



# Future Landscape for NDT in the UK

## Exploitation Strategy for Production Capability

### **BINDT ASNT Training Day**

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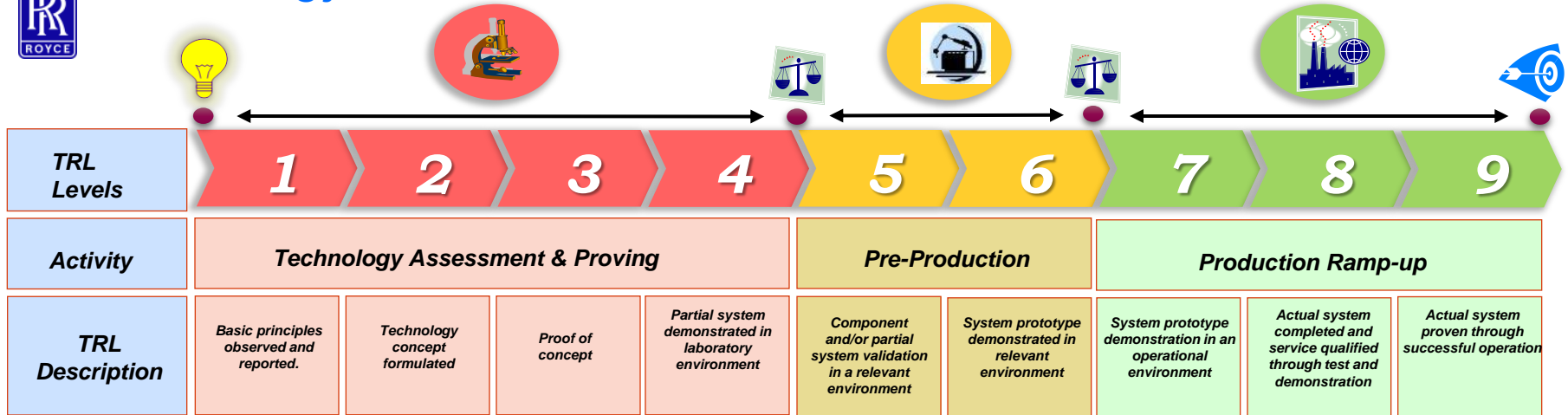


## Summary

## Overview

- **Problem Statement**
- **Technology Readiness Levels (TRLs)**
- **The KTN Report**
- **Problem**
- **Worked examples**
- **Short & long term proposals**
- **Audience feedback & discussions**

