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Service

Developing an effective CBRN decontamination capability

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Head of GDS



Today's Aim

To provide you with an insight into:

- The remit of the UK GDS
- How we have built an effective CBRN decontamination capability:
 - Framework of specialist suppliers
 - Assurance of capability
 - Operational readiness and experience
 - Closure of gaps



GDS Remit

- Provide advice, guidance and support to those responsible for dealing with the consequences of an accidental or deliberate release of CBRN and hazardous materials;
- Enable quick access to a Framework of specialist suppliers able to offer expert decontamination and related services in response to a CBRN or major HazMat incident;
- Advise the Government on the national capability for the decontamination of buildings, infrastructure, transport assets and the open environment.

UK RESILIENCE

Central Government
Safety and Security

Requirements

GDS Programme Delivery



Prevent

Pursue

Protect

Prepare



UK CBRN
Decontamination
Response

GDS Framework
suppliers

Gaps in GDS
response

R & D

- Academia
- International
- Industry
- MOD
- Gov

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- Fera
- MOD
- EA
- PHE, PHW & HPS
- Local Authority
- First Responders

Plan

- Exercise
- Test
- Recovery
- Guidance
- Training



Drivers/requirements

- National Risk Assessment - scenarios involving the release of chemical, biology or radiological/nuclear materials – systems approach
- Operational questions
 - a. What works?
 - b. What doesn't work?
 - c. What should we do first?
- Evidence Requirement
 - a. Logical and structured assessment of the effectiveness of different technologies for use in the remediation of CBRN releases
 - b. Evidence to allow the identification of scientific and knowledge gaps
 - c. Structured approach to selecting the right technology for the job

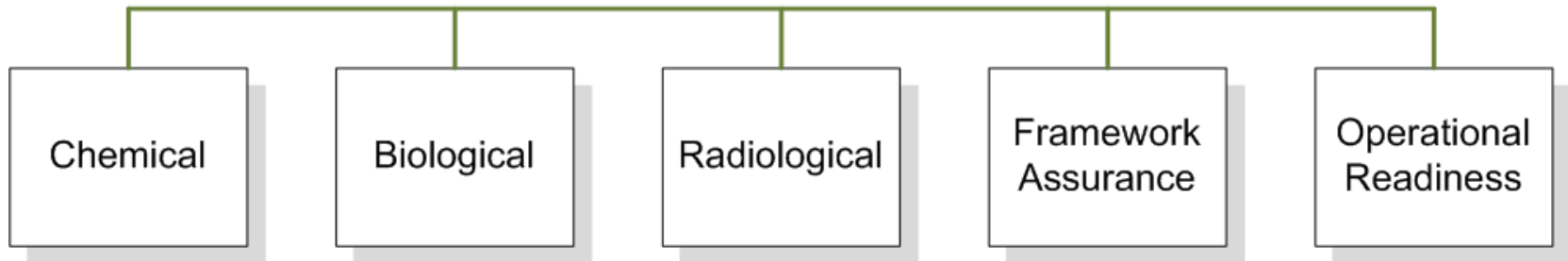


End User Requirement

- 24/7 access to assured capability
- Reliable rigorous evidence of what works
- Effective risk management of gaps and deficiencies



GDS Work Programme



Phases of recovery



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Release of chemical ,
biological or
radiological
agent

