



Ministry of Defence

Defence Uncrewed Systems Strategy

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Defence Uncrewed Strategy



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- **Problem**

- Defence is not achieving operational advantage in uncrewed systems due to an incoherent approach across innovation. There is a lack of decisive pull through to capability and an inability to procure at the speed of relevance, unaligned to DSIS
- Result - an indefinite moratorium on Defence uncrewed spending permissions

- **Opportunities**

- **Achieve competitive advantage.** Draw together market knowledge, R&D/operational lessons and minimise duplication and accelerate in comparison to our adversaries and the market
- **Become an 'intelligent customer'.** In a fast moving market, be able to make clear-eyed decisions across *prosperity, sovereignty, capability* and *cost*
- **Address Defence blockers and energise UK industry.** We are at an inflection point in uncrewed systems, created in part by the war in Ukraine. A rare opportunity for Defence level direction / coherence to enhance innovation and skills to unlock the potential within the sector and across Defence

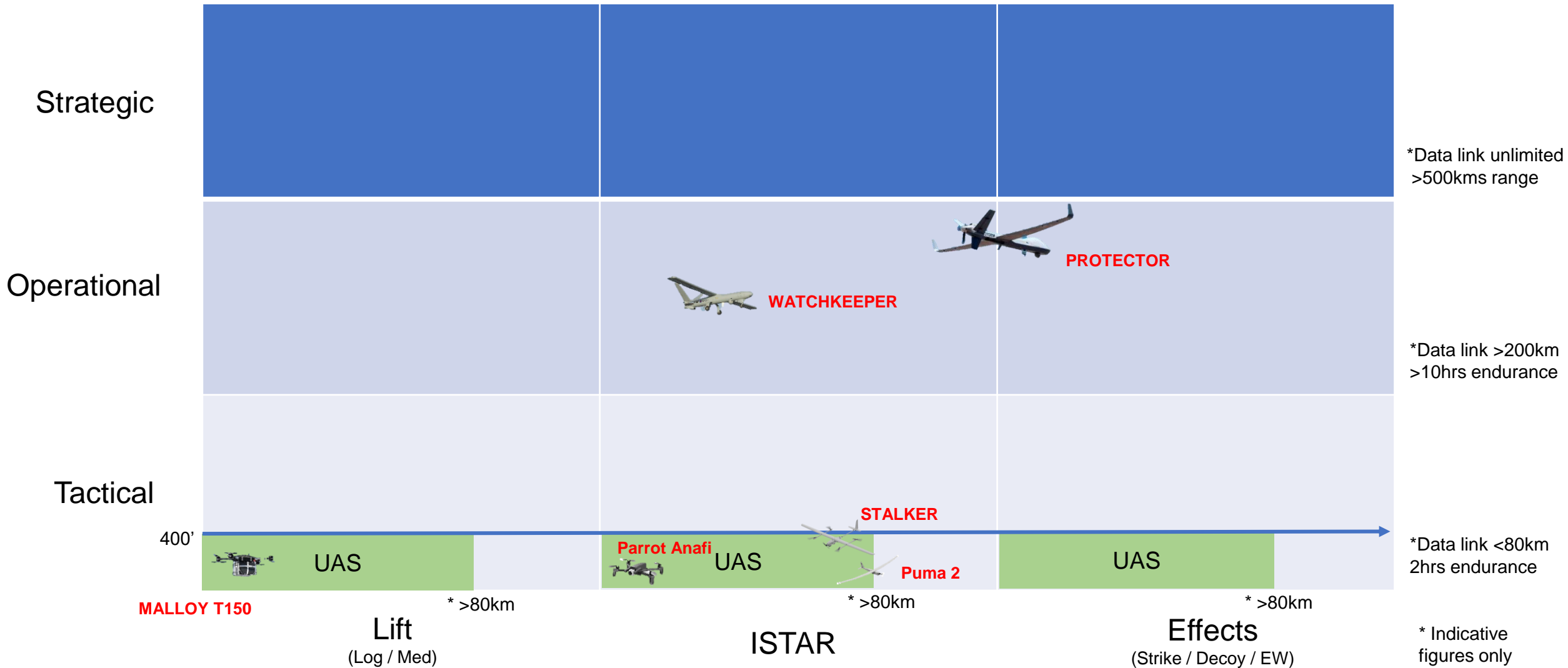
- **Risks**

- **But...** adding layers of bureaucracy will be worse than an incoherent position - *any Defence-level structure or solution must only do what must be done by Defence.*

