James Fisher
Nuclear

Trials training and simulation

What we do

James Fisher Nuclear (JFN) has extensive rig hall facilities with a wide and an enviable track record in practical research and development, operational trials and training and, simulation of hazardous environments.

Whilst desk-based studies and modelling give a useful insight to the general approach, the practical demonstration of a concept, validation of the methodology and final testing of a completed approach have proven to de-risk projects and prevent failure of a system in a hostile environment. If a modification is required, JFN has the skills and resources for these to be rapidly implemented and tested with minimal impact on the programme. This approach, developed in the extensive rig hall facilities owned by JFN is supported by an experienced multi-disciplined staff with years of practical experience and a track record of success. It is particularly pertinent for moving projects from a Technology Readiness level (TRL) of above 3 (validated proof of concept) to TRL8 (System complete and qualified through test and demonstration) and demonstrating that equipment developed and designed for other industries has been successfully adapted for use in a nuclear environment.

Examples of this type of trial and development have covered many different types of technologies and subject areas including:

- Waste management and sorting technologies, involving life size plant mock-ups.
- Remote size reduction tooling, from hydraulic shears, water jet cutting, and 1MW oxy-propane cutting torches.
- Mechanical handling systems, most recently the ModuMan 100 manipulator
- Remotely operated vehicles (ROVs), including Brokks, submersible ROVs and bespoke task specific platforms.
- Constructing simulated environments and realistic mock-ups of the task in hand, often incorporating the equipment to be deployed. The rigs are then used to train operators and carry out rehearsals of challenging tasks in a benign environment prior to the work being carried out in a hostile environment.
- Use of virtual environments and computer aided simulations to practise ROV piloting and system deployment.
- Training operators to work in air-fed suits in a C5 environment. The air-fed suit training facility allows operators to practice decommissioning operations including hot cutting whilst working in a realistic mock-up of a plant.

Whilst rig hall and supporting office areas can be hired on a space-only basis, most customers recognise the added value in using the extensive support services offered.

- **Design Services**
  JFN has an extensive design capability across all mechanical and CE&I disciplines. If required, JFN can design to IEC 61508 or EG90.

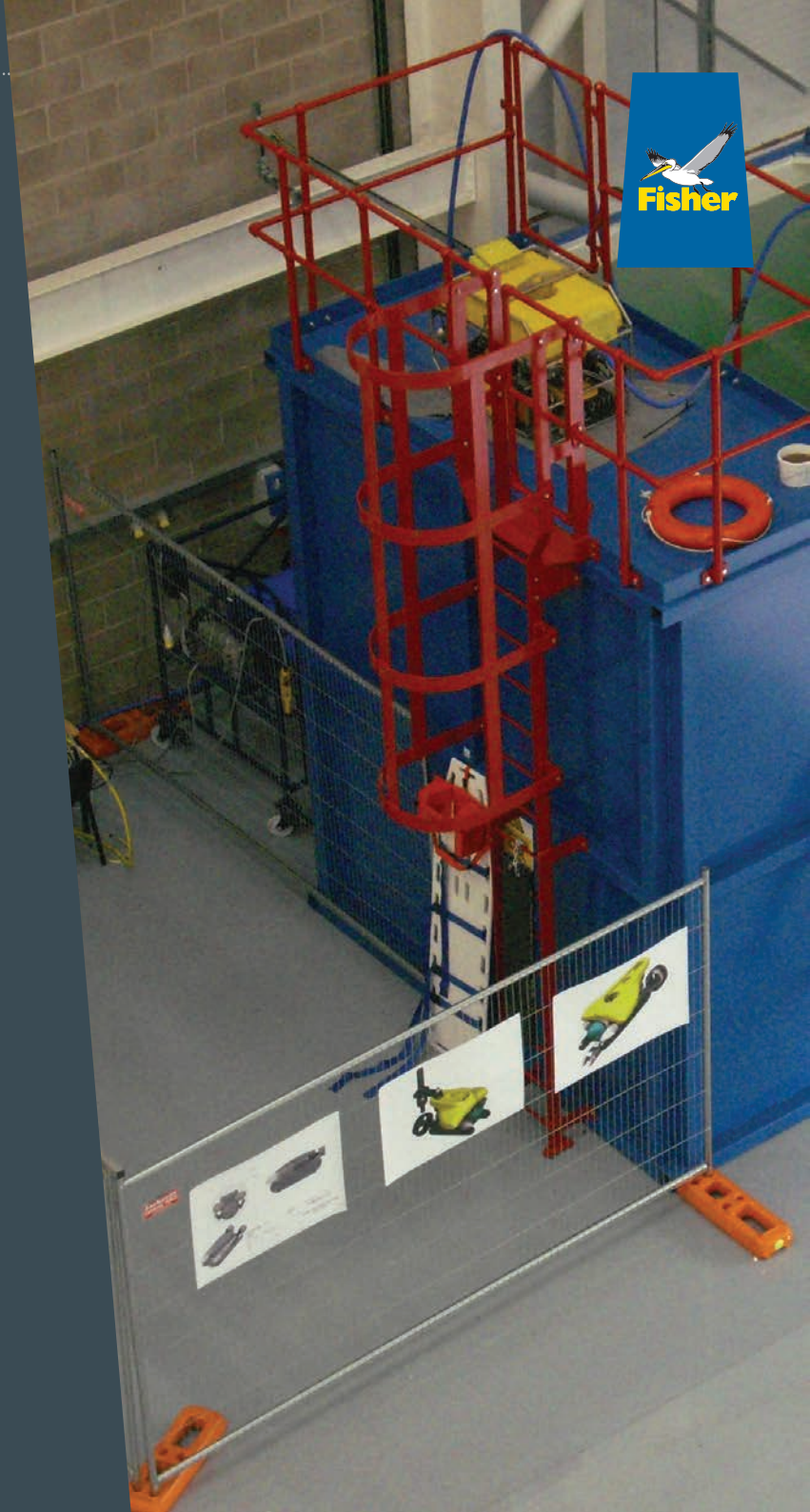
- **Project Management**
  JFN has a team of APMP trained and qualified project managers to ensure projects remain on track to deliver to time and cost.

