

Welcome to Renishaw

Investor Day

11th May 2017



Housekeeping

- Health and Safety
- Mobile phones
- Q&A sessions – mics etc – folding tables
- Lunch and tour/demonstration arrangements
- Bristol Parkway coach – outside front entrance at 15.45 prompt

Agenda

10.15	Welcome/Trading update	Sir David McMurtry
10.20	Strategy overview	Will Lee
10.50	Motion control	Steve Oakes, Janez Novak
11.35	Q&A	Renishaw Board
12.05	Lunch	
12.50	Industrial Metrology	Paul Maxted
13.20	Product demonstrations	
15.15	Q&A	Renishaw Board
15.45	Close	

Welcome & trading update

Sir David McMurtry

Chairman and Chief Executive
Renishaw plc

Trading update – for the 9 months to 31st March 2017

- Cumulative revenue for the first nine months was £382.2m which was 24% up on the previous year's figure of £308.1m
- There was underlying growth of 13.5% with a 10.5% benefit from currency
- We achieved cumulative profit before tax of £69.3m which was 37.5% up on a restated* figure of £50.4m for the previous year
- We have a strong balance sheet with cash of £53.6m at end of March 2017 which includes pension fund escrow account of £15.4m
- We now anticipate revenue for the full year to be in the range £520m to £535m and profit before tax to be in the range £99m to £108m
- We continue to manage our cost base and evaluate investment in new business areas, which we will cover during the day

* Previous year figures have been restated for the following:

1. The results of Renishaw Diagnostics have been excluded, as this business has been reclassified as a discontinued activity.
2. The R&D tax credit, previously accounted for within the Income tax expense line has been reclassified to be part of administration expenses, thereby showing it as part of the profit before tax.

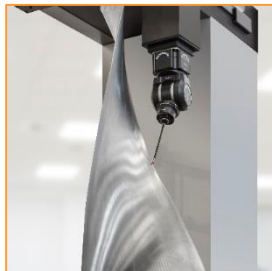
Strategy overview

Will Lee

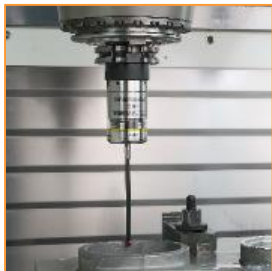
Group Sales and Marketing Director

Renishaw plc

Our expertise



CMM probes,
software and
retrofits



Machine tool
probes and
software



Automated
gauging
systems



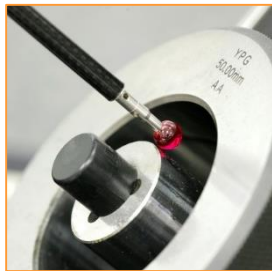
Machine
calibration and
optimisation



Additive
manufacturing



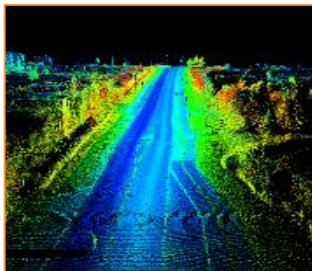
Position encoders



Styli for probes



Metrology
fixtures



Spatial laser
measurement



Neurological
products & therapies



Medical device &
dental products



Raman
spectroscopy

What underpins our strategy?



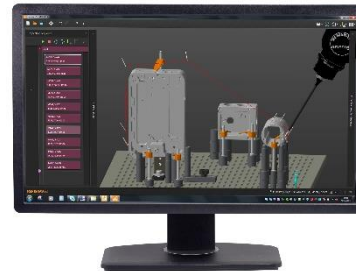
“Renishaw fundamentally believes that success comes from **patented and innovative products and processes**, high quality manufacturing, and the ability to provide local customer support in all its markets around the globe.”

Sir David McMurtry
Chairman & Chief Executive, Renishaw plc

Products strategy

- Market demands are creating the need for our next generation products.
- Increasing complexity and closer tolerances
 - Increase **capability**
 - Improve **measurement performance**
- Need to reduce costs
 - Increase **speed** of operation
- Address global skills shortages
 - **Easier to use** solutions

Average 15% annual spend on R&D
and engineering



New products

Increased capability / Measurement performance

REVO-2

- Improved version of the REVO multi-sensor 5-axis measuring head for CMMs
- Increased movement range and multi-sensor capability



SFP2 surface finish probe

- Surface finish measurement system for REVO-2
- Significant time savings for users as inspection can be carried out on the same machine, reducing part handling and floor space requirements.



