

# UK Government Decontamination Service

**Bioterrorism Risk (Prepare)**

**ISBR 2009**

# Summary

- The UK National Risk Assessment
- CBRN Scenarios Workbook
- UK Government Decontamination Service
  - Role in Reducing Bioterrorism Risks

# UK Bioterrorism Risk Assessment

Cabinet Office

National Risk Assessment

# The Resilience Planning Cycle

**What risks do we face?**

**What planning assumptions should we make?**

**What are our resilience requirements?**

**What is the current level of capability/gaps?**

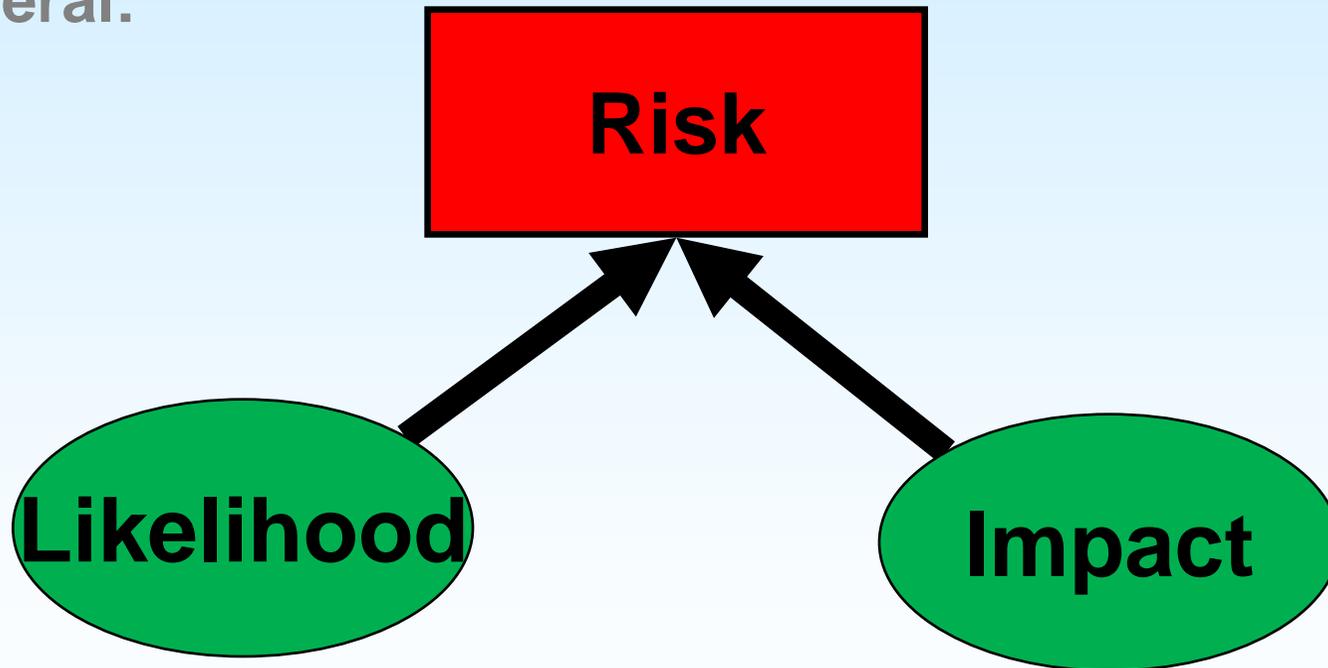
**Readiness  
Assessment**

# Risk Assessment Process

- **Comprehensive:** covering all types of risks and supporting the full range of planning at **all levels** in the UK
- **Consistent:** application of the same approach to the assessment of **all risks**
- **Agreed:** providing an agreed basis for planning to **all those** who plan

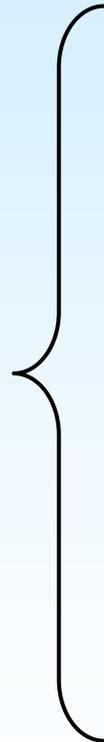
# Risk assessment

In general:



