



NUCLEAR AMRC

ADVANCED MANUFACTURING RESEARCH CENTRE

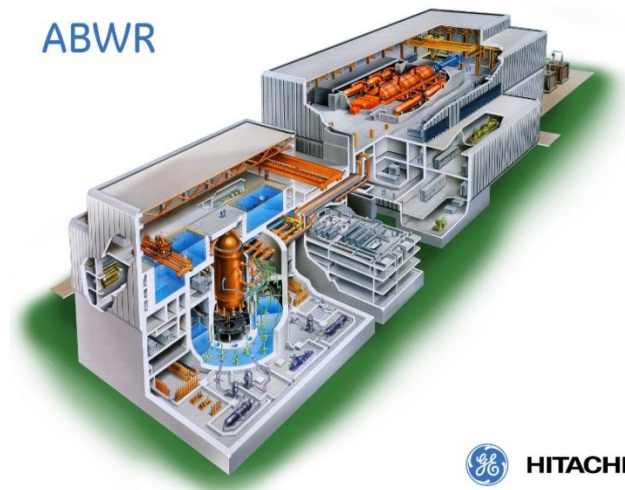
Fit for Nuclear

Paul Bunting

UK Imperatives Civil Nuclear

Diverse Technology

ABWR



UK Imperatives Civil Nuclear

Economic Strike Price



UK Imperatives Civil Nuclear

Develop UK Advanced Manufacturing Capability and Capacity



UK Imperatives Civil Nuclear

Creating long term, high value jobs



Nuclear AMRC Purpose

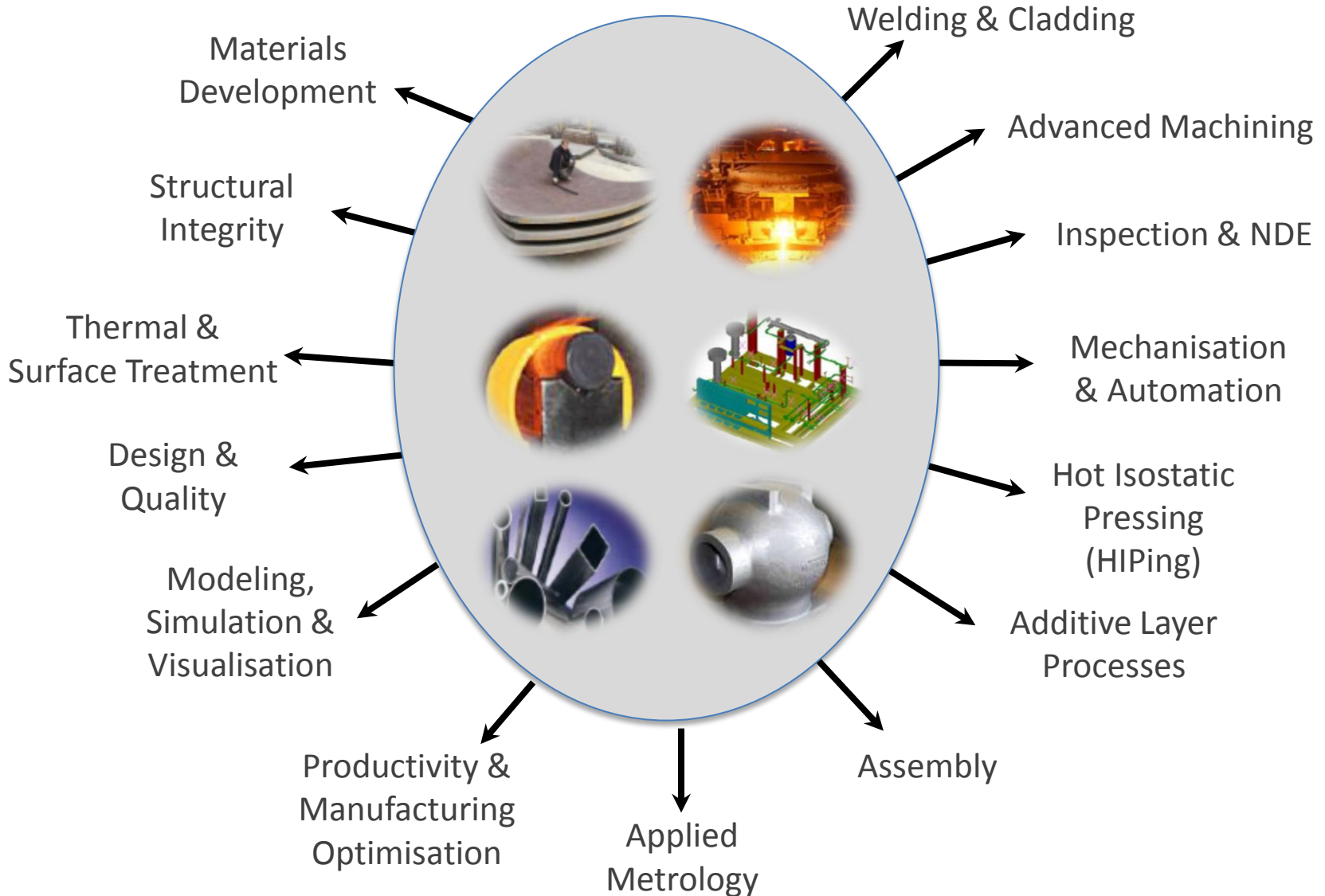
To help UK manufacturers win work



Nuclear AMRC Key Objectives

- To raise the **quality, capability and cost-competitiveness** of the UK civil nuclear manufacturing supply chain, to a level of “best global practice”
- To work with UK Manufacturers and develop **world-leading manufacturing processes and technologies**

Nuclear AMRC Technology Themes



Industry-led Partnership:

CATAPULT
High Value Manufacturing



Rolls-Royce



SHEFFIELD FORGEMASTERS INTERNATIONAL



TATA STEEL



edgecam



Newburgh

NIKKEN

