



Defence and Security  
Accelerator

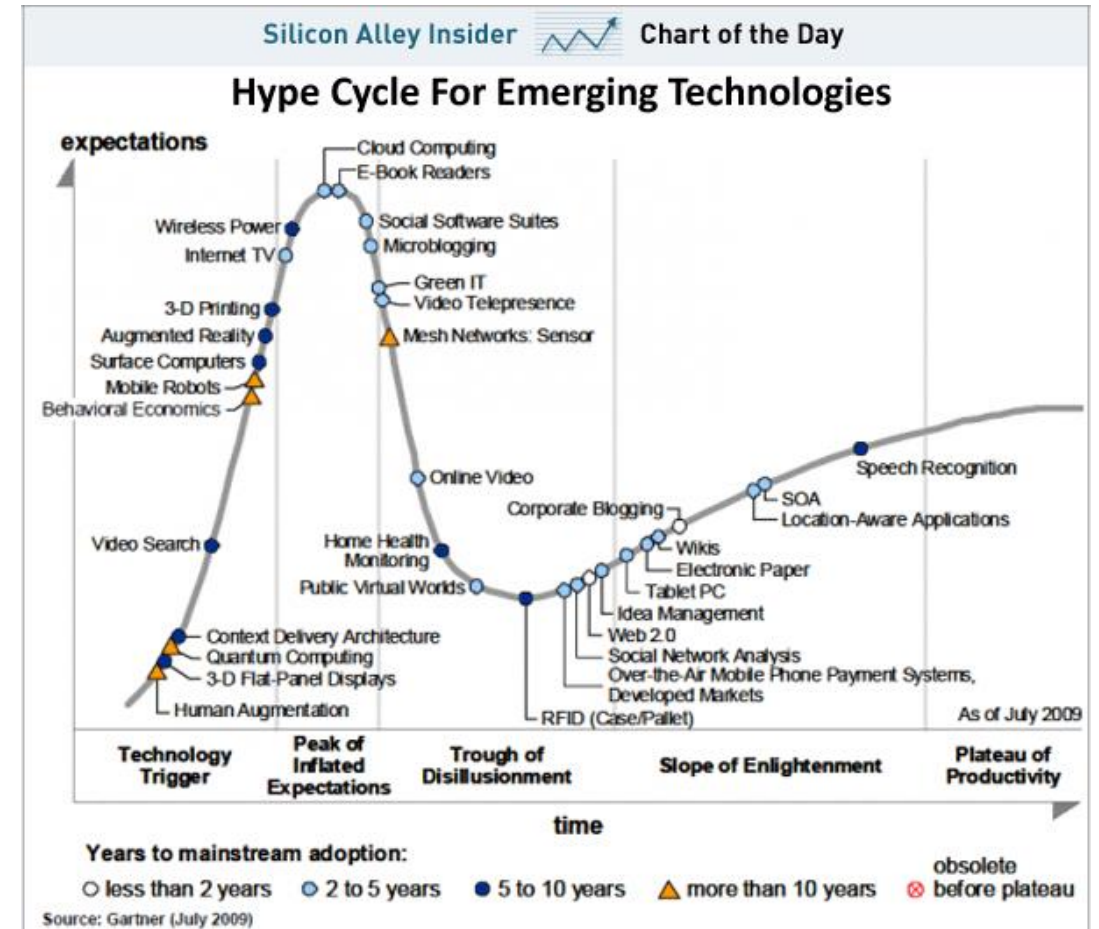
# Technology challenges and innovation in Defence:

The role of the Defence and Security  
Accelerator (DASA)

Dr. Lucy Mason  
15 May 2019

# Technology can enable threats, and opportunities, for defence and security

- More uncertainty
- More complex environments
- Increasing pace of technology change
- Unpredictability – new threats may emerge suddenly



