

## MTC Digital Innovation Hub

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Brussels, October 20th 2016









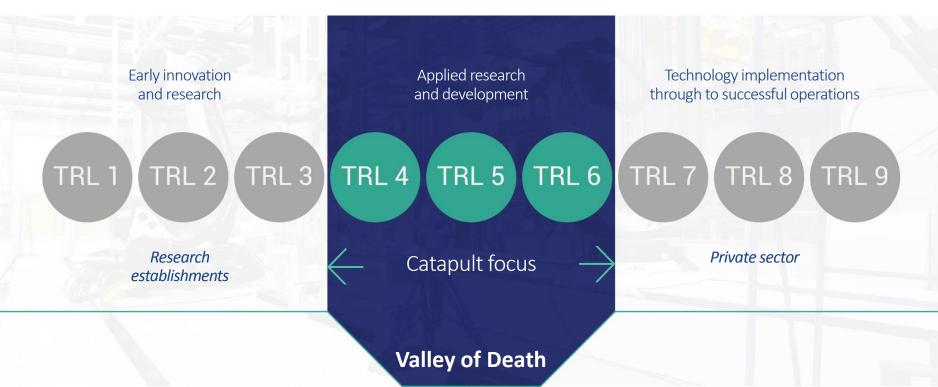


#### **HVM** Catapult

- 7 World class centres of industrial innovation
- Cutting-edge equipment for industrial scale up
- Lowering risk for business
- Platform for skills development at all levels
- Cross sector capability
- Supply chain partnership

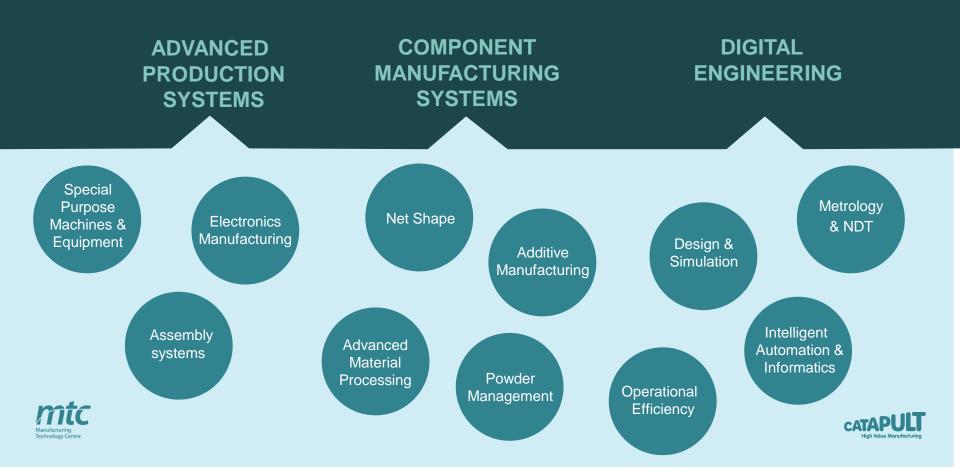
#### Market failure: Bridging the Valley of Death





EPSRC InnovateUK

#### MANUFACTURING SYSTEM SOLUTIONS



## Investment



#### The funding model



An asset base of £380m

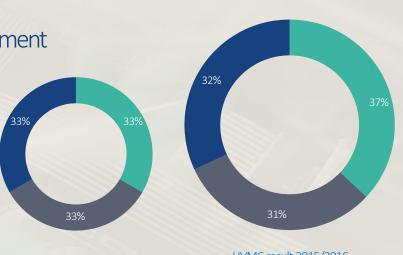
Initial investment of £140m by government

+Annual core funding

Core public funding

Commercial

Competitively won CR&D



HVMC result 2015/2016

#### INVESTMENT

£40m of initial investment

- Aerospace Research centre and National Additive Centre
   £15.2m + match funding from industry
- Lloyds Advanced Manufacturing Training Centre £18m + £5m from Lloyds Bank
- Factory in a Box for a
  Thermal Energy Research Accelerator
  £10m + match funding from industry



## **Ecosystem (Networks)**



#### **MTC Innovation Ecosystem**

# Founder universities Academic research Training MTC Technology development Implementation Demonstration





#### 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)













**SIEMENS** 

























































#### **MTC MEMBERS**

#### TIER 3

1 year commitment
No cash outlay required
Opportunity to engage with
major OEMs and Tier 1's





























































































