OUTO KUMPU

POLYSOUDE THE ART OF WELDING

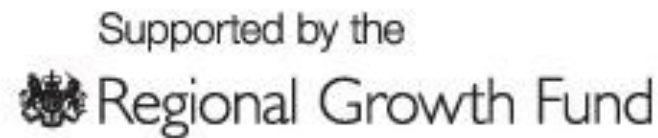


January 2014

NUCLEAR AMRC

Key Support:

The Nuclear AMRC is supported by:



We Operate in the UK Civil Nuclear Market Place



Nuclear New Build



Nuclear Decommissioning



Existing Nuclear Fleet

Nuclear AMRC Work Programmes

Supplier Development Programme

- Getting companies to market, and developing their capability and cost-competitiveness

Innovative Manufacturing Programme

- Ensuring capability to compete on cost, quality and time to delivery

Supplier Development

Civil Nuclear Sharing in Growth

- £38m over 4 years (RGF)
- £18m for supplier development / £20m R&D activities
- Upto 15 companies
- Tranche 1 (5 companies): selected and work commenced
- Tranche 2 (5 companies): selected and work commenced
- Tranche 3 (5 companies): currently under review

Fit for Nuclear (F4N)

- Proposed £2m to £3m over next 12 months
- Approx 250 companies
- 130 firms assessed to date

