



Growth & Innovation Forum 2020  
11 February 2020  
Peter Davenport, Finance Director  
Dr. Yuri Zhuk, Technical Director



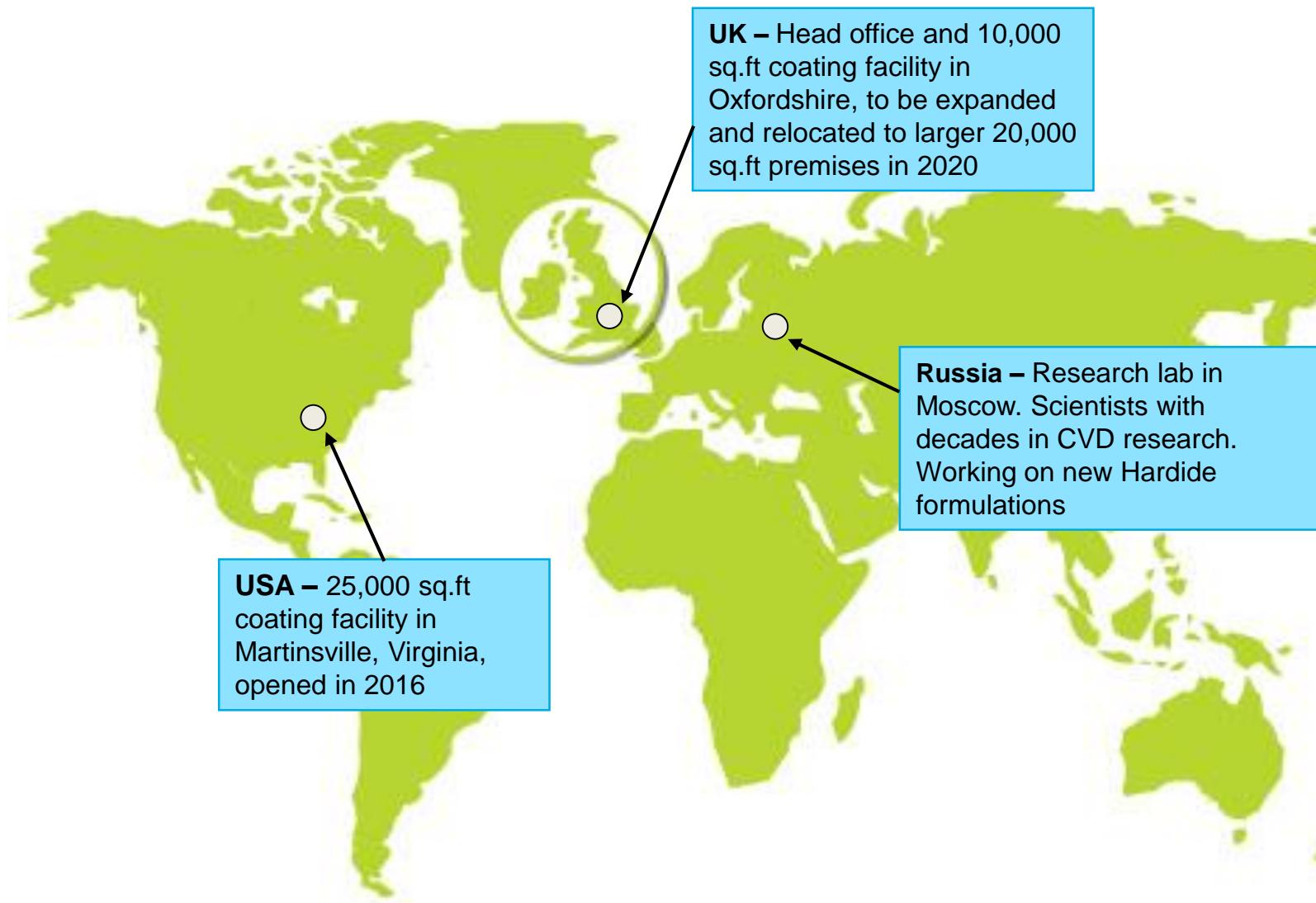
- **developed and commercialised patented CVD tungsten carbide nano-structured coating** with a unique combination of properties;
- **the coating does what others can't:** coating complex shapes, both inside and outside and non-line of sight areas;
- **provides B2B coating service** from sites in Bicester, UK and Virginia, USA;
- **customers and developments:** all major oil service companies, GE, Airbus, BAE Systems, Leonardo Helicopters, EDF Energy;
- **listed on LSE AIM;**

# Hardide™ Coating Technology



- Coating is crystallised atom-by-atom from gases by Chemical Vapour Deposition (CVD);
- 250x greater wear resistance than steel;
- Protects against corrosion, acids and sour oil  $H_2S$ ;
- Coated parts last 3x to 100x times longer;
- Hardide enables high-value manufacturers make globally competitive products, differentiated in terms of quality, performance and life-cycle costs.

