

# mtc

Manufacturing  
Technology Centre

## The MTC Innovation Hub UK

- HVM Catapult
- MTC model
- MTC innovation ecosystem

mtc  
Manufacturing  
Technology Centre

Harald Egner  
Porto, 18<sup>th</sup> September 2017



CATAPULT  
High Value Manufacturing

# High Value Manufacturing Catapult (HVMC) history



Ingenious Britain  
Making the UK the leading  
high tech exporter in Europe  
A report by James Dyson  
March 2010

## The Current and Future Role of Technology and Innovation Centres in the UK

A Report by Dr. Hermann Hauser

For Lord Mandelson

Secretary of State  
Department for Business Innovation & Skills

Technology Strategy Board  
Driving Innovation

High Value Manufacturing  
Strategy

Technology Strategy Board  
Driving Innovation

A landscape  
for the future  
of high value  
manufacturing  
in the UK

A study conducted for the  
Technology Strategy Board

February 2012

## HVM Catapult

- 7 World class centres of industrial innovation (£380m assets)
- Cutting-edge equipment for industrial scale up
- Lowering risk for business
- Platform for skills development at all levels
- Cross sector capability
- Supply chain partnership
- “Critical mass”

# HVM Catapult centres

Advanced Forming Research Centre AFRC

Nuclear AMRC

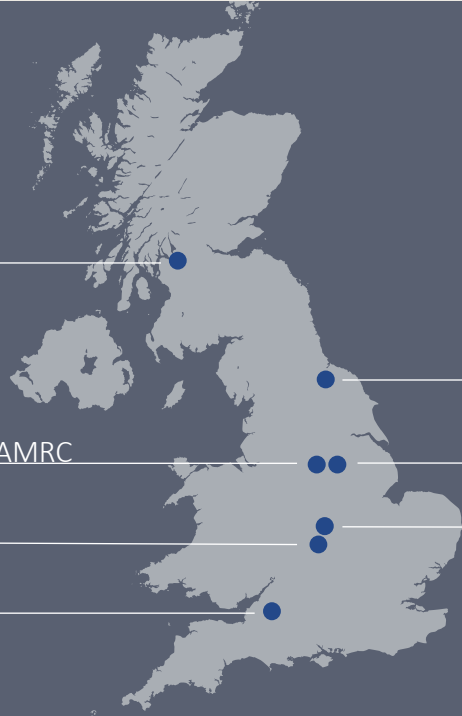
Warwick Manufacturing Group WMG

National Composites Centre NCC

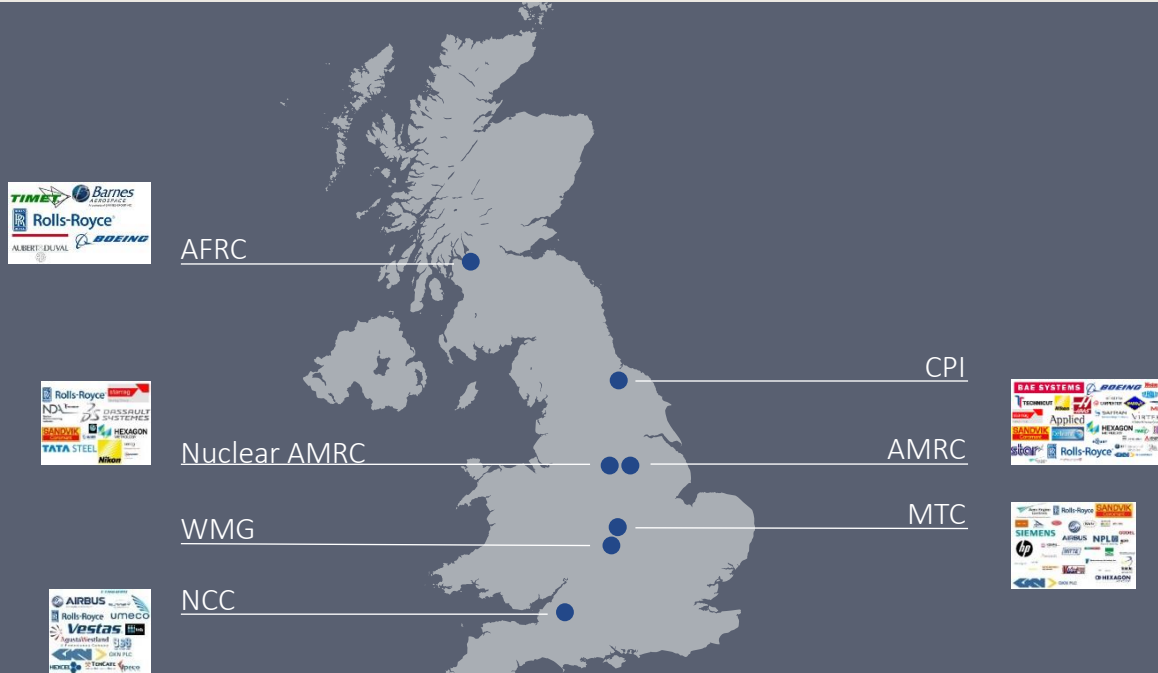
CPI Centre for Process Innovation

AMRC Advanced Manufacturing Research Centre

MTC Manufacturing Technology Centre



# Five centres with industrial membership model



# Economic impact

Core funding received to date



Collaborative R&D Funding levered



Net benefits for the UK economy



Potential net benefits by 2020



£15

net benefits to the UK  
economy from every

£1

core public  
funding received

# WORKING WITH MTC

- ▶ Open access centre
- ▶ Flexible approach to working with companies of all sizes from SMEs to Tier 1s and large OEMs
- ▶ A collaborative research programme driven by members

**1** to **1**  
single client project

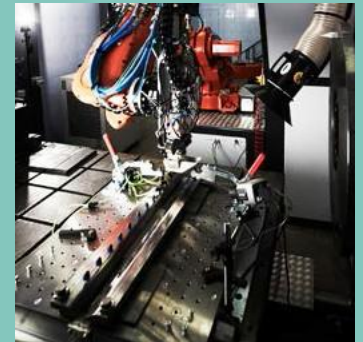


Government backed collaborative  
**R&D**  
projects



**100+**  
member companies

Collaborative R&D project portfolio funded by members



# MTC MEMBERS

## TIER 1

Access to research outputs  
across all themes

Programme board seat  
(with voting rights)

TAB board seat  
(with voting rights)

## TIER 2

Access to research outputs  
across all themes

Programme board seat  
(with no voting rights)

TAB board seat  
(with voting rights)