# Technology Readiness Levels (TRLs)



EPSRC Funded,  
e.g. RCNDE,  
Universities

25-50% Gearing

Innovate UK, Welsh, EU  
e.g. AxRCs/RTOs

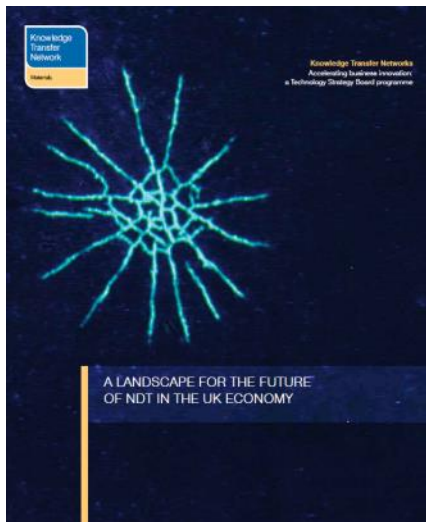
50% Gearing

Equipment manufacturers

Industry Users &  
Equipment  
manufacturers

- Limited Gearing
- Expensive
- Bespoke to 1 customer

## Summary



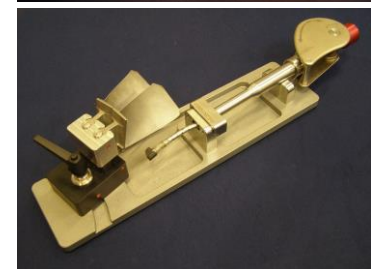
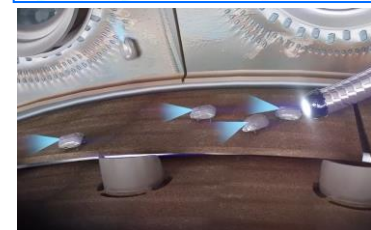
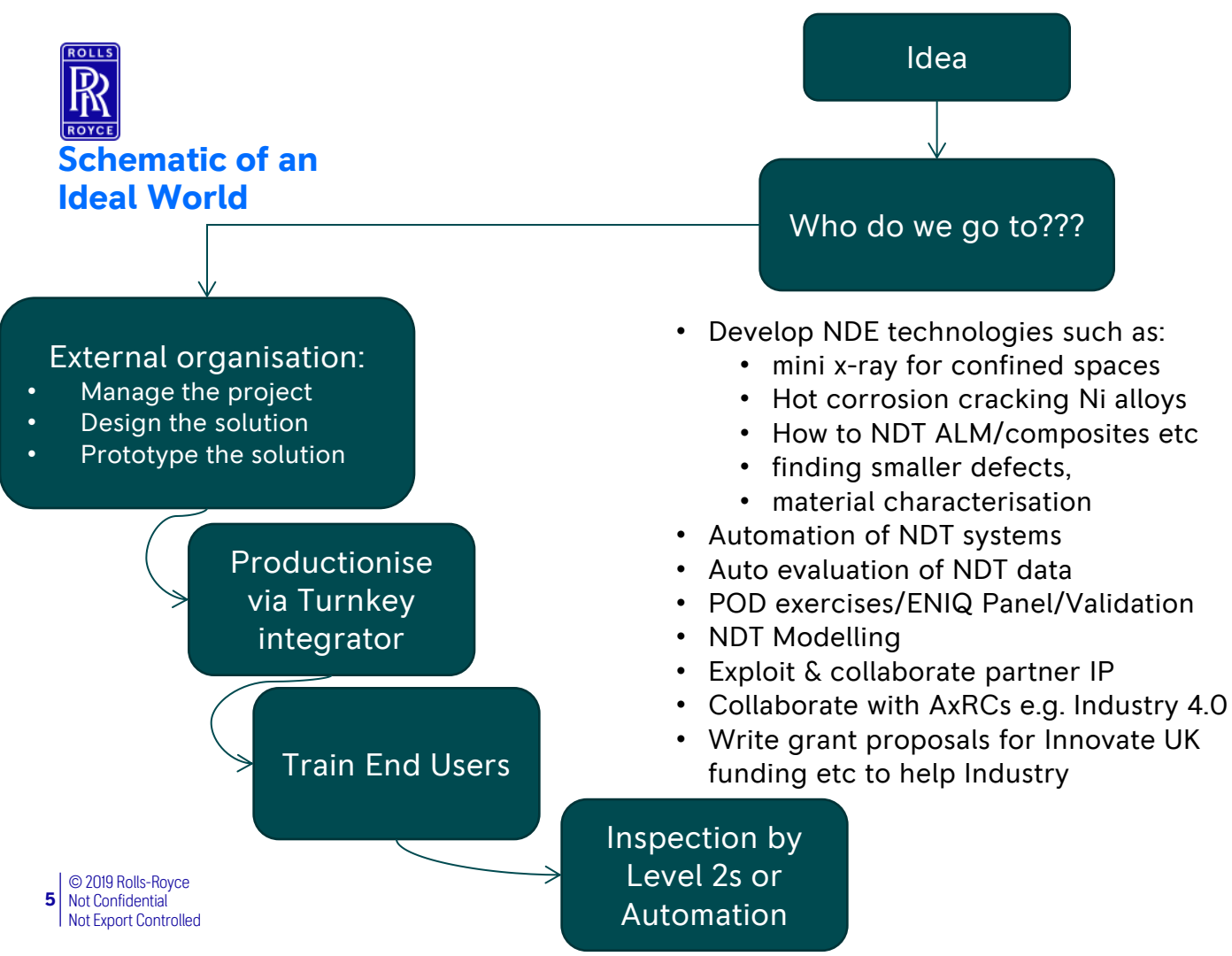
## Problem Statement (KTN Report)

The report recommended the following high level actions:

- Strengthen business engagement and education
- Attract and up-skill new entrants to solve the demographic gap and deliver advanced NDT solutions
- Maintain and extend the existing joined-up R&D portfolio (Technology Readiness Level - TRL 1 to 3)
- Enable a step change in the speed of technology transfer into wider business sectors (TRL 3 to 6)
  
- TRL 6+ not addressed.