REVO® vision measurement probe (RVP)

- Vision inspection system for REVO-2
- Allows parts with large numbers of holes to be measured that can't be accurately measured with contact probes or manual methods.



Demo
today

New products

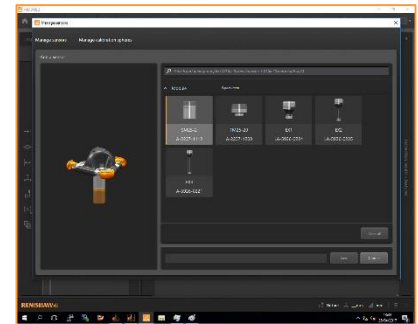
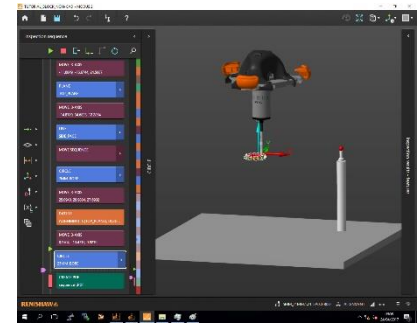
Ease of use

MODUS 2™

- Metrology software that supports Renishaw's 3 and 5-axis CMM sensor technologies, and now our Equator gauging systems
- Interface is simple to learn and faster to program, resulting in improved operational productivity



Demo
today



New products

Increased capability / Measurement performance

Intelligent Process Control (IPC) software for Equator gauge

- Allows Equator to be fully integrated into manufacturing processes, either connected to one or multiple machine tools, or within automated manufacturing cells
- IPC software provides the functionality to fully automate tool offset updates after parts have been machined and inspected



Demo today

New products

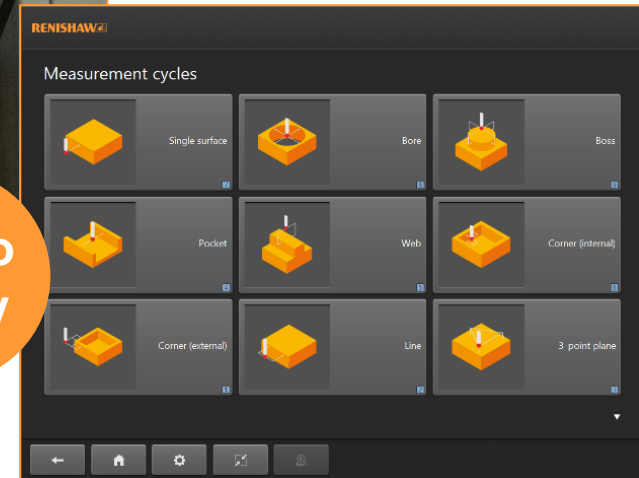
Ease of use

Set and Inspect

- Simple to use on-machine app that automatically generates code for probing
- Complements new range of touchscreen CNC controllers from major machine tool builders
- No user training or documentation required



Demo
today

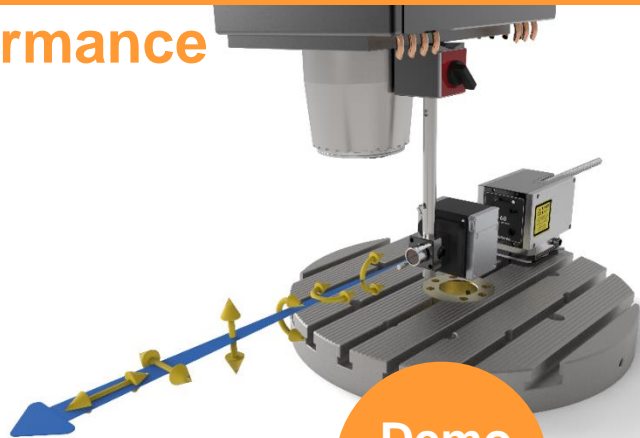
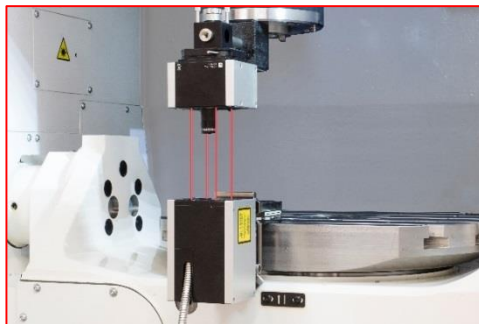