# MTC MEMBERS

## TIER 3

1 year commitment

No cash outlay required

Opportunity to engage with major OEMs and Tier 1's

GÜDEL

CAS VO METAL  
Arcum AB

Prodtex

ABB



ROEMHELD  
HEIMA + STARK

gom

BOC  
A Member of the Linde Group

Theorem  
Solutions

BROWN & HOLMES / Tamworth LTD  
Precision Workholding and Machining

WITTE

Mahr

eurolacer



Precision in Aerial Support

Aerotech  
design consultants

HumiSeal®

Holovis

Jemtech  
Inspiring solutions

SGS  
Solid Surface Tools

Ubisense

3D scannersuk

CGTech  
VERICUT

ZESTRON  
High Precision Coating

METROSAGE

NATIONAL  
INSTRUMENTS

VFE  
VACUUM FURNACE  
ENGINEERING LTD

Höganäs



DEK

Building Success  
Layer by Layer

PRODUCTIV  
DRIVING GREEN TECHNOLOGIES

LANNER

FlexProp  
Thermoplast & Composites

iBASEt

HAUCK  
HEAT TREATMENT



alicon

edgcam

CROWN  
Brand-Building Packaging™

STEMMER®  
IMAGING

Sainsbury's

Rexroth  
Bosch Group  
The Drive & Control Company

fairfield

BECKHOFF

Unilever

greencore  
group

capvidia

BLUNDELL  
SPECIALISED MANUFACTURING



Makita

Accelornix

TEK Europe

babcock  
trusted to deliver™

ZEISS

ALTUS  
GROUP

KOTEM

FORTERRA

virtō

Altair

LPI

MAHER

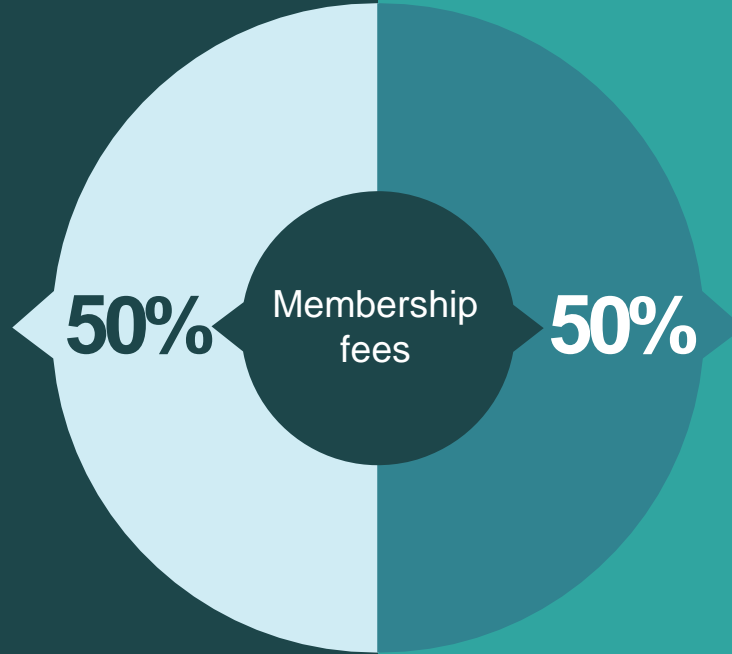


# CORE RESEARCH PROGRAMME

## Core Research Programme with shared results

Supported with additional Government contribution to generate collaborative R&D funding pot

Foreground IP owned by the MTC and licensed back to members royalty free