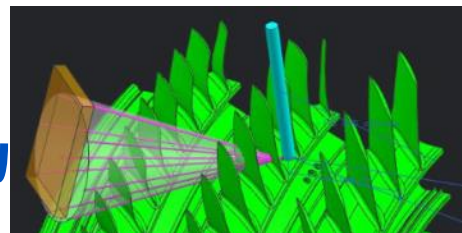
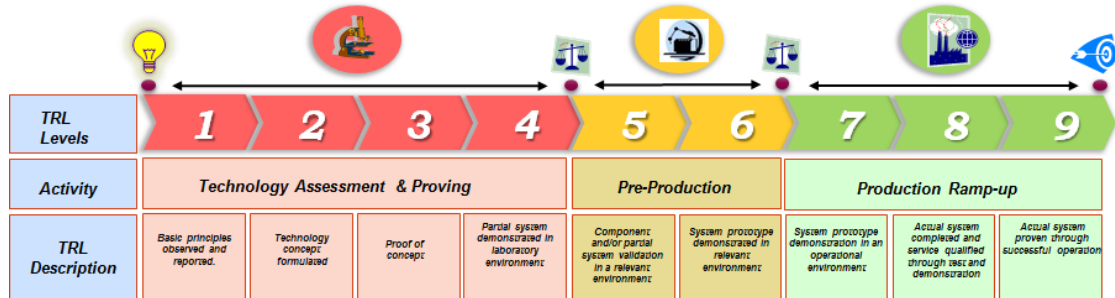


## Schematic of an Ideal World



# Example – Mini X-ray detector

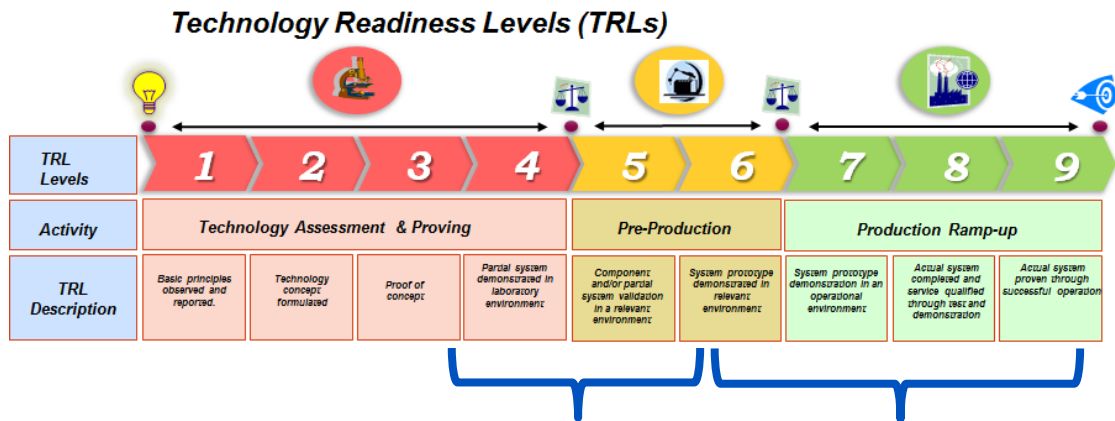
## Technology Readiness Levels (TRLs)



- Industry Users pay for their specific application, e.g. inside an engine, or gas pipe.
- Body of expertise engages supply chain to build a system, create calibration blocks, validates it, trains operators and warranty repairs etc.

Work with UK equipment OEMs to create a generic system, e.g. 8mm maximum diameter.

# Example – SRAS turnkey system



*Work with UK Industry users to determine what metals need their texture mapped.*

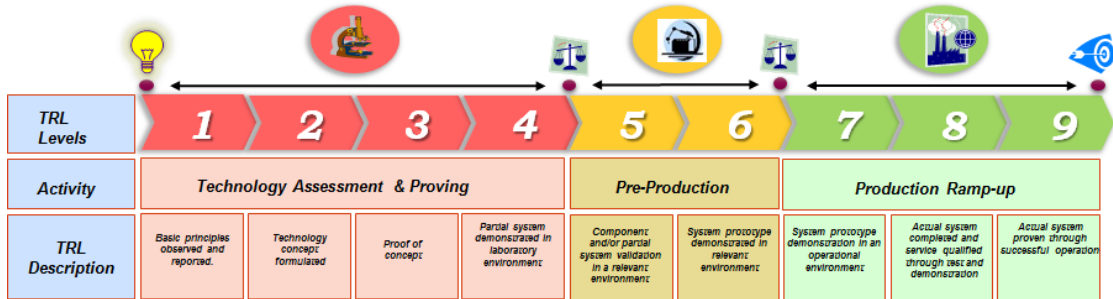
*Create a prototype scanner for some specific applications.*

