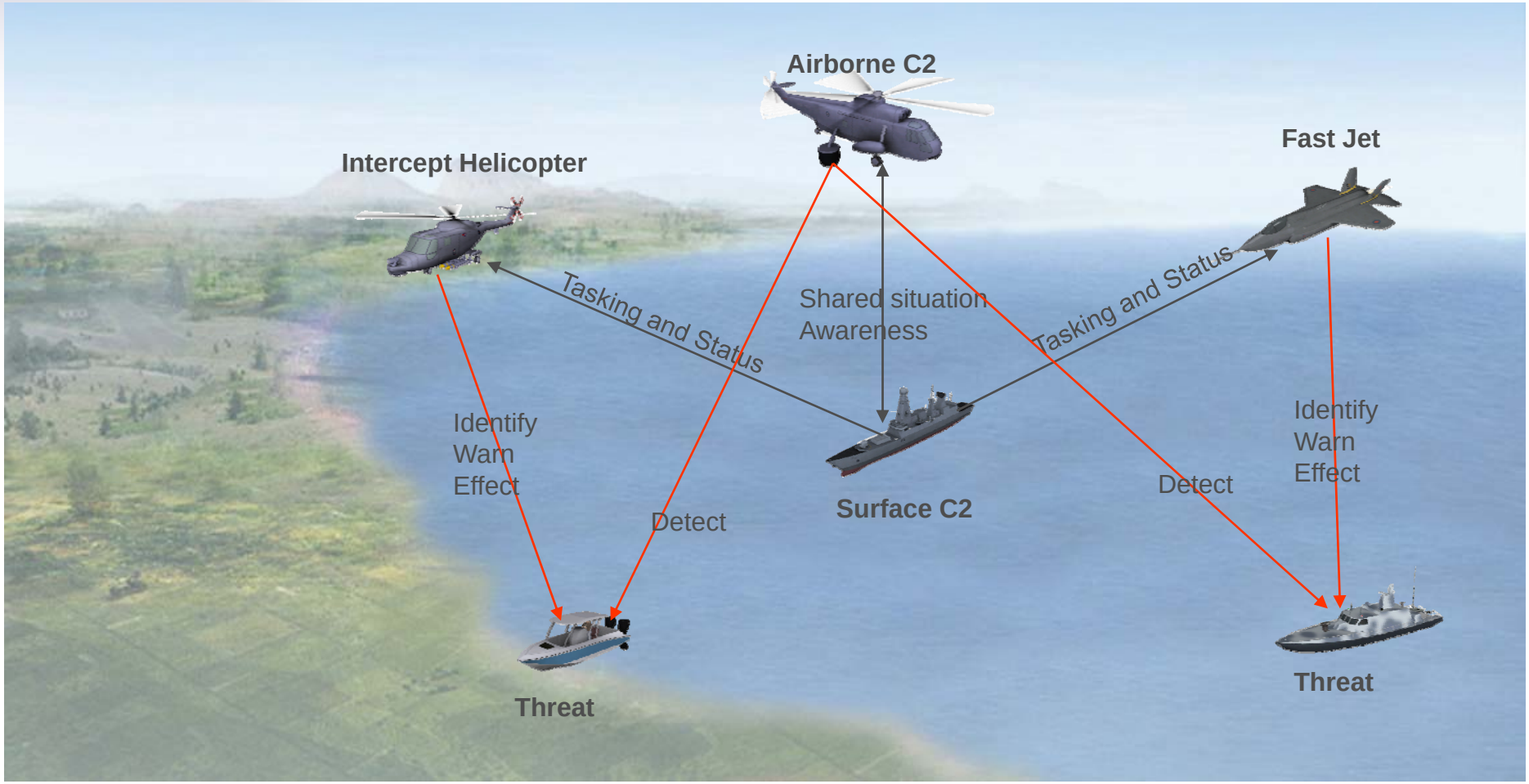


Map onto specific deployment

- Platform specific view of scenario using equipment from that epoch.
- AcV1

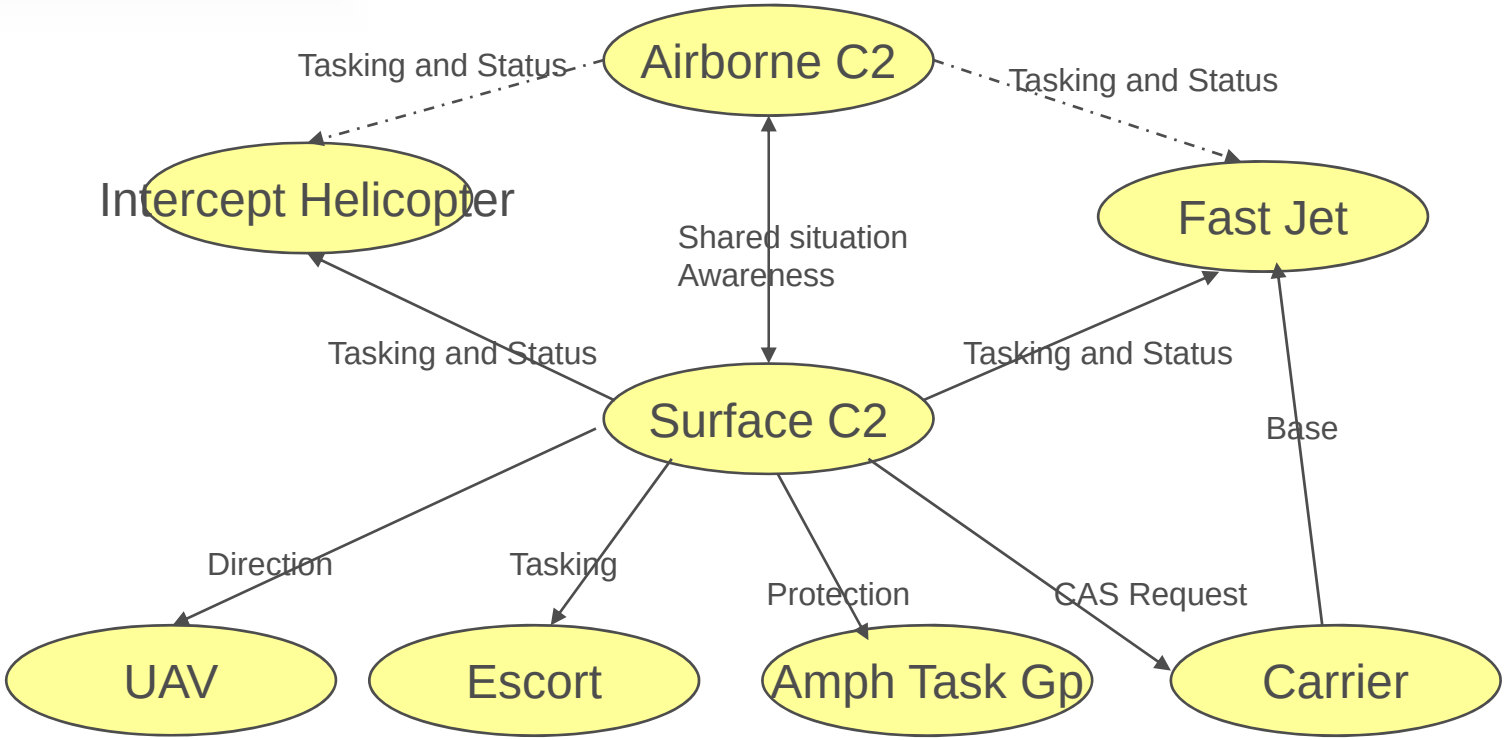
	M ISTAR EPOCH											Notes
Key Assets	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Refer to Master Data Assuptions list for full specification
Airborne C2 A												High spec airborne C2
Airborne C2 B												Medium Spec Airborne C2
Airborne C2 C												Low Spec Airborne C2
Fast Jet												Generic Future Fighter
UAV												Generic Unmanned Airborne Vehicle
Intercept Helicopter												Generic Surface Capability Marine Rotorcraft
Surface C2												Escort Ship .