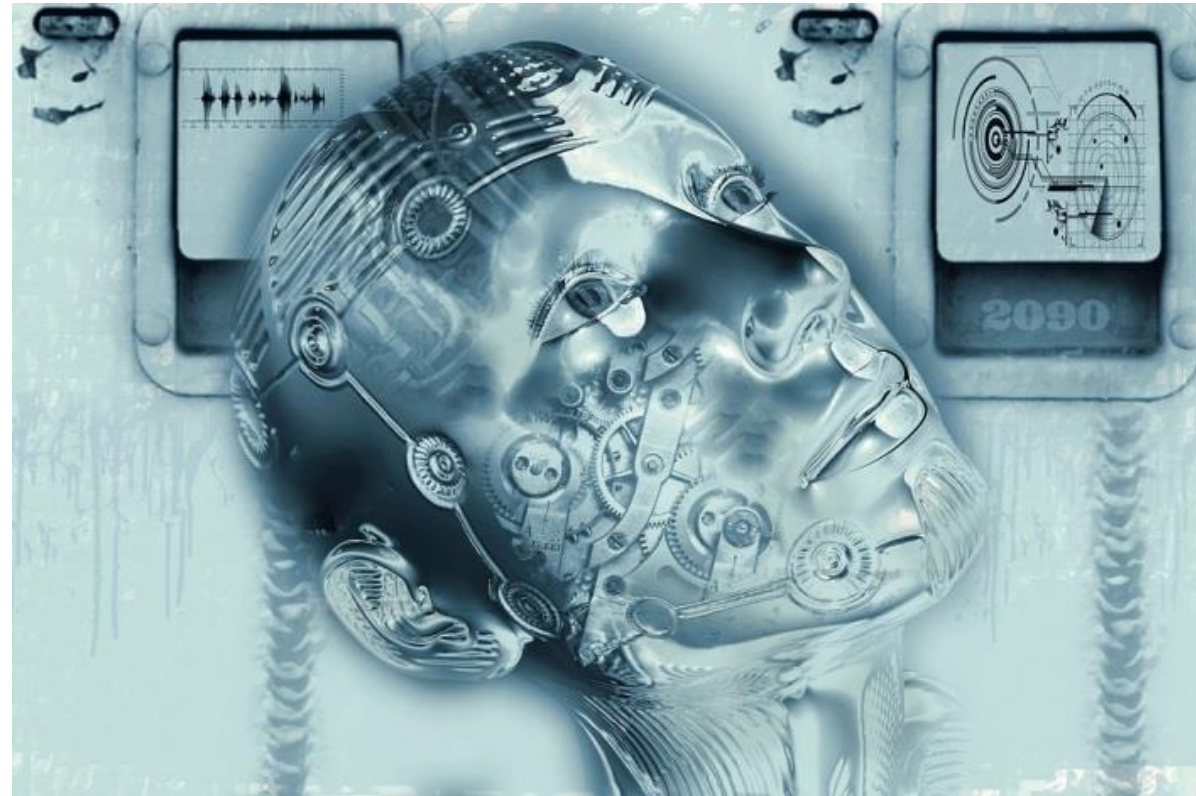
# 'Big picture' challenges

- Exponential growth in data
- Technology convergence
- Automation, machine learning, AI, sensors, Internet of Things
- Lower 'barriers to entry'
- 'Terror or error' threats – intentional or unintentional
- Novel capabilities require different responses



# Wider social changes

- Blurring of offline and online lives and identities
- Invisible interconnectedness
- Low cost widespread sensors – people and things
- Encryption and privacy
- Law and ethics – others are less constrained than we are





