



Defence and Security
Accelerator



UK Defence
Innovation



Phase 2 - PYRAMID for avionics and mission systems

Briefing and Q&A Session

14th October 2025

DASA

INNOVATION
FOR A
SAFER
FUTURE

Innovation for a Safer Future

Agenda

Time	Item	Presenter
10:00 – 10.05	Welcome, Housekeeping, Introduction	Robert Hammond-Smith DASA Delivery Manager
10:05 – 10.15	Introduction to DASA	Clare Green DASA Innovation Partner
10:15 – 10.40	Competition Background and Details	Mike Lane RAF Rapid Capabilities Office
10.40 – 10.45	Break - opportunity to submit questions via Slido website sli.do , code #DASA	
10:45 – 11.25	Question & Answer Session	Competition Team
11:25 – 11.30	Wrap Up	Robert Hammond-Smith DASA Delivery Manager

Housekeeping

- Welcome to today's Briefing and Q&A for the new DASA competition: PYRAMID for avionics and mission systems
- Please note your camera and microphone will be kept off.
- The slides and the anonymised questions and answers will be uploaded afterwards to the DASA gov.uk website.
- Discussions will remain at OFFICIAL.
- Q&A session will take place after via Slido. To access, go to the website www.sli.do (on a separate tab or device) and enter the code **#DASA**.



Submitting Questions

Please submit or upvote any questions via slido



Scan above, or go to the website sli.do and enter the code #DASA



Introduction to DASA

Clare Green

DASA Innovation Partner



Part of UK Defence Innovation (UKDI)

UKDI is a new organisation which represents a transformation of how the Ministry of Defence (MOD) approaches innovation.

- UKDI consolidates and simplifies previous defence innovation programmes, to ensure we can harness the best of British innovation for our defence capabilities.
- Part of the National Armaments Director Group (NADG) and brings together the Defence and Security Accelerator (DASA), Future Capability & Innovation (FCI) and the Defence Innovation Unit (DIU) into a single, unified organisation.
- Anyone wishing to work with UKDI should continue engaging with their current point of contact in DASA, DIU or FCI.



Our Mission

The Defence and Security Accelerator (DASA) finds and funds exploitable innovation to support UK defence and security quickly and effectively, and support UK prosperity.

Since 2016...