## Directed research

Project commissioned by members either on a 1-to-1 basis with MTC or involving other members

# MANUFACTURING INNOVATION

Component  
Manufacturing



Additive Manufacturing



Non-Conventional Machining

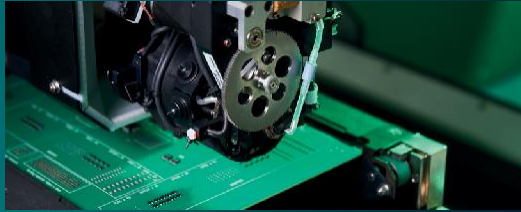


High Integrity Fabrication

Assembly  
Systems



Advanced Tooling and Fixturing



Electronics Manufacturing



Robotics and Autonomous Systems

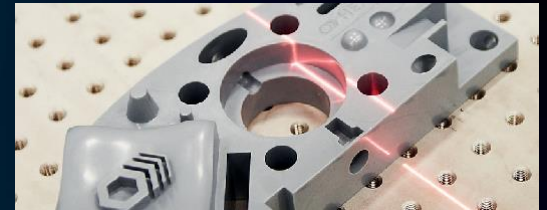
Data Systems



Design and Simulation



Manufacturing Informatics



Metrology and NDT

# Industrial scale equipment for Industrial scale-up

DMU 340 FD



Large scale gantry system

➤ 18m x 7m working envelope

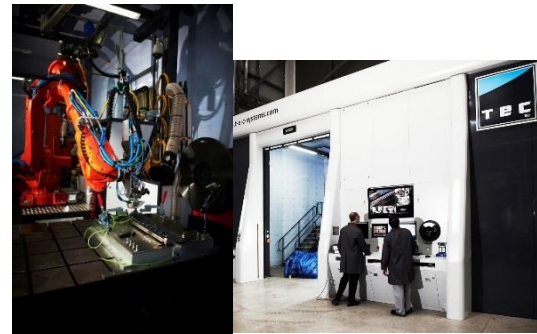
## AM Processes



Powder bed fusion  
(Laser & EBM)

Directed energy deposition

Hybrid (DED and PBF)



20KW Laser Processing Cell

# LLOYDS Advanced Manufacturing Training Centre

MTC have been awarded £18.19m capital funding to establish the MTC Advanced Manufacturing Training Centre

Financial sponsorship from LLOYDS Bank for next 10 years

The Centre will deliver a range of innovation training elements

- Manufacturing Engineering Apprenticeships (SME access opportunity in year 3 and 4)
- Up-skilling of Manufacturing Engineers (internal, external)
- Graduate development



Supported by

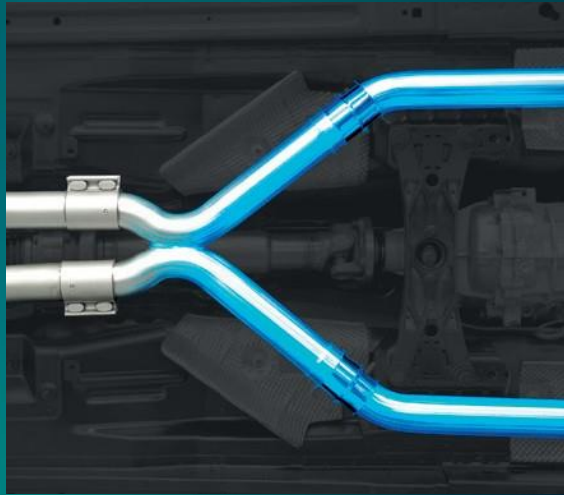
- Training equipment via Industrial members (technology providers)
- MTC technical infrastructure (equipment, trainer)
- Expertise via Industrial members



