

# Benefits of Fast Tracking Decommissioning in the UK

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- Decommissioning in the UK
- Legislation Change
- Revised Outlook on Decommissioning
- What's the Financial Impact?
- Case Study – Trawsfynydd Power Station

- UK Nuclear Power Station's were built to deliver power to the grid and make a profit



- Once the life of these Nuclear Power Stations had expired no power was being supplied to the grid and therefore no money to be made



- Legacy waste, from these power stations still exists and pose a Hazard as a result it is necessary to decommission these sites

- There was no financial incentive to decommission these sites early, “cheaper in today's money, to do it tomorrow”.
- Government legislation did not require decommissioning of site
  - Risk = **chance** that someone or something that is valued will be adversely affected in a stipulated way by a **hazard**
- Nuclear site's intended for radioactive material to naturally reduce in radiation over many decades and then safely dispose of the waste

- In 1995 a Government white paper was issued:

*“Review of Radioactive Waste Management Policy: Final Conclusions Cm 2919”*

- The focus went from Risk to Hazard

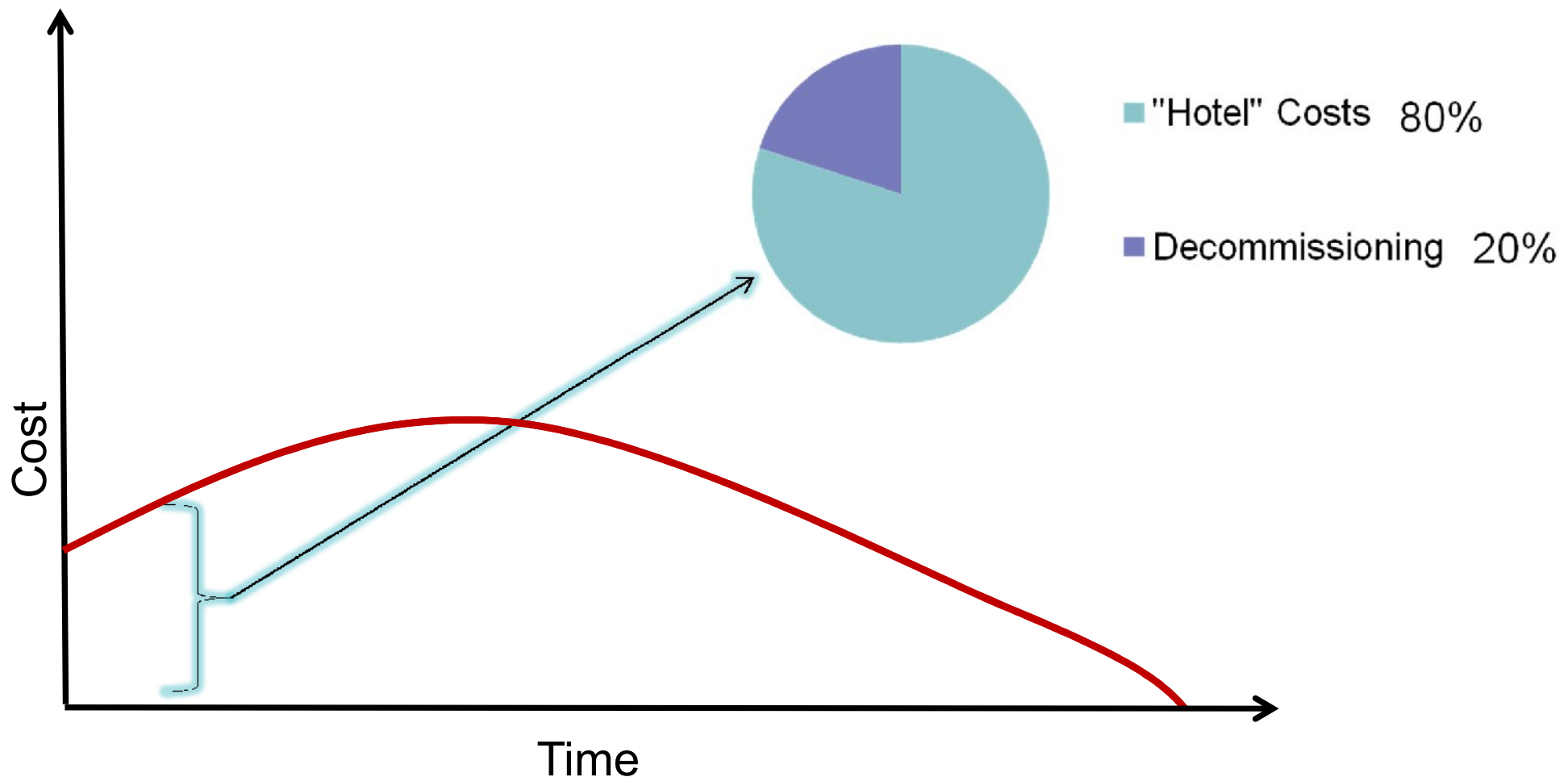
Hazard = Intrinsic property or disposition of anything to cause harm

- This change in focus enforced Nuclear Sites to revisit their decommissioning strategies... ..