# Impact assessment

Overall Impact



Economic

Fatalities

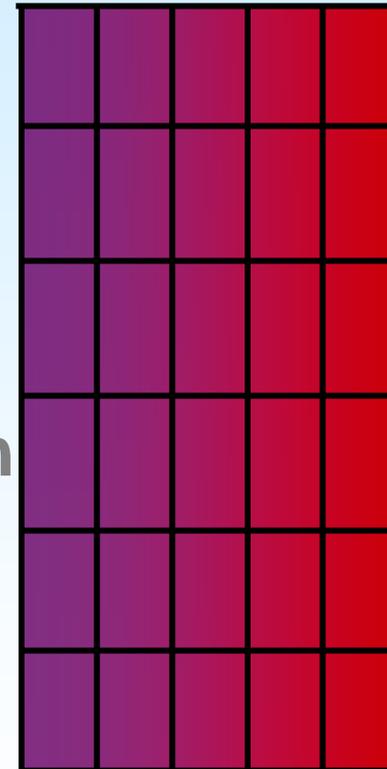
Casualties

Social Disruption

Outrage

Anxiety

1 2 3 4 5



# Likelihood – Hazard vs Threat

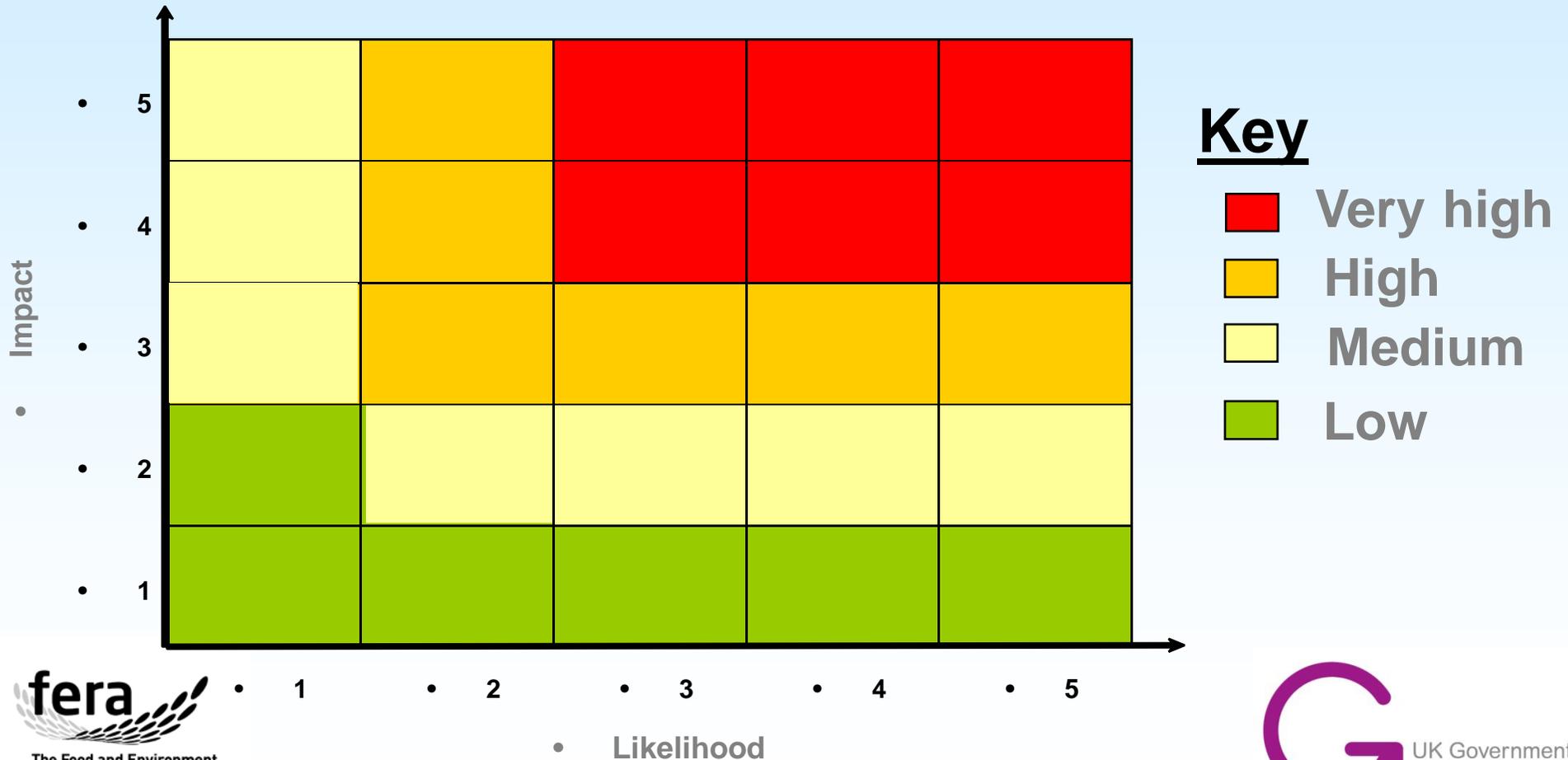
## HAZARD:

