

# Remote Technology at Sellafield – A Client's Perspective

Presented by:

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# Remote Technology

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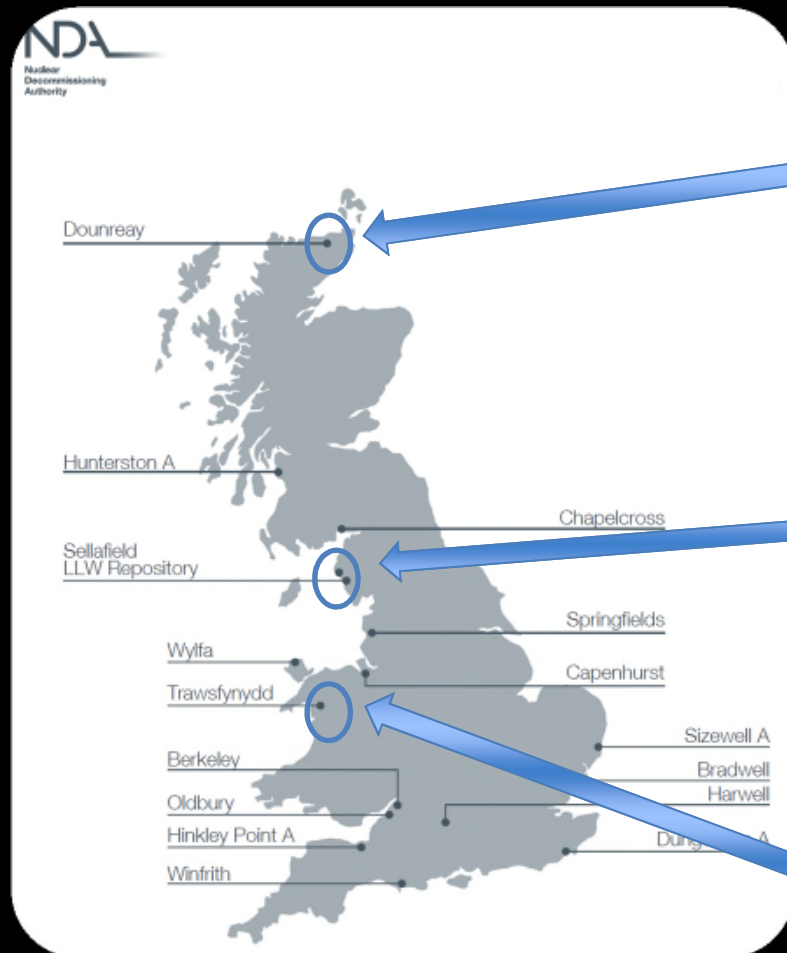


- Remote technology and robotics are a natural extension of man's use of machinery.
- In *nuclear decommissioning* traditionally remote = where people cannot or should not go.
- On the cusp of using remote tech, especially where augmented by automation, for efficiency reasons.

# Outline

- Setting the scene
- Managing technology risk
- Strength as a team - working with the supply chain
- Preparing the way
- Summary