- The scale of decommissioning the UK reactors in a this way was a huge challenge, especially as they were not designed for decommissioning
- The new strategy, is focused on removing the Hazard as soon as possible... ..
- As a UK taxpayer I wanted to know, how much more is it costing to reduce this Hazard?

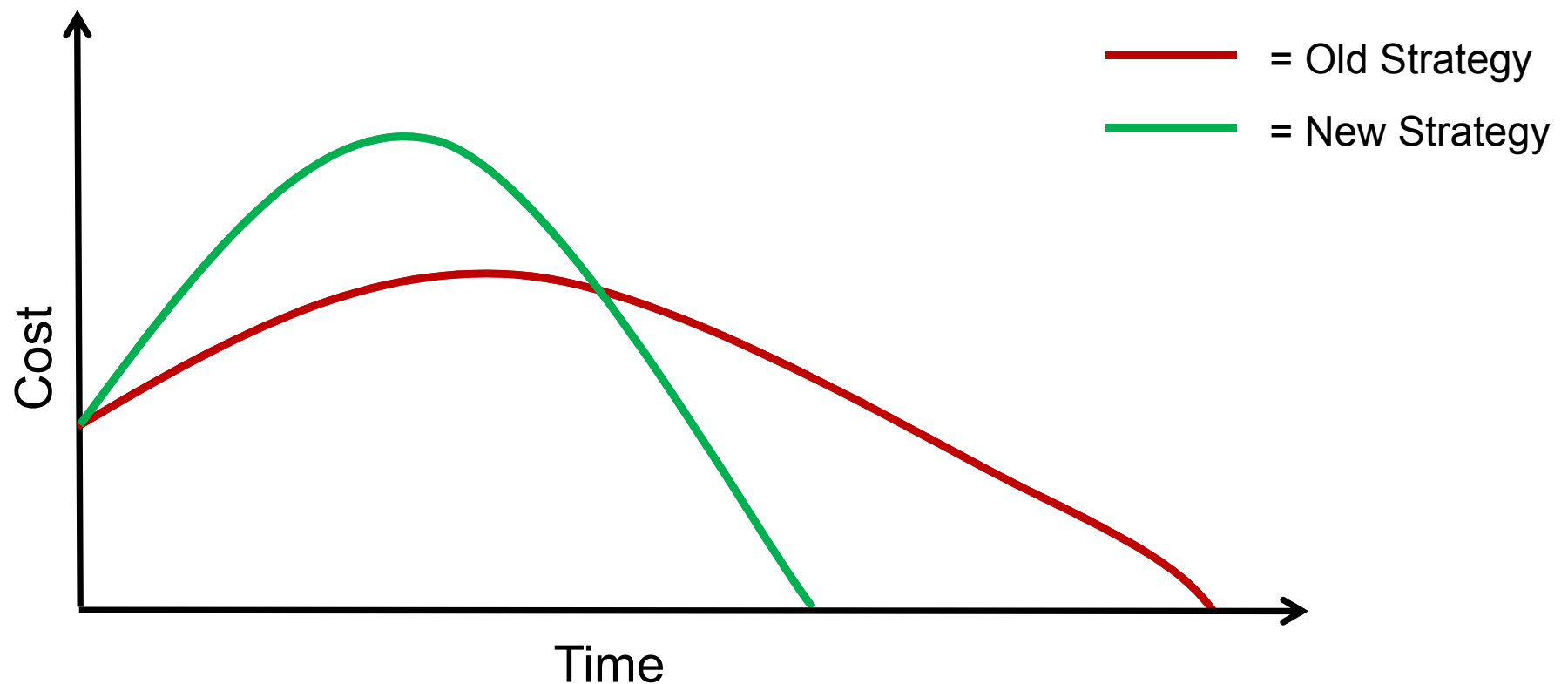
# What's the Financial Impact?