- Historical Evidence
- Predictable events, for example weather forecasts
- Expert advice
- Same scale (1-5) used as Threats

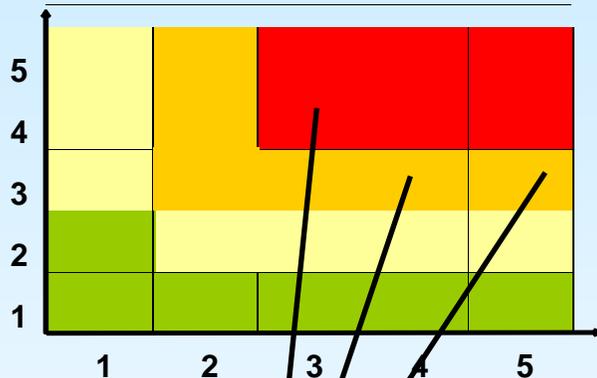
## THREAT:

- Plausibility instead of likelihood
- Intelligence about **capability**
- Intelligence about **intent**
- Intelligence about **vulnerability**
- Successful attacks only

# Risk Matrix



# National Resilience Planning Assumptions



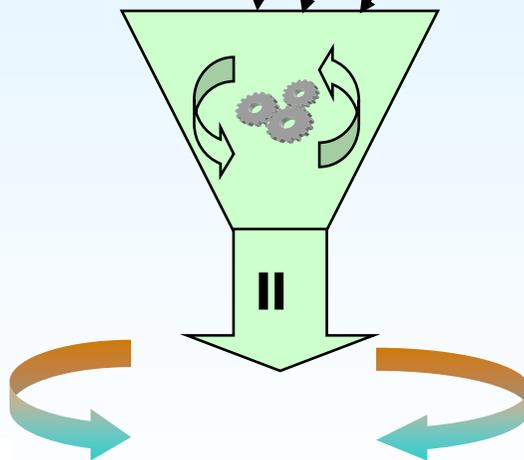
## Risks

- What risks should drive planning?
- What is the reasonable worst case, taken across those risks

plus

## Consequences

- What are the generic consequences?
- Reasonable worst case warning time?
- Regional variation?
- Military involvement?
- Interdependency?



# Capabilities Programme

- The **Capabilities Programme** is the core framework through which the Government is seeking to **build resilience** across all parts of the UK.
- **AIM** : To ensure that a robust infrastructure response is in place to deal rapidly, effectively and flexibly with the consequences of civil devastation and widespread disaster inflicted as a result of conventional or non-conventional disruptive activity.

# Functional

Eleven Workstreams dealing respectively with the assessments of risks and consequences:

- **Animal / Plant Diseases**
- **CBRN (Chemical, Biological, Radiological & Nuclear)**
- **Evacuation**
- **Flooding**
- **Infectious Diseases**
- **Humanitarian Assistance**
- **Mass Casualties**
- **Mass Fatalities**
- **Recovery**
- **Site Clearance**
- **Warning and Informing the Public**

# Assessment of the Biological Risks

## Anti-Terrorism Crime and Security Act

- ATCSA
- Schedule 5
- Pathogens and Toxins
- Revised Periodically
- About 120 agents
  - Human & Animal Pathogens

