

# University of Birmingham Business Club

## Breakfast Briefing



**‘Know you Business, grow  
your business’**



Thursday 08 February 2018

# Introducing innovation loans

Innovation funding for ambitious businesses

Scott O'Brien, Head of Lending Ops & Risk  
Cat Dilloway, Credit Specialist

University of Birmingham  
8 February 2018

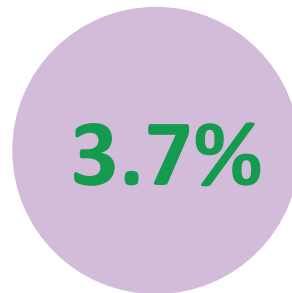
**Innovate UK**

# Innovation Loans

**Affordable, flexible and patient**



**Single  
Applicant  
SMEs only**



**Low interest  
rate**



**Flexible & patient  
Up to 10 years**



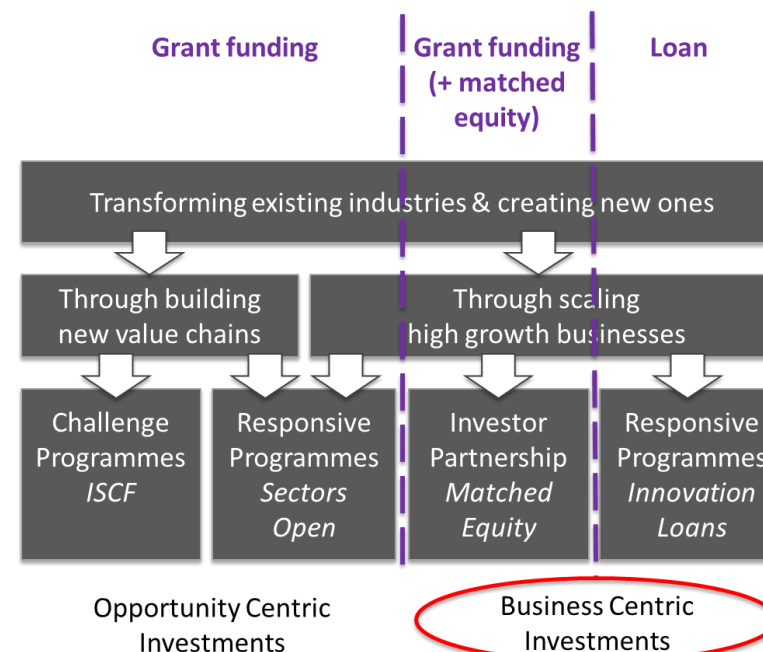
