MAPP

Manufacture using Advanced Powder Processes

EPSRC Future Manufacturing Hub

EPSRC

Engineering and Physical Sciences Research Council

Working with us

Dr Richard M France

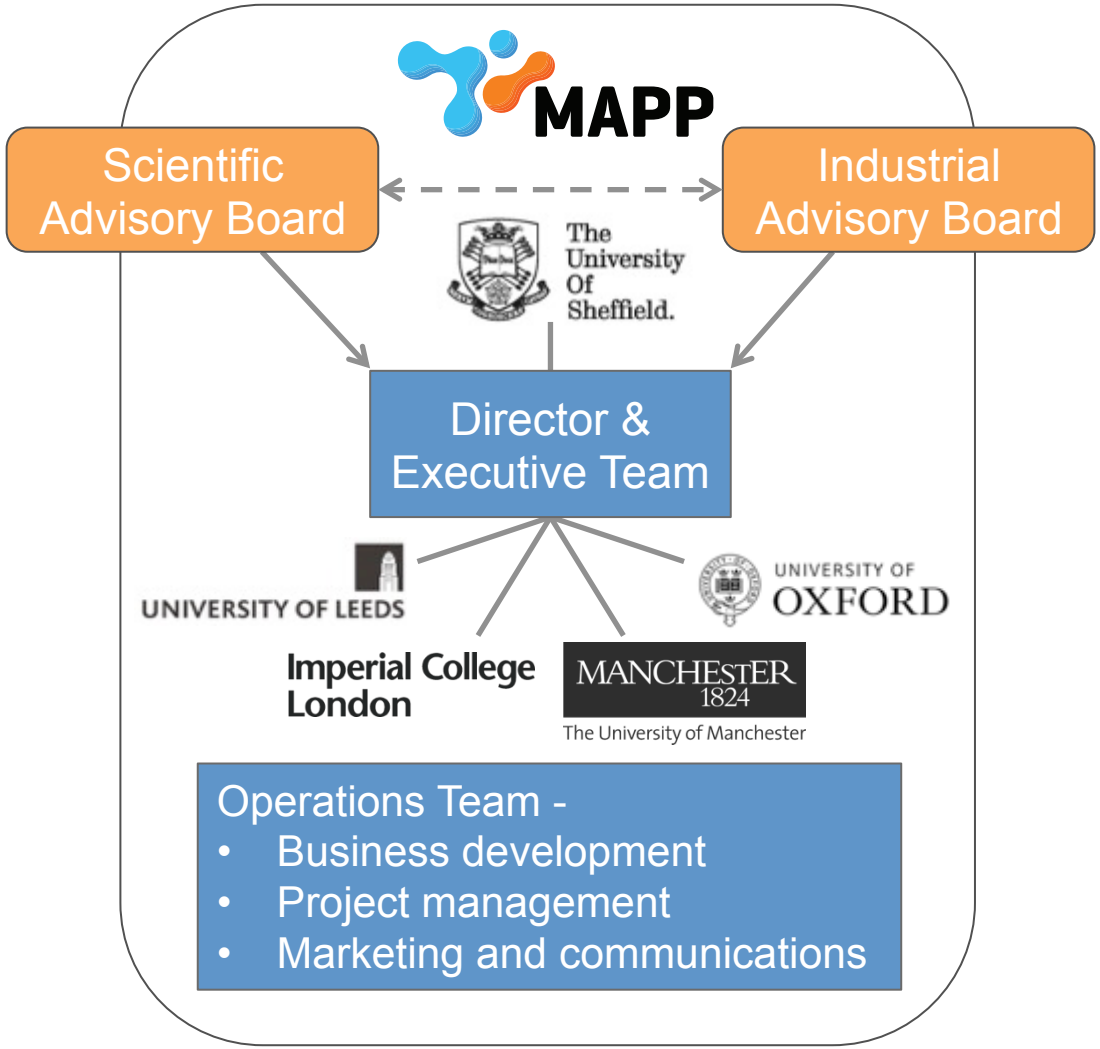
Senior Business Development Manager

The University Of Sheffield. Imperial College London NIVERSITY OF LEEDS MANCHESTER 1824 The University of Manchester UNIVERSITY OF OXFORD