134

Funding
Competitions



666

Innovators
Supported



1652

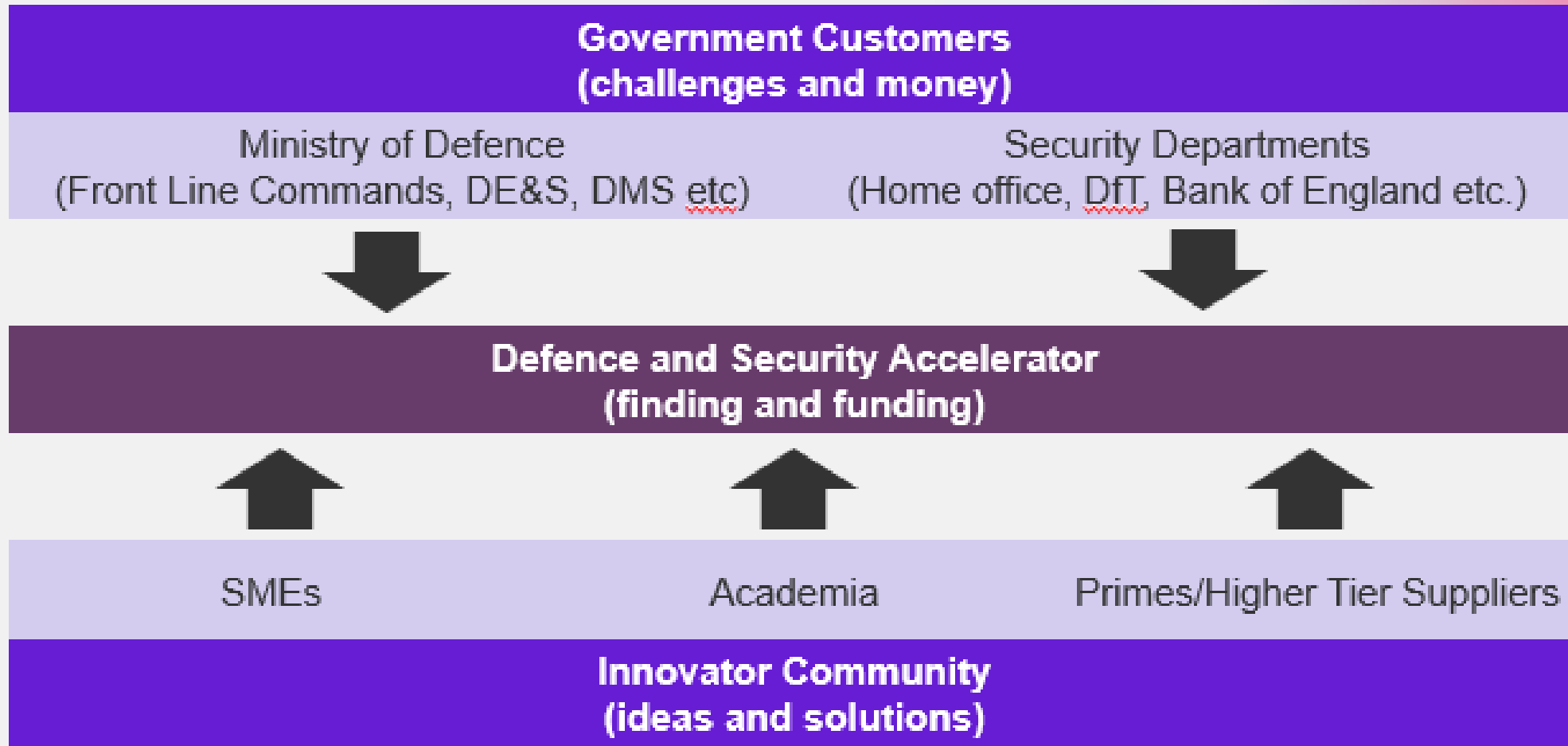
Ideas
Accelerated



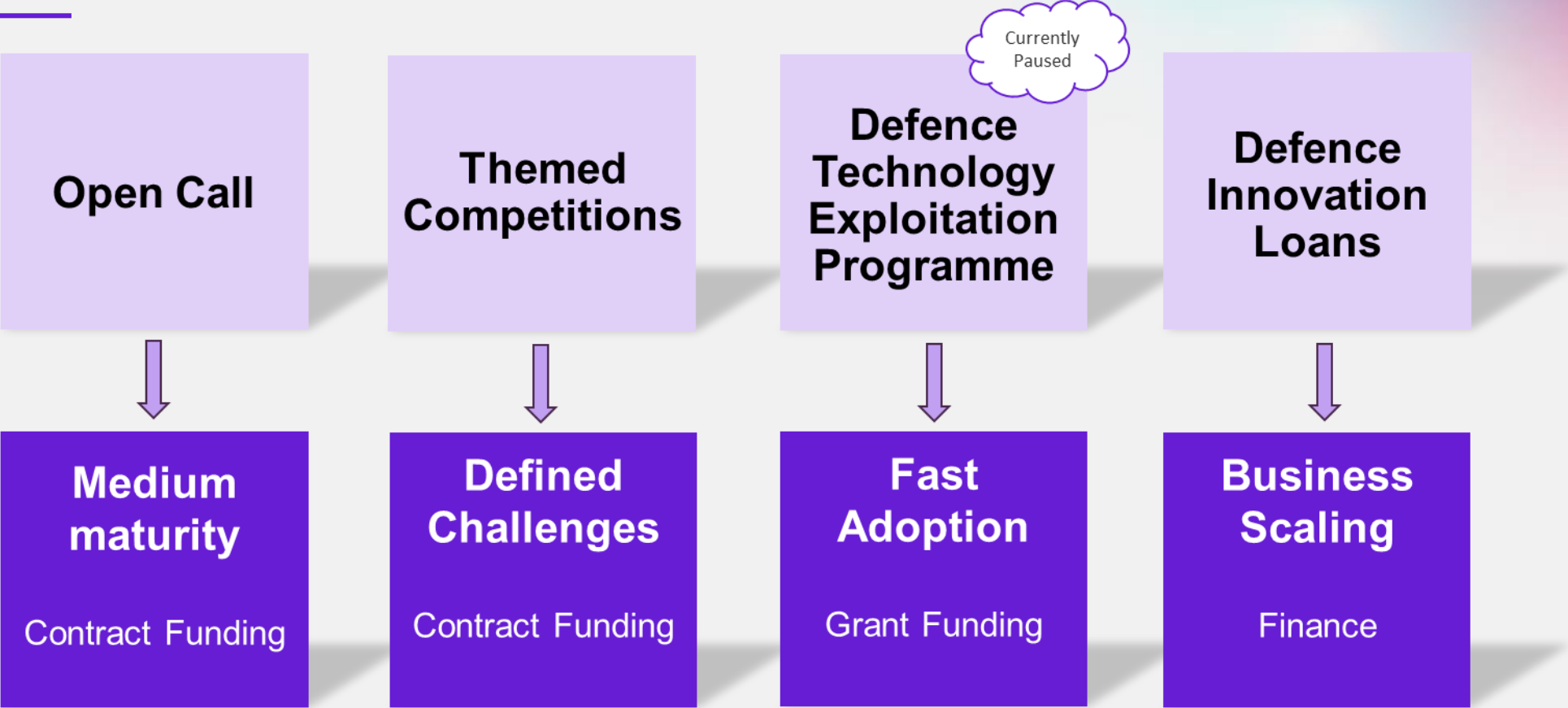
£327m

Invested in
innovation

How do we work?



How do we fund innovation?