- The old decommissioning strategy based on Risk is shown, here we can see how the cost is spread over time



# What's the Financial Impact?

- Now lets compare it with the updated decommissioning strategy



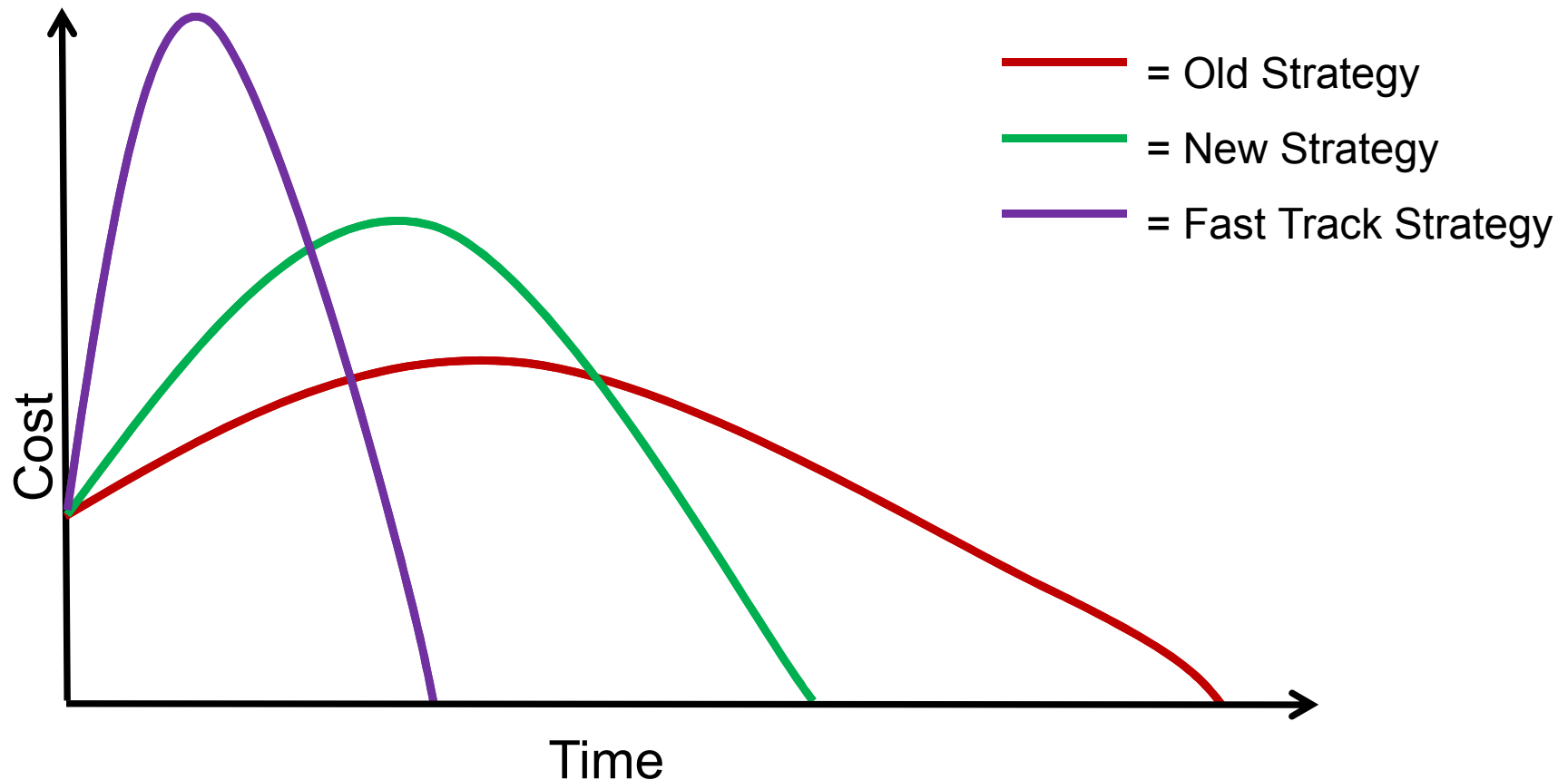
- Reduced the Hazard earlier
- Also eliminated the “hotel” costs during this time



There are significant cost savings to be made by reducing the hazard early.....has this been explored further?

# What's the Financial Impact?

- Yes! Lets look further at fast tracking decommissioning... ..