# Opportunities for better defence and security

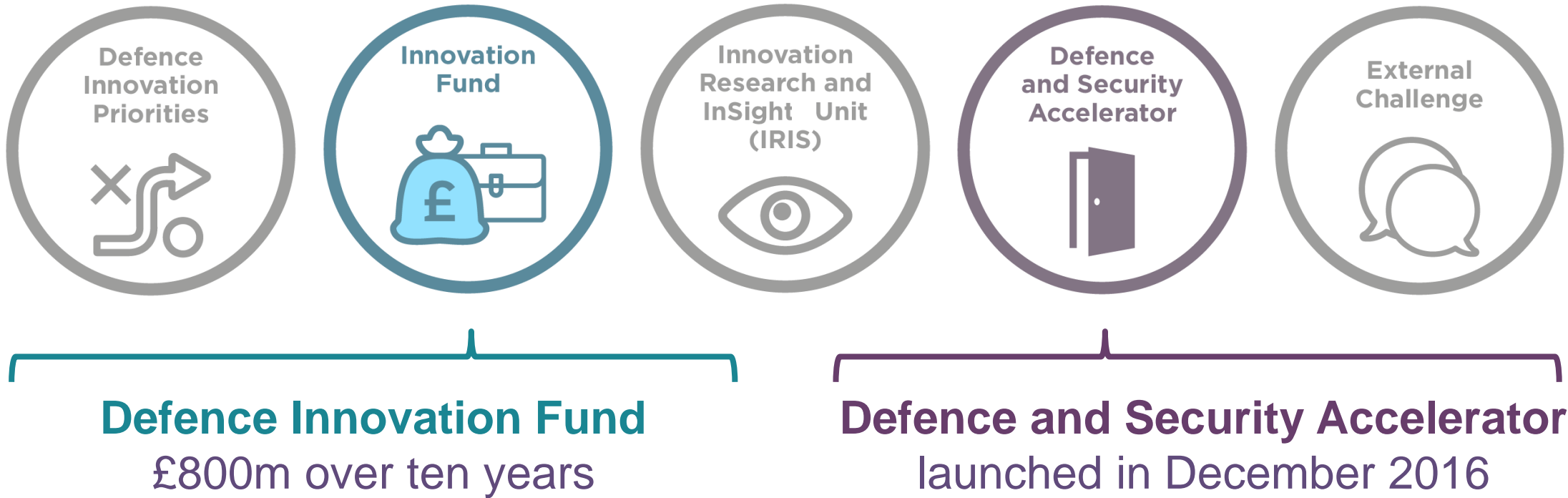
- Spot possible threats faster and more accurately
- Better informed decision-making, in real time
- UAVs, automated vehicles
- Methods to verify identity
- Ways to tackle online radicalisation
- Understanding of human behaviour and responses



# UK Strategic Defence and Security Review 2015

“We will have to improve our ability to exploit opportunities more quickly and agilely in order to secure strategic and tactical advantage over our adversaries. We need to recognise and respond quickly to transformative ideas and technologies”.