Police to LA handover

Emergency response

Recovery



WASA

Decision making and contracting

Decontamination

Clearance

NNL – agent
identification

NNL - Sample
analysis

GDS - Contract Framework
Contractors

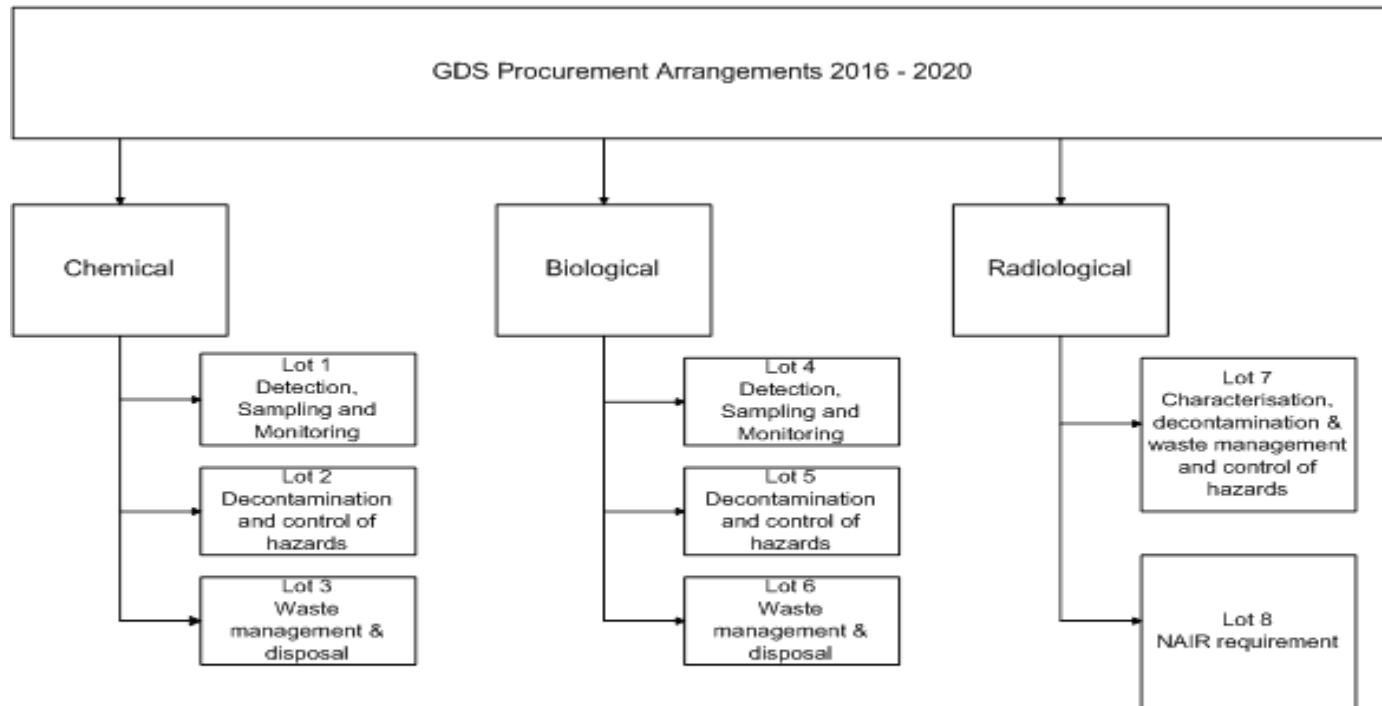
GDS - Decontamination &
waste removal ops

GDS - Clearance process





GDS Framework 2016-2020





GDS Framework

Normal Environment

Nuclear power station maintenance, decommissioning and legacy remediation

Clinical and pharmaceutical sterilisation

Industrial chemical spills and asbestos removal



Counter Terrorism Environment

Radiological Dispersal Devices (RDD) and Improvised Nuclear Devices (IND)

Anthrax remediation (dispersion of *Bacillus anthracis*)

Deliberate releases of chemical warfare agents

GDS Supplier Roles



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- Sampling, monitoring & analysis to determine the extent of the contamination
- Prioritising the appropriate resources and equipment for decontamination
- Decontamination of the built and open environment, transport assets and other items
- Sampling and monitoring to assess the effectiveness of decontamination for reoccupation or reuse
- Managing contaminated waste (throughout)



Assurance Process

- EU Procurement process
- Paper based case studies
- Practical evaluations/exercises
- Industrial experience/site visits

Assuring the framework - Case Studies



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Radiological

- Busy urban environment decontamination
- Case Study (paper based)

Biological

- Generic baseline office decontamination
- Case Study (paper based)

Chemical

- Generic baseline office decontamination
- Case Study (paper based)





Practical Evaluations





Assuring Health & Safety

- Safety is essential under compliance
- Needed to consider how Suppliers can be most effectively assured
- HSL have been developing an assessment tool to enable assurance
- Practical testing of the tool with supplier



Practical testing of H & S





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Background...evaluation work





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Not always straight forward!