RPAS Uncrewed Capability Model



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[Indicative] Uncrewed Category Management Framework



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Capabilities / System		Sub-System	Capability Level					
			Low				High	
Payload / lift capacity <i>(some sovereign focus)</i>	Sensors (gimbals, cameras)			X			X	
	Rebroadcast							
	Collect (radar/SI)							X
	Munitions / EW payload							
Communication systems	Radios / antennas			X			X	
	Data Links / BM			X				
Navigation systems	GPS (hardened)		X		X			
	Alt Nav / Rad Altimeters			X				
Platform	<4kg	Frame (power)		X			X	
	<25kg	Propulsion		X				
	>25kg					X		
PED / Digital Backbone	Bearer / data ownership						X	
	Analytical Tools / ML				X			X
Software	Data layers / control software							
	Control Station						X	
System Integration	Architecture				X		X	
	Certification (UK/other)		X		X	X		
C2	AI / ML – BM / C4I						X	
	End to end 'kill chain'						X	

Sovereign focus

Uncrewed Capability to Category - End to End



Uncrewed Category Management Framework

Category / System	Sub-System	Capability Level			
		Low	Medium	High	Very High
Payload / lift capacity <small>(some sovereign focus)</small>	Sensors (gimbals, cameras)				X
	Rebroadcast		X		
	Collect (radar/SI)			X	
Communication systems	Munitions / EW payload				X
	Radios / antennas			X	
Navigation systems	Data Links / BM			X	
	GPS (hardened)			X	
Platform	Alt Nav			X	
	Frame (power)				X
PED	Propulsion			X	
	Bearer		X		
Software	Analytical Tools / ML			X	
	Data layers				X
System Integration	Control Station			X	X
	Architecture			X	
C2	Certification (UK/other)			X	X
	AI / ML - BM / C4I		X		
	End to end 'kill chain'			X	X