# MANUFACTURING OPERATIONAL EFFICIENCY



Improving operational efficiency

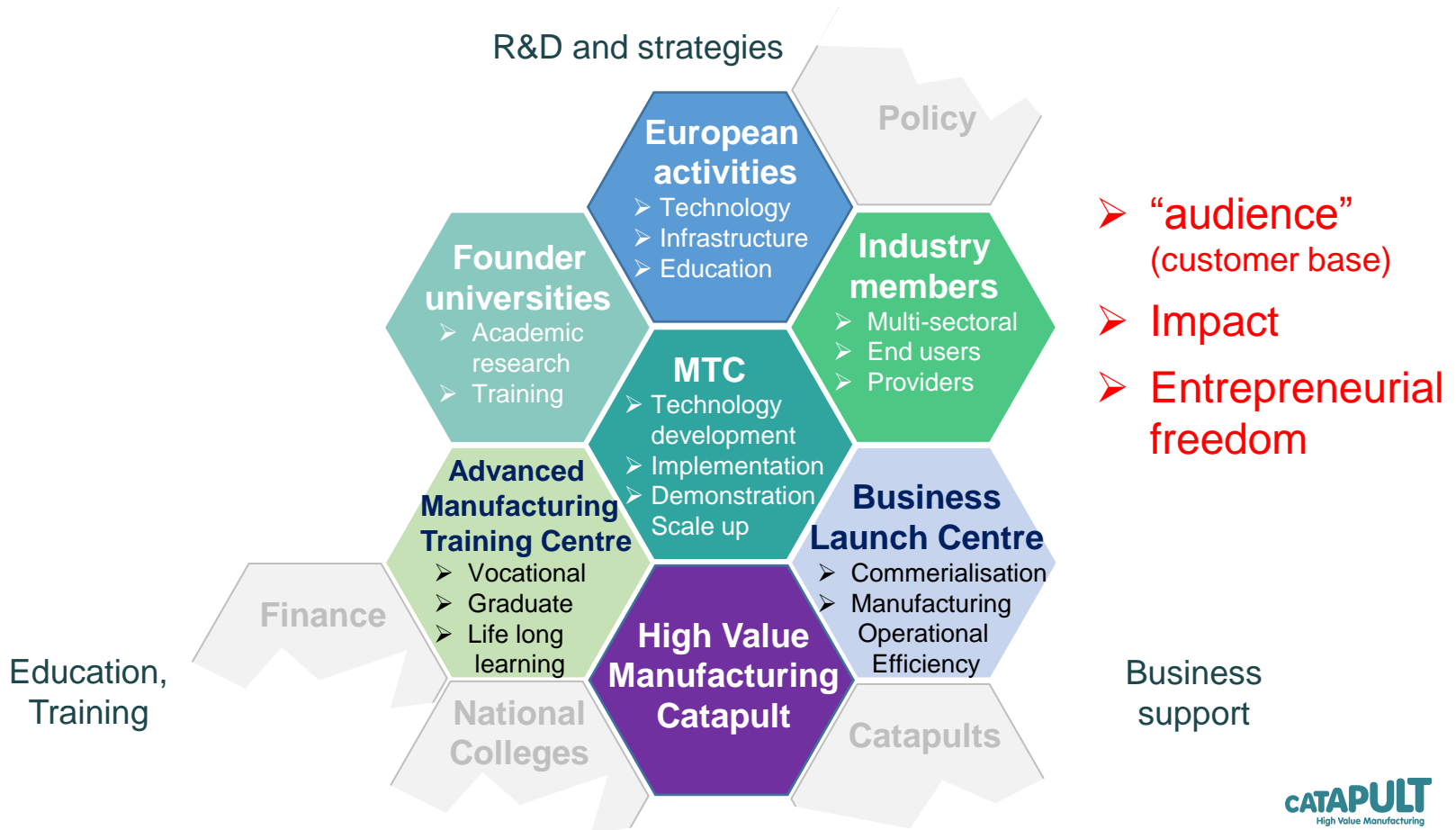


Launching new businesses



SME REACH programme

# MTC Innovation Ecosystem



# THANK YOU

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