Our Website

All our opportunities and support are hosted within our online platforms

- Login or Register for an Enterprise Collaboration Service (ECS) account
- View all our current and future competitions
- Contact one of our outreach team or our Helpdesk for support
- Read about our latest news, competitions, case studies

Home > Organisations

Defence and Security Accelerator

Part of [Ministry of Defence](#)

- [DASA Submission Service](#)
- [Ideas Marketplace](#)
- [Apply for Funding](#)
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- [Defence Innovation Loans](#)
- [Innovation Case Studies](#)
- [Get in touch with DASA](#)
- [NATO DIANA UK Accelerator](#)
- [UK Defence Innovation \(UKDI\)](#)

Featured

9 September 2025 — Case study [Deeper insights, safer skies: AI security screening innovation boosted by DASA](#)

NW Pro, a family company based in Bedfordshire, has transformed from designing, installing and maintaining

9 September 2025 — News story [New DASA Themed Competition: Novel Technology for Intervening in Non-Compressible Haemorrhage](#)

We are seeking proposals for novel innovations that intervene to stop

9 September 2025 — Case study [From Startup to Space: Oxford Space Systems' Journey to Oberon](#)

How DASA funding and Dstl support helped transform a deployable antenna concept into critical UK defence space capability

Meet the outreach team



Andrew Peaty
West Midlands

Jas Shanker
East Midlands

Clare Green
Yorkshire &
Humber

Duncan Sime
North West

Anna Taylor
North East

Mike Madden
South West



Mark Helliker
South East

Paul Alderton
London

Vicki Savage
East of England

Tom Adamson
Wales

Deb Carr
Scotland

Tony Collins
International

DASA Phase 2 Launch - PYRAMID for avionics and mission systems.

Mike Lane
14 October 2025



PYRAMID

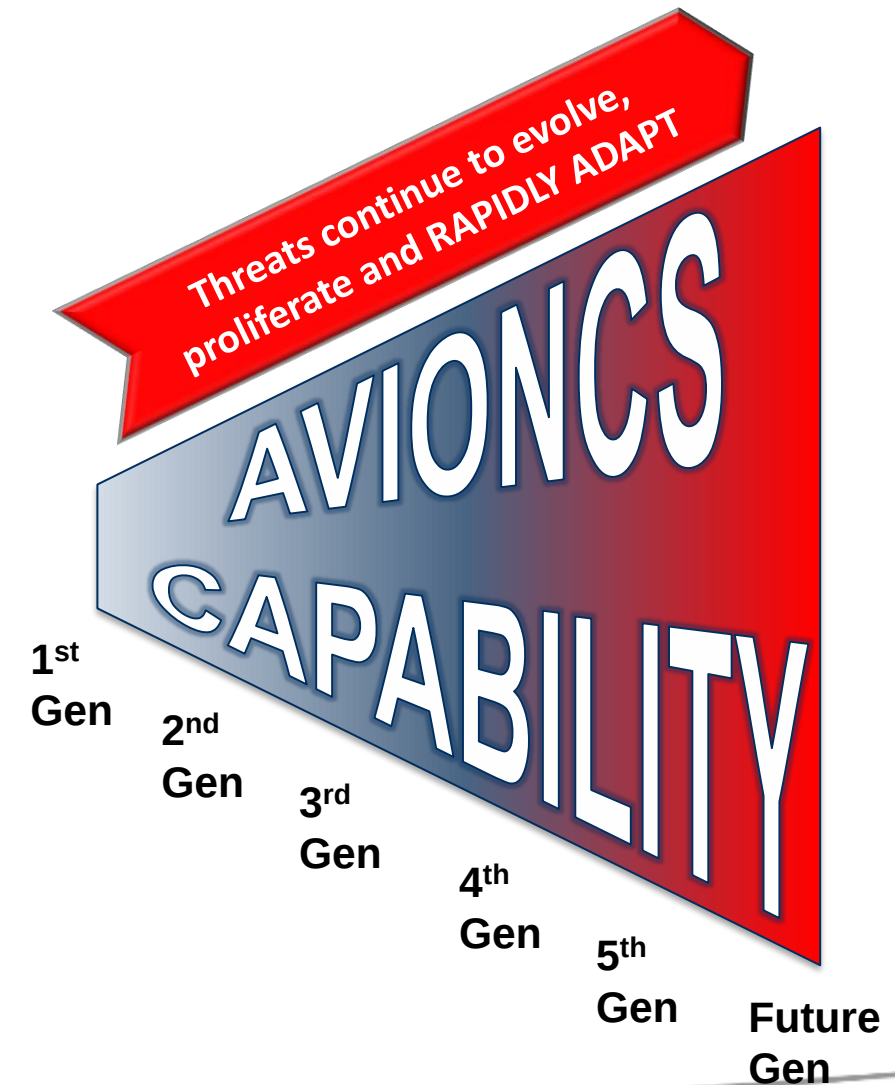
- PYRAMID is fundamental to the UK MOD's strategy for modular open systems across air programmes to enable rapid adaptability and military advantage.
- Over £200m invested, Technical Standard issued (DEFSTAN 00-134), aligned with key international standards and approaches, compatible with safety and security regulations, selected for projects including GCAP.
- Phase 1 focussed on opportunities to encourage widespread adoption.
- Phase 2 is aimed at continued widespread adoption within broader end-to-end engineering processes to enable the full benefits of PYRAMID to be realised.