# Hardide group facilities



# Key markets



## Oil & Gas

- Used by leading oil & gas service providers – downhole, well stimulation and subsea applications

## Flow Control

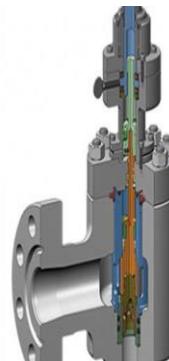
- Severe service pumps & valves for demanding environments

## Precision Engineering

- Power generation, plastics extrusion, baggage X-ray machines, silicon wafer production

## Aerospace

- BAE and Airbus approved, Leonardo approval in progress, multiple applications with other global aero players



# Next target market: Power generation



- Huge market size
- Hardide coating protects turbine blades against erosion, improving generation efficiency, cutting CO<sub>2</sub> emissions per kWt\*Hour
- Testing programs well-advanced with EDF and several leading turbine producers
- UK patent granted, international patenting in progress



# The market



The UK's engineering coatings industry is worth over £11bn pa and affects products worth £140bn.<sup>1</sup> Among these the traditional coatings which Hardide can potentially replace had the following values in 2010<sup>1</sup>:

	<b>The UK market values in 2010</b>	<b>AGR %</b>
PVD & CVD coatings	£57M	4.6%
Hard Facing/Thermal Spraying	£267M	4.0%
Electroplating (incl HCP)	£3,015M	5.6%
<b>TOTAL:</b>	<b>£3.34 Billion per year</b>	

The UK GDP is 4.3% of world's, the estimated global market is 10x bigger.

<sup>1</sup> Source: SEA report "The UK Surface Engineering Industry 2010" by R J Artley and A Matthews.

# Business development

## Airbus

- Positive progress. Selected for two A380 and A330 wing parts, multiple further components at final stage before production

## Leonardo Helicopters

- Positive progress. Final stages before part approval on transmission system

## Other Aerospace

- New interest from US aerospace companies - trials with Triumph Aerospace and others

## Oil & Gas

- Two new major supply contracts in place
- Strong pipeline of further applications

## Flow Control

- Additional high volume components from the major pump customer gave 90% increase in the sector turnover