# The UK National Risk Assessment



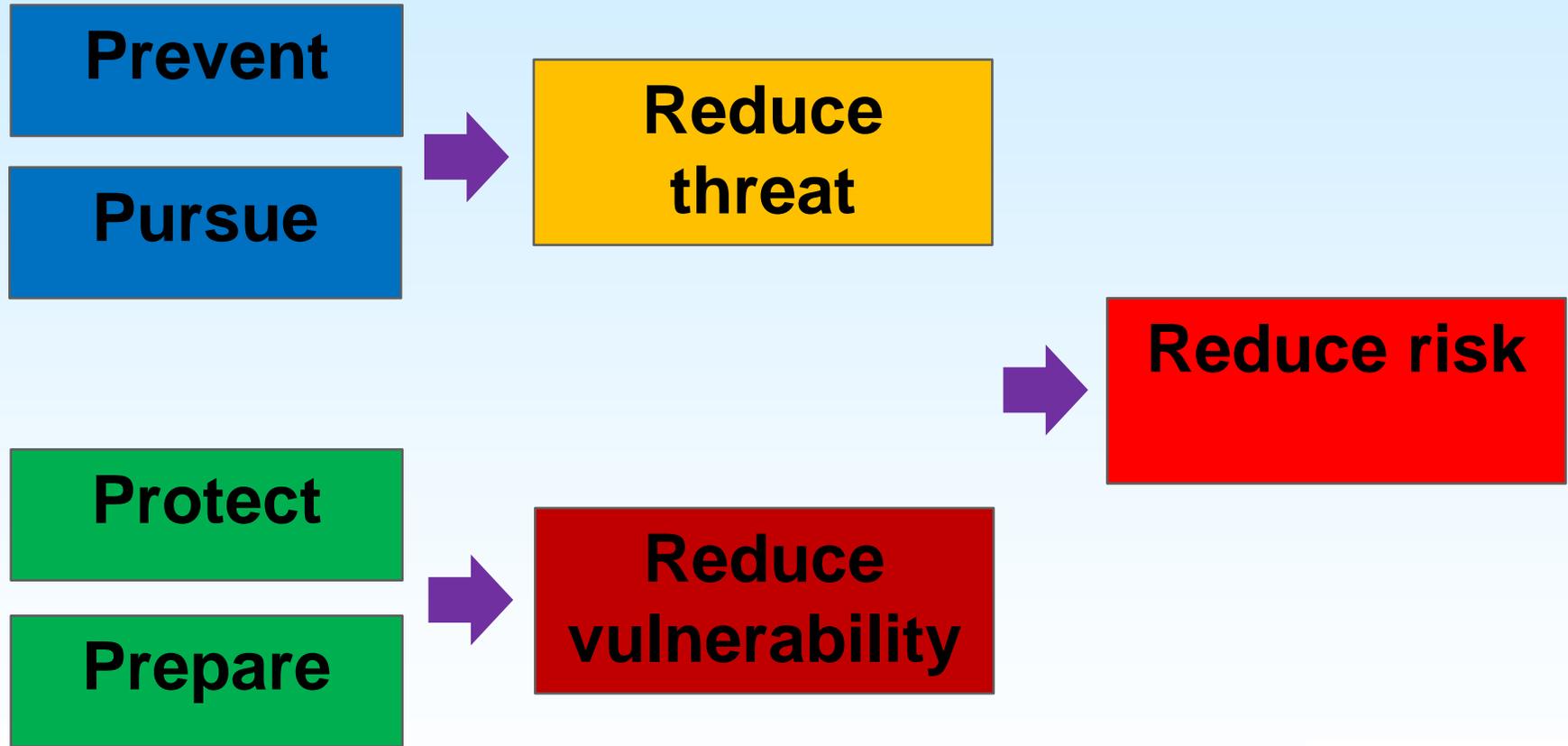
# CBRN Scenarios Workbook



# Office for Science and Counter-Terrorism

- CBRN Scenarios Workbook
- Scenarios based on UK NRA
- Cover all CBRN threats
- Each scenario broken down into vignettes
- Vignettes offer a story line to test any of the HO 4 pillars

