Defence Science and Technology

Rob Eason, Counsellor Defence Acquisition & Technology
Changing Context

Political
- Coalition government ‘till 2015
- Ongoing austerity

Defence Transformation
- Balanced Defence Budget
- SDSR 2015

Technology & Security
- Identify future risks and threats
- Align science & technology requirements

Collaboration & Partnerships
- Interoperability
- Burden sharing R&D
- Access to global innovation
“S&T will matter even more in the future than it has in the past. Technological innovation is vital if we are to protect our battle winning edge. This enhanced collaboration will ensure that our work is smarter and delivers more effectively for both nations.”

“This will be a partnership to develop, maintain and share technical capabilities in each nation, we will be looking for significant joint projects that will have real impact in which we can share the burden of the S&T investment.”
Multi-Lateral Cooperation
Collaboration & Partnership

- There is an increasing recognition of the need to enhance collaboration with Allies and Partners

- Bi-Lateral & multi-Lateral S&T collaboration enable us to...
  - Ensure our capability advantage, technological superiority and interoperability
  - Achieve financial savings through burden sharing
  - Access global developments in science and innovation

- Need to increase engagement with industry & academia
  - Encouraging early stage international industrial collaboration
  - Aligning requirements, innovation, investment and access
  - Joint research, development, experimentation and prototyping

- Working together to identify opportunities and address barriers
  - Export Control Reform and the Defence Trade & Cooperation Treaty
  - Need for a common approach to building partner nation capability
Technology Cooperation Examples

**ARTIST: Advanced Radar Technology Integrated System Testbed**

**BIOUAS: Biologically Inspired Tech. for Unmanned Autonomous Systems**

**Zephyr: High Altitude Pseudo Satellite**

**Research & Experimentation:**
- Interoperability
- Access global tech

**Prototyping & Demonstration:**
- Burden share
- Accelerate transition
Global Technology Proliferation

- China and Russia “are rapidly modernizing their militaries and global defense industries, challenging our technological edge and defense partnerships around the world.” [Hagel]
- “International collaboration in science and technology has expanded exponentially over the past two decades and is now considered the norm within the open scientific community” [NAS]
- Rate of global technology proliferation is increasing with potential adversaries gaining access to technology
The Future S&T Landscape

Reduced focus on hardware

More cyber/IT centric

Defence industry blurred with
dual use and civil sector

Need for a new industrial
paradigm

Emerging Technologies

- Our ability to harvest and exploit information must grow
- The humans’ role will remain central but change
- Infrastructure will become more distributed and de-centralised
- Shocks and surprises may disrupt us
- Knowledge and Innovation will level the playing field
UK Future Investment Priorities

- Cyber
- Space
- Energy
- Medical
- ‘Big Data’
- Autonomy
- Synthetic Biology
- Quantum Technologies
- Human & Social Sciences
- Advanced materials & manufacturing
The Future

- Capture opportunities and barriers to increased cooperation
- Identify potential collaborative partnerships
- Develop and facilitate mechanisms for partnership
- Enhanced mutual reliance shares costs, builds military interoperability and preserves critical elements of the industrial supply chain
Any Questions?

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