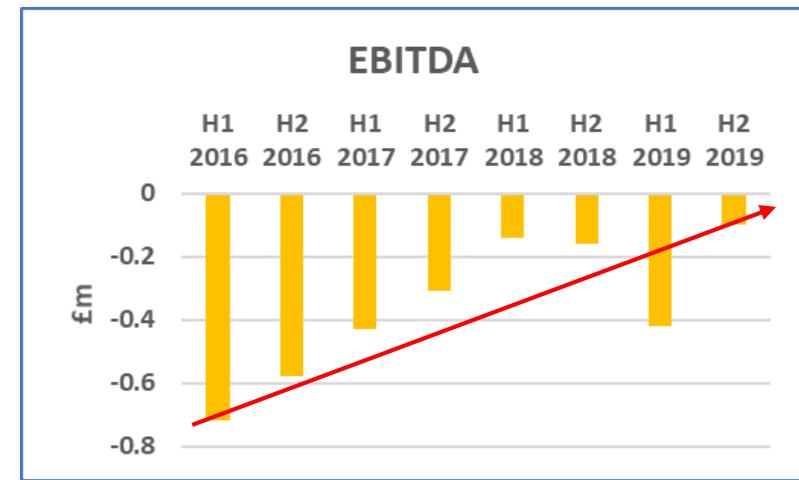
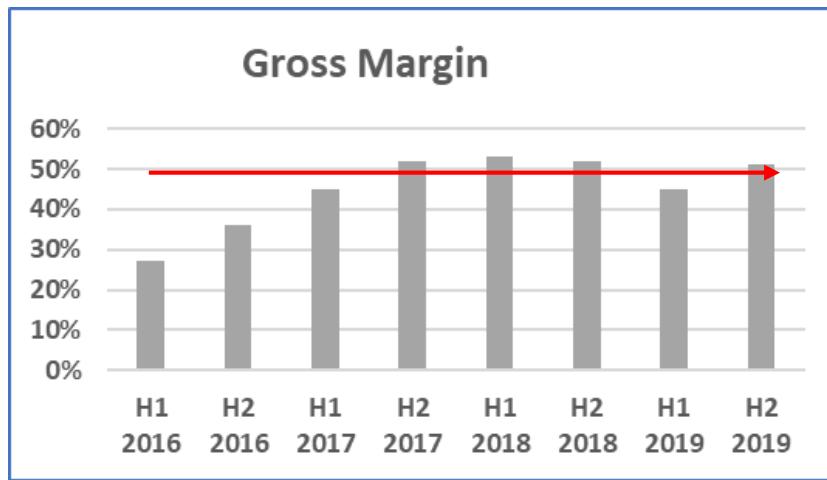
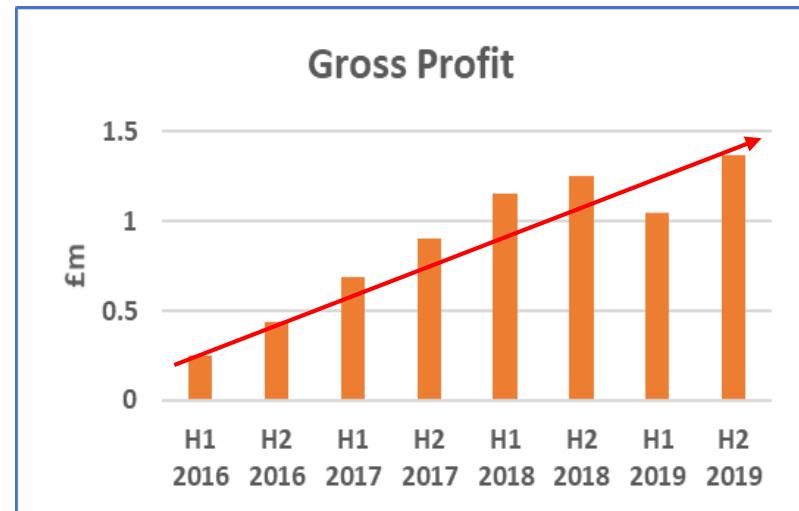
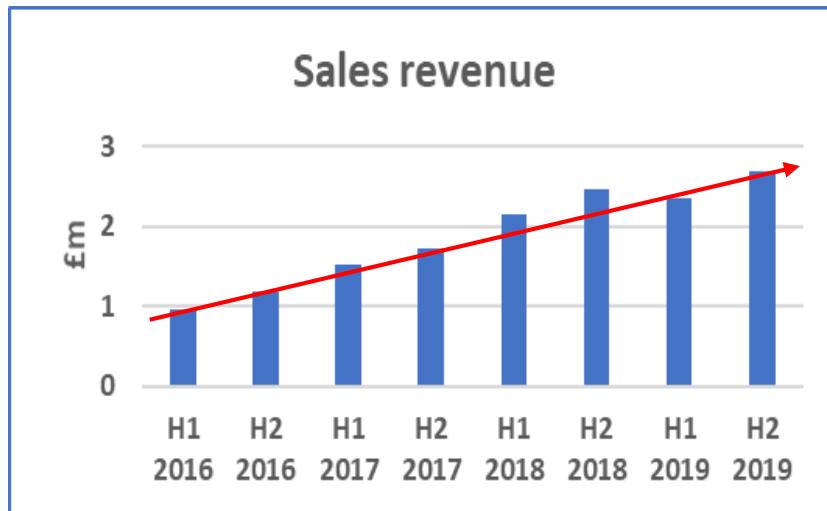
## Precision Engineering

- Continuing demand for x-ray baggage screening machine parts
- Power generation turbine blade opportunities

## North America

- Second US business development manager recruited in 2018
- Now 65% of Group turnover

# Financial Trends



EBITDA for H2 2019 excludes costs associated with the new site

# Year on Year comparison

Sales grew strongly over the past four years (33% per year) but gross profit grew significantly faster (52% per year) and fixed costs (production overheads + admin costs) grew at only 15% per year.

£m	2015/16	2016/17	2017/18	2018/19	CAGR
Sales	2.14	3.24	4.61	5.05	33%
Variable Margin %	67%	75%	73%	70%	
Fixed costs of sales	0.75	0.85	0.97	1.12	14%
Gross Profit	0.69	1.58	2.41	2.42	52%
Gross Profit %	32%	49%	52%	48%	
Overheads	1.99	2.33	2.71	3.04	15%
EBITDA	-1.31	-0.74	-0.3	-0.62	
'Fixed' costs	-2.74	-3.18	-3.68	-4.16	15%

# Investment proposition



- ❖ **A unique coating technology that fills a major gap in the range of competitors' coatings:-**

- coats uniformly where others cannot:
  - complex shapes
  - internal as well as external surfaces
- Coating facilities in UK and USA
- Enables blue-chip engineering companies make globally competitive products

- Strong revenue growth
- Strong balance sheet
- Large market size
- Solid position in oil & gas sector
- Breaking into aerospace markets with Airbus, Leonardo Helicopters and others
- Power generation turbine blade market opportunities are huge
- Relocating to new, larger premises with new production equipment for future growth

**Recent oversubscribed fundraising ensures we continue to invest in business development and production facilities**

**Thank you for listening !**  
**Meet us at Stand 18**

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