# The 4 Pillars

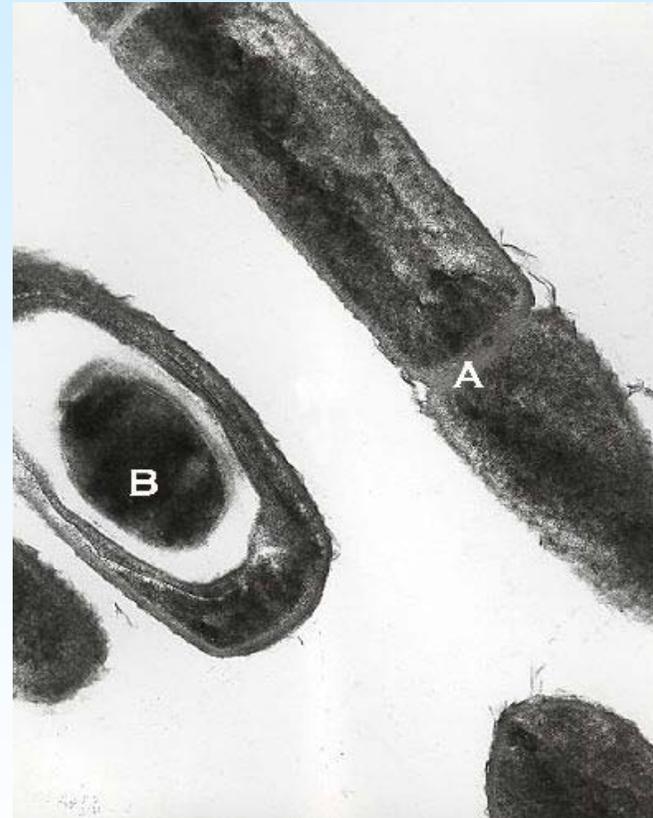


# Biological scenarios

- NRA provenance (which threat)
- Alignment with HO CBRN scenarios (how well aligned)
- Capability driver – priority
- Description
- Target location
- GDS interested in “prepare” aspects

# Vignette information

- Assumptions
  - Organism
  - Infectious dose
  - Casualty estimates
- Predictive plot of hazard area
  - Estimated organism deposition
  - Seasonal variation



# UK Government Decontamination Service



# UK Government Decontamination Service

- Part of UK Government Resilience Programme
- Part of Food and Environment Research Agency
- Involved with the “Litvinenko Incident” cleanup
- Framework of specialist decontamination companies
- Also investigate “off-framework” capability
- To deal with remediation of land, buildings, transport assets, following a CBRN / major HAZMAT incident

# GDS Remit

- To capture information on known Framework capability and capacity; identify gaps in known capability and capacity, and explore mitigations and possible solutions as appropriate;
- Provision of advice and briefing on Framework capability and capacity, and written guidance on associated remediation/decontamination issues to departments, Devolved Administrations, and Responsible Authorities;

# GDS scenarios

- Based on NRA and HO CBRN scenario vignettes
- Real world
- Paper based exercises
- Real life exercises
- Operational analysis

# Scenario Aims

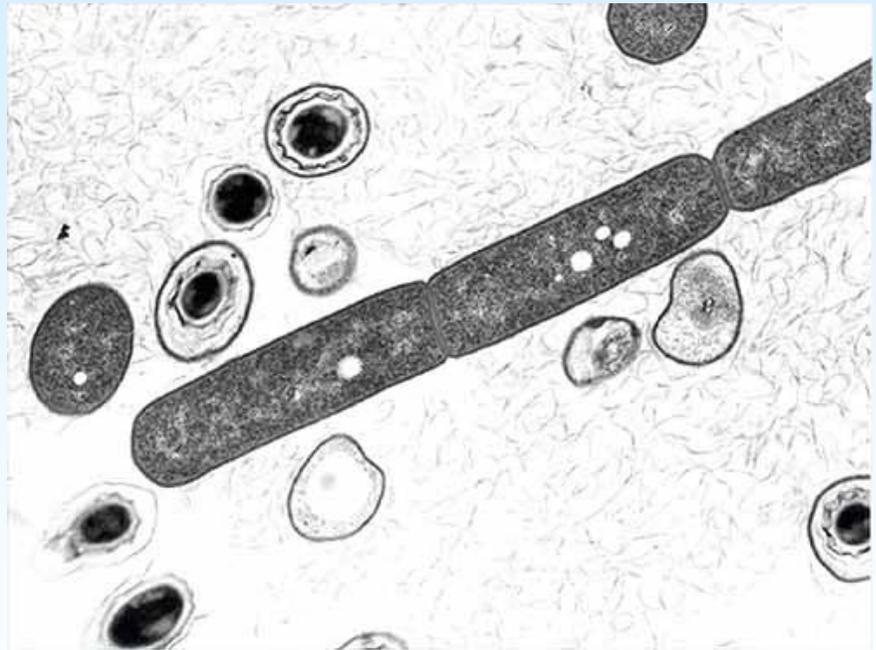
- Background Information
- The Scenario
- The Scene (Familiarisation)
- The Report Layout
- Timings & Evaluation
- Questions?