- **R&D**
  JFN has undertaken development projects for clients alone and in conjunction with universities.

- **Operational Support Services**
  JFN has mechanical and electrical workshops for small-scale fabrication, assembly and on-site support, as well as fork-lift truck drivers, crane operators, mechanical, electrical and CE&I technicians.

- **Manufacture**
  In-house CNC manufacture at Malton, North Yorkshire.

- **Procurement**
  To supplement in-house resources, JFN has established a local supply chain for the responsive provision of fabrication and manufacturing services, as well as additional plant, scaffolding and other engineering materials and supplies.



RIG HALLS

Unit 7 Test facility

- Location: Situated on the southern outskirts of Egremont on the A595, 15 miles south of the port of Workington and 6 miles north of the Sellafield site with easy access to the A66, 15 miles to the north
- Test Facility: 265m^2
- Test Facility internal height: 8.8m (to inside of ridge)
- Floor Load Bearing Capacity: 20 kNm^{-2}
- Electric overhead travelling crane
  – Lifting Capability: 10 Tonne
  – Hook height: 6.4m
- Access: 1 x Roller Shutter Door 4m wide x 5m high
- Services: 110V, 240V, 415V, Compressed Air, Mains Water
- Additional Plant: 2T Fork Lift Truck
- Technical Support: Mechanical, EC+I, Safety Related Systems, Safety Management, 3D Modelling
- Workstations: 24
- Meeting/Training Facilities:
- Meeting room 1 - 12 people supported with video link
- Workshop Facilities: Mechanical and Electrical workshop

RIG HALLS

Unit 10 Test facility

- Location: Adjacent to unit 14
- Test Facility: 280m^2
- Test Facility internal height: 5.5m
- Floor Load Bearing Capacity: 25 kNm^{-2}
- Electric overhead travelling crane
- Lifting Capability: 5 Tonne
- Hook height: 3.8m
- Access: 1 x Roller Shutter Door 4.5m wide x 4.0m high
- Services: 110V, 240V, 415V, Mains Water (additional services can be provided on a project basis)
- Additional Plant: 2T Fork Lift Truck
- Technical Support: Mechanical, EC+I, Safety Related Systems, Safety Management
- Workshop Facilities:
  – Supported by the unit 7 facility (Mechanical and Electrical)
- Workstations: 11
- Meeting/Training Facilities: Meeting/Training room 1 – 10 people