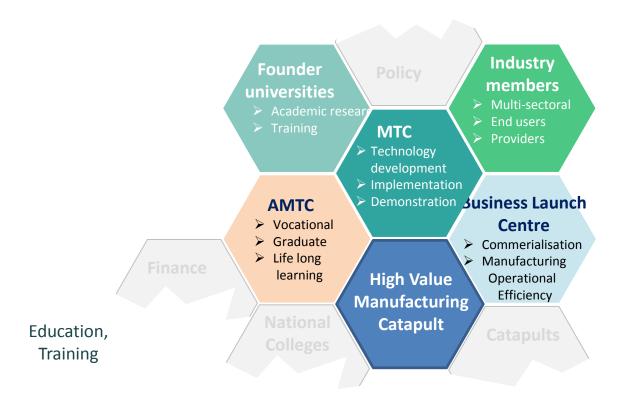






#### **MTC Innovation Ecosystem**

#### R&D and strategies

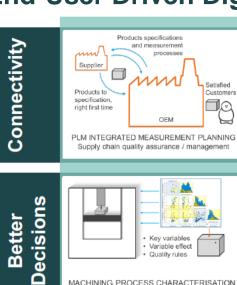


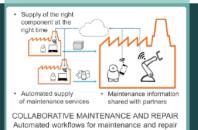
Business support

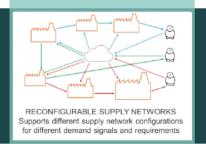
## **End-User Driven**



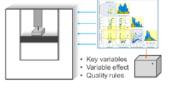
#### MTC End-User Driven Digital Manufacturing Strategy

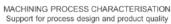








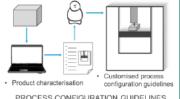






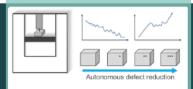
- Prognosis predicted failures
- Advice Suggested maintenance actions

PREDICTIVE MAINTENANCE DASHBOARD Support for maintenance decisions and activities



PROCESS CONFIGURATION GUIDELINES Support for process configuration for new product variants

## Autonomous Systems



SELF ADAPTIVE QUALITY IMPROVEMENT Processes that are quality aware and can adapt accordingly to improve product quality

Remote and automated maintenance control Automated Self-sustaining status (limp-home-mode)

SELF-SUSTAINING MANUFACTURING SYSTEM Autonomous provision of maintenance parts and services, and self-sustaining equipment

Self-adaptive processes · Flexible hardware Automated routing Flexible fixturing FLEXIBLE MANUFACTURING SYSTEMS A system that can self configure to produce

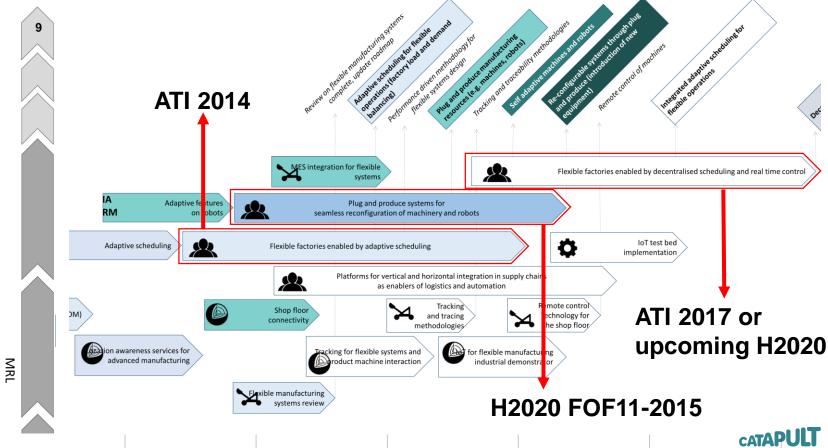
#### **Product Quality**

**Equipment Health** 

Flexible Systems

different product variants in the same shop floor

#### STRATEGIC USE OF PUBLIC FUNDING





2015

High Value Manufact

## Impact







Core funding received to date

£107m

Collaborative R&D Funding levered

£290m

Net benefits for the UK economy

£1.6bn

Potential net benefits by 2020

£6.1bn

£15

net benefits to the UK economy from every

£1

core public funding received

## THANK YOU

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