Defining System of Systems

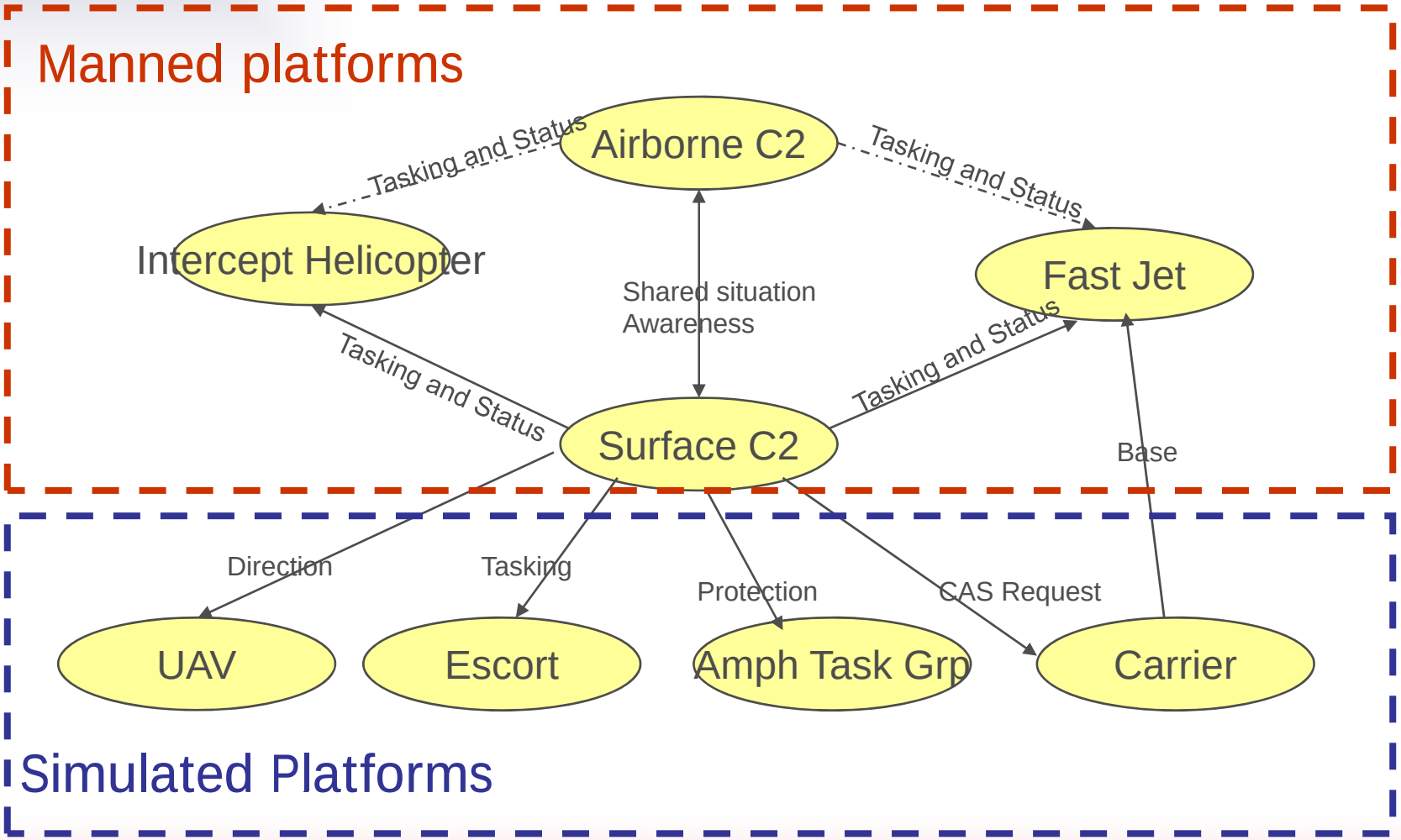


OV1a Anti Surface Warfare

OV2 Operational Nodes



OV2



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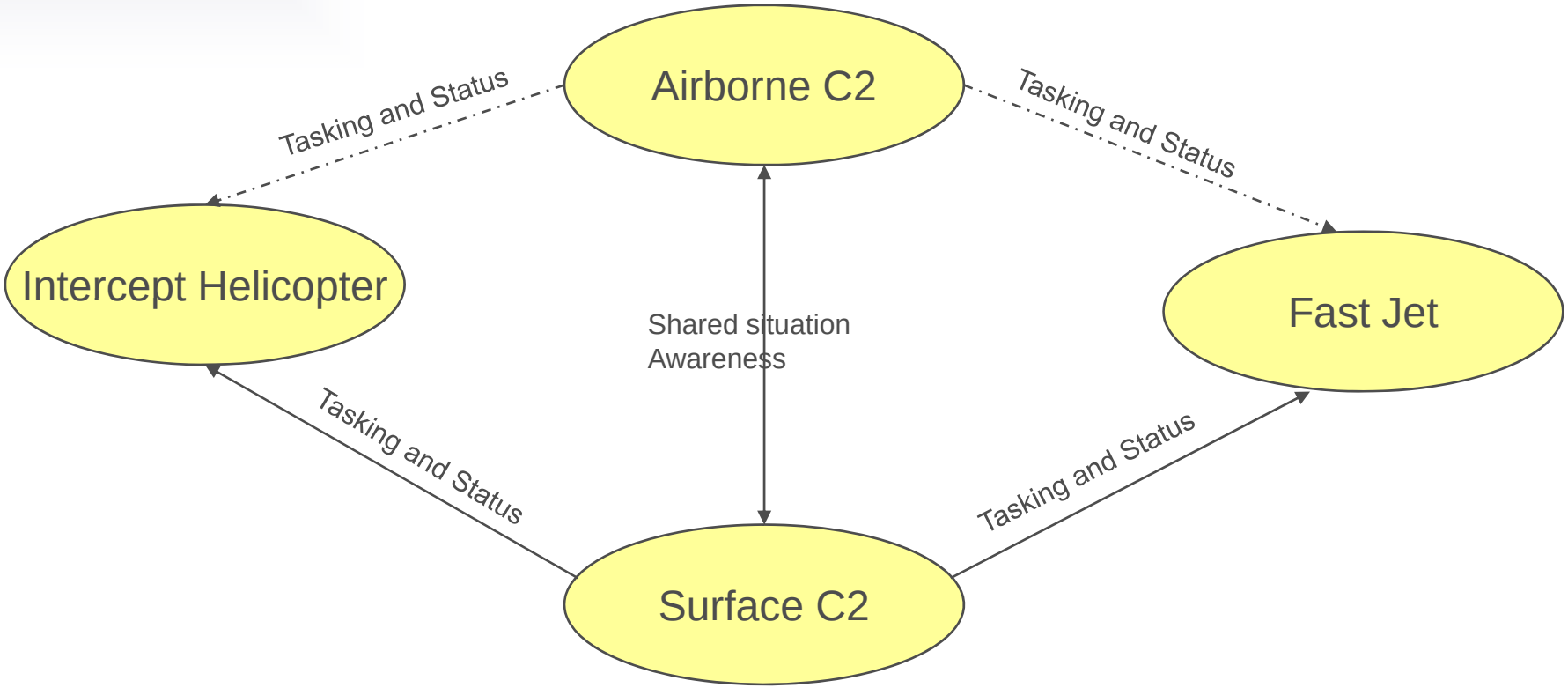