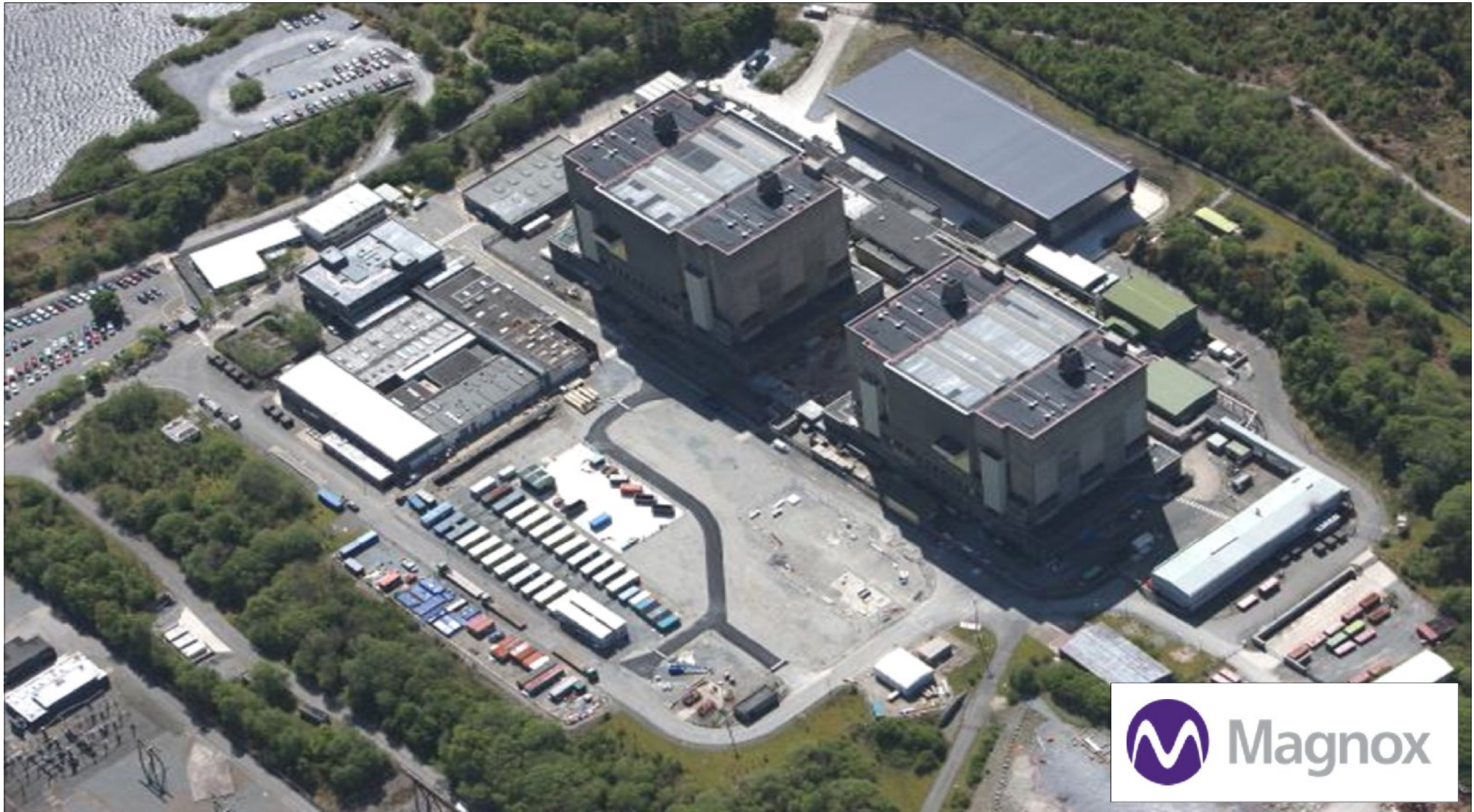
- Reduced the Hazard even earlier
- Also eliminated the “hotel” costs during this time.

How is the UK progressing with “fast track” decommissioning?

# UK Decommissioning Status



# Case Study – Trawsfynydd





# Case Study – Trawsfynydd

- TSIF = Trawsfynydd Strategic Integrated Framework



- The decommissioning challenge is one of the most onerous in the UK due to the various waste streams on site:
  - **Fuel Element Debris Vaults x 32**
  - Miscellaneous Activated Component Vaults x 2
  - Resin Vault
  - Sludge Vault
  - Ponds Facility
  - (waste consists of both ILW and LLW)

- Interesting work for young industry professionals like myself.