*Body of expertise engages supply chain to build a system, create calibration blocks, validates it, trains operators and warranty repairs etc.*

*Industry Users pay for an “off-the-shelf” TRL ready 9 machine.*

# Example – on-wing solution

## Technology Readiness Levels (TRLs)



Industry user pays 100% to have a full “kit” including:

- Test blocks
- Bespoke phased array probes
- Manipulator
- Flaw detector
- Customer training & support
- Warranty
- Validation
- Technical justification/data card



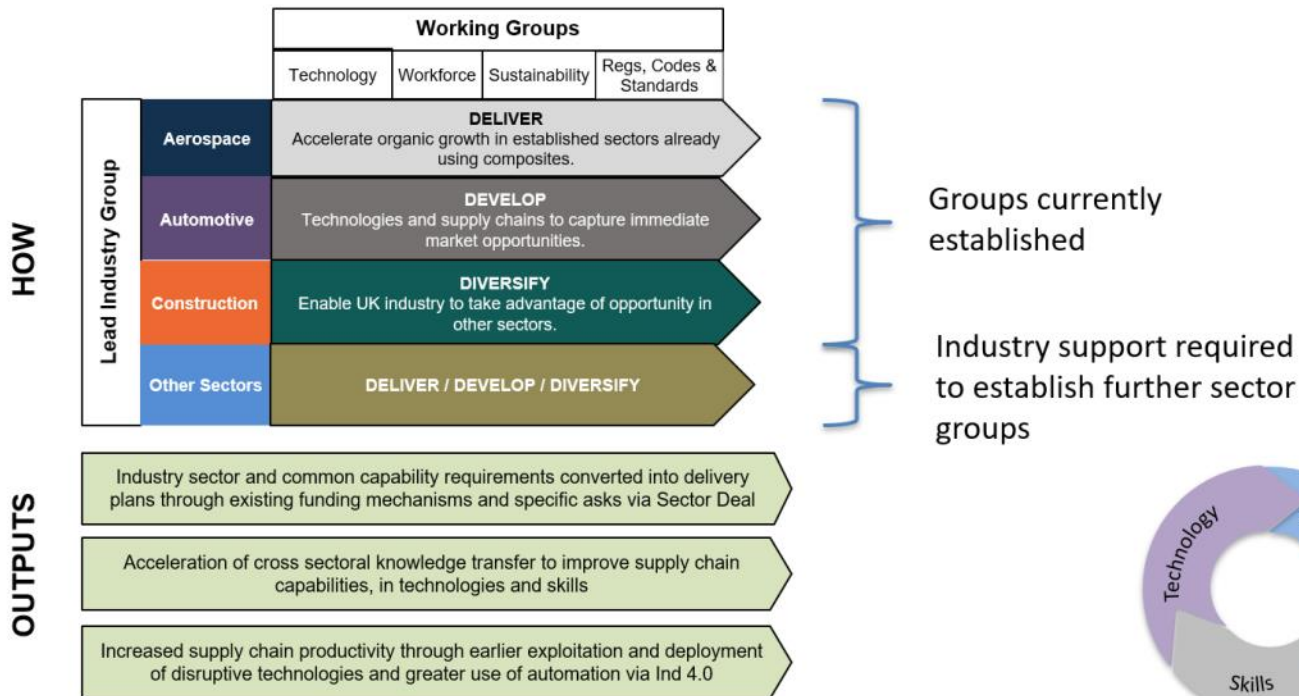
## Way Forward 1/2

- Create an NDT Leadership Forum:
  - Established with support of Government.
  - Voice of NDT industry
  - Led by Industry, co-ordinating across sectors, supply chain, academia, Government and funders
  - Create strategy



## Example of existing model

# Composites Leadership Model





## Way Forward 2/2

- Create an NDT Technology Taskforce:
  - **Led by Industry**, co-ordinating across sectors, supply chain, academia, Government and funders
  - Operate with pace to improve existing NDT infrastructure in UK, and consider alternative ideas and concepts.