# Example scenario

- Baseline case study (completed by Framework suppliers)
- Biological attack on a generic place
- What is the suppliers approach?
- What is their capability?
- Influence on future case studies and practical exercises

# *Bacillus anthracis*

- Highly resistant and persistent spores
  - Decades in soil
- Anthrax
  - Cutaneous
  - Gastrointestinal
  - Inhalational



# Cutaneous anthrax

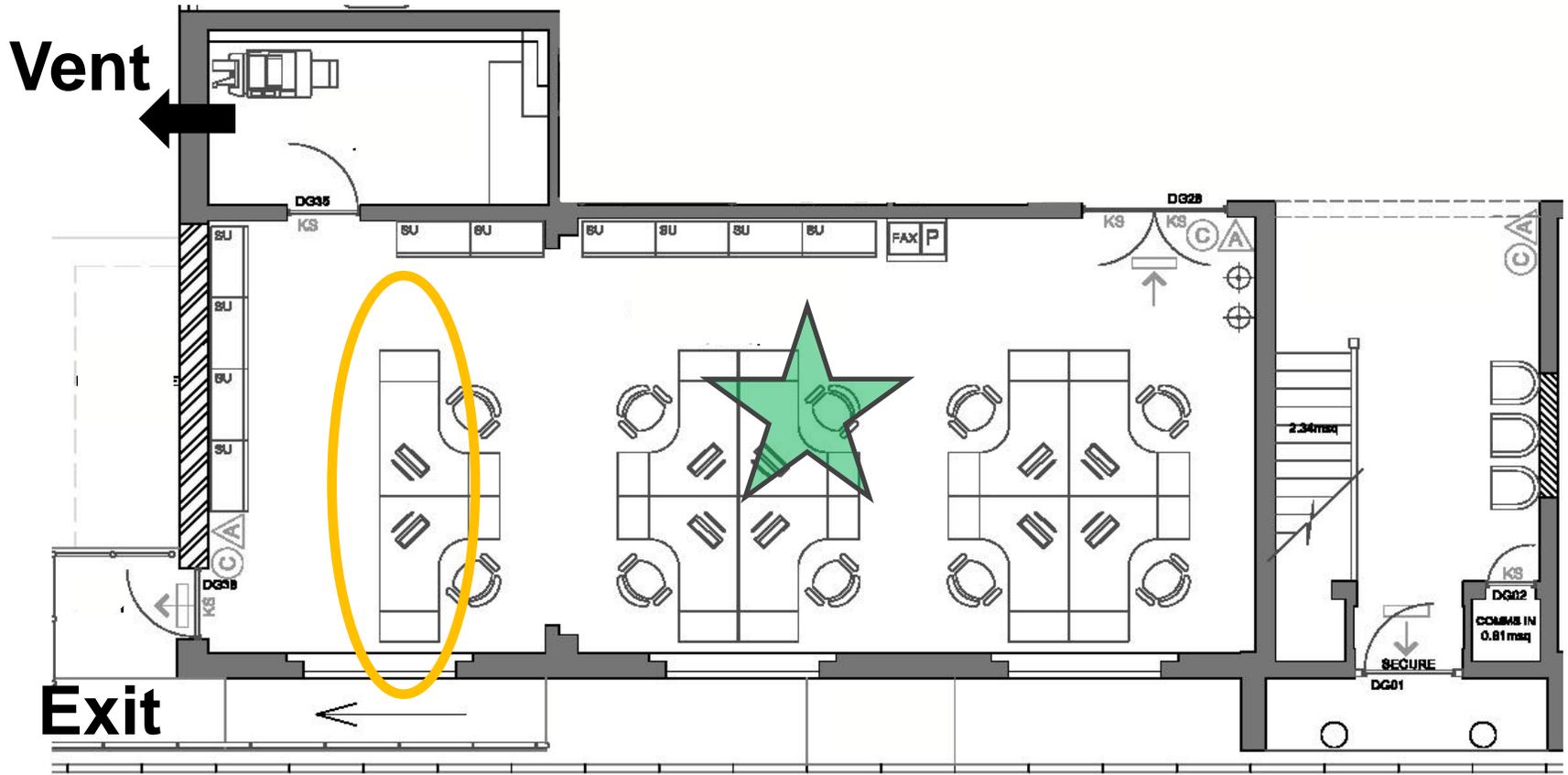




# Evacuation

- Staff evacuated
- Decontaminated by Fire and Rescue Service
- Mass decontamination structure (MD1)