# Defence Innovation Initiative 2016



# Strategic aims

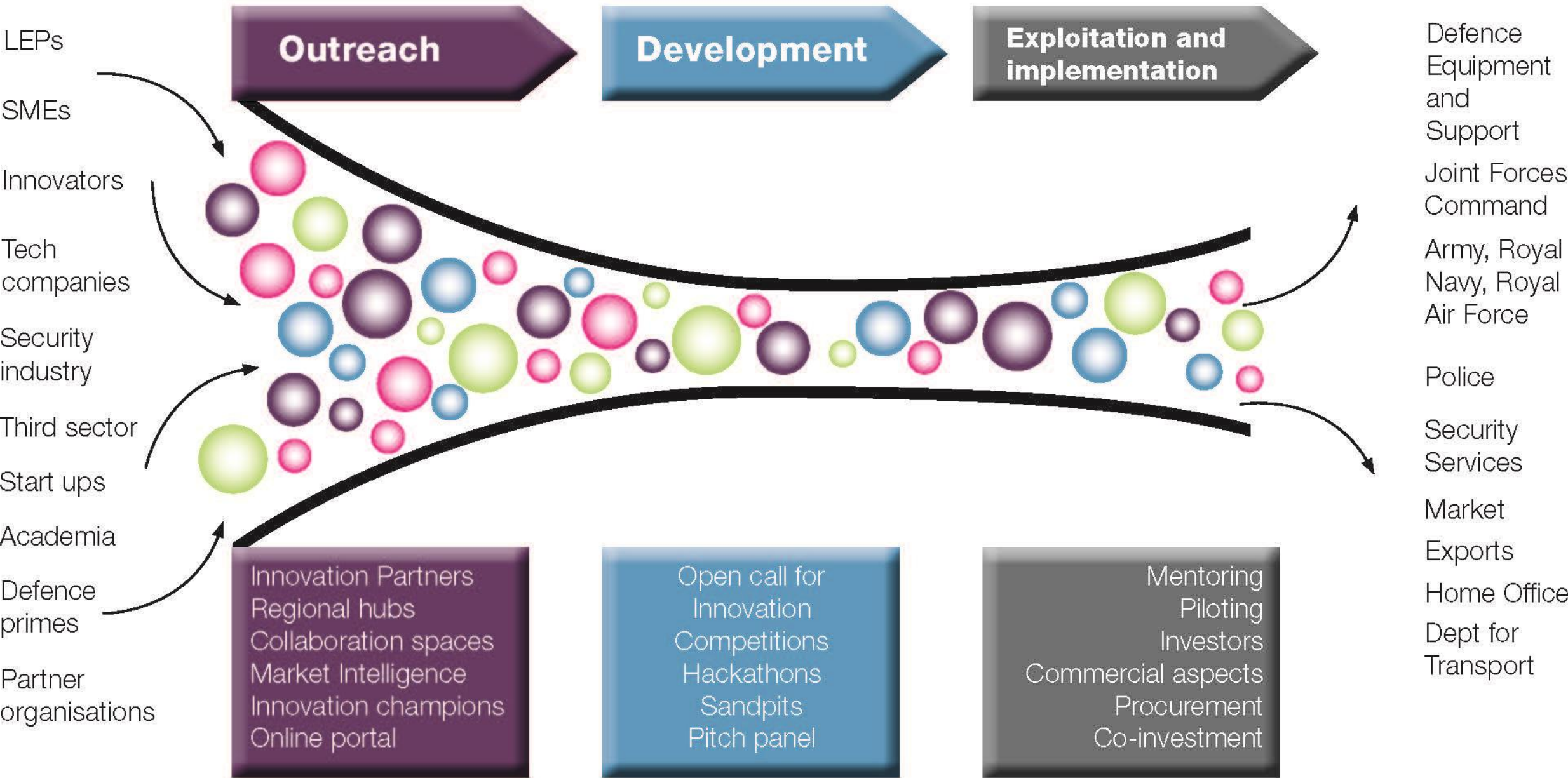
- *To create a Defence enterprise that is innovative by instinct, where ideas are readily generated and exploited to deliver innovative solutions to Defence's challenges.*
- **STRATEGY** - Embed innovation throughout defence including better integration of concepts, emerging technologies and capability development.
- **EXPLOITATION** - Accelerate promising innovations from idea to solution and into the hands of users at the speed of relevance.
- **PARTNERSHIPS** - Build effective partnerships with industry and academia, co-ordinate our efforts and overcome barriers to innovation.
- **PEOPLE** - Establish a culture that is *innovative by instinct* by incentivising and rewarding the innovation behaviours that we value.





**DASA's mission is to find and fund exploitable innovations to support UK defence and security quickly and effectively, and support UK prosperity**

# DASA Operating Model





Investment of  
**£57.7m**

Funding agreed for  
**402 projects**

Security

**£9.2m**

MOD  
Science

**£32.9m**

Phase1  
£92k

Phase2  
£326k

FLC

**£0.45m**

Defence  
Innovation  
Fund

**£15.1m**

Potential Further  
Funding

**£40m+**

Phase 1  
**1:5**  
successful

**DASA: delivering innovation at pace**

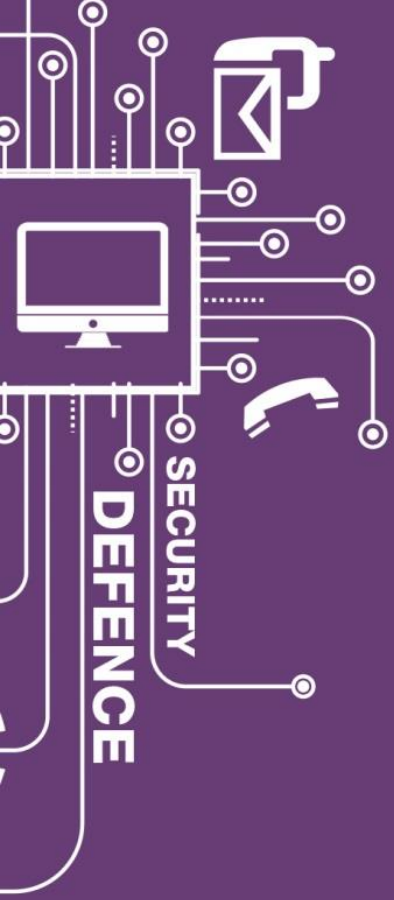
Dec 16 – Mar 19



# Wearable technology for injury prevention

- To improve the deployment and health of service personnel
  - Musculoskeletal injury (MSKI)
  - Environmental injury (heat and cold)
  - Noise induced hearing loss (NIHL)
- Challenge 1 – Collection of relevant data from wearable and / or nearable sensor technologies
- Challenge 2 – Data analysis and development of 'command tools'
- 8 projects funded and £737k+ invested with academia and industry
- Trials in Autumn will be undertaken with Army





