

# Driving rapid innovation in miniaturised Electronic Warfare technologies

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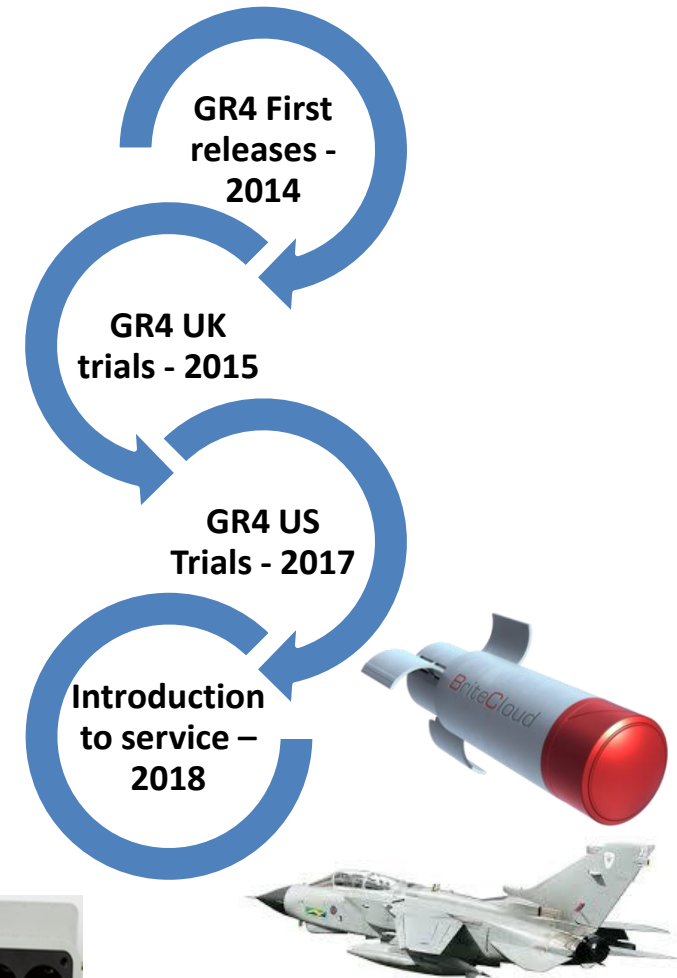
# The rapid growth and proliferation of our adversaries' capabilities

- ❖ The air domain threat environment has evolved and proliferated
- ❖ The adversary has rapidly developed their capabilities to challenge the western air superiority doctrine
- ❖ NATO forces require the capability to coerce near-peer and peers where their agenda is destabilisation and influence of a region
- ❖ Local electro-magnetic superiority is a key enabler to freedom of manoeuvre and mission success in contested and congested environments
- ❖ Enhanced aircraft survivability is paramount for operation in a highly integrated air defence network



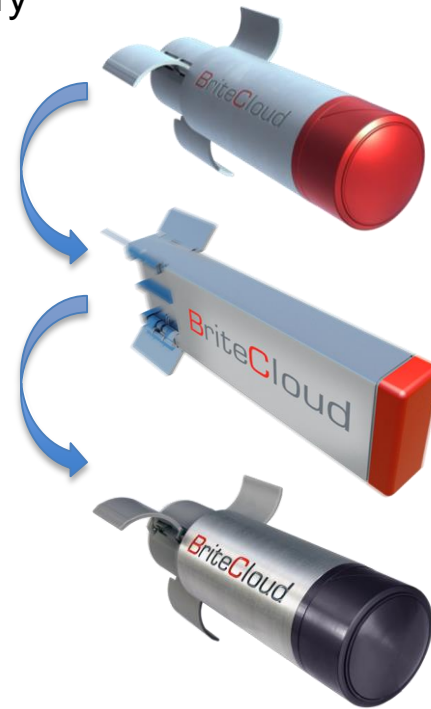
# Expendable Active Decoys – Innovation in Aircraft Survivability

- ❖ Need to enhance capability to counter modern RF threats with sophisticated tracking and protective measures
- ❖ An off-board countermeasure with Digital RF Memory, sophisticated seduction techniques and operation over the frequency range of the threat environment
  - ❖ Enhanced capability over Chaff and reduced complexity and simplified integration over towed decoys
- ❖ Design challenge to fit existing Countermeasure Dispensing Systems - minimise cost and timescales for platform integration
- ❖ Significant challenge to package the technology into such a small envelope
  - ❖ Leverage advances commercial digital signal processing battery technologies
  - ❖ Development of innovative antennas and microwave electronics
- ❖ Collaborative programme with the RAF's Rapid Capabilities Office to develop, qualify and productionise BriteCloud
  - ❖ Flexible programme with shared objectives and management of risk and opportunities
  - ❖ Novel programme and commercial management approach vs. traditional transactional approach



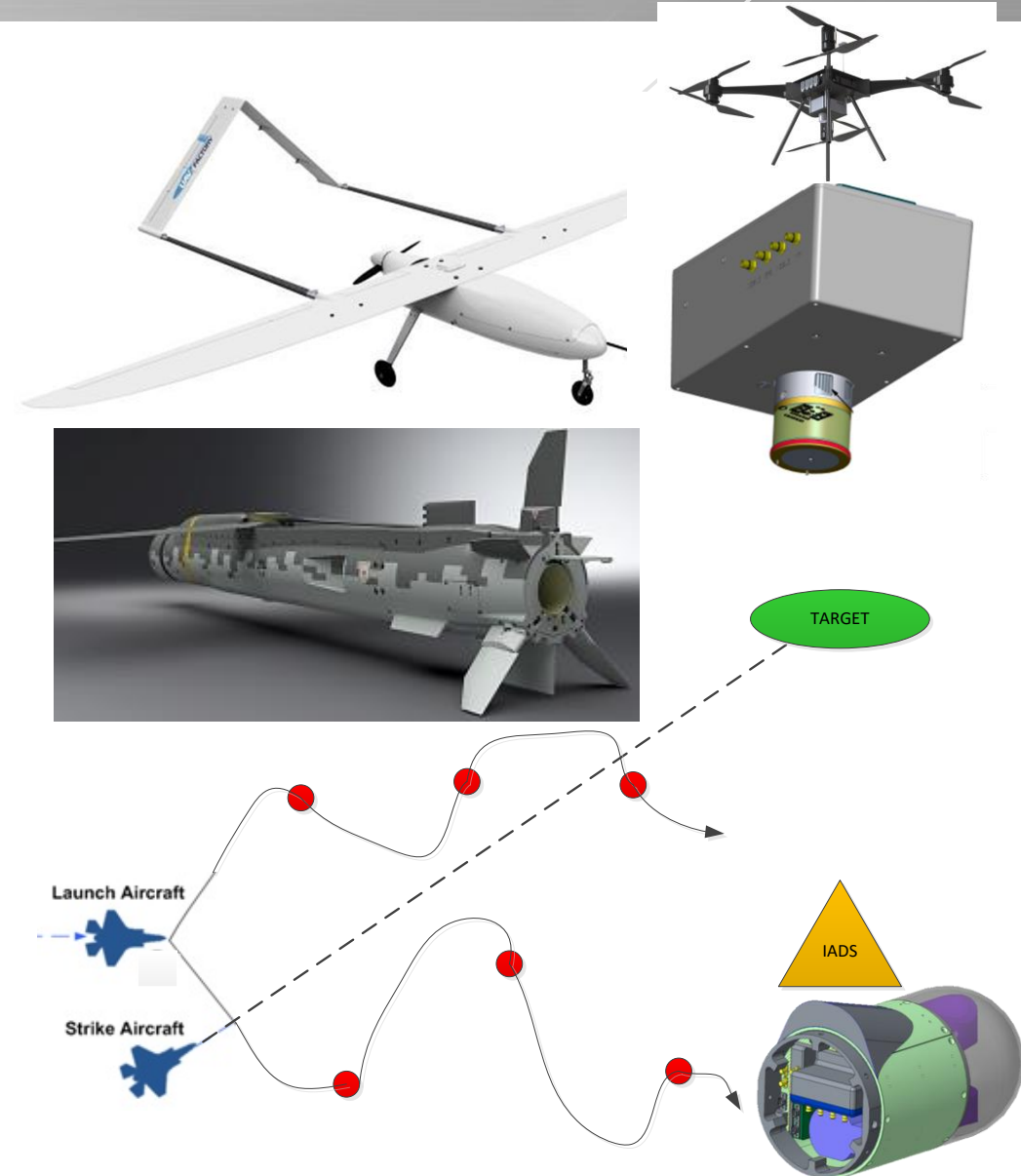
# Spiral Development Strategy

- ❖ A clear product route map addressing the full spectrum of future military needs
  - ❖ Accepting challenging requirements without “over stretching” providing initial capability to user community in time
- ❖ Product growth through iterative development
  - ❖ Maximising reuse with a flexible architecture
  - ❖ Learning the lessons to enhance the design for capability and production
  - ❖ Further miniaturisation and enhanced operational performance
- ❖ Reconfigurable software design allowing in theatre reprogramming
  - ❖ Supporting rapid update to Mission Data to delivery capability advantage against evolving threats
- ❖ Support to international collaboration – US ANG Foreign Comparative Tests
- ❖ Studying with Cranfield and Dstl exploitation on rotary wing
- ❖ Hooks for future platform enhancements such as Smart Dispensing System



## Exploitation into the SEAD role

- ❖ The EAD technology has created opportunity to deliver sophisticated Electronic Countermeasures for the SEAD mission
  - ❖ Local EM supremacy allowing penetration of IADS for strategical strike missions
- ❖ Collaboration with MBDA and WECA on Stand-In Jamming, utilising MBDA's SPEAR C3 airframe deployed from Typhoon
- ❖ EAD technology rapidly reconfigured and integrated into a low cost UAV platform to form a swarm jamming capability and emitter location functions
- ❖ RCO led programme with collaboration from UAV and autonomy specialists
  - ❖ Affordable capability delivered through coordinated low cost systems leveraging autonomy to confuse and seduce



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THANK **YOU** FOR YOUR ATTENTION