**Entrance/Exit**





Fire exit

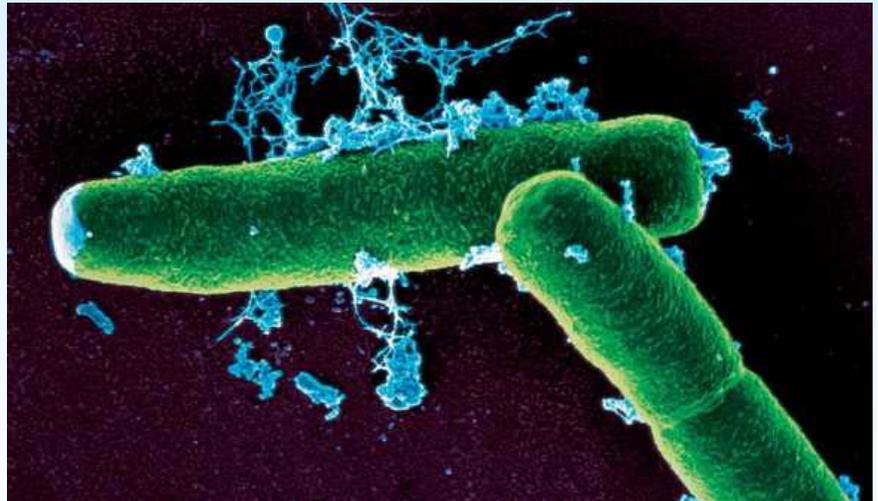


PLEASE KEEP THIS  
WORK AREA  
CLEAN AND TIDY  
THANK YOU

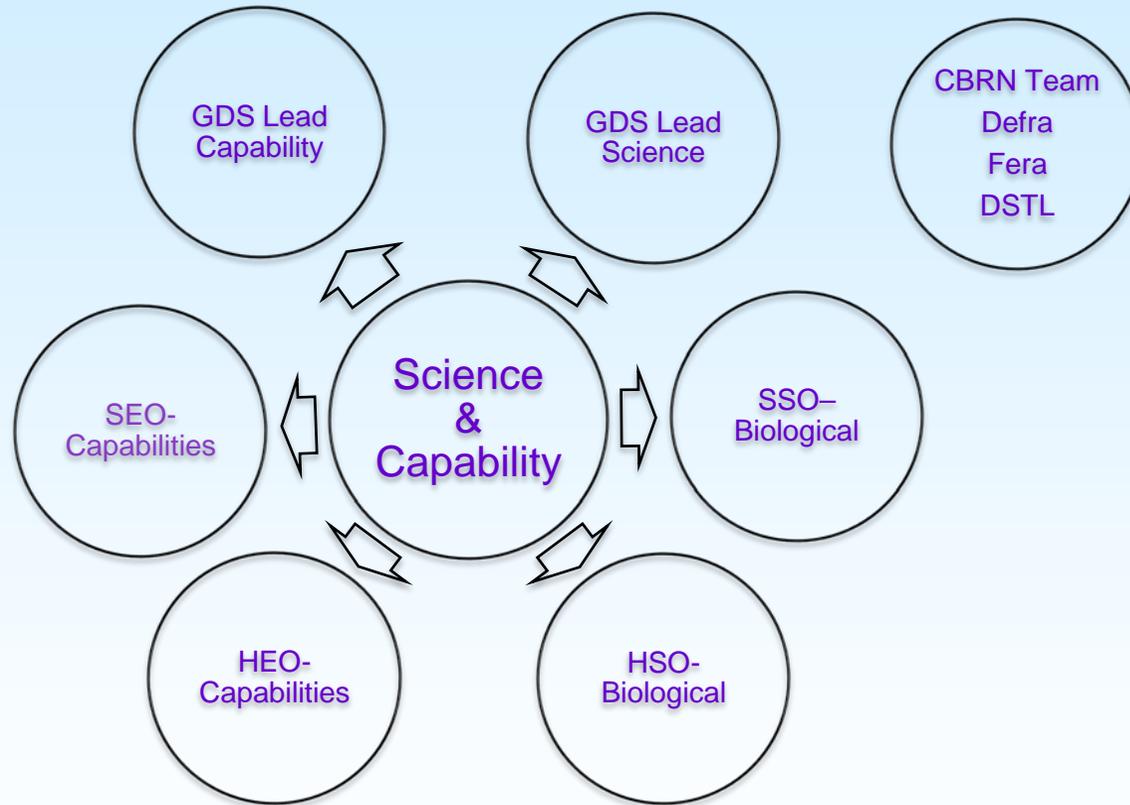
G005 – Ventilation unit

# Contamination levels

- $1 \times 10^9$  CFU/cm<sup>2</sup> at main contaminated area
- Range  $1 \times 10^2$ - $1 \times 10^4$  CFU/cm<sup>2</sup> elsewhere