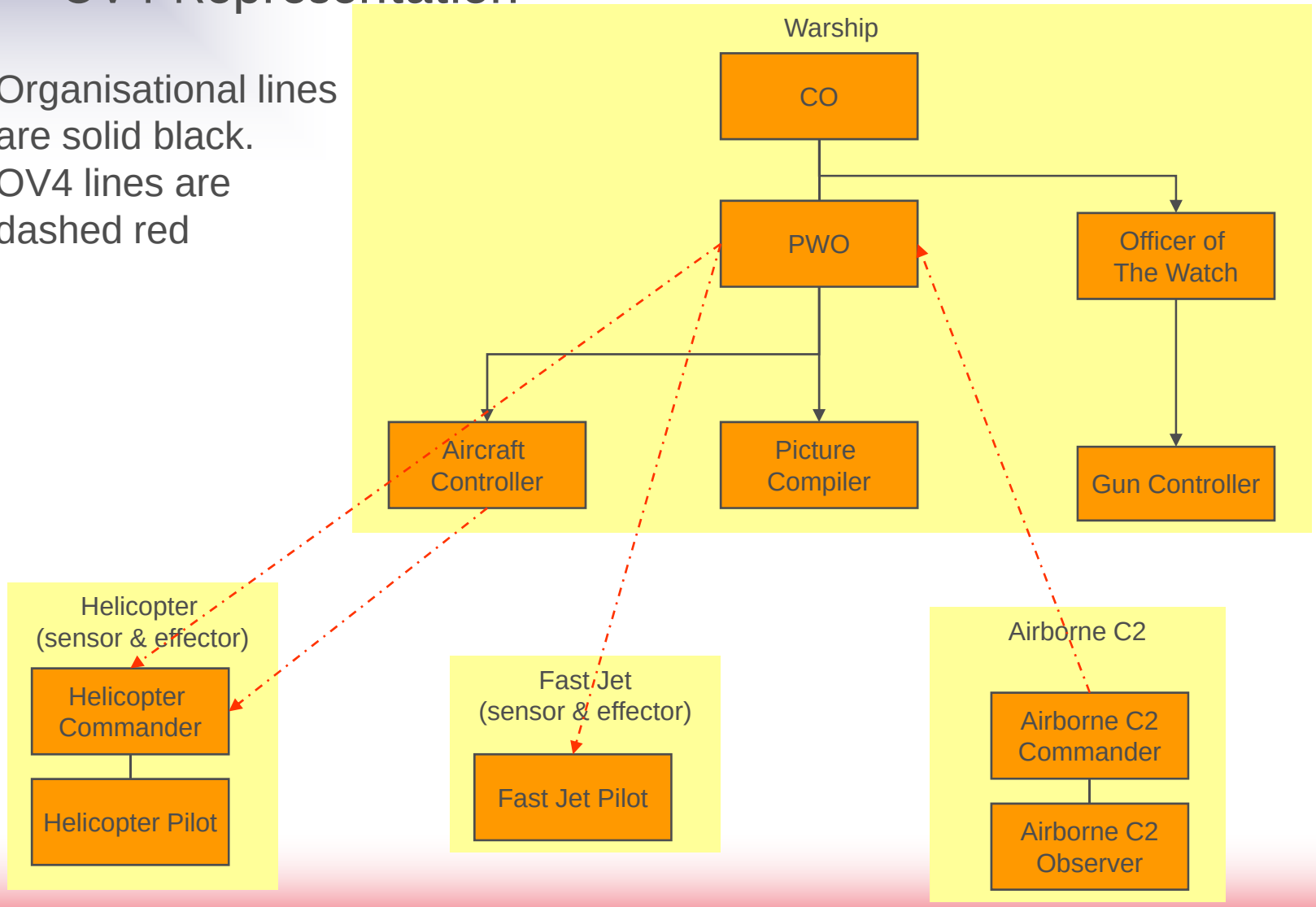
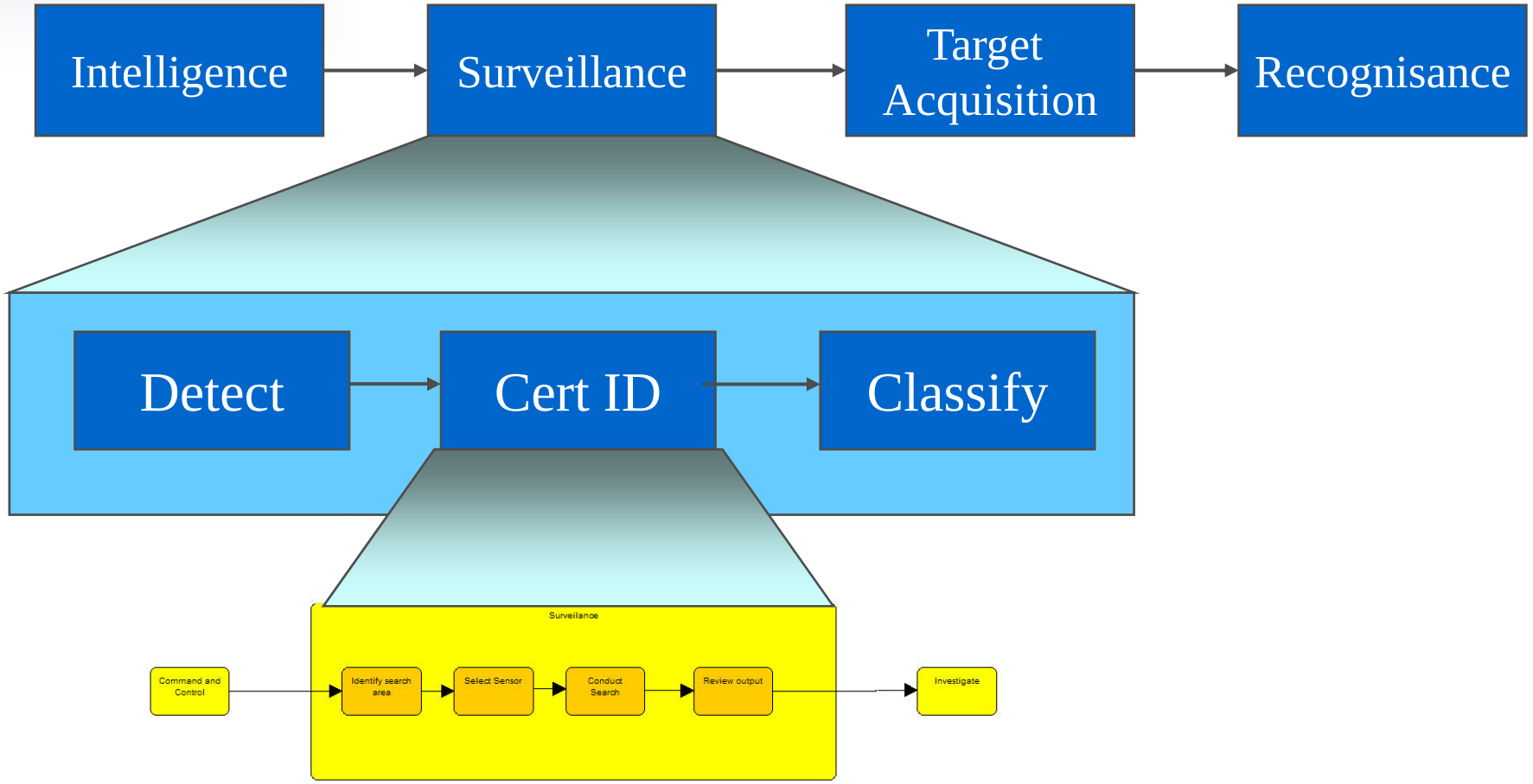


OV4 Representation

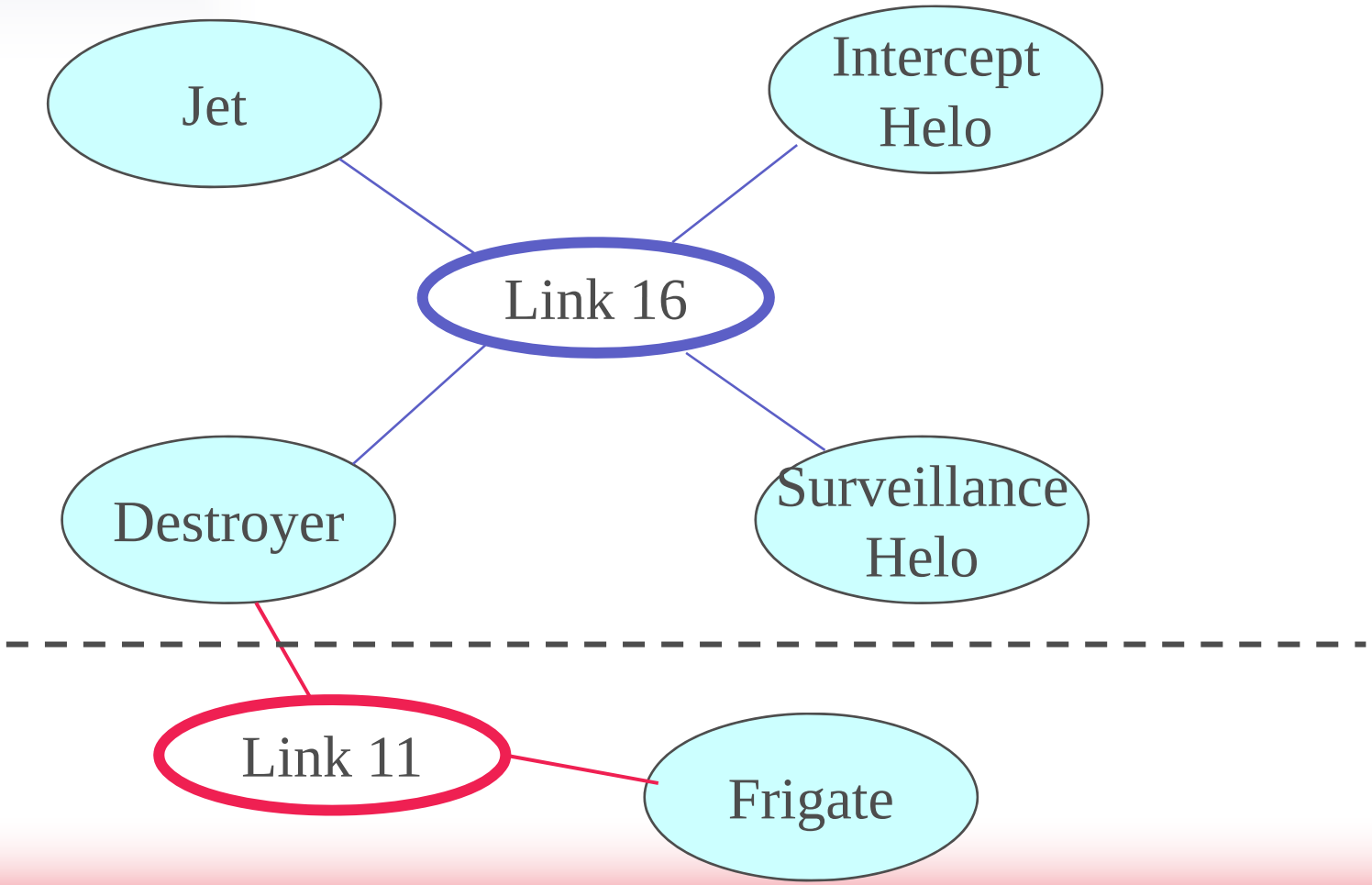
Organisational lines are solid black. OV4 lines are dashed red