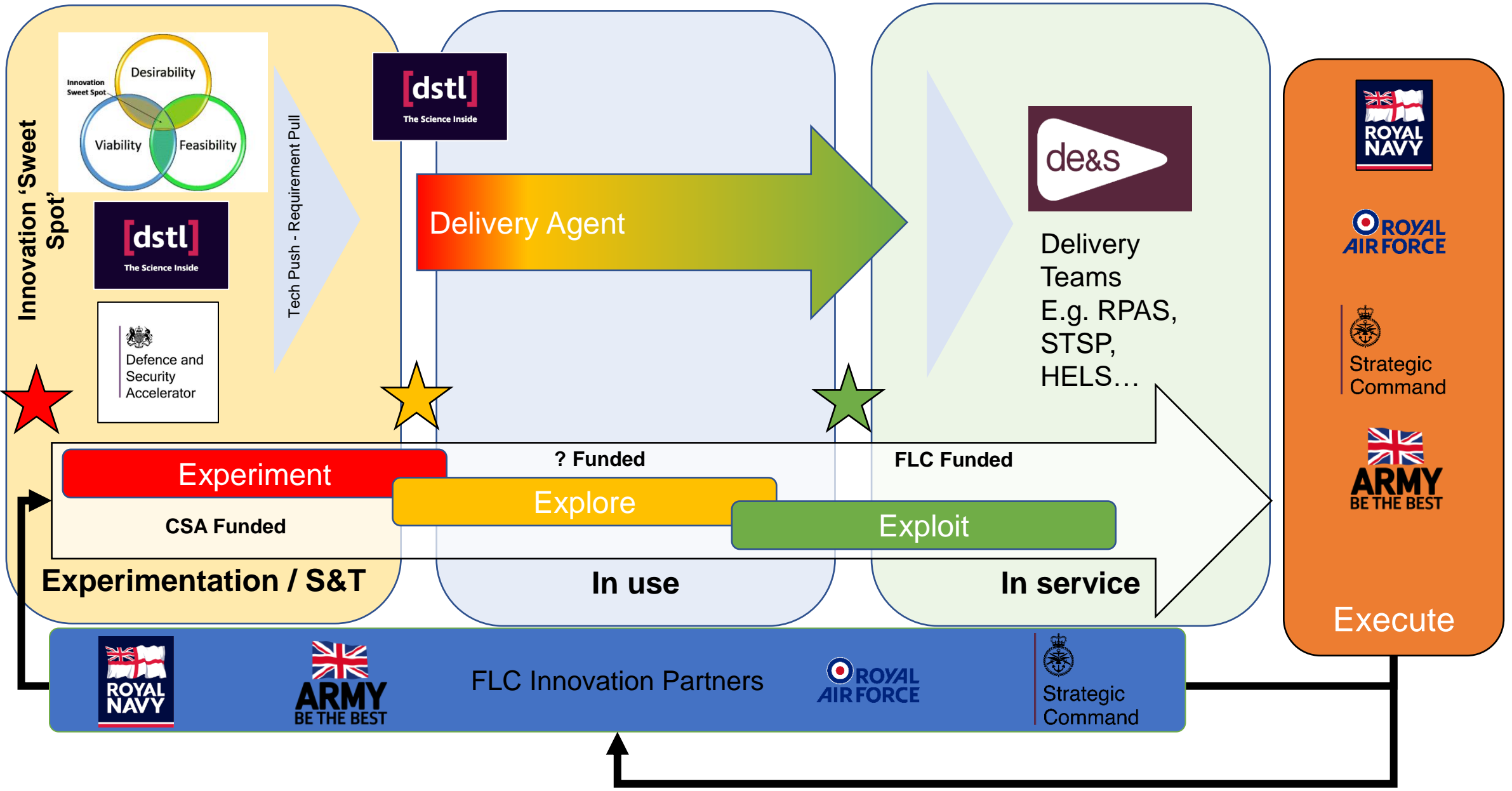
Category / System	Sub-System	Capability Level			
		Low	Medium	High	Very High
capacity <small>(some sovereign focus)</small>	Rebroadcast		X		
	Collect (radar/SI)			X	
	Munitions / EW payload		X	X	
Communication systems	Radios / antennas				X
	Data Links / BM			X	
Navigation systems	GPS (hardened)			X	X
	Alt Nav			X	
Platform	Frame (power)		X		
	Propulsion		X		
PED	Bearer			X	
	Analytical Tools / ML			X	
Software	Data layers			X	
	Control Station			X	X
System Integration	Architecture			X	
	Certification (UK/other)			X	X
C2	AI / ML - BM / C4I		X		
	End to end 'kill chain'			X	X