Building on this knowledge - a more challenging environment.

- Worked with F&RS to identify requirement
- Built relationship with MoD
- Identified appropriate location
- Agreed scenario and C & B threats
- Gained authority to proceed
- Scheduled in Suppliers



What makes an environment challenging?

- Advancement into the environment
- Maintaining communication throughout
- Maintaining the safety of all deployed personnel



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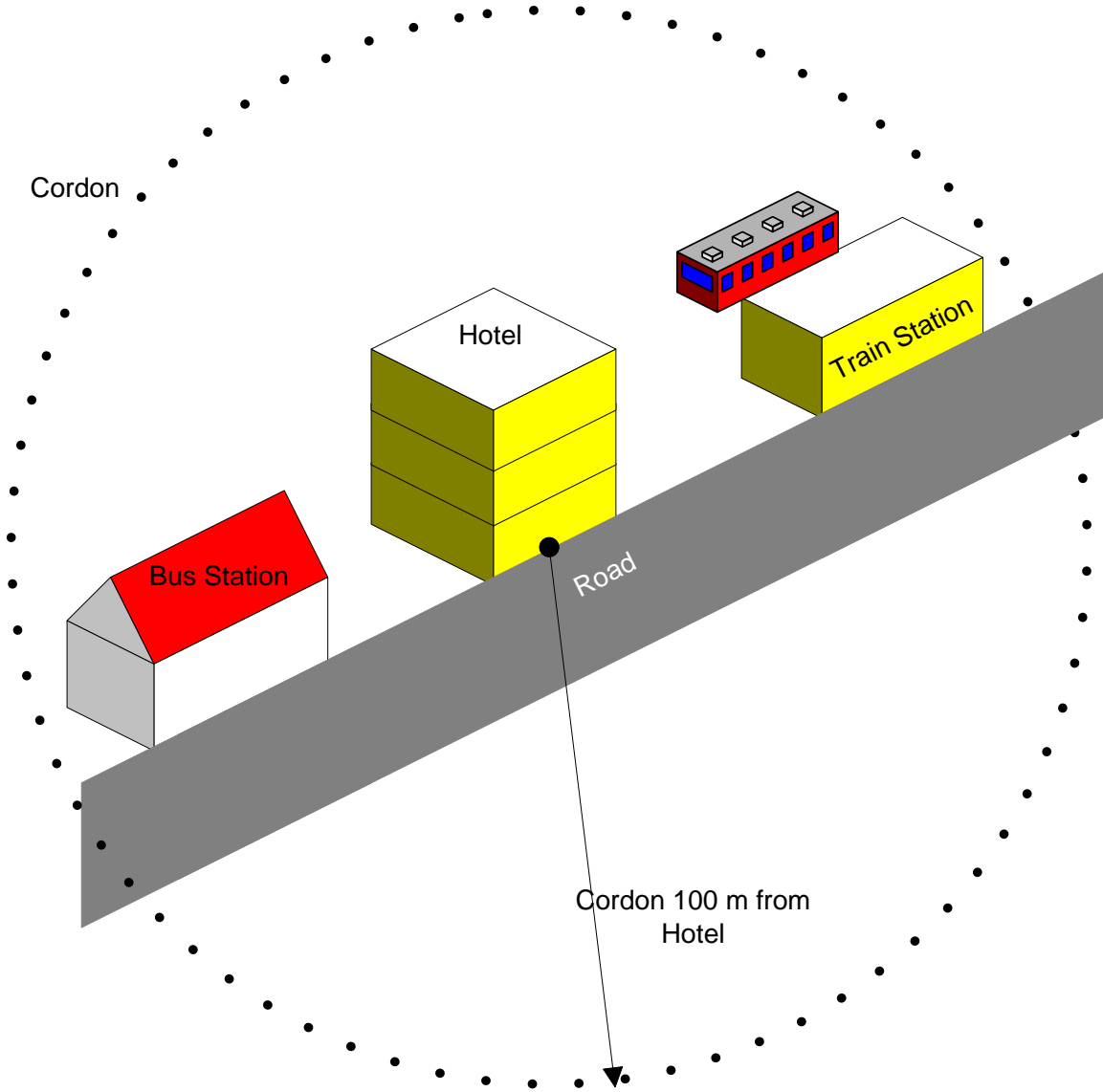
Challenging Environments Practical Evaluation