Working with us

- Management and Governance
- Pathways to Impact
- Industry engagement activities
- National Landscape
- Academic outreach activities

Management & Governance



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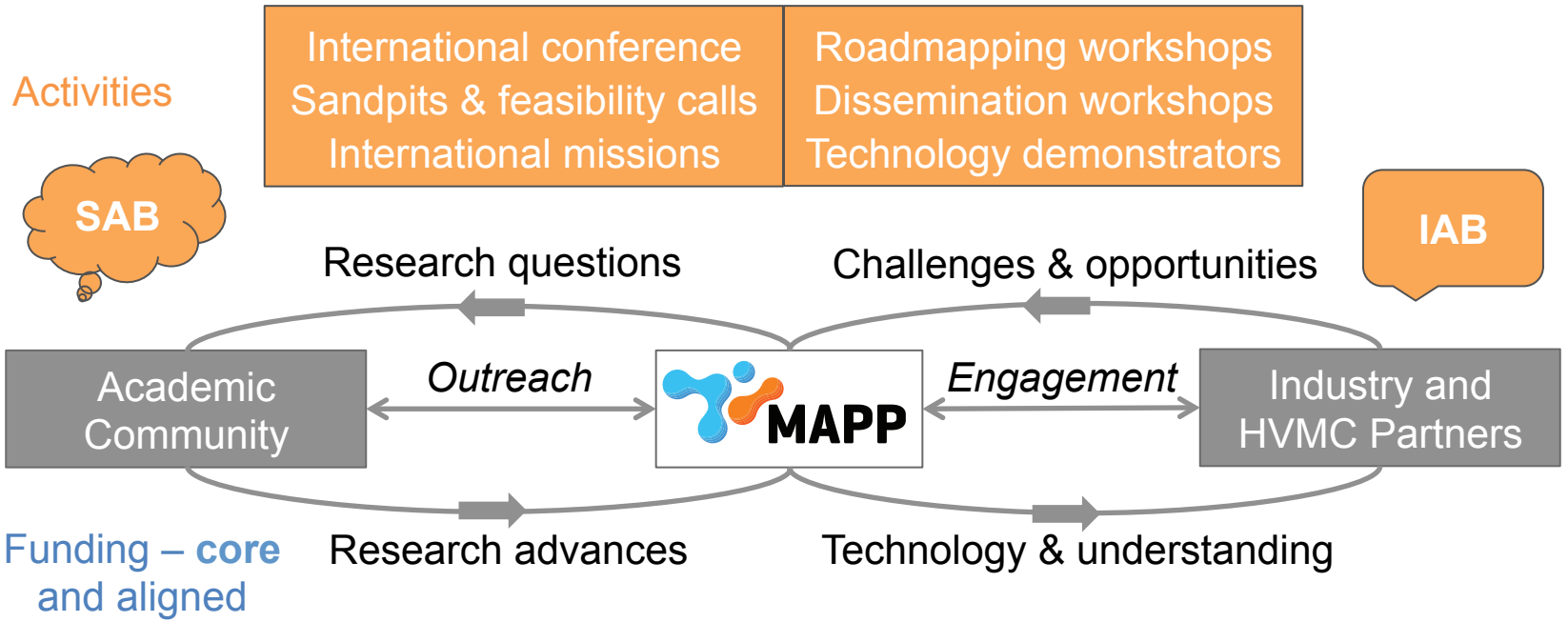
Pathways to Impact



MAPP

Industry engagement

- First Industrial Advisory Board meeting (31st Jan. 17)
- Second workshop with partners (Q1/Q2 2017)
  - Share research programme, develop R&D roadmap and projects
- Dissemination workshops
  - Showcase research and opportunities
  - Develop new partnerships
- Leverage funding opportunities
  - Innovate UK, ATI
  - Industrial Strategy Challenge Fund

