Overview on UK R+T of Energetics

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science | innovation | technology

Contents

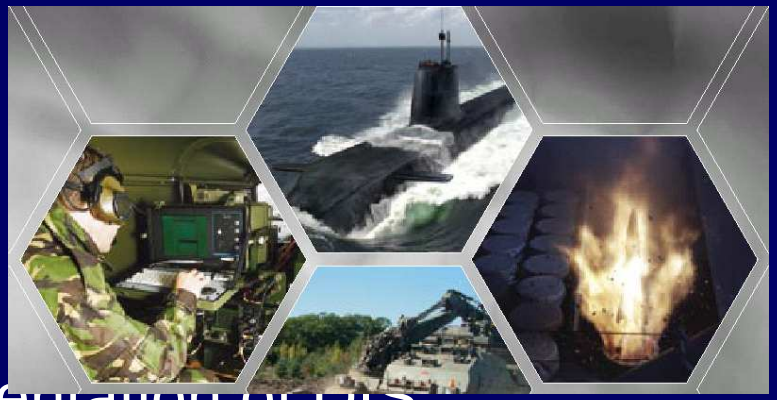
- Not “What we are doing now”
- But “What we want to achieve in the Future”

And

- Why

Strategic Context

- 2005
  - Defence Industrial Strategy (DIS)



- 2006
  - Implementation of DIS
  - Generation and publication of Defence Technology Strategy (DTS)

Implications of DIS for Energetics

- Restatement of Importance
  - Onshore Design authority and development capability for General Munitions
  - Robust Through Life Management Capability
  - Retain UK “World Class” IM and related Energetic Materials capability
    - Onshore Bulk manufacture of ingredients not essential
  - Precision Effects
  - Access to Complex Weapons
  - Partnering
- Environmental factors becoming more important for the future.

What do we aspire to ?

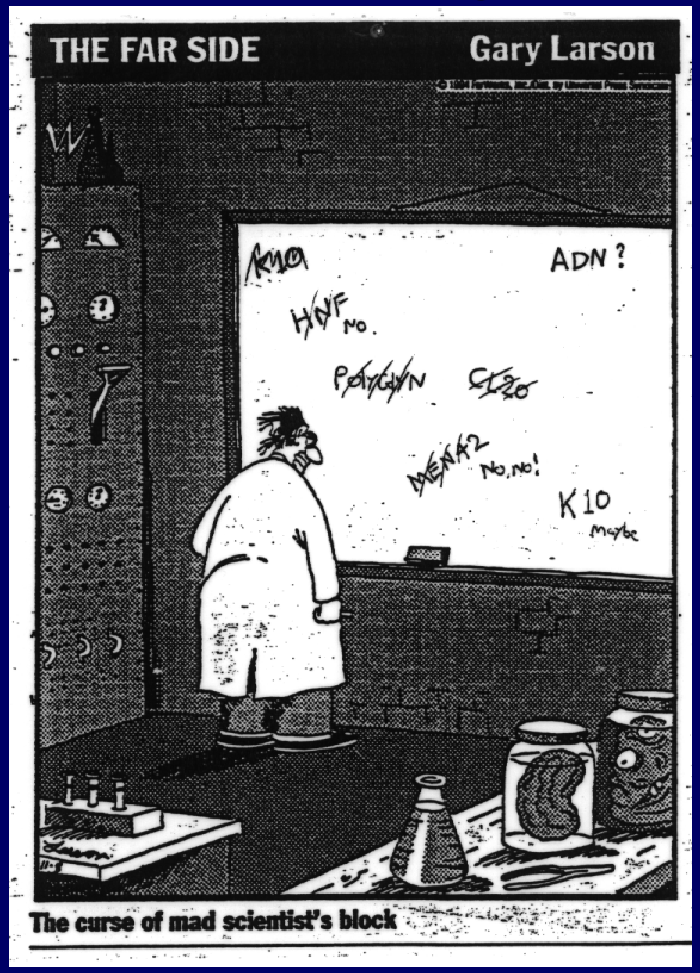
- National Capabilities
  - Conventional
  - Nuclear
  - Counter-terrorism