**ACCELERATE  
INNOVATE**



Oxbotica:  
Autonomous all-terrain vehicle using experience  
based localisation  
Big Data & Autonomy



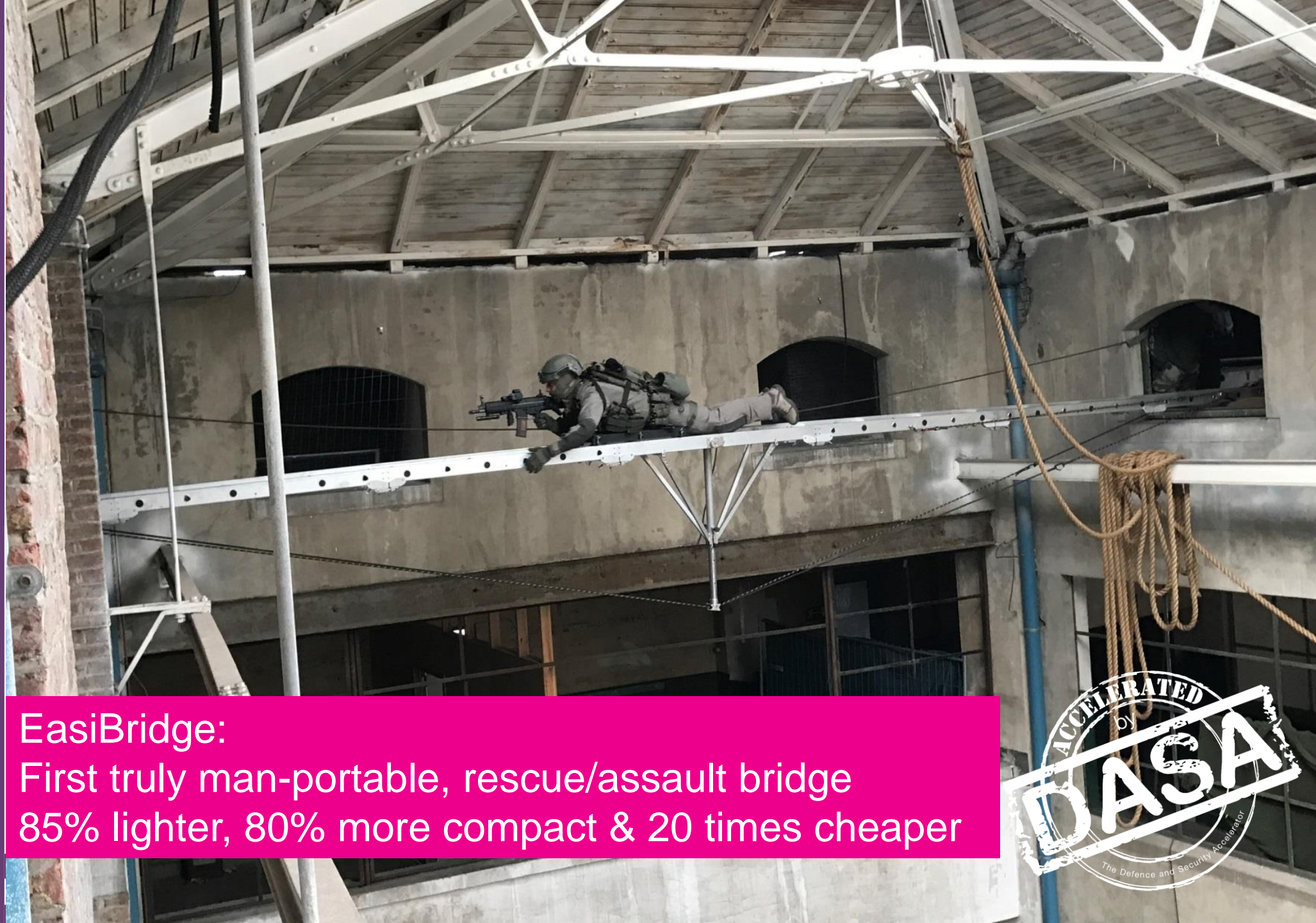




Krowdthink:  
Security 'App' enabling direct contact with crowds  
Transforming safety at major events and in crowded  
places