RESEARCH PROGRAMME

CROSS CUTTING THEME 1
In -situ process

CROSS CUTTING THEME 2
Characterisation

CROSS CUTTING THEME 3
Modelling & control

PLATFORM RESEARCH

PLATORM RESEARCH 1
Powders by Design

PLATORM RESEARCH 2
Process by Design

GRAND CHALLENGE THEMES

GRAND CHALLENGE 1
Right First Time Manufacturing

GRAND CHALLENGE 2
Future Manufacturing Technology

Powder processes delivering on potential for UK industry

New home grown manufacturing technologies for UK industry

ALIGNED PROJECTS
User Defined Research Programmes

HORIZON

(AM)

Funder: Aerospace Technology Institute and Innovate UK

Project costs: £13,304,769

Funded value: £7,042,370

Funding period: March 2015 – November 2017

Organisations: GKN Aerospace Services Ltd, Delcam Ltd, Renishaw PLC, University of Sheffield, University of Warwick

TIPOW

(Titanium Powder for Net-shape Component Manufacture)

Funder: Aerospace Technology Institute and Innovate UK

Project costs: £3,129,835

Funded value: £1,555,610

Funding period: March 2015 – February 2018

Organisations: GKN Aerospace Services Ltd, Metalysis Ltd, Phoenix Scientific Industries (PSI) Ltd, University of Leeds

REMASTER

(Repair Methods for Aerospace Structures using Novel Processes)

Funder: Aerospace Technology Institute and Innovate UK

Project costs: £3,484,901

Funded value: £1,742,390

Funding period: January 2016 – December 2018

Organisations: Rolls-Royce PLC, 3TRPD Ltd, University of Sheffield

SELF HEALING ALLOYS FOR PRECISION ENGINEERING

(SHAPE)

Funder: Aerospace Technology Institute and Innovate UK

Project costs: £2,127,805

Funded value: £1,072,980

Funding period: September 2015 – August 2018

Organisations: Ilika Technologies Ltd, Reliance Precision Ltd, University of Sheffield

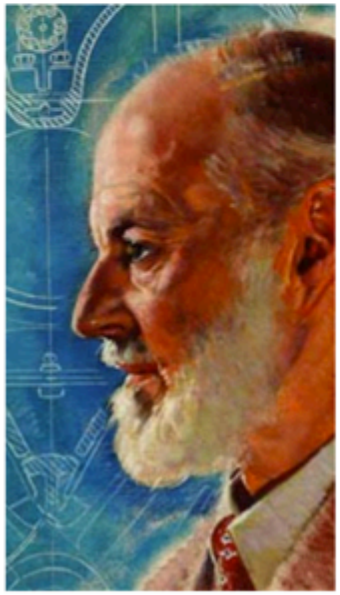
National Landscape

- Sir Henry Royce Institute
- High Value Manufacturing Catapult Centre

The Sir Henry Royce Institute

Core Research Areas | Governance | News | Contact

THE SIR HENRY ROYCE INSTITUTE FOR ADVANCED MATERIALS



The Sir Henry Royce Institute for Advanced Materials is the UK's home of advanced materials research and innovation. The £235m Institute will allow the UK to grow its world-leading research and innovation base in advanced-materials science, which is fundamental to all industrial sectors and the national economy. It is a critical component of the Government's Northern Powerhouse initiative and an attempt to boost economic growth in the North of England and balance the UK economy.

The Royce Institute brings together world-leading academics from across the UK, and works closely with industry to ensure commercialisation of fundamental research. The Institute will have its hub at The University of Manchester, with spokes at the founding partners, comprising the universities of Sheffield, Leeds, Liverpool, Cambridge, Oxford and Imperial College London.