New products

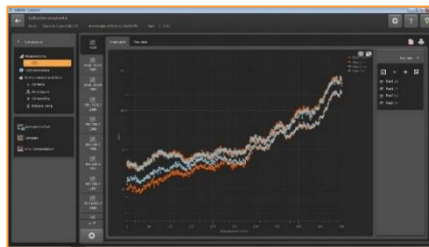
Increased capability / Measurement performance

XM-60 multi-axis calibrator

- Measures all of a machine's six degrees of freedom along a linear axis in a single set-up
- Significantly simpler and faster to use than other laser measurement techniques



Demo
today



New **CARTO 2.0** calibration software suite supports XM-60 for test set-up and data analysis

New products

Ease of use / measurement accuracy

VIONiC™ / VIONiCplus™

- Highly compact, ultra-high accuracy 'all-in-one' family of position encoders
- Combines interpolation and digital signal processing inside the readhead to eliminate the requirement for additional external interfaces



Demo
today

Presentation
today

Demo
today



Magnetic encoders

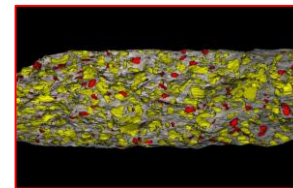
Latest complementary position encoder products from RLS, our Slovenian associate company

New products

Ease of use / speed

RA802 Pharmaceutical Analyser

- Compact benchtop Raman imaging system for the pharmaceutical industry
- Formulate tablets more efficiently by speeding up the analysis of tablet composition and structure.
- Uses LiveTrack™ focus-tracking technology allowing the analysis of samples with uneven, curved or rough surfaces at high speeds without sample preparation



Centrus CCD detector

- Engineered exclusively for high speed Raman analysis
- Outstanding performance, even at speeds of over 1800 spectra per second, giving dramatically reduced measurement times
- Available on inVia microscopes and RA802 Pharmaceutical Analyser

What underpins our strategy?

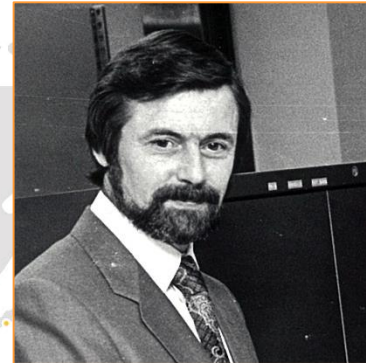


“Renishaw fundamentally believes that success comes from patented and innovative products and processes, high quality manufacturing, and the ability to **provide local customer support in all its markets around the globe.**”

Sir David McMurtry
Chairman & Chief Executive, Renishaw plc

Our culture: global reach

- Renishaw 'Born Global' with exports from first year
- John Deere established many initial subsidiaries with Allen Roberts
- Early identification of the need to be close to OEM customers & their customers:
 - support our products wherever customer machines end up
 - direct presence aids market education, drives sales and gains market intelligence



Our culture: global reach

Always invest ahead of sales e.g. China

- 1993, established subsidiary in HK
- 1994, Representative office in Beijing (sales in China c.£0.25m)
- To Date, Now 12 offices

China sales in FY 2015/2016 were £107.6m
(25% of total Group sales)