The Scenario

- An explosion in a hotel room has exposed a bomb making factory.
- A DIM sweep by F&RS detected traces of a chemical agent in and around a third floor bedroom.
- The casualty has been removed.
- All forensic activity has been completed
- The site has been handed over to the LA by police.





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Chemical bomb factory in a hotel bedroom.



Initial scene survey and contamination reduction completed in high level PPE.



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Responding to exercise inject – 'man down'





Waste



Maximum of 3 x 205l drums of solid waste



Liquid waste maybe disposed of
to local drains

Benefits



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- Allows GDS to demonstrate the effectiveness of the framework. OGDs observe or are informed of exercises
- International interest in the exercises
- Identify capability gaps and future work streams
- Demonstrates cross framework capability
- Build and strengthen working relationships

GDS operational capability



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- Facilitate the rapid decontamination of CBRN releases using private-sector capability
- On call 24/7 to provide rapid access to GDS expertise and Framework services
- Provide expert scientific and technical advice to relevant groups, including Science and Technical Advice Cell (STAC) and Recovery Co-ordination Group (RCG), on the most appropriate decontamination methods



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It will never happen



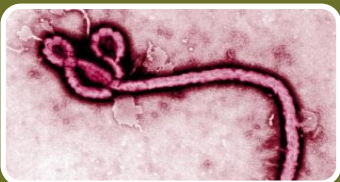
Anthrax



Garden chemistry



Polonium

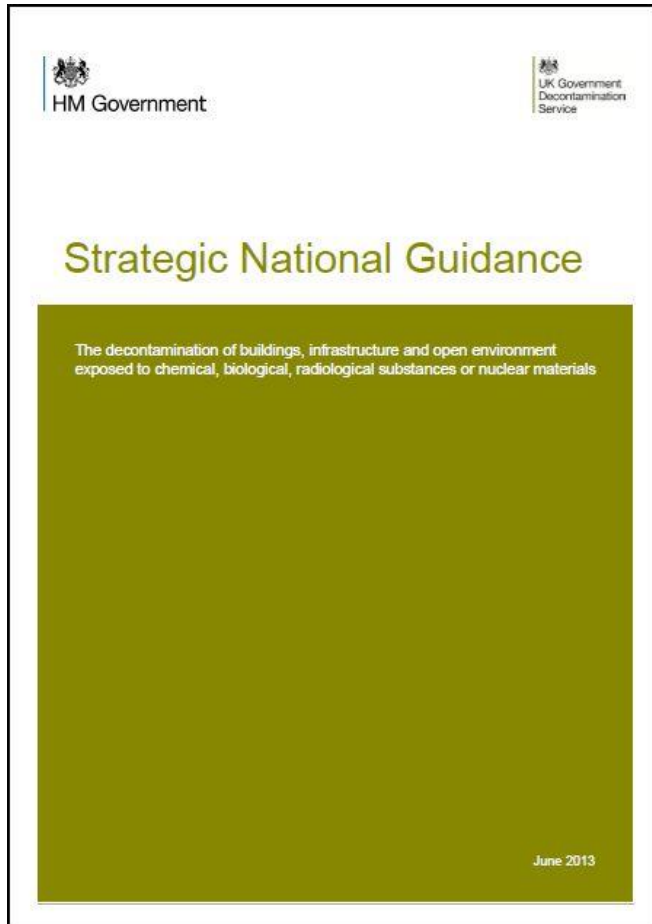


Ebola

Guidance



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Strategic National Guidance (SNG) was updated in Feb 2015.