Uncrewed Capability Model





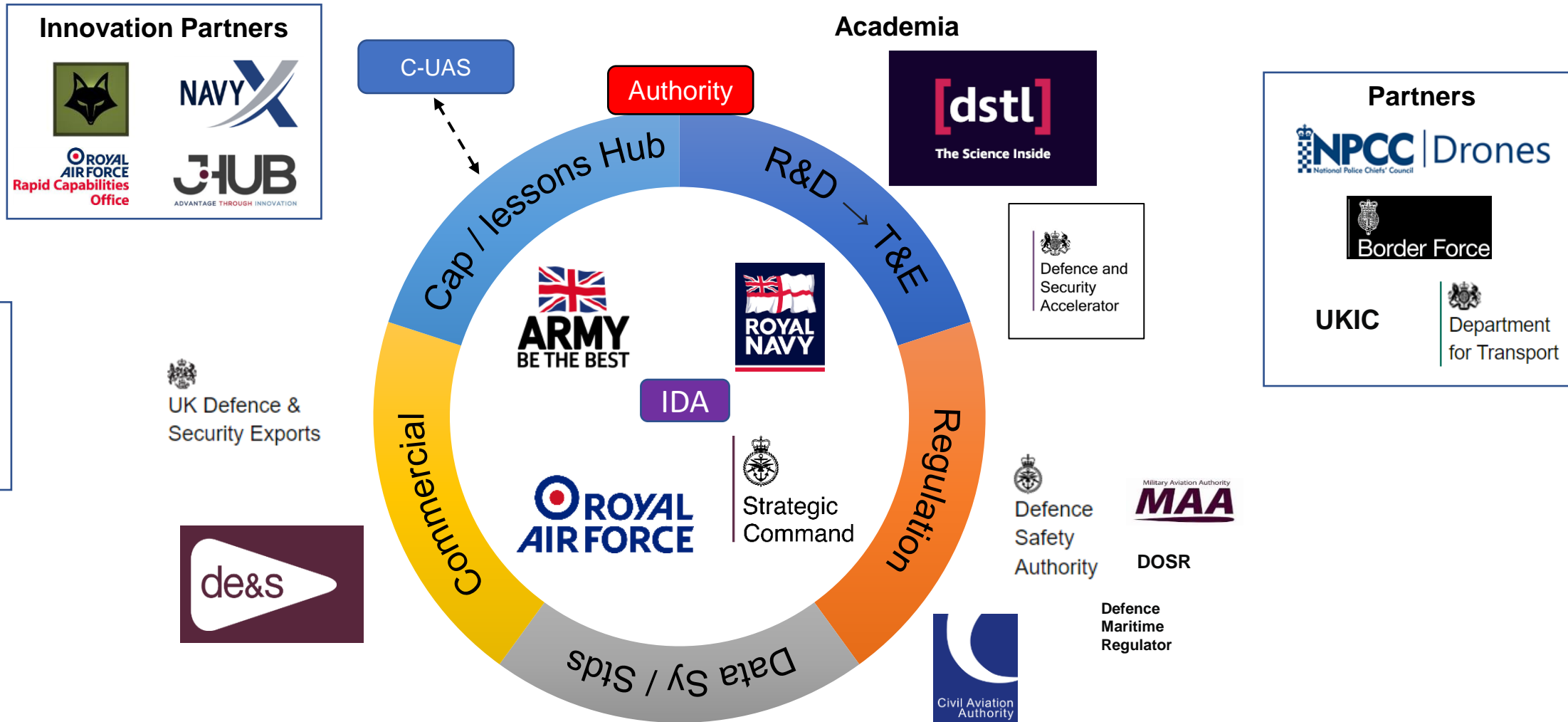
4 Box Innovation Model (Experiment – Explore – Exploit – Execute (exhaust))



Defence Uncrewed Strategy - Cohering Ecosystem



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Expeditionary Robotics Centre of Expertise (ERCoE)

Experiment

Explore

Exploit



Nano-UAS



Medium-UAS



Large RW-UAS



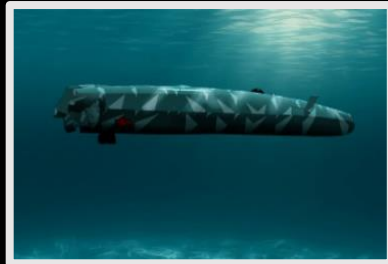
Swarming-UAS



Logistics & others



High Alt UAS



UUV



UGV/RPV



Remote Ops



Advanced



HMI



Aligned with C-UAS

System of Systems are emerging: HMT and MDIS Programmes are enabling and exploring



Challenges

- **Incoherent & Inefficient Innovation Ecosystem** – *Stove-piped and Non-collaborative*
- **Traditional Acquisition/Assurance models unable to deliver at the speed of relevance** (<4-6 month horizon)
- **UK is not delivering on uncrewed systems matched to DSIS intent**

Opportunities

- **Pockets of excellence** - the bits of the jigsaw and teams exist, and there is plenty of money
- **Regulation** (broadly) fit for purpose – **governance** and agile **risk holding** is the challenge (risk vs liability)
- **Agile Values & Principles** proven to deliver better speed to value – **agile** procurement models (where beneficial)
- **Uncrewed systems are rapidly evolving area** – opportunity to be world leading...
- A **digital backbone** could accelerate both our capability understanding and the way we buy/operate UAS/small RPAS

Guiding Policies

- **Coherent innovation** and **experimentation ecosystem** to become market leading
- **Agile Values & Principles** across **governance, acquisition** and **delivery**
- **Preference UK research, development** and **acquisition** (unless there is a coherent reason not to)

Key Actions

- **Establish** an uncrewed **cohering mechanism** to grow a collaborative MoD uncrewed systems function
- **Mandate agile procurement** practices for the appropriate systems
- **UK by Default.** Clear Defence policy on for capability acquisition, informed by a capability focused strategy
- **Stimulate/partner** the UK supply chain through clear demand signals, linked to DSIS (and enable an export strategy)
- Create an easy to use **data platform** bringing together market and our own user data