# Evaluation



# GDS scenarios

- Internal GDS review
- External 3<sup>rd</sup> party review
  - Use of operational analysis
- Scenarios inform GDS of new risks in resilience
- Feedback information to HO and other Government departments

# Filling the gaps!

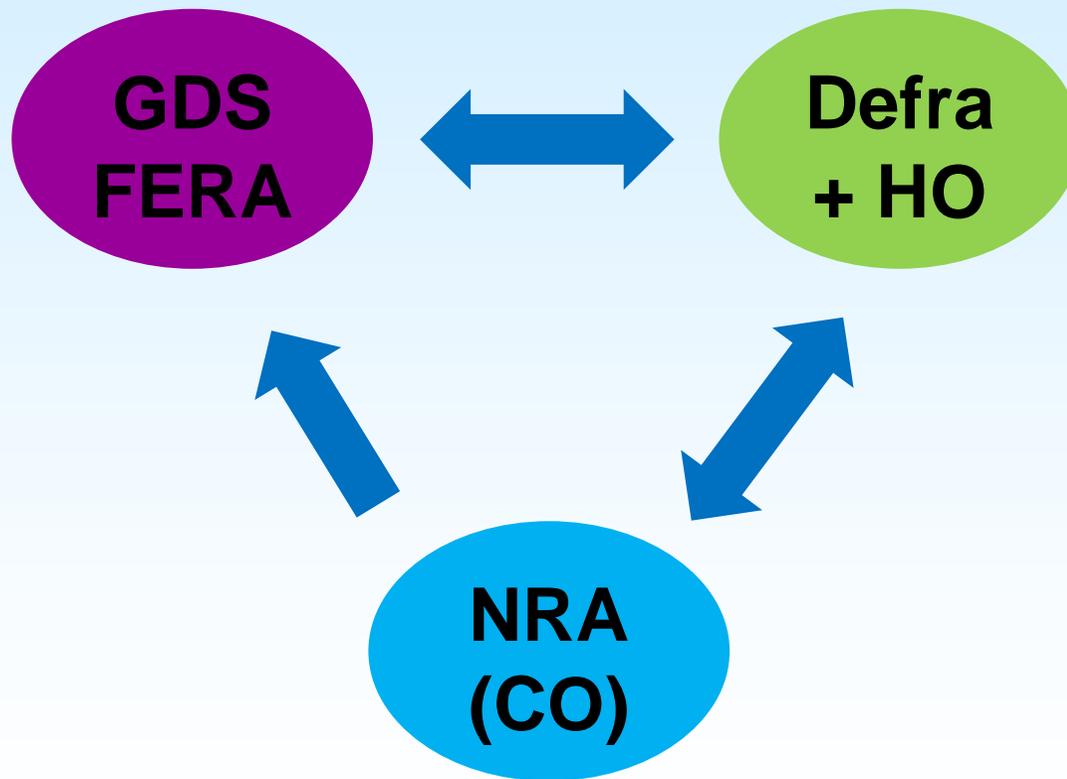
## Science/Technology



## Capability



# Risk feedback cycle



# Thank you

- Questions?