This DASA competition provides a tremendous opportunity to support your transition to PYRAMID for new and existing products

PYRAMID Background (1)



- **MOD recognised that open standards and approaches** that define the architecture (open system architectural standards) and **enable modularity** were a critical enabler to **enhance military capability**.
 - i.e. technologies and approaches to enable obsolescence management, support the introduction of new capability, and support consistent working and partnering.
 - just being 'open' and 'modular' is not enough
- **Hardware abstraction solutions** (i.e. providing a well defined interface between the execution platform, i.e. hardware and operating system, and the software) are already well developed (for example FACE®).
- **Hardware standards** (e.g. OpenVPX and HOST) and **standardised data models** (e.g. UDDL) are well established.
- ...but more and more capability is being provided by software and in avionics/mission systems (>30m lines of code predicted for GCAP). This will be developed across industry/international boundaries and updated regularly (already a problem with much simpler systems)



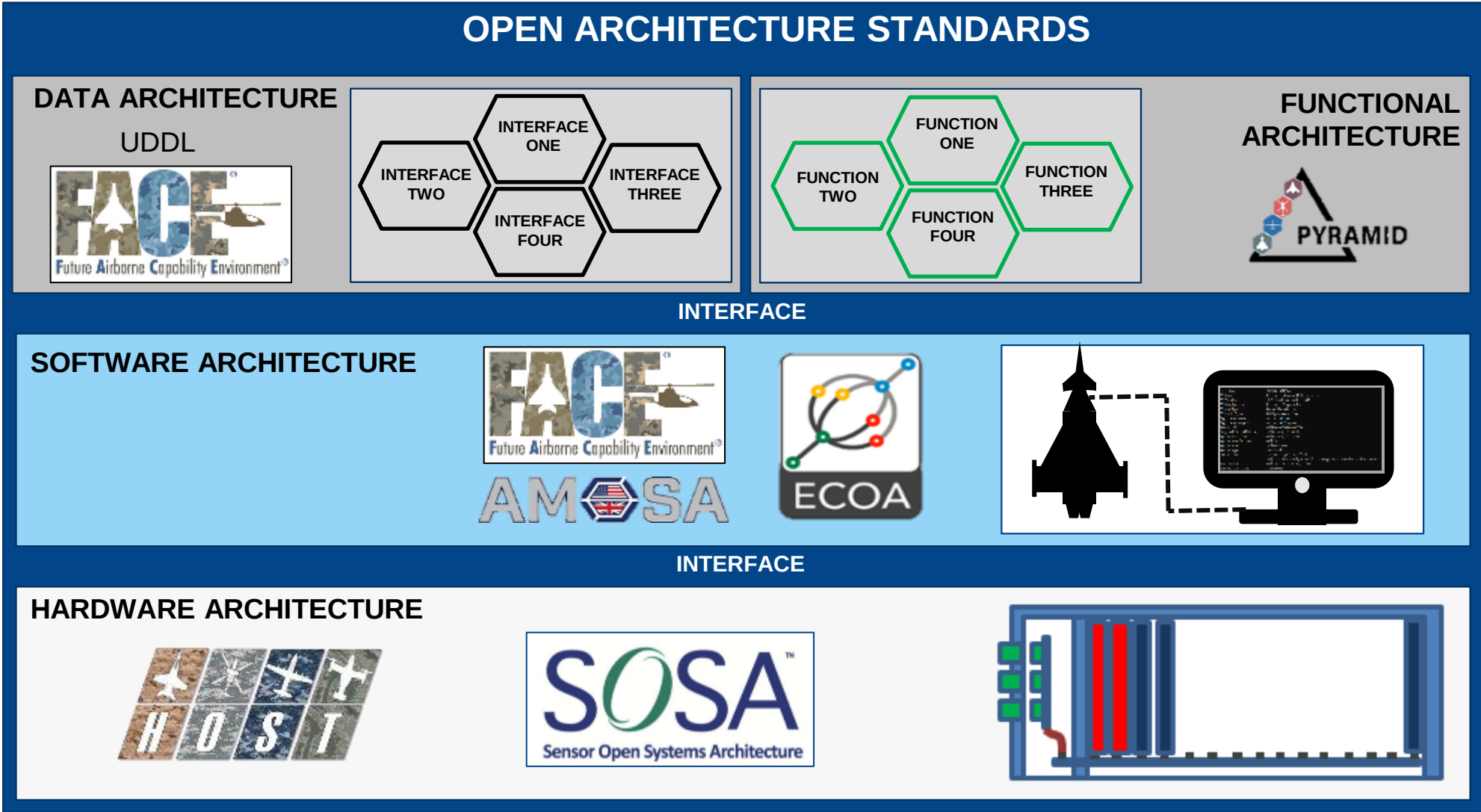
PYRAMID Background (2)



- Modular (ideally containerised) software and middleware was required and UK/France invested in ECOA (European Component Oriented Architecture)
- But it was recognised that the benefits could be extended even further through a **Reference Architecture** to enable consistent separation of functionality. ...and the concept of **PYRAMID** emerged.
- PYRAMID had a different starting point to predecessor 'OSA' projects – **Technology Advantage** through a common framework for mission system development to enable '**Rapid Adaptability to Enable Through Life Capability**'.
- It also set out to not just deliver a technical solution, but address all aspects required for successful adoption.