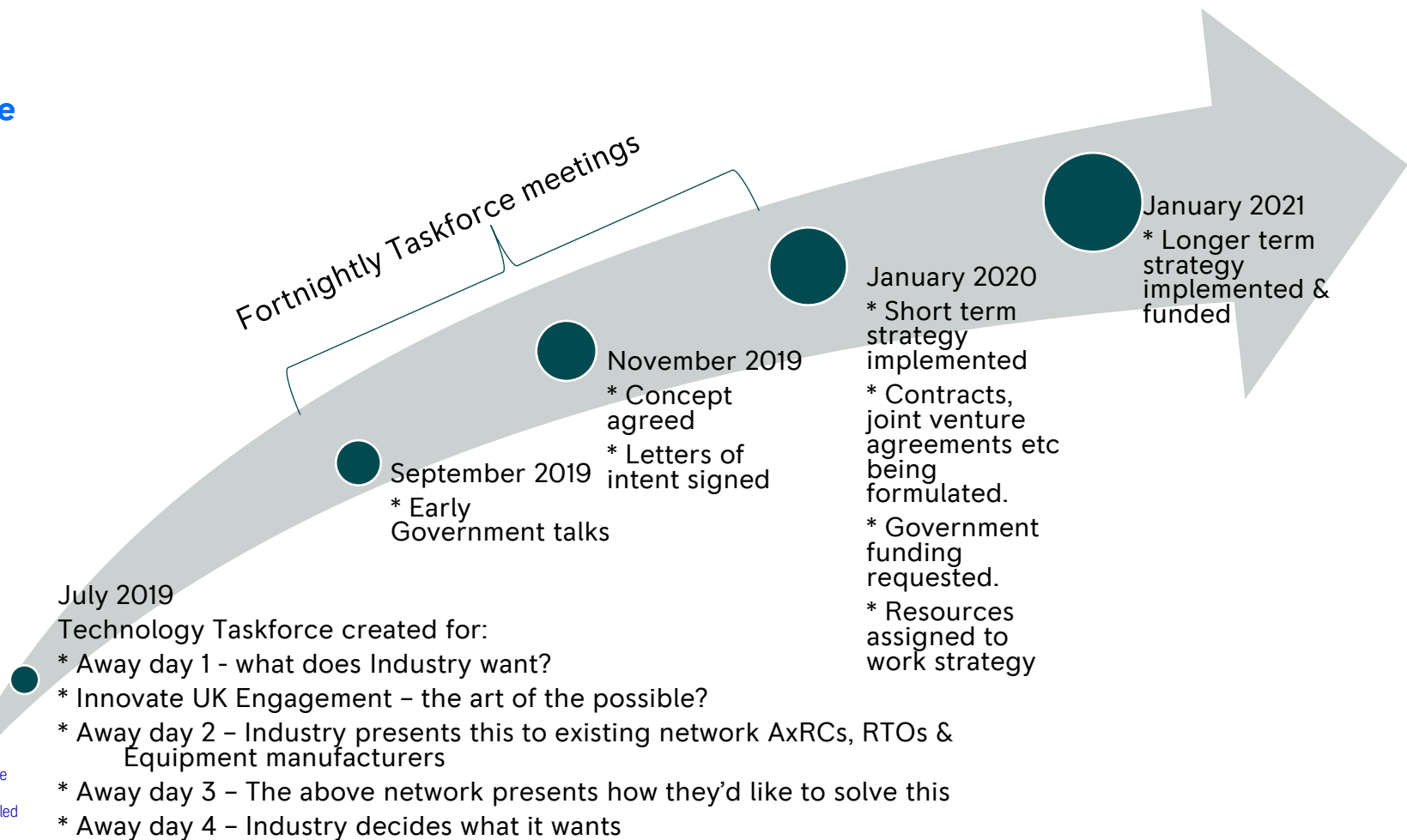


## Scenarios

Map a list of options & preferences in a scoring matrix to help select way(s) forward.....?

Taskforce of industrial companies decide.

## Timeline





## Conclusions

- TRL 6+ developments too slow, costly and under resourced

So.....

- KTN Report Update?
- We need the Leadership Forum to gain Government support
- We need a Technology Taskforce
- Taskforce should look at an interim strategy v. long term strategy



## Further information?

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