National Energetics Community

- Safeguard skills needed for the future

- Fully integrated National R+T capability in conventional energetics
  - Underpin Chapters B6 and B7 of DIS
  - Not energetic materials in isolation
  - Unify R+T supplier base

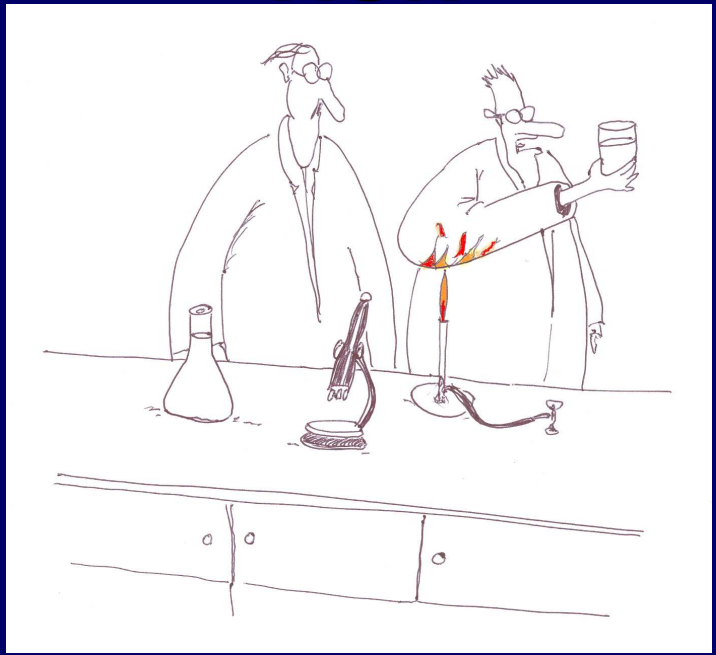
Conventional R+T capability Minimum requirements



- Intelligent customer and decision maker
- Expert Owner / User
- Assured Access to technology where it makes a difference.

The energetic materials intelligent decision maker

- whilst minimising scientific risk



Avoid unintended consequences

-Collateral damage

-Accidents

-Environmental contamination

Intelligent customer and decision maker

- Why
  - Minimum level even if munitions are treated as a commodity bought off the shelf
  - Understand future Equipment options
  - Understand future threats / avoid surprises
  - Ability to adapt through life and integrate

- What
  - Underpinning S+T
  - Innovation
    - Understand and help advance world “state of the art”
    - Wealth creation

Expert Owner and User

- Why
  - Meet statutory requirements /duty of care
    - ALARP Principle
    - Environment
  - Reduce Through Life Management Costs
  - Support Effects Based Operations / planning
    - Precision Effects
- What
  - Underpin IM Implementation Strategy
  - Grow and Maintain Expertise
  - Predictive Modelling Capability
    - Safety, Life, and Performance

Access to technology

- Why
  - Maintain Battle winning edge
  - Affordable
- What
  - Understand, assess, influence and access critical technologies through strategic partners
  - Partners
    - National
    - International
  - De-risk the Equipment Programme

Other factors in Technology Access

- Technology Insertion / Incremental acquisition
- Surge manufacturing capability
- Smaller lighter more flexible weapons
  - Logistic Footprint
  - Collateral Damage
  - Internal air carriage
- “Green Munitions”
  - Disposal issues
  - Recover, recycle and reuse

International Collaboration in R+T

- 25 years ago – “nice to have”
- Present – Highly desirable
  - Improved gearing
  - Access to knowledge
- Future – Essential ?
  - Affordability
  - Interdependence
  - Influence and access to technology

Summary

- DIS significant step forward
  - Partnering
- 2006 is a critical year
  - Opportunities in
    - Implementation of DIS
    - DTS
- MoD aspiration to National Energetics R+T Capability
  - Strong International Collaboration links essential