Today’s presentation

• Provide a brief overview of LTi Metaltech
• Outline core skills & capabilities
• Showcase work with Siemens
• Future growth and opportunities
The LTi Group of Companies

- Medium-sized European manufacturing enterprise
- Founded in 1969 by Klaus Isaak (Managing Director)
- Headquarters in Germany
- Approx 625 employees
- Annual turnover €150 million
- Plants in 5 locations
The LTi Group of Companies

- LTi Metalltechnik GmbH
  - Berlichingen
  - Bobstadt
  - Windischbuch

- LTi Metalltechnik Pößneck GmbH
  - Thuringia
  - Founded in 2003

- LTi Metaltech Ltd (Abingdon, UK)
  - Founded in 2005
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LTi Metaltech

- Began trading in 2005
- Formerly part of Siemens MR Magnet Technology
- Employ 90+ staff across 3 shifts
- 45,000 ft² facility at Milton Park
Core competency

LTi specialises in the design and fabrication of high integrity pressure vessels for use in demanding applications and environments.
MRI Scanners
Design & specification

• Stainless steel
• 475kg approx in weight
• Industrial scale
• Tolerance +/- 1mm nom
• Manufactured to strict quality standards
Approx 3,000 Pressure Vessels p.a.
CAPABILITIES | Design for Manufacture
Design for Manufacture

- Investment in latest software: AutoCad and SolidWorks
- Use of Finite Element Analysis (FEA) to qualify designs
- Knowledge of international legislation and related codes of best practice

- Specialise in taking ‘proof-of-principle’ prototype designs and optimising these for volume manufacture
Advanced Welding

- Employ largest group of coded welders in South East of England
- Working to AD2000 Merkblatt and PD 5500 standards
- Use latest processes and technology:
  - MIG welding
  - TIG welding
  - Plasma welding
  - Automated welding
CAPABILITIES | Precision Fabrication
Precision Fabrication

• Investment in latest technology and equipment, including:
  - CNC Rolling
  - CNC Plasma cutting
  - Water-jet cutting
  - Automated keyhole plasma, seam welding facility
CAPABILITIES | Non Destructive and Destructive Testing
Testing

- X-ray evaluation of welded joints
- Dye penetrant testing
- Helium / vacuum leak testing
- Visual weld examination
- Dimensional evaluation
- Functional testing
- Finite Element Analysis (FEA)
Relationship with Siemens

- LTi spun-out from Siemens Magnet Technology in 2005
- Siemens remains our primary customer
- Approx 15,000 pressure vessels manufactured since 2005
- Responsible for helping Siemens to deliver performance improvements required by next gen MRI scanners
Next gen MRI

- Smaller
- Lighter
- Reduced cost
- Reduced materials use
- **BUT!**
- Improved performance
Meeting the challenge

1. **Innovative fabrication techniques**: explored use of thinner, lighter materials without compromising vessel integrity

2. **Advanced technology**: use of thinner material allowed alternative welding and fabrication technologies to be explored e.g. keyhole plasma

3. **Global supply chain**: actively explored opportunities in emerging markets to achieve maximum competitive advantage

4. **The Welding Institute (TWI)**: Industrial membership allowed us to tap into latest technology and processes
End result

- 20% reduction in weight
End result

• 20% reduction in weight
• 17% reduction in cost
• Improved performance
• £¾ million investment in new water-jet facility & factory extension
CAPABILITIES | Water-jet facility
Where next?

• Continuing to work with Siemens to drive down the use of exotic/high grade materials

• Looking to develop new markets/applications within the Cryogenics sector e.g. bio-storage, cryogenic energy storage, hydrogen fuel tanks etc.

• Also looking at applying our specialist knowledge and expertise to the UK nuclear sector – new build and decommissioning
Find out more

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