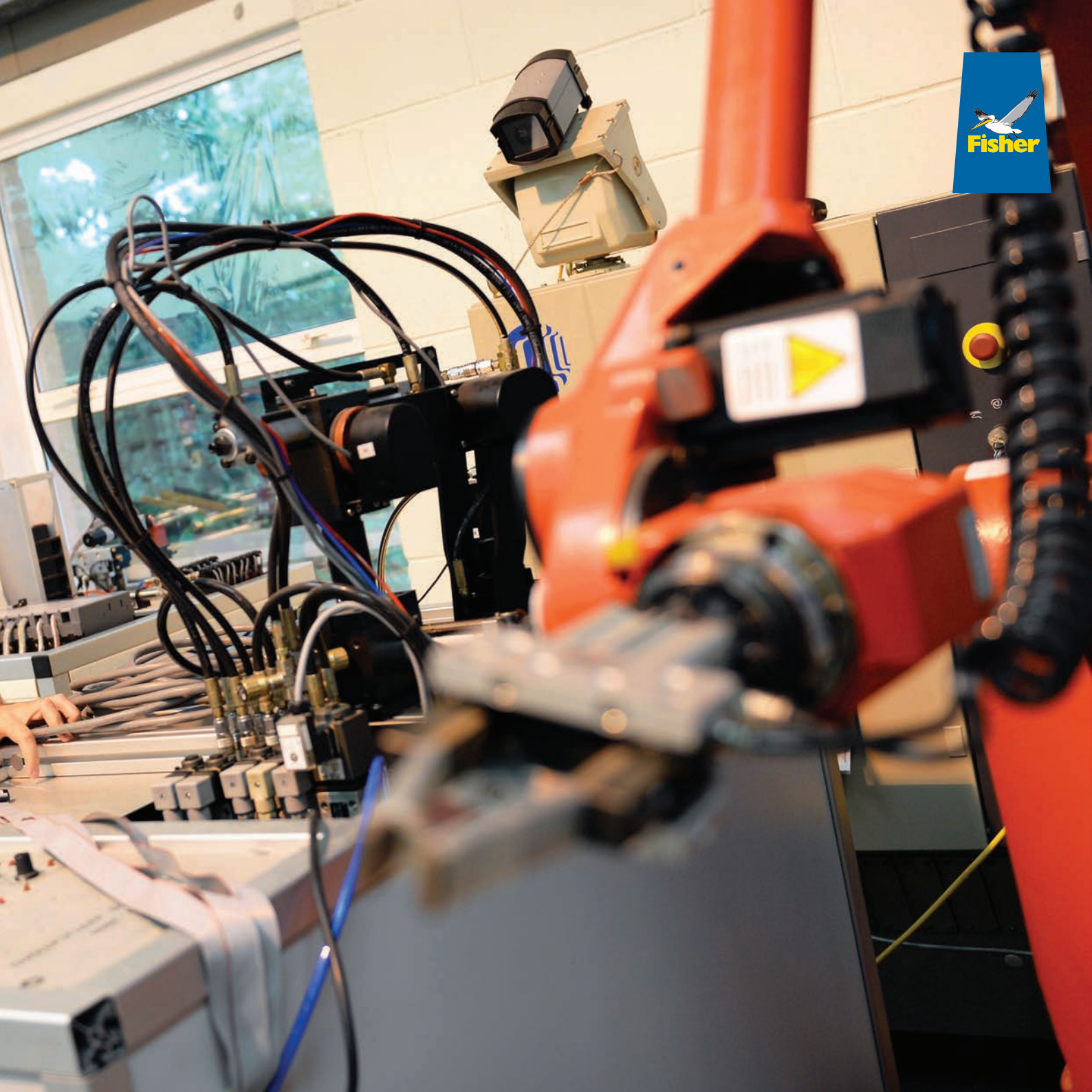
RIG HALLS

Unit 14 Test facility

- Location: 100m from Unit 7
- Test Facility: 900m^2
- Test Facility internal height: 20.0m (to inside of ridge)
- Floor Load Bearing Capacity: 60 kNm^{-2}
- Electric overhead travelling crane
  – Lifting Capability: 20 Tonne
  – Hook height: 15.7m
- Access: 2 x Roller Shutter Door 8.4m wide x 6.5m high
- Services: 110V, 240V, 415V, Mains Water (additional services can be provided on a project basis)
- Additional Plant: 2T Fork Lift Truck
- Technical Support: Mechanical, EC+I, Safety Related Systems, Safety Management
- Workshop facilities: Supported by the unit 7 facility (Mechanical and Electrical)
- Workstations: 48
- Meeting Facilities:
  – Meeting/Training room 1 – 12 people
  – Meeting room 2 – 6 people
  – Meeting room 3 – 6 people


Fisher
ER JET
NG TOOL
ONTROL PANEL
LAMP
TEST


jf nuclear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