# The Nuclear Decommissioning Authority



Dounreay  
Shaft  
Intervention  
Platform



Kuka for  
Waste  
Manipulation  
Sellafield



Brokk for  
Remote  
Operations  
Trawsfynydd

# What is Sellafield?

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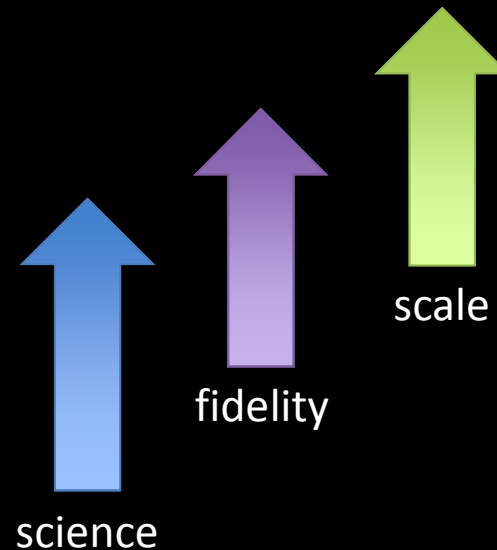
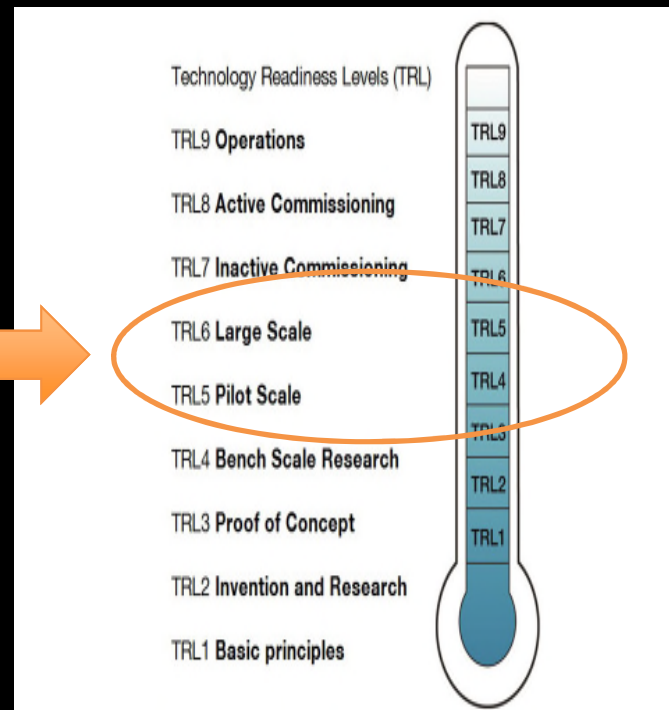


# Managing technology risk

## – Technology Readiness Levels (TRL)

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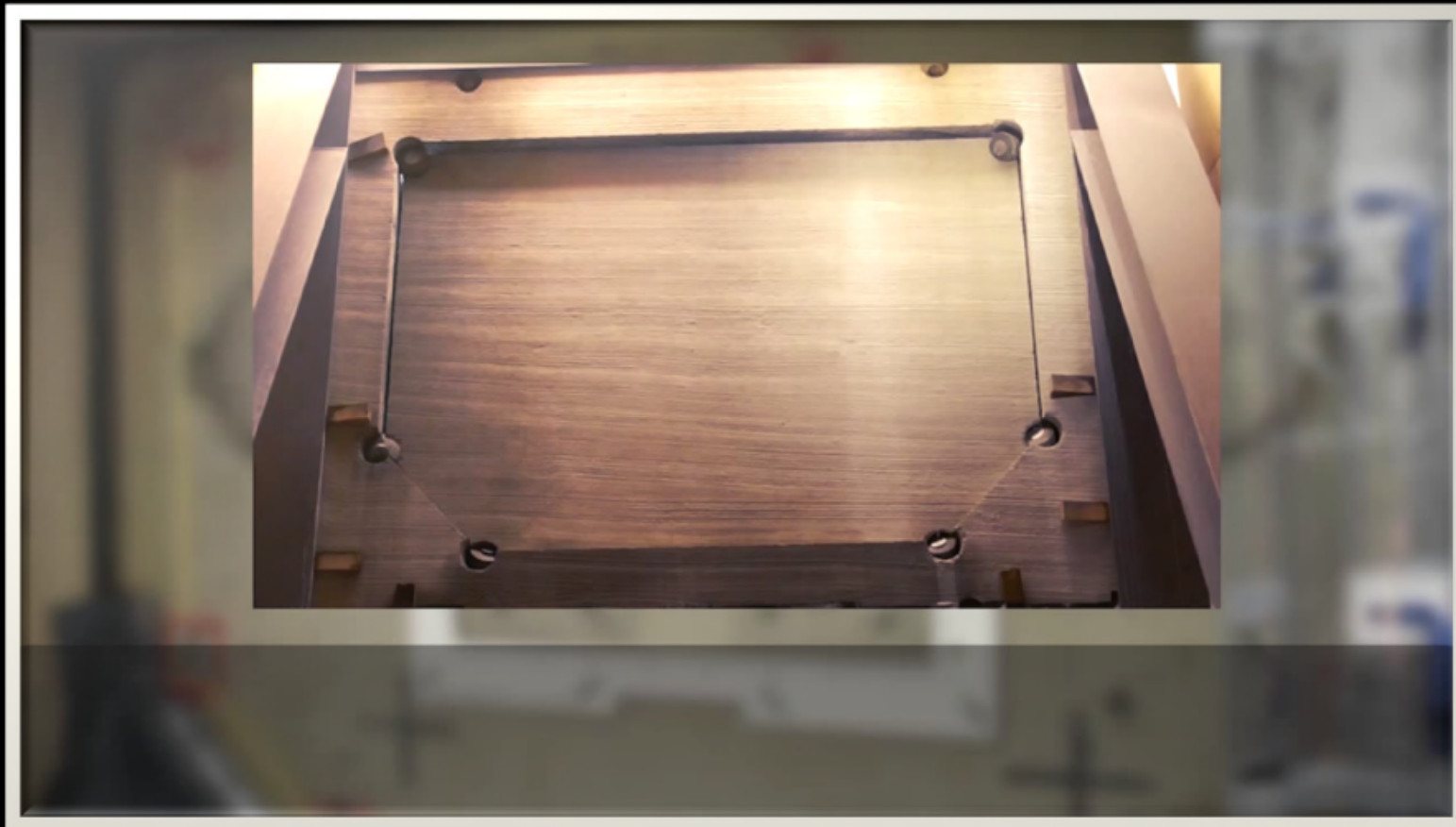
**WARNING**



