



**World in motion...**

Reaching New Heights  
in Motion Technology

**FARADAY**  
MOTION CONTROLS

Welcome to the Faraday Motion Controls  
Presentation  
Presenting today

Andy Joslin, MD, Faraday Motion  
Controls Ltd.

# FARADAY

MOTION CONTROLS

- About Fifteen years ago Delta Tau UK became the DT Centre of Operations for all High Energy Physics applications around the world Purchased by Omron in 2016 and subject of Management Buy back in 2017.
- Our success is based on the integrated designs we manufacture based solely on customers requirements and specifications.
- All designs are unique to each facility in terms of connectivity.
- Simply put, we go

from this.....to this





## **Faraday Motion Controls formally Delta Tau UK:**

Founded in February 1998 Based in Clacton on Sea Essex in the United Kingdom. Senior personnel have been associated directly or indirectly with Delta Tau since 1983

### **Our Customers in the High Energy Physics Field:**

- Diamond Light Source
- AWE Orion Fusion Laser (similar to NIF at Lawrence Livermore Laboratory)
- JET Joint European Torus Experiment
- Brookhaven NSLS II
- Soleil France
- PSI Switzerland SwissFEL
- MAX IV
- Bessy Berlin
- Australian Light Source
- UK Astronomy Technology
- SALT
- Argonne Labs

### **Third Party Customers**

- IDT UK
- FMB-Oxford
- FMB-Berlin
- Cosylab
- Bestec
- Oxford Technologies
- UKAEA
- ADS International Italy
- KYMA s.r.l.
- Huber diffraktiontechnik
- Helmholtz Centrum
- Axilon AG.
- Research Instruments

## What do we control.

- Anything and everything from the insertion device to the target
- Any type of motor technology directly, Stepper, AC Servo, DC Brushed, Induction, Low inductance in-vac motors and Piezo\*, locally and distributed axes.
- EtherCAT Enabled.
- Digital and analogue I/O
  - 32 user inputs
  - 16 user outputs
  - 8 filtered PWM o/p
  - 8 16Bit ADC i/p
- 64 Background PLC's
- Foreground Motion

## Precision motion and machine control



## What do we control.

- Any type of feedback device.
  - Quadrature
  - Halls (60o e/120o e)
  - Kawasaki
  - Analog +/- 10VDC
  - LVDT / MLDT
  - EnDat 2.1/2.2
  - Mitsubishi
  - Panasonic
  - Yaskawa
  - Nikon-D
  - BiSS-B/C
  - Mitutoyo
  - Tamagawa
  - SSI
  - HiperFace
  - Sinusoidal
  - Resolver

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## Precision motion and machine control

One of the big storage ring sextupole magnets at Diamond Light Source.  
Image courtesy of Diamond Light Source

As a supplier of Motion Control equipment we would like to know what features will be needed in future.

Bricks



Integrated: CPU, IO, Amplifiers all in One

-IMS



Science: Integrated for High Axis Count and distributed axes

CK3E



Distributed: EtherCAT

PSU



Quad PSU supplies upto 4 -IMS units