It will focus on 9 key areas of materials research, which are grouped into four themes – Energy, Engineering, Functional and Soft Materials – critical areas to underpin the government's industrial strategy, resulting in economic growth throughout the UK.

www.royce.ac.uk

Sir Henry Royce Institute

- MAPP relevant facilities include
  - Spark Plasma Sintering
  - Additive Manufacturing
    - Blown powder
    - Powder bed
  - Powder Forging
  - Direct Powder Rolling
  - Advanced characterisation
- Discovery Centre to be based on Engineering Campus.
- Translation Centre to be based on Advanced Manufacturing Campus in Sheffield near AMRC.

The University Of Sheffield.

Royce Discovery Centre – Portobello Lane | Orange Lane

MAPP

Industry and HVMC Partners

Industry Partners

EASTMAN
elementsix
freemantechnology
GKN AEROSPACE
Johnson Matthey
LPW
MAHER
SAFRAN Messier-Bugatti-Dowty
METALYSIS
Morgan Advanced Materials
RENISHAW apply innovation
Rolls-Royce
SECO
WEHR
XAAR
ZEISS
PSI

High Value Manufacturing Catapult Centres

AFRC ADVANCED FORMING RESEARCH CENTRE UNIVERSITY OF STRATHCLYDE
Advanced Manufacturing Research Centre BOEING
cpi
CATAPULT High Value Manufacturing
mtc Manufacturing Technology Centre
NUCLEAR AMRC
WMG THE UNIVERSITY OF WARWICK

MAPP

2 March 2015 15:53

ROLLS-ROYCE SET TO FLY WORLD'S LARGEST 3D PRINTED AEROSPACE PART

Research from University of Sheffield and Manufacturing Technology Centre in Coventry sees world's largest 3D printed aerospace component set for first flight test.

by Laura Griffiths

LATEST

3D PRINTHUSET LAUNCH SCANDINAVIA'S FIRST 3D CONSTRUCTION PRINTING CONFERENCE

TCT SHOW ANNOUNCES CALL FOR PAPERS FOR 2017

FONON TECHNOLOGIES LAUNCHES CLEANTECH PRODUCT LINE FOR ECO-FRIENDLY SURFACE CLEANING

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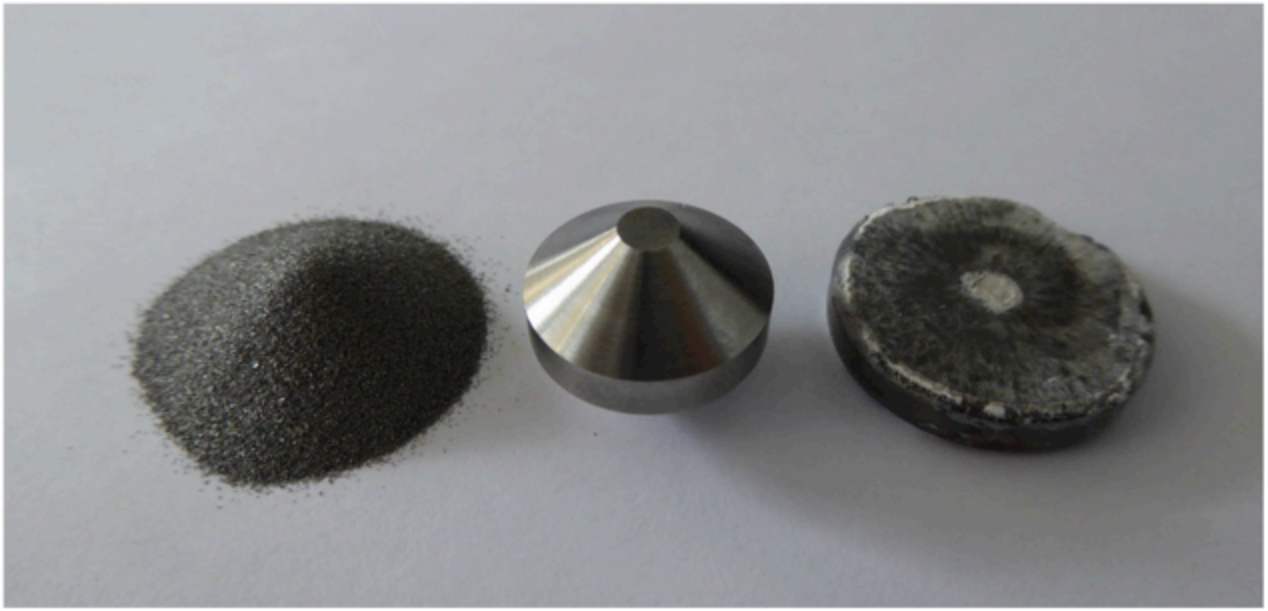
THE Manufacturer