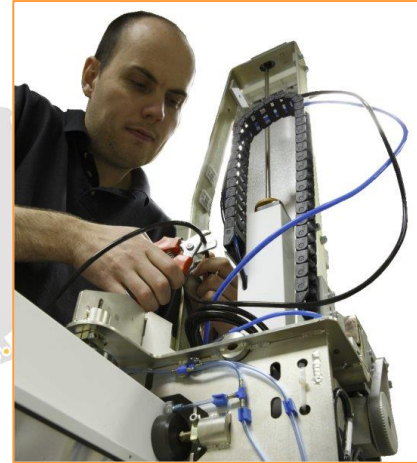
Renishaw (Hong Kong) Ltd



China HQ (Shanghai)

Our culture: global reach

- The role of our Subsidiaries is changing; more end-user focused:
 - Advanced technology requires direct involvement
 - Supplying systems rather than accessories
 - Adding value as technical partners
- More applications engineers required
 - Renishaw Academy is a global resource



**Presentation
today**

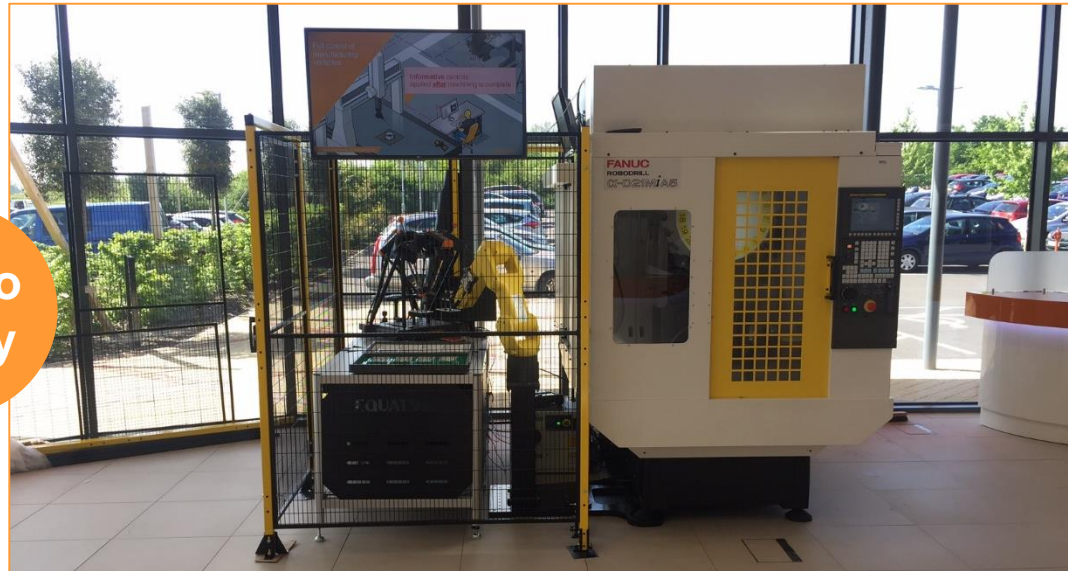


Integration of Renishaw technology

High productivity machining cell concept

The cell demonstrates how complementary Renishaw technologies can contribute, throughout the manufacturing process of a CNC machined part, to achieving high levels of productivity and manufacturing capability

Demo
today



Our culture: global reach

The changing role of subsidiaries e.g. USA



1981 - 1st office
Arlington Heights,
Illinois



2016 – new 133,000 sq ft build,
West Dundee, Illinois



Our culture: global reach

The changing role of subsidiaries



Renishaw Ibérica, S.A.U – new facility
in Gavà, near Barcelona



Renishaw (Taiwan) Inc – new office
in Taichung



New Additive Manufacturing Solutions Centres – India
(top) and Canada

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Our culture: people

Drive for innovation ingrained in experienced and new hires:



Larger Intake	
1 st	Hilti GB Ltd
2 nd	Siemens
3 rd	Renishaw
4 th	Babcock International Group
5 th	WSP Parsons Brinckerhoff
6 th	Jaguar Land Rover
7 th	MBDA
8 th	Thales

September 2009

1,850 employees

Today

4,400 employees (+2,550)

JobCrowd – Top graduate employers
in Manufacturing & Engineering
sector (2016)

Our culture: people

A holistic view of talent nurturing and development - from primary schools to apprenticeship & graduate schemes, and in-house Academy

Engage
Educate
Inspire
Attract
Develop