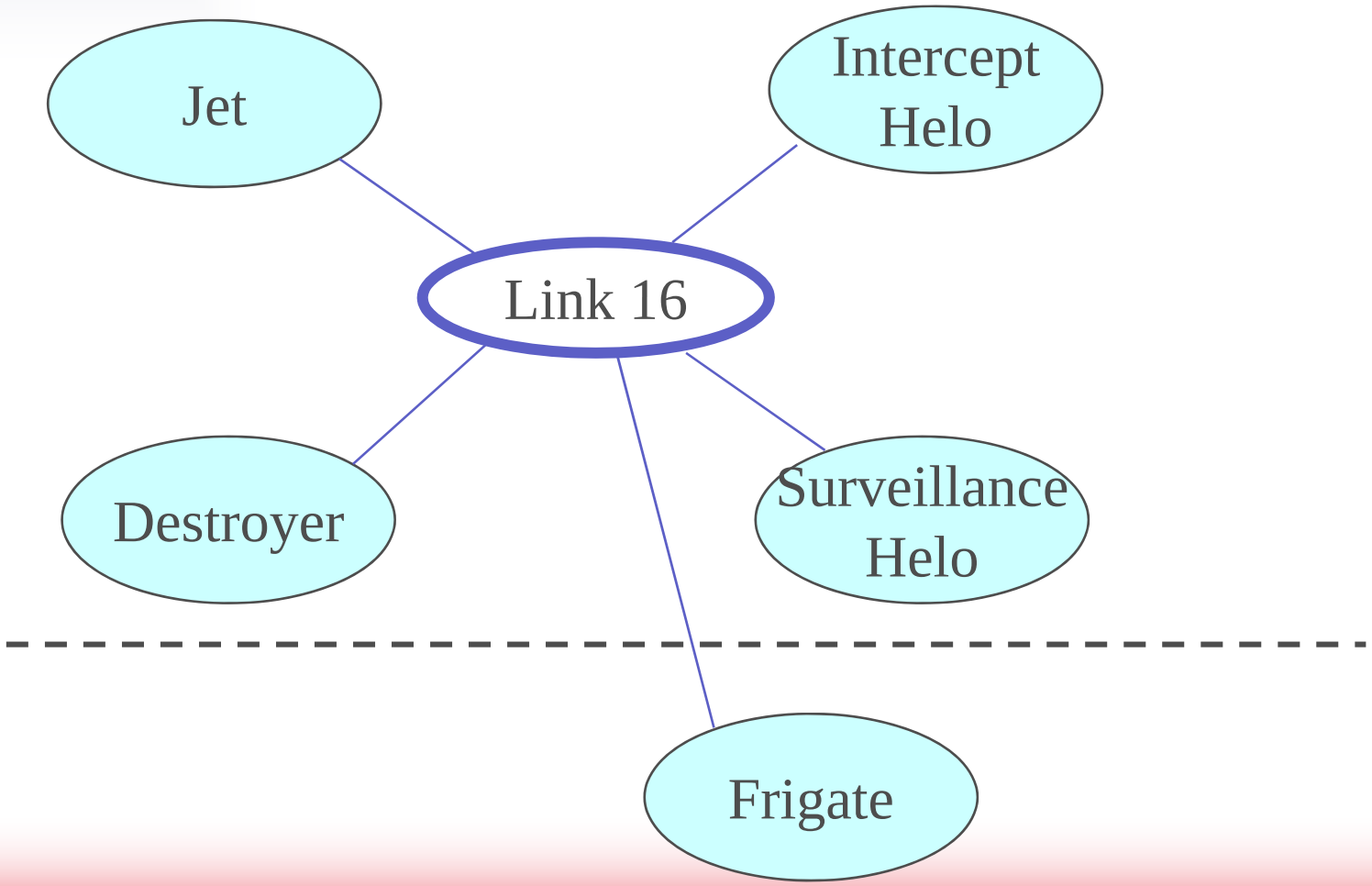
OV5 Process



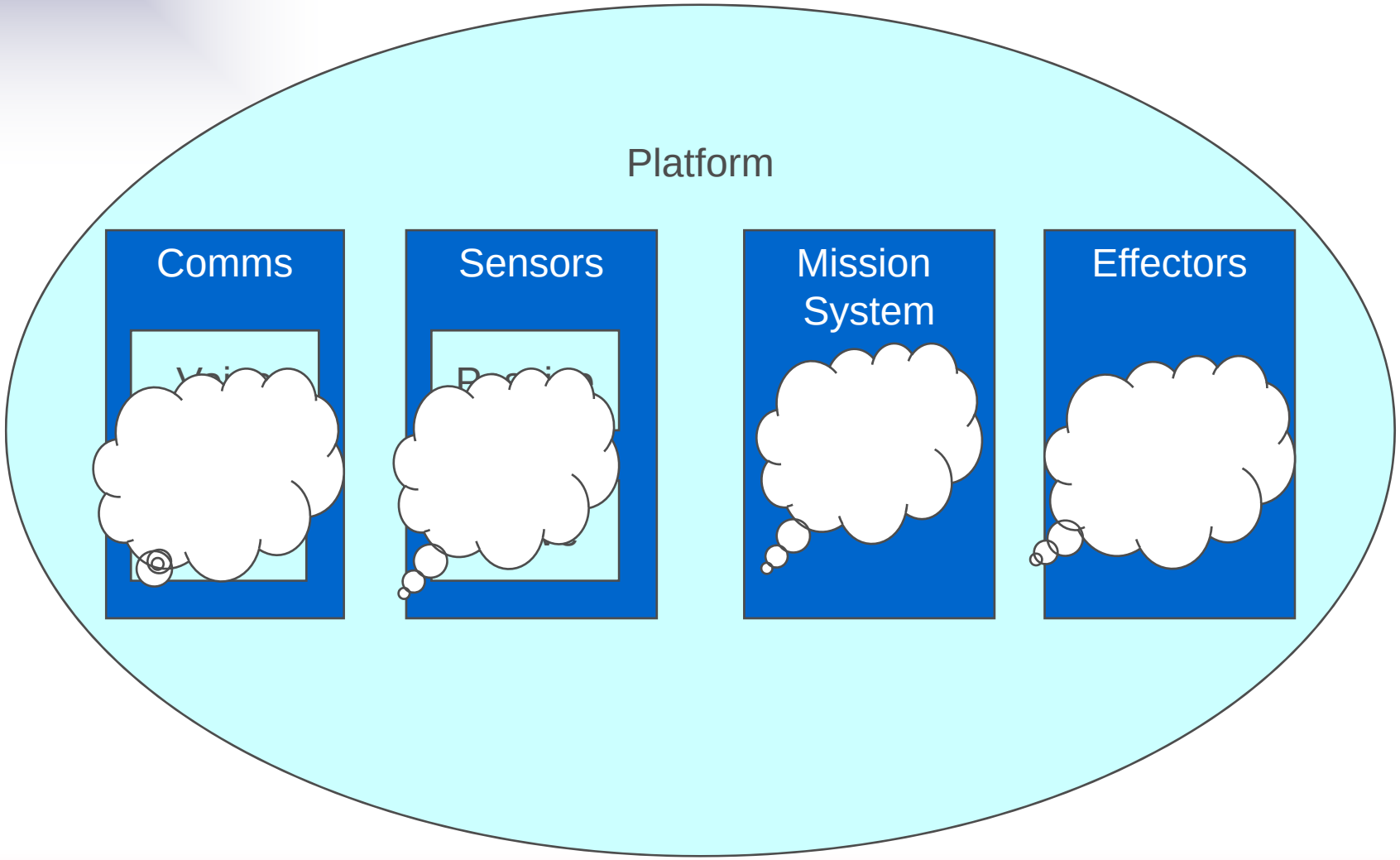
SV1 System of Systems (Real)