- Rare to see several stages of a project in the Nuclear industry in such short succession

Concept Design

HAZOP 1

Detail Design

HAZOP 2

Procurement

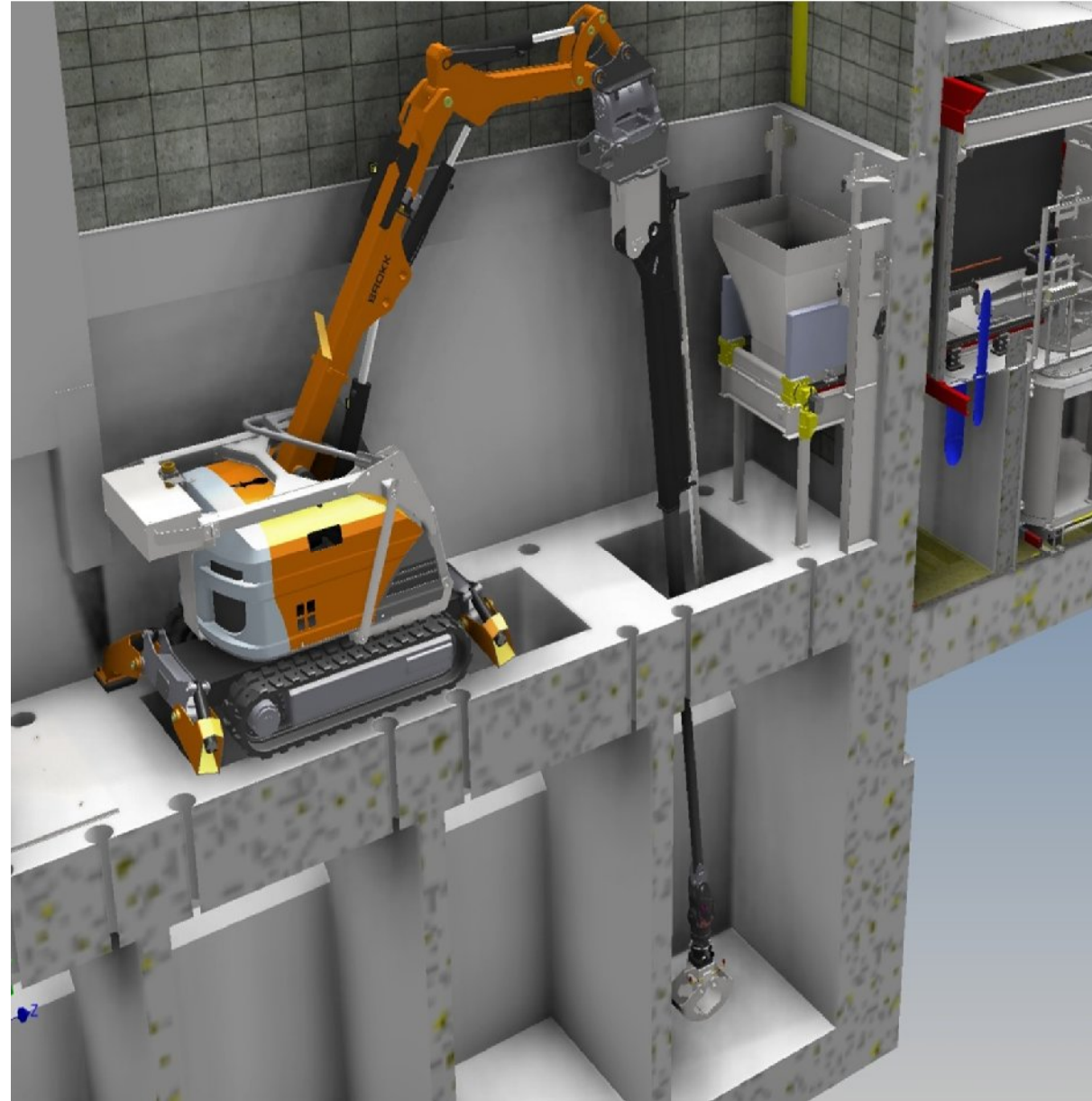
- All seen over the last 3 years!





## ■ Retrieval Machines (Brokks)

- Currently designing and building a trials facility to commission the Brokks
- Expect to be on site with the Brokks and retrieving waste in **12 months** time!!
- **4 years** I will see designs go from inception to materialising on site!



- TSIF is unique and able to handle this complex challenge through:
  - Joint Venture Arrangement
  - All ILW disposal to TSIF
  - Focus on a common goal with the Client
  
- This fast track project is currently on schedule to enter the care and maintenance phase by the end of 2016
  - Demonstrating the ability to remove the hazard earlier
  - Demonstrating the ability to reduce the cost = £130 million
  - **Demonstrating fast track decommissioning works!**

- A little history on the changes in strategy of decommissioning
- Understood the theoretical side of:
  - » reducing the hazard
  - » the potential cost savings
- Highlighted project successful demonstration of fast tracking in the UK with Trawsfynydd
- Highlighted some great opportunities available to young professionals in decommissioning!

# THANK YOU

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