# Managing technology risk – structured development

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Pile Fuel Cladding Silo – cutting the access penetrations

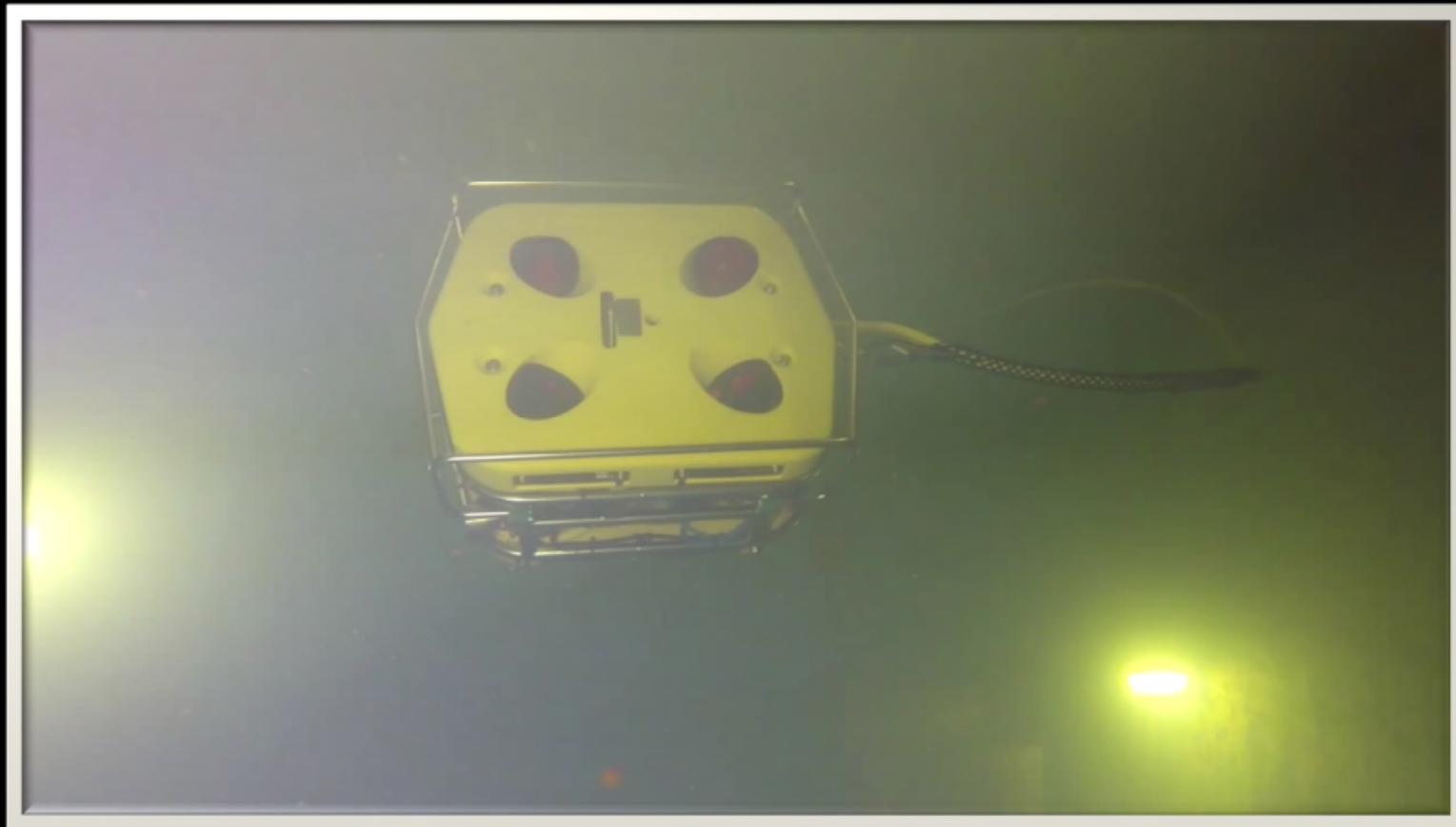




# Managing technology risk – evolution

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First Generation Magnox Storage Pond – using ROVs





# Strength as a team

## – leveraging across sites and sectors

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NDA Robotics & Artificial Intelligence acquisition model

- NNL and RACE link to wider academia and experts.
- Sellafield Ltd coordinate across NDA estate as lead client.
- Leverage industry sector and cross sector investment



# Strength as a team

## – from bright idea to reality

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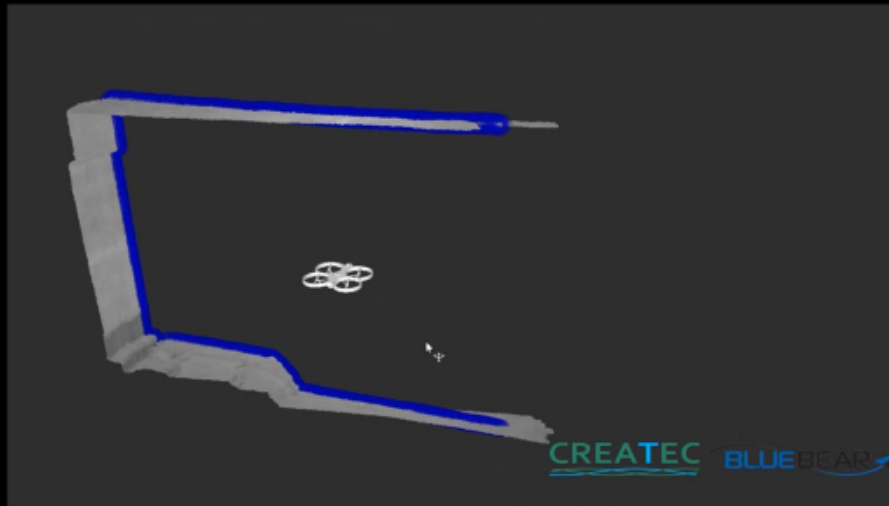


- Trails using the lasersnake prompted new ideas – size reduce gloveboxes.
- Driven by reducing risk to the operator , but potential for significant efficiencies.
- Development by partnering industry experts.
- Deployment approach developed jointly with delivery partners (DDP)

# Preparing the Way

## – Regulations, Skills and Culture

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- Use of aerial drones at Sellafield faced safety case and security challenges.
- Remote technology often requires specialist skills to operate and maintain.
- Cultural acceptance can also be a challenge – past problems influences perception.
- Where remote brings efficiencies then skills need to be redeployed.

# Focus on the outcome

– technology is the path, not destination

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- Man is still a versatile machine.
- Keep the goal in sight – technology ‘distraction’ can be a risk.

- Pile Fuel Cladding Silo semi remote activities.
- Sometimes simpler is better – where you have the option.



# Parting Messages

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- Manage your technology risk – but do not be afraid to fail under controlled conditions
- Use the combined strength of the supply chain – know your role as a client and as a partner
- Ensure you focus on support and acceptance – safety case, security, training and skills, culture
- Don't lose sight of the outcome – technology can be distracting for engineers!

# Questions