Multiple Open Architectural Standards working together

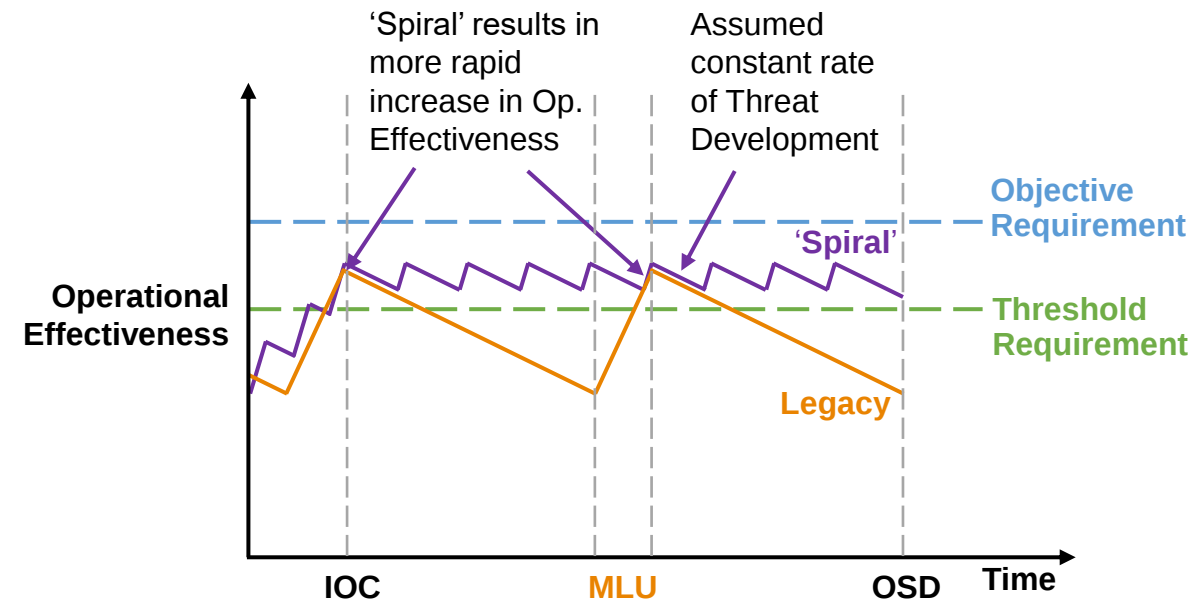
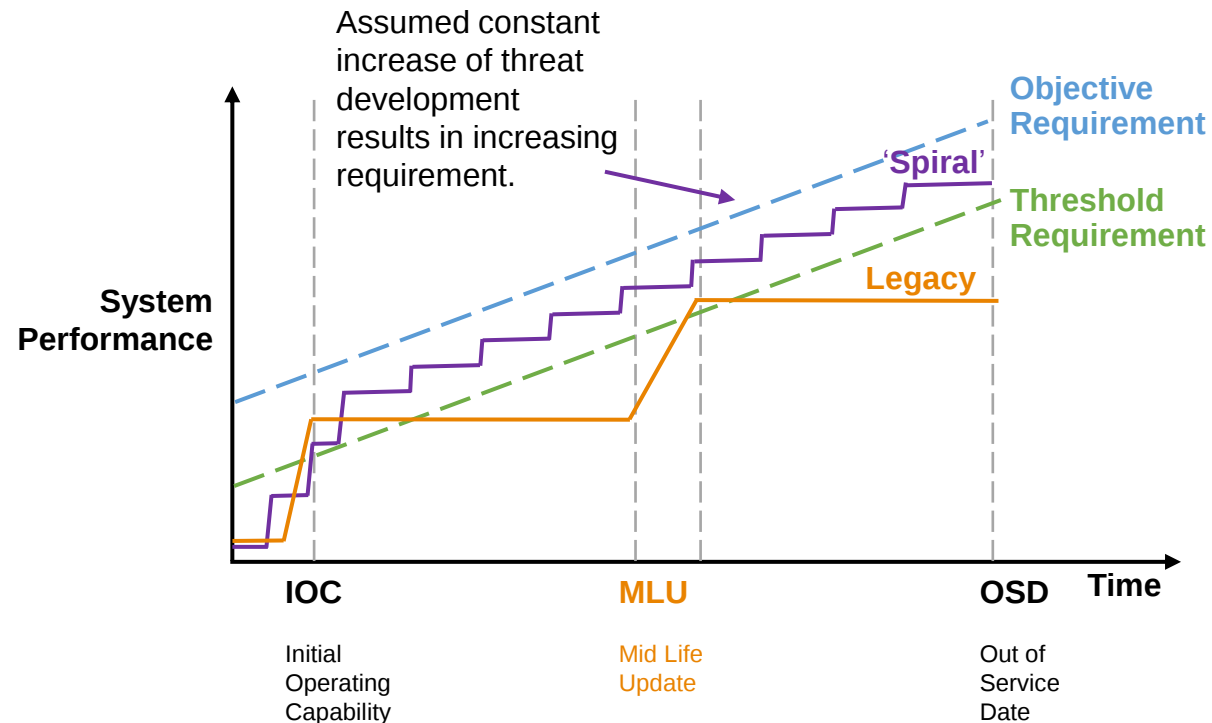


Spiral Development – Operational Effectiveness and System Performance



‘Spiral’ would deliver higher average Operational Effectiveness, driven by a greater number and a higher frequency of updates & upgrades, focussed on specific threat developments and enabled by ongoing technology development/maturation.

‘Spiral’ would deliver a higher number (& *rate*) of **functionality** & **performance** increments, leading to an ongoing increase in overall **System Performance** to counter the Threat and to overcome obsolescence issues, etc.