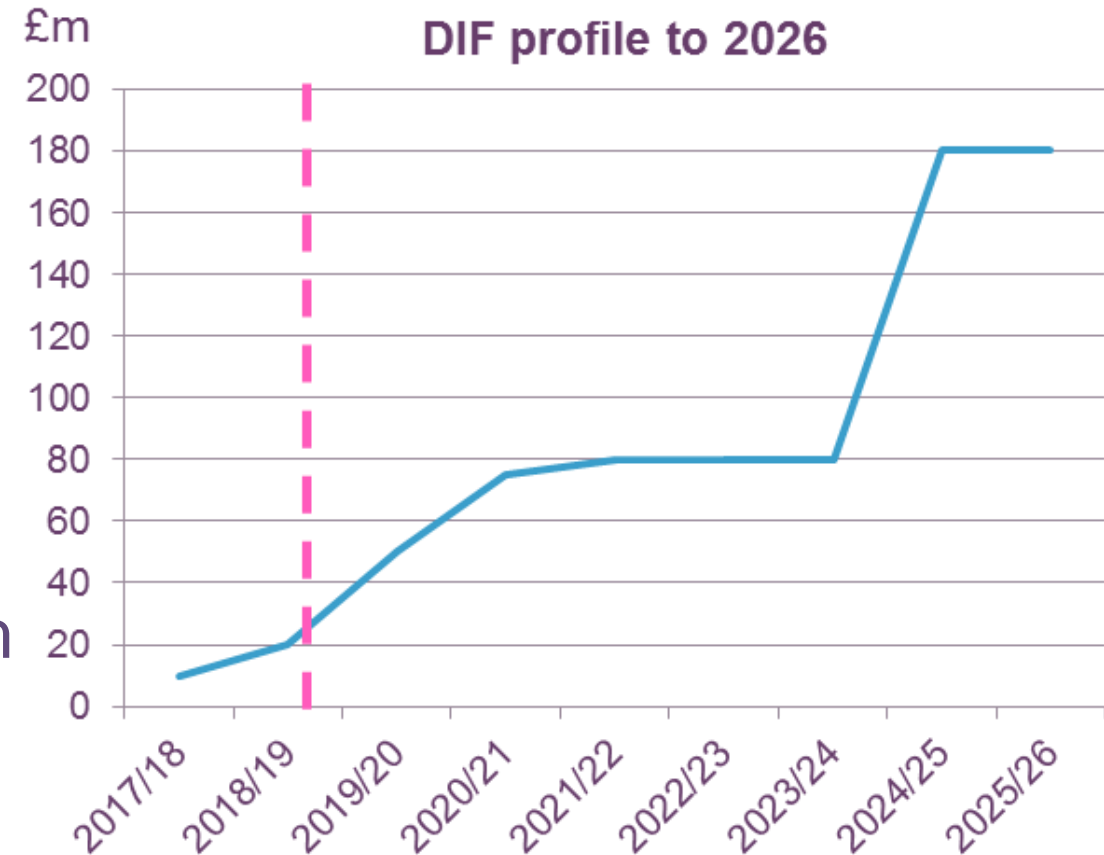


**EasiBridge:**  
First truly man-portable, rescue/assault bridge  
85% lighter, 80% more compact & 20 times cheaper



# Next steps for defence innovation

- Develop a systematic approach
- Make best use of the funding
- Focus on the areas where we can have most impact
- Incentivize industry co-investment and brokering opportunities
- Explore radical ideas and take risk
- Seek to embed an innovative culture with training and skills
- Address barriers to exploiting innovation, including acquisition, commercial and approvals



# Contact us



Defence and Security  
Accelerator



[accelerator@dstl.gov.uk](mailto:accelerator@dstl.gov.uk)



01980 950000 option 3



Defence and Security Accelerator



@DASAccelerator



Defence and Security Accelerator