It can be downloaded here:

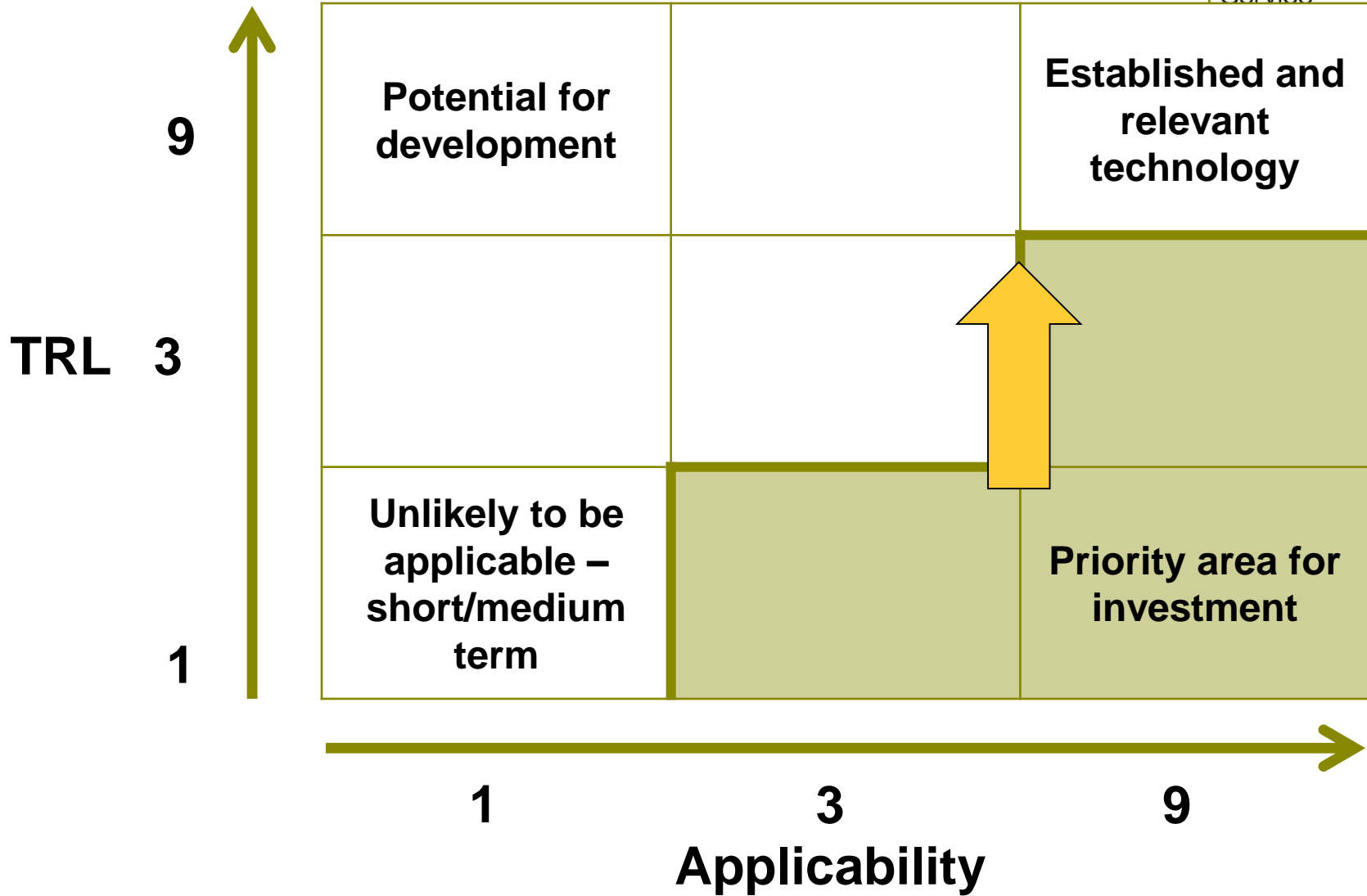
- <https://www.gov.uk/government/publications/strategic-national-guidance-the-decontamination-of-buildings-infrastructure-and-open-environment-exposed-to-chemical-biological-radiological-or-nuclear-materials>