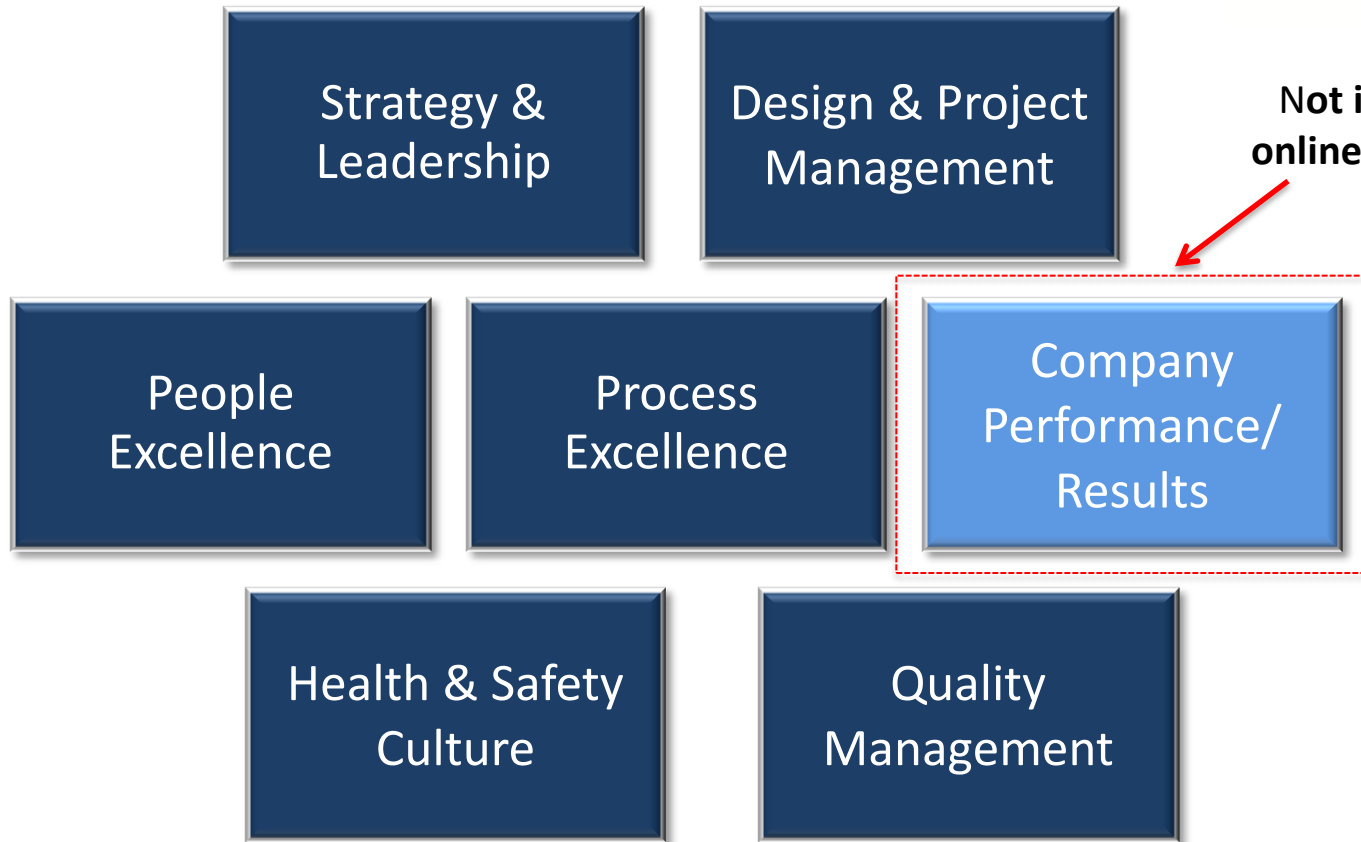
Fit For Nuclear



- **F4N's goal:** To align UK companies in a timely manner to be ready to address Nuclear Manufacturing requirements
- **It is:** A **pre-filter** and *match-fit* readiness programme for the UK Manufacturing Supply Chain - new or existing
- Initially assessed on business excellence, product fit, potential
- Enhanced programme currently under development



Assessment Areas



Not included in
online assessment

6 major Assessment areas + Company Performance / Results



Supplier Engagement

Suppliers
Own
View



**Online Self
Assessment**

- Through Nuclear AMRC website

Reviewed

- <60% referred to MAS
- Product fit reviewed
- Questionnaire for more information