SV1 System of Systems (Exp)



SV1 Platform



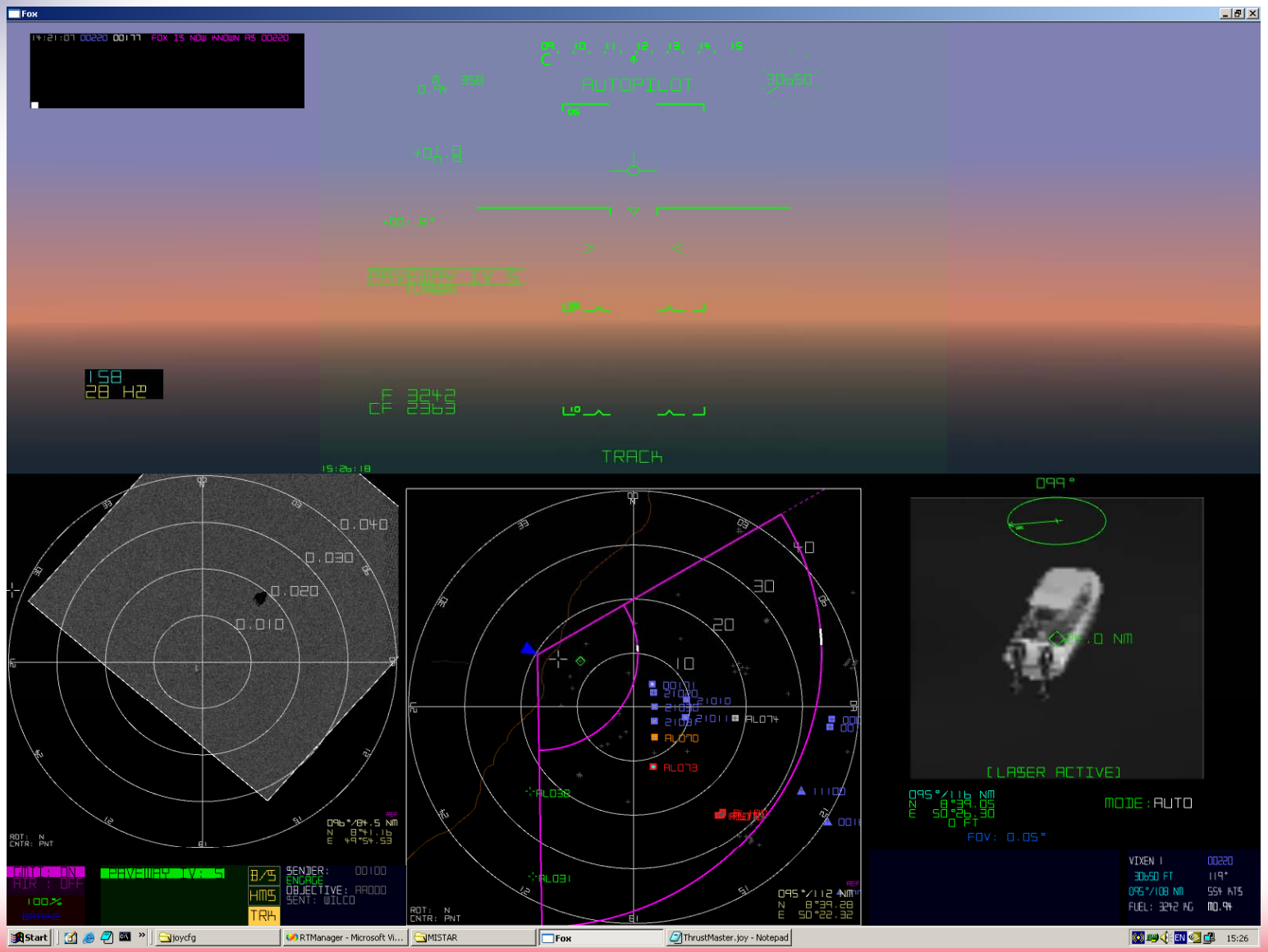
Airborne C2

EXCON

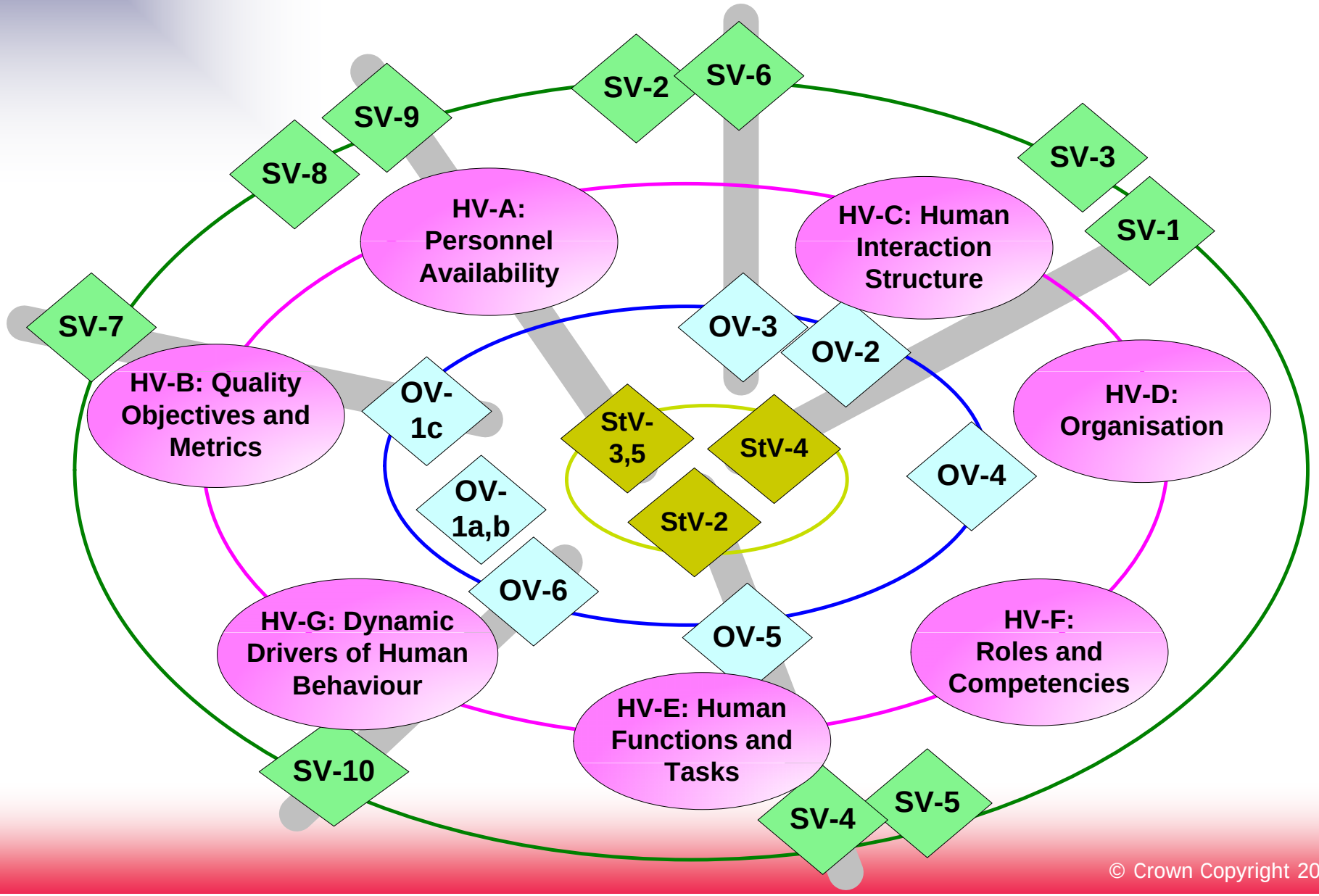
EXCON

Fast Jet

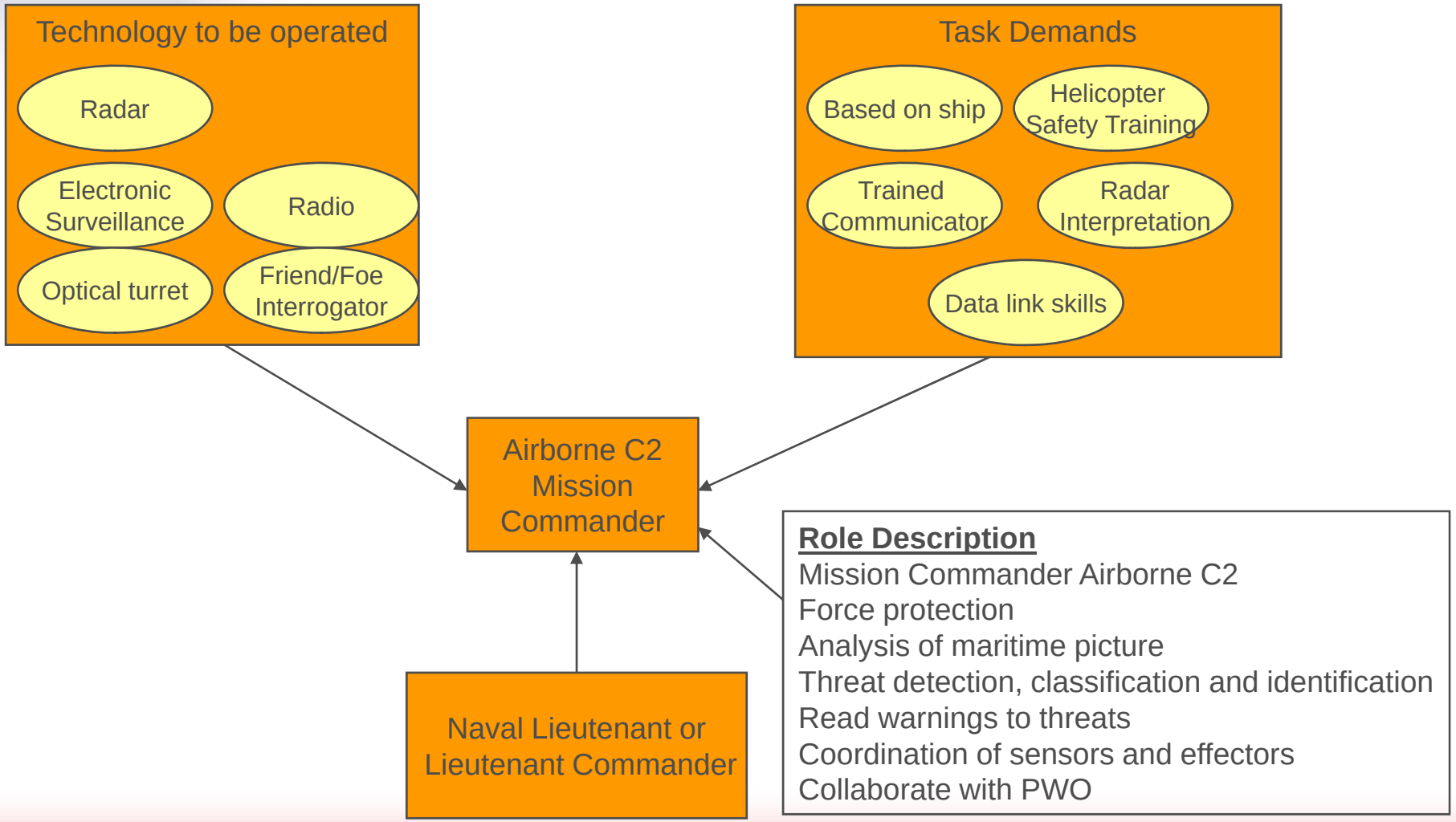
Jet Console



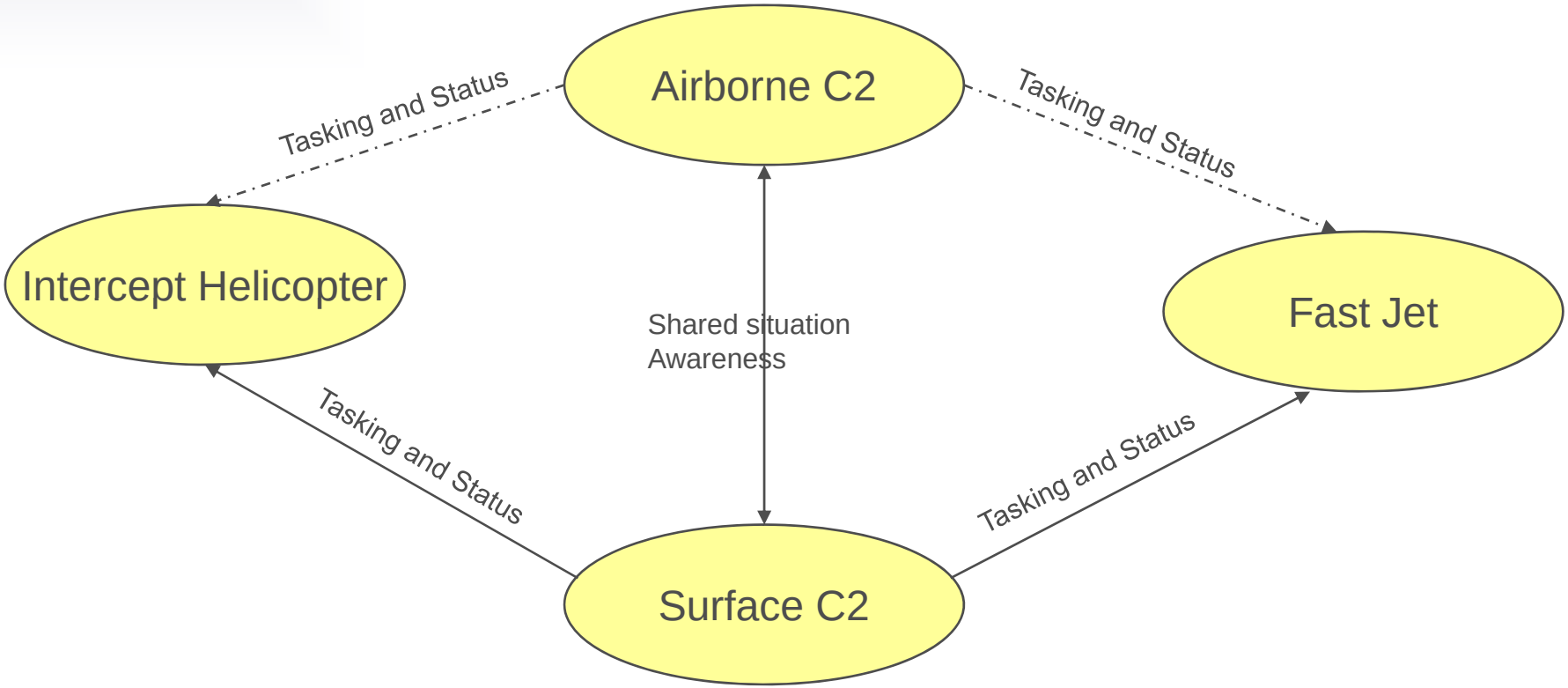
Social Network in Human Views



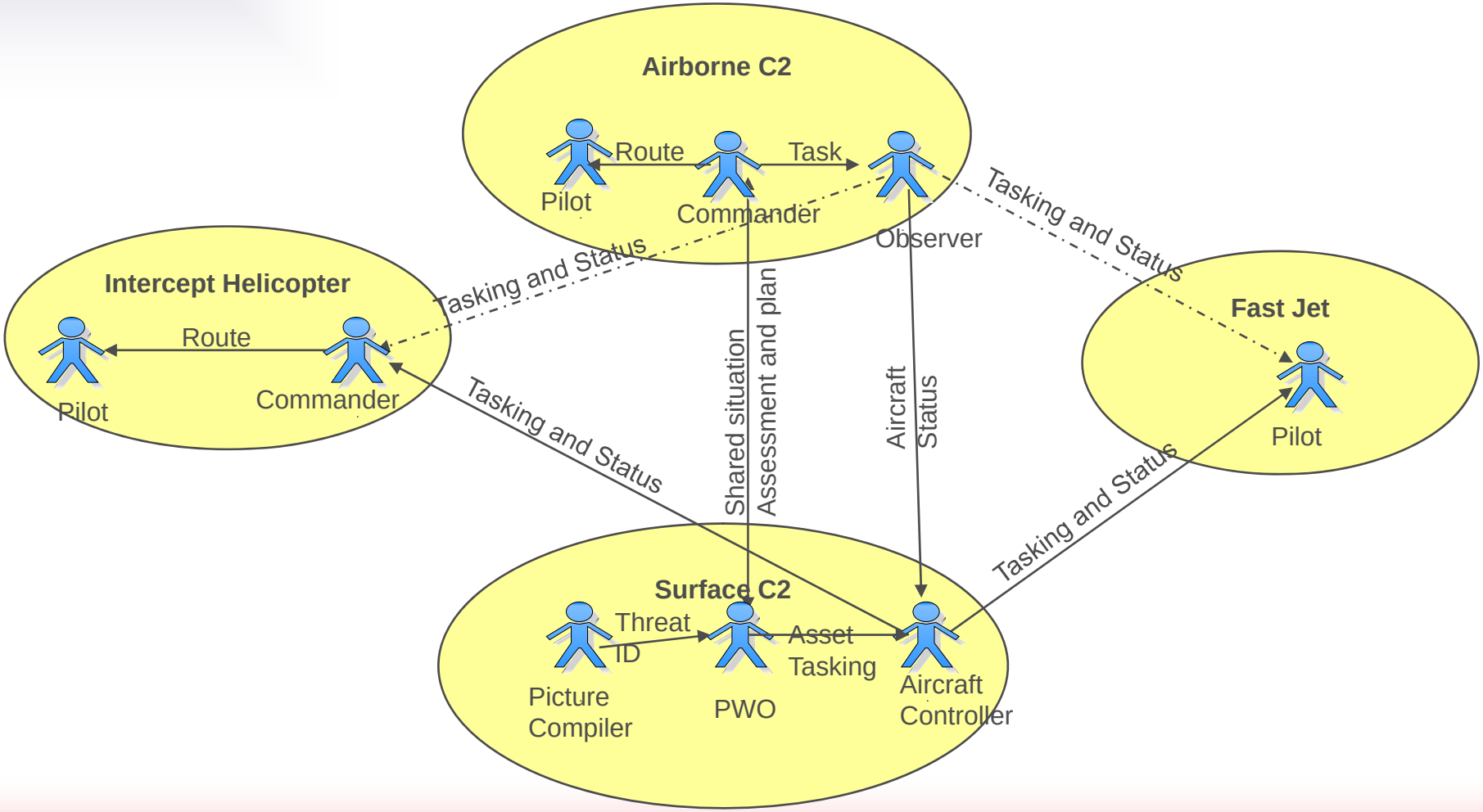
HV-F Roles and Competencies



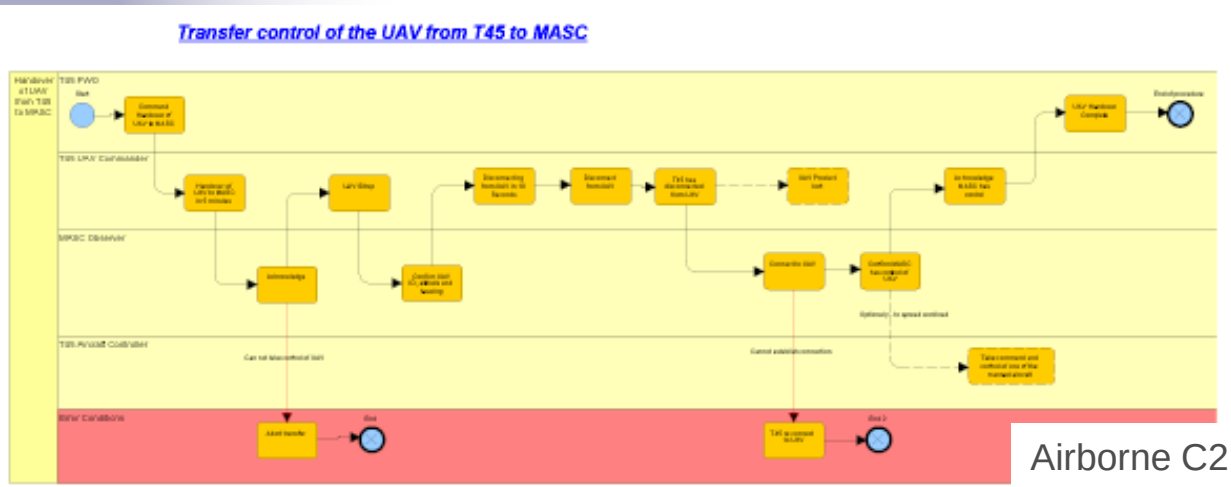
OV2

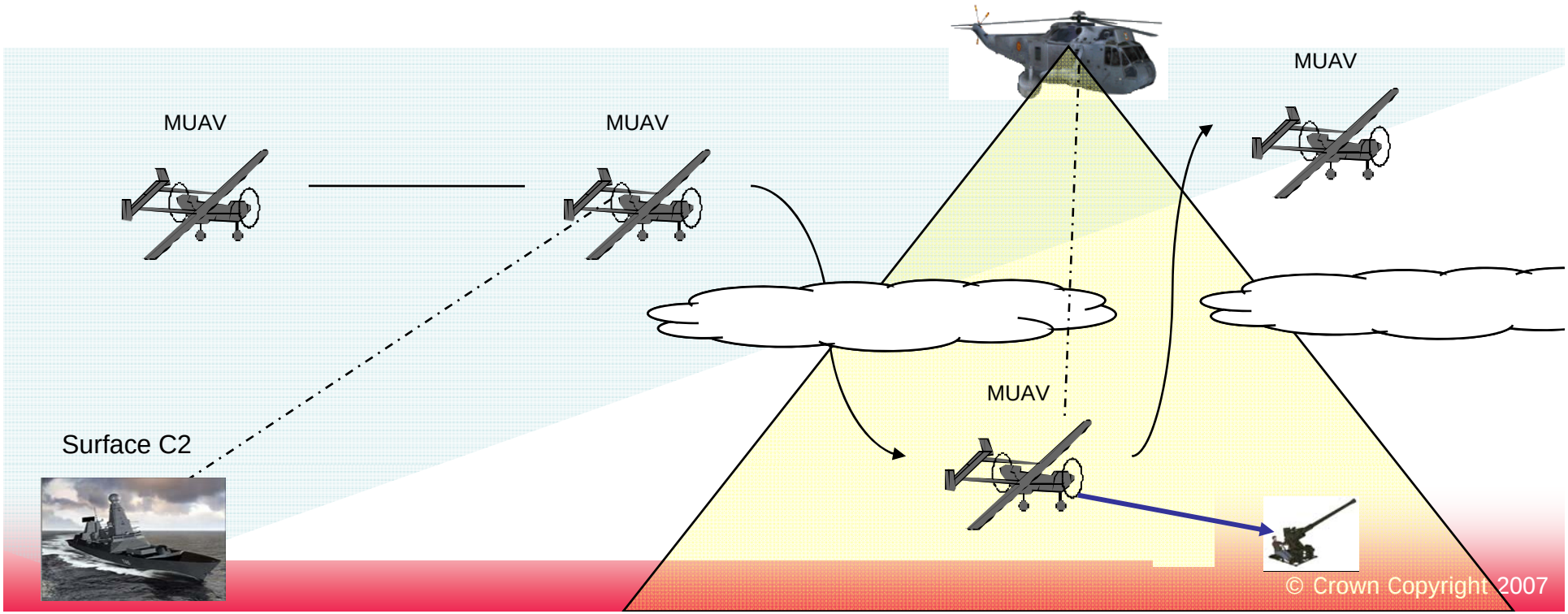


HV-C Human Interaction Structure



Capture of observed behaviour