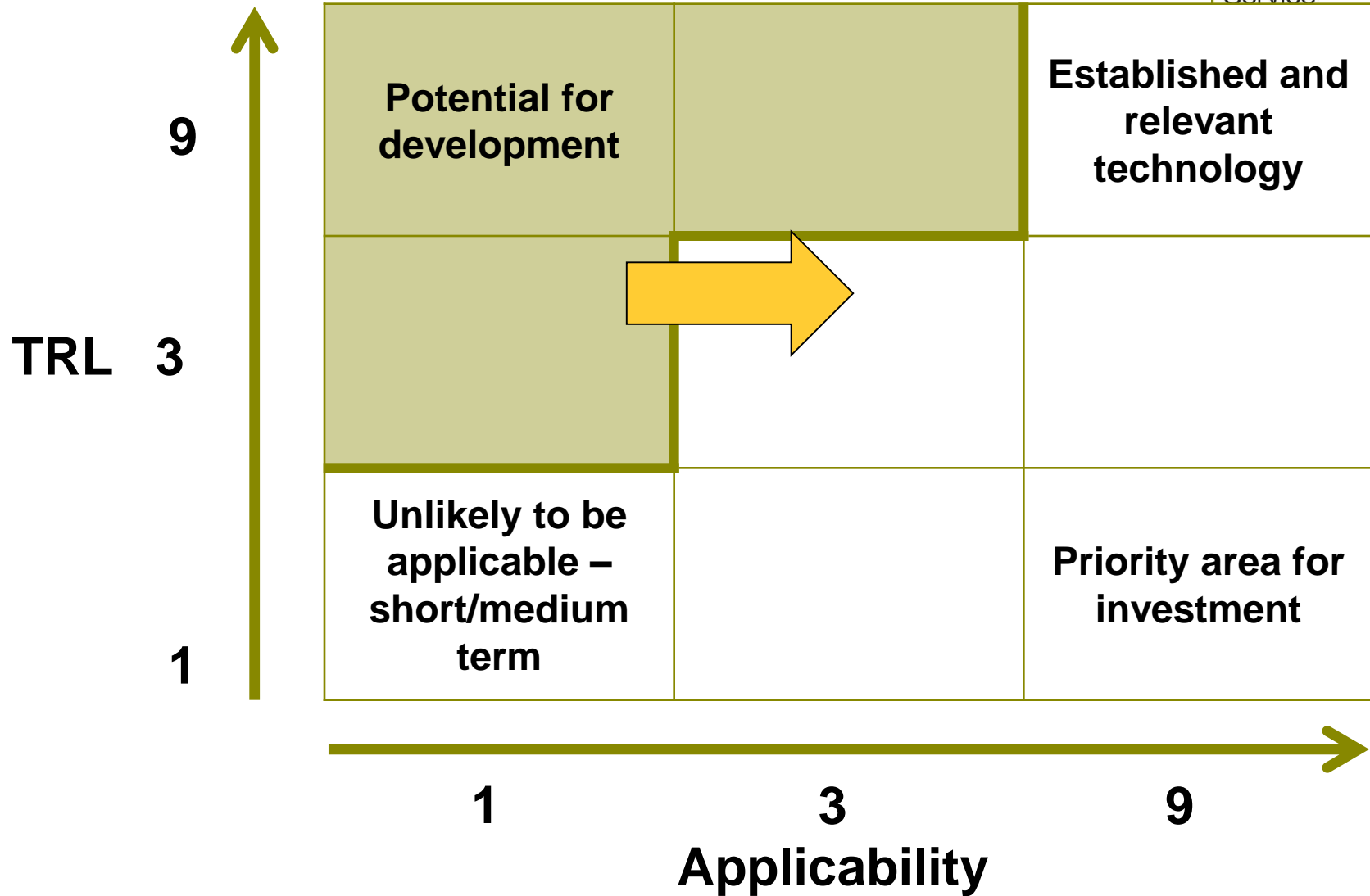


What works?

Technology readiness levels

- Measure of the maturity of technologies and processes used in remediation operations
- Information drawn from exercises, laboratory experimentation, industrial applications and CBRN incidents
- Technologies available from national and international science base including GDS suppliers, wider private sector and academia and public sector





Questions?



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