Independent
Assessors
Report



**Site
Assessment**

- Full day visit from Nuclear AMRC
- Assessment criteria match those of online

**Peer
Review**

- Full F4N team
- Look through all evidence
- Detailed questionnaire

SQEP
Overview



**Nuclear
Visit**

- Experienced Nuclear AMRC
- Detailed look into product fit
- Action Plan

**Potential
Supplier
Identified**



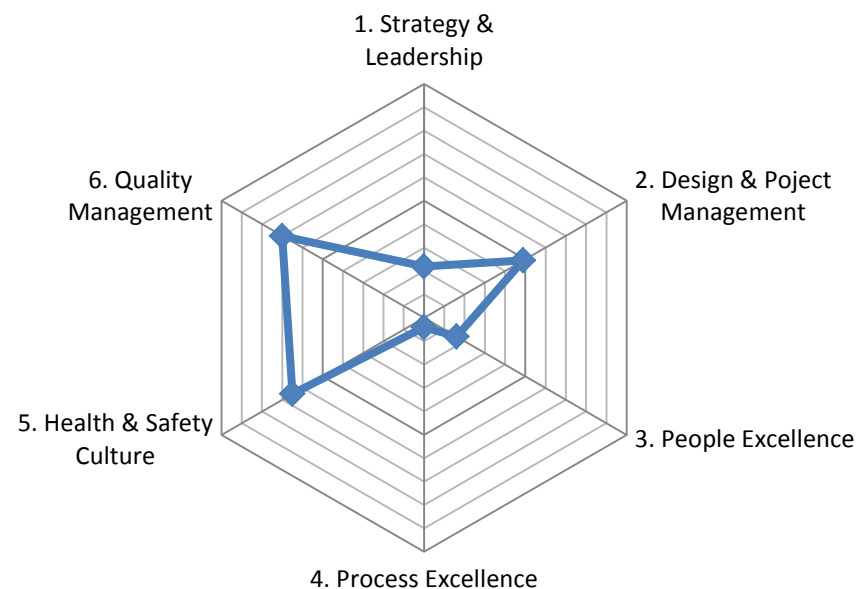
Fit for Nuclear Implementation

- Web-based, available now at: <http://namrc.co.uk/work-with-us/f4n/>
- Automated feedback of assessment to companies via email
- 4 Levels of Performance in each Assessment Area

Company A 77%



Company B 38%



Statistics: Summary

UK Summary							
Strategy	Design	People	Process	H&S	Quality		Overall
Green	Green	Yellow	Red	Green	Green	White	Yellow

UK Summary - Focused							
Strategy	Design	People	Process	H&S	Quality		Overall
Green	Green	Yellow	Red	Green	Green	White	Light Green



Statistics: Summary

People & Process Excellence

PEOPLE EXCELLENCE

Employee Commitment	Employee objectives	Employee accountability	Employee culture	Employee development	Employee records	Skills & competence	Ideas & suggestions	Communication	Change empowerment
Red	Red	Red	Red	Yellow	Green	Yellow	Red	Yellow	Red

PROCESS EXCELLENCE

Manufacturing strategy	Value Stream Management	Performance measurement	Process improvement training	5s Workplace organisation	Standard work methods	Planned maintenance	Communications	Supply chain management	Environmental management
Yellow	Red	Red	Red	Red	Red	Yellow	Yellow	Green	Green



Findings / Concerns – 'Quality'



- Airborne Contamination
- Cleanliness Controls
- Skills – re process adherence
- Absolute following of welding processes
- Traceability back to raw material



General Issues & Comments

- **Experience in RCC-M may be a tender requirement**
 - Demonstrate potential capability aligned with the relevant timescales
- **Clarity on requirements is needed – EPR, ABWR, AP1000**
 - Be proactive - engage with potential customers
- **High tiers educating lower tiers**
 - Guide and support lower tiers in:-
 - Quality Arrangements
 - Technical Requirements
 - H&S requirements



General Issues & Comments

- **Quality Management v Technical Requirements**
 - Understand the basic requirements framework
- **Identify specific training requirements**
 - Seek support for identified needs (eg through NSAN)
- **Variation in quality arrangements required across different new build reactors / decommissioning work / existing fleet contracts**
 - Higher tiers – consolidate requirements where possible across differing reactor designs and sub-sectors (single quality requirements doc)
- **Cascaded but also overlaid requirements down supply chain**
 - Higher tiers – only pass on the necessary requirements
 - Lower tiers – question the requirements



Thank you

<http://namrc.co.uk/work-with-us/f4n>



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