FASTForge to deliver cheaper aerospace titanium

Posted on **29 Nov 2016** by **Jonny Williamson**



L to R: Titanium powder obtained from rutile sand, Field Assist Sintered double cone preform, then pancake forging - image courtesy of FastForge.

A consortium comprising the world's leader in aircraft landing gear, a leading specialist metals producer and two of the UK's leading universities is working on FastForge, a project aimed at the production of aerospace-grade titanium at a third of the current price.

The partners working on the FASTForge project include Safran Landing Systems (formerly Messier-Bugatti-Dowty); Metalysis; the University of Strathclyde's Advanced Forming Research Centre (AFRC), and the University of Sheffield.

MAPP

Academic outreach

- First Scientific Advisory Board (13th Feb. 17)
- MAPP Conference (Q1/Q2 2018)
  - International speakers (SAB)
  - Bursary scheme for ECRs
- MAPP Sandpit (Q2/Q3 2018)
  - Develop new collaborative research ideas
- MAPP Feasibility Studies Call (Q3/Q4 2018)
  - Support for collaborative projects

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EPSRC Future Manufacturing Hub

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- GET IN TOUCH

EPSRC

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MAPP is the EPSRC Future Manufacturing Hub in Manufacture using Advanced Powder Processes.

MAPP's vision is to deliver on the promise of powder-based manufacturing to provide low energy, low cost, and low waste high value manufacturing routes and products to secure UK manufacturing productivity and growth.

Our mission is to work with academic, commercial and innovation partners to drive the research needed to solve many of the fundamental challenges limiting the development and uptake of many powder-based processes.

www.mapp.ac.uk

MAPP

LATEST: NEWS / VIEWS / EVENTS

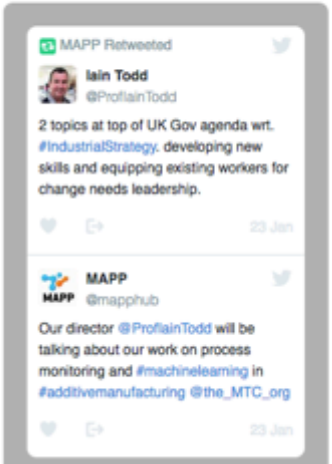
Welcome from MAPP Director

by Iain Todd
17 / 01 / 17

We are in an exciting time for powder-based manufacturing. New market opportunities are rapidly opening up across a diverse range of high value sectors such as aerospace, energy, medical and automotive.

FASTforge hits the press

23 / 01 / 17



MAPP Director on UK Manufacturing Review's video wall

by Richard France
23 / 01 / 17

Professor Iain Todd recently shared his thoughts with the UK Manufacturing Review team on recent industry developments in powder...

IN 5 MONTHS

11 / 07 / 17

Nottingham, UK

Conference:

Additive Manufacturing and 3D Printing International Conference

FACTUM project showcase

by Richard France
24 / 11 / 16

Industrialists, academics and sponsors came together in Sheffield on 24th November for a showcase celebrating the FACTUM project. FACTUM,...

MAPP partner on Innovate UK TACDAM project

15 / 12 / 16

MAPP is a partner in a new £1.4m project funded by Innovate UK and EPSRC in the recent...

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The University of Manchester

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