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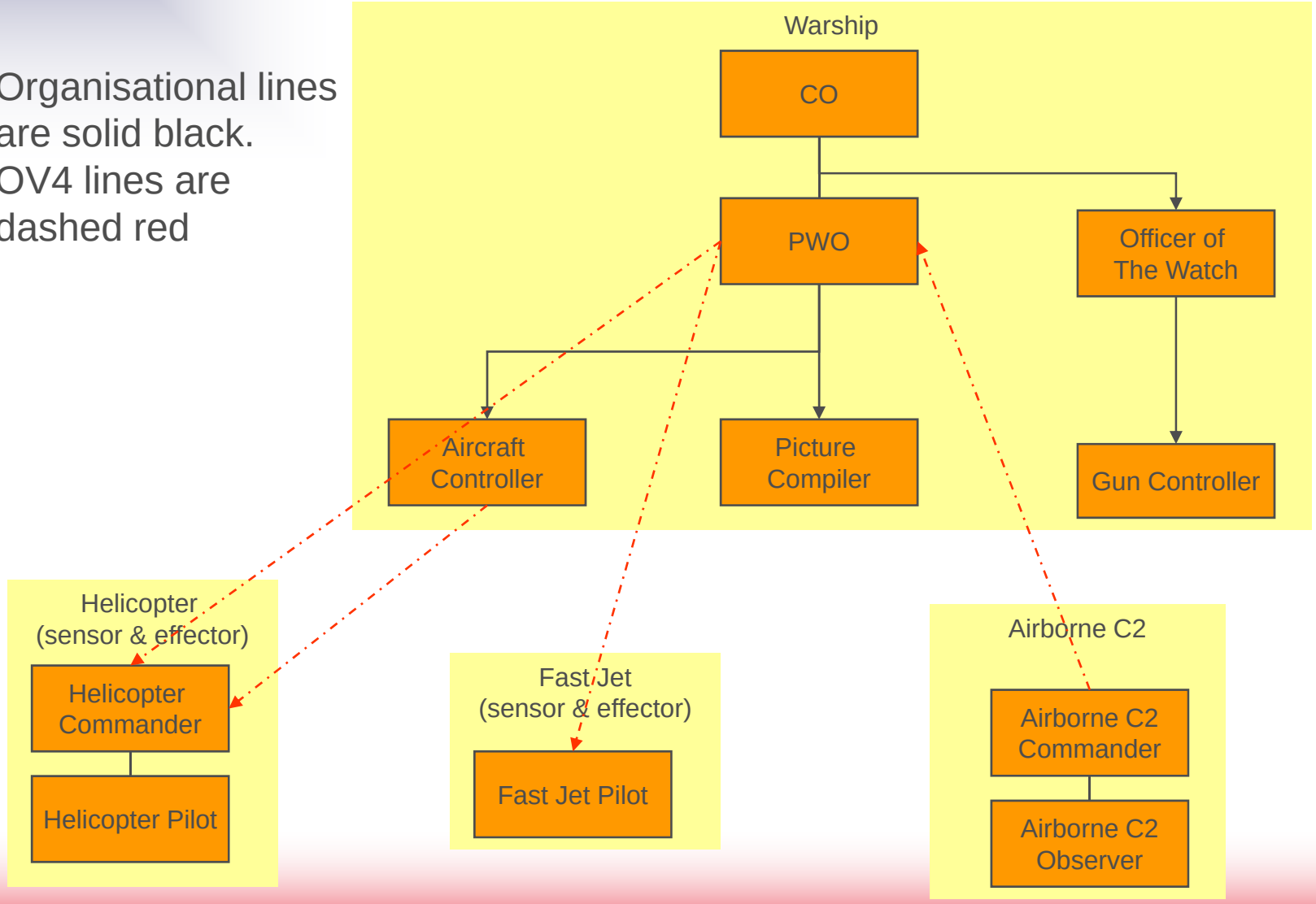
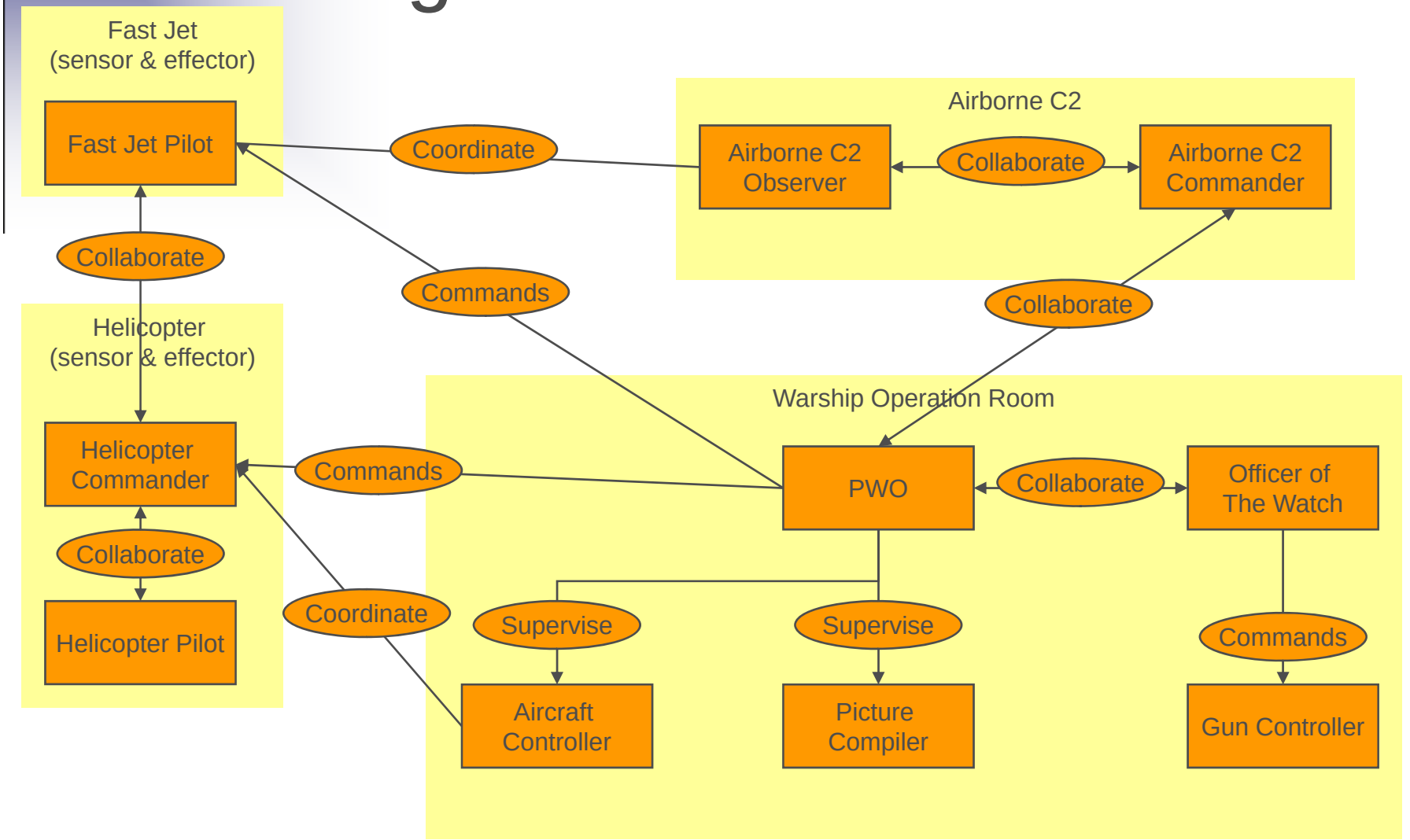


HV-D Organisation



HV-G Taxonomy

Team Dynamic
(Range of emotions)

- Euphoric
- Over Confident
- Confident
- Alert
- Tense
- Anxious
- Argumentative
- Panic

Command Style
(Range of styles)

- Collaborative
- Consultative
- Controlled
- Methodical
- Autocratic
- Dictatorial

HV-G Dynamic Behaviour

	Measure	Worst Case	Neutral	Best Case	Comment
Mission Phase		Picture inconsistencies, narrow radar range	OK picture with medium radar range	Good shared picture, wide radar range	
Discover	Command Style	Controlled	Controlled	Controlled	
Initial Situation Assessment	Team Dynamic	Tense	Alert	Alert	
Plan	Command Style	Autocratic	Consultative	Collaborative	
Plan of defence	Team Dynamic	Tense	Alert	Confident	
Execute	Command Style	Autocratic	Methodical	Controlled	
Tasking and control of assets	Team Dynamic	Argumentative	Alert	Confident	
Monitor	Command Style	Methodical	Controlled	Collaborative	
Revert to ready condition	Team Dynamic	Nervous	Alert	Confident	

M-ISTAR

Question: What Maritime ISTAR capability is required to deliver Force Protection and Force Projection capability to support an Amphibious Task Group in the 2015-20 epoch?

- MASC/M-ISTAR Theme (DEC ISTAR & CVF IPT)
  - De-Risked Maritime Airborne Surveillance & Control Programme.
  - **John Coles CB, Formerly CVF IPT Leader:**
    - *"... the tempo with which this was done, and the quality of the experiment and outputs, impressed on me that NITEWorks is a key capability to support defence acquisition."*

NITEworks
capability through partnering

Unique MoD-Industry Partnership

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