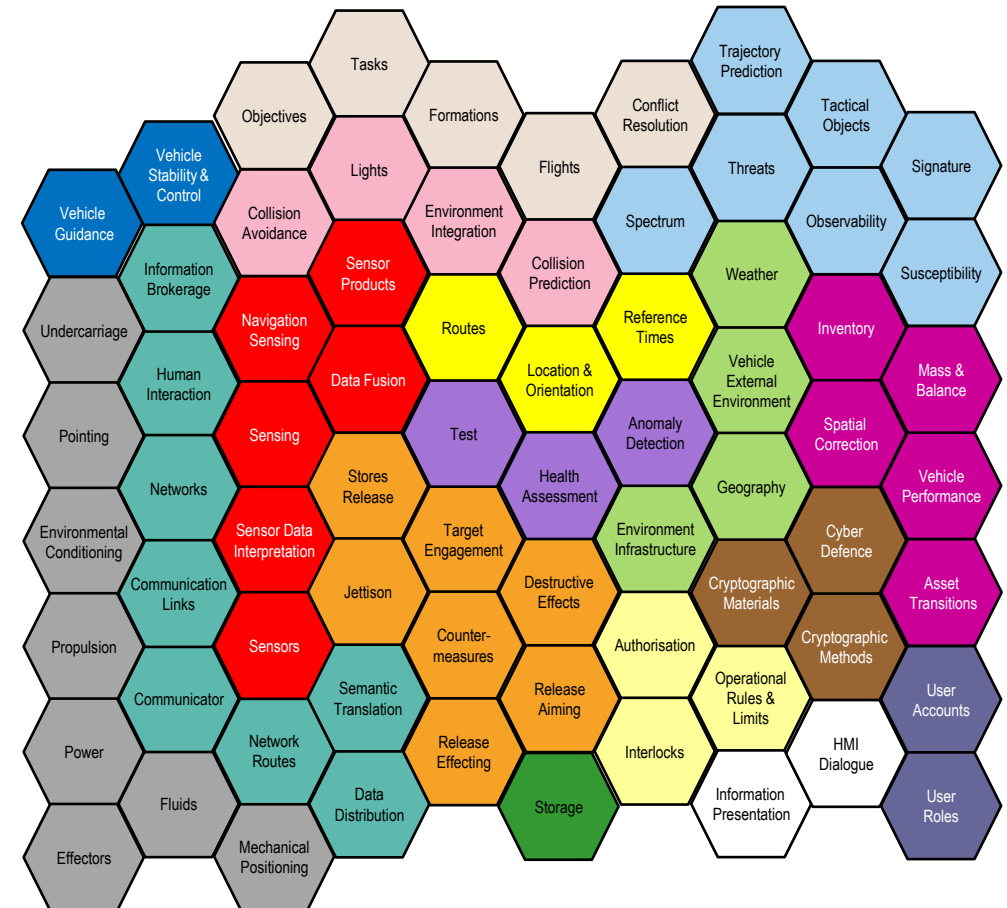
PRA Component Set

The components in this diagram have been aggregated into Super Domains

These are used to show how the PRA Components broadly relate to traditional systems/sub-systems

- This is done purely for illustrative purposes to aid reader orientation
- There is no particular meaning behind where components are relative to other components on the diagram, nor is any component necessarily restricted to only being used in one super domain

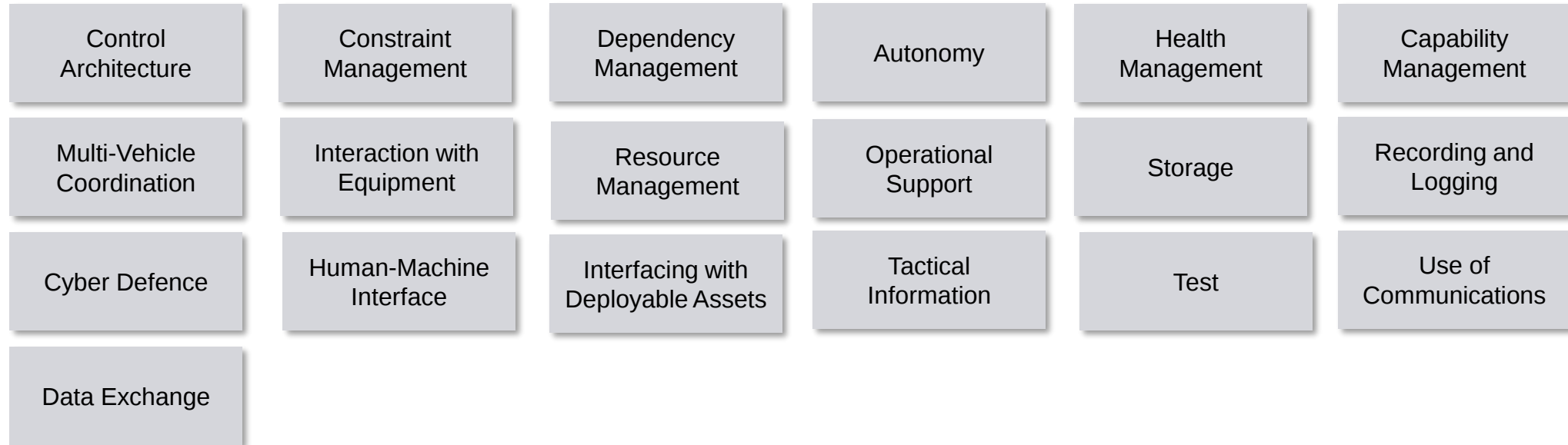
Note: The PRA Component set is correct at the time of issue in line with the PYRAMID Technical Standard (DEFSTAN 00-134)



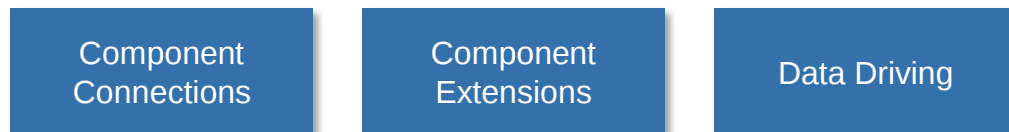
PYRAMID Concepts



Air System PYRAMID Concepts



PRA Exploitation Principles PYRAMID Concepts



Safety and Security PYRAMID Concepts



What is PYRAMID Compliance?

Overview:

- **PYRAMID compliance** is an assessment that an individual **PYRAMID component**, a **component connection**, or a **PYRAMID deployment** meets the **rules** associated with adopting the **PYRAMID approach**.
- The **PYRAMID Technical Standard** defines the compliance rules against which a PYRAMID component, component connection or deployment, may be assessed.
- The **PYRAMID Technical Standard Guidance document** discusses the goal of compliance and provides supporting guidance material in relation to the compliance rules, including how compliance with the rules might be achieved, demonstrated and assessed.
- The **process** for verifying compliance is out of scope of the **PYRAMID Technical Standard** - it is expected that any formal process for verifying compliance, including the definition of any associated acceptance criteria, will be separately established for each Exploiting Programme.

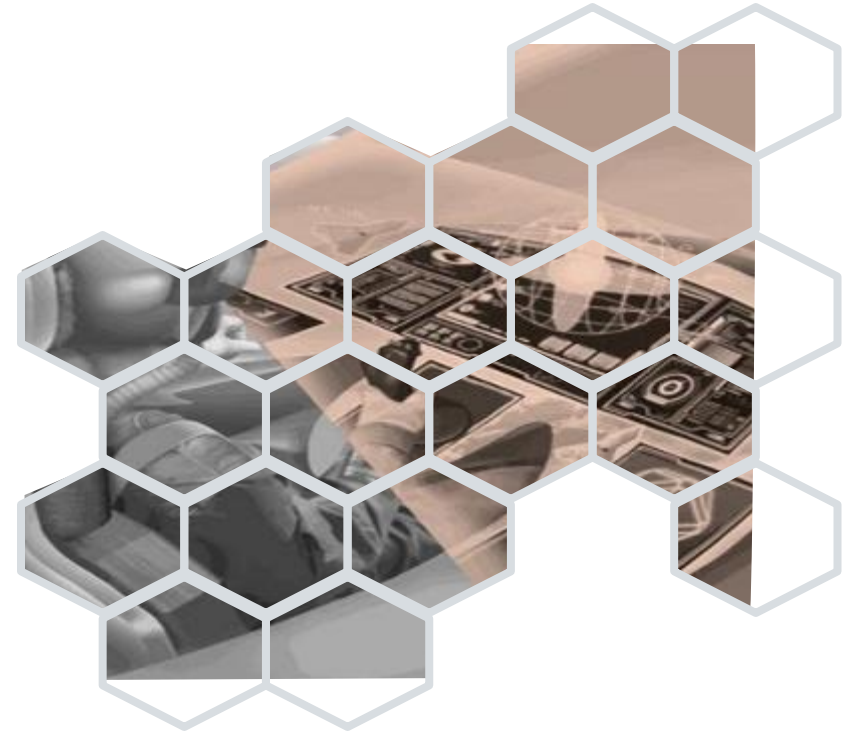
What we have achieved and what we need to do



- PYRAMID Technical Standard (DEFSTAN 00-134) developed and issued, with discussions underway to release as a NATO STANAG.
- Approach is validated, demonstrated to align with international standards, compatible with safety and security regulations, demonstrated to provide significant though life benefits, full training course developed, and has been selected for GCAP in partnership with Japan and Italy.
- Currently in the transition phase with the focus from moving from 'in-development' to 'in-service' with national and international adoption underway.
- **This DASA competition (Phase 2) targets this adoption** and builds on the success of Phase 1.

PYRAMID has been 100% funded by MOD and the ownership of IP and User Rights is managed to ensure that MOD's strategy for adoption and exploitation, and that of our partners and allies, are not constrained.

- **MOD IP ownership for the Exploiter's Pack and PRA Model** – the documentation and material required to develop PYRAMID compliant software.
- PYRAMID documentation available at: <https://www.gov.uk/government/publications/pyramid> released under Open Government Licence.
- Specific IP questions should be raised either through the DASA Help Centre (accelerator@dstl.gov.uk quoting the competition title) or through your DASA Innovation Partner.



PYRAMID Common Misconceptions



*PYRAMID adoption is only for UK MOD aircraft. **Not True***

*The PYRAMID Technical Standard is OFFICIAL SENSITIVE and requires signing a complex licence. **Not True***

*PYRAMID compliant systems/sub-systems cannot be integrated into/with non-PYRAMID systems. **Not True***

*PYRAMID is not compatible with other open system standards. **Not True***

*PYRAMID is owned by UK primes. **Not True***

*PYRAMID is only open to organisations within the United Kingdom. **Not True***

*Adopting the PYRAMID technical standard is complex and cost prohibitive. **Not True***

*UK MOD will assume ownership of the IP of PYRAMID compliant components developed. **Not True***

The Requirement (1)



- Details are in the Competition Document (no intention to repeat), but put simply the purpose/requirement is:
 - To provide funding to widen the PYRAMID supplier base for new or existing avionics/mission systems
 - thereby enabling MOD and industry to accrue the benefits
 - we accept that there are costs associated with a new approach, and there is some inertia with 'how things are', so we have offered some training, engineering support, and now some funding to contribute to apply PYRAMID to new or existing products.
 - MOD are particularly interested in proposals exploring the wider benefits of PYRAMID (e.g. collaborative working, modular certification, end-to-end requirements-to-in-service processes to enable rapid adaptability, product line engineering, etc.)
- The funding is **not** for the underlying development of your products.

The Requirement (2)



- Provide feedback on your experiences to inform development of and updates to:
 - The Technical Standard and Guidance
 - Training Material
 - Other supporting material
- Whilst not a direct requirement, promotional material and briefings regarding your adoption of PYRAMID would be welcomed
- Classification
 - The Technical Standard, Guidance, and Training material are all OFFICIAL - and will stay that way so proposed changes must be the same classification
 - Lessons learnt during the application of PYRAMID may well be commercially sensitive but still of interest to MOD
 - Actual software developed may well be (S)

- In addition to standard contract reviews/discussions, the PYRAMID Query Management System has been established to answer specific questions regarding PYRAMID.
- Instructor led Practitioner's Training has been developed (4.5 days), and MOD will offer some places on this training to successful bidders.
- Engineering Support – where appropriate, engineering support from 'PYRAMID users/experts' may be requested and MOD will try to make this available.

The PYRAMID Technical Standard and Technical Standard Guidance Document, released under the UK Open Government Licence, can be found on the UK Government Website (also **DEFSTAN 00-134**):

[PYRAMID Technical Standard and Guidance - GOV.UK](#)

Additional information on the background, use and benefits of PYRAMID, and the PYRAMID Reference Architecture (PRA) can be accessed here:

[PYRAMID: rapid adaptability for avionics systems - GOV.UK](#)

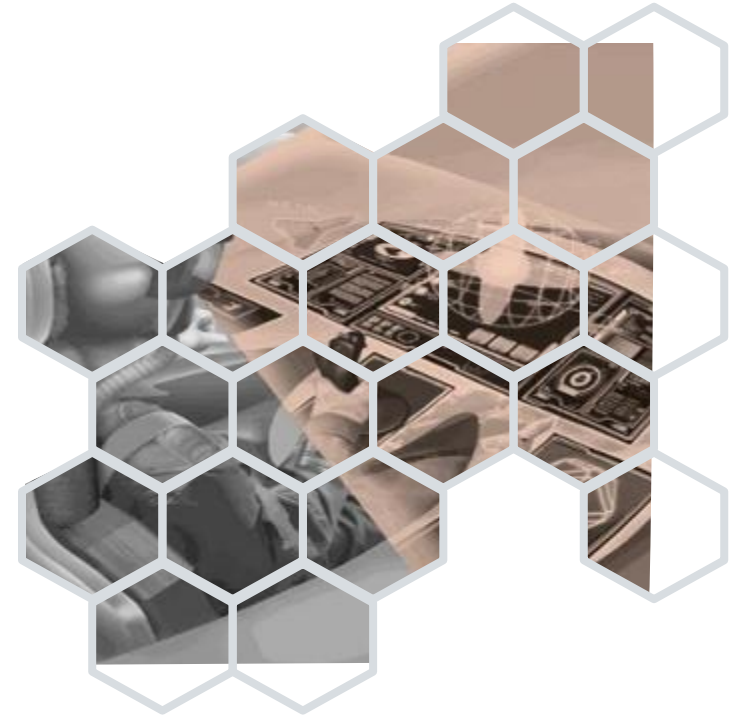
For questions regarding PYRAMID, or access to the PYRAMID Support Environment (PSE), which contains all the PYRAMID Model Artifacts as well as other supporting documents, please send emails to:

PYRAMID@mod.gov.uk

Questions and Discussion

For further information on PYRAMID visit:

www.gov.uk/government/publications/pyramid



Submitting Questions

Please submit or upvote any questions via slido



Scan above, or go to the website sli.do and enter the code #DASA



Closing remarks

- Thank you for attending this Q&A event
- The slides from today's event along with the anonymised questions and answers will be uploaded to the competition page on the gov.uk website in the coming days.
- If you still have questions that you do not want to ask in this open forum we invite you to book a 1 to 1 session with the customer team. Please supply us with as much information as possible when booking your session so that we can make sure the correct people are on the call.
- Slots are available on: -
 - 1 to 1 Session **Thursday 23 October 2025**
 - The link to these sessions can be found on the competition page on Gov.uk and booking will be possible from tomorrow.



Contact us



www.gov.uk/DASA



@DASAccelerator



accelerator@dstl.gov.uk



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01980 950000 option 3

Thank you for attending!

We look forward to receiving your submissions by
12:00 hrs (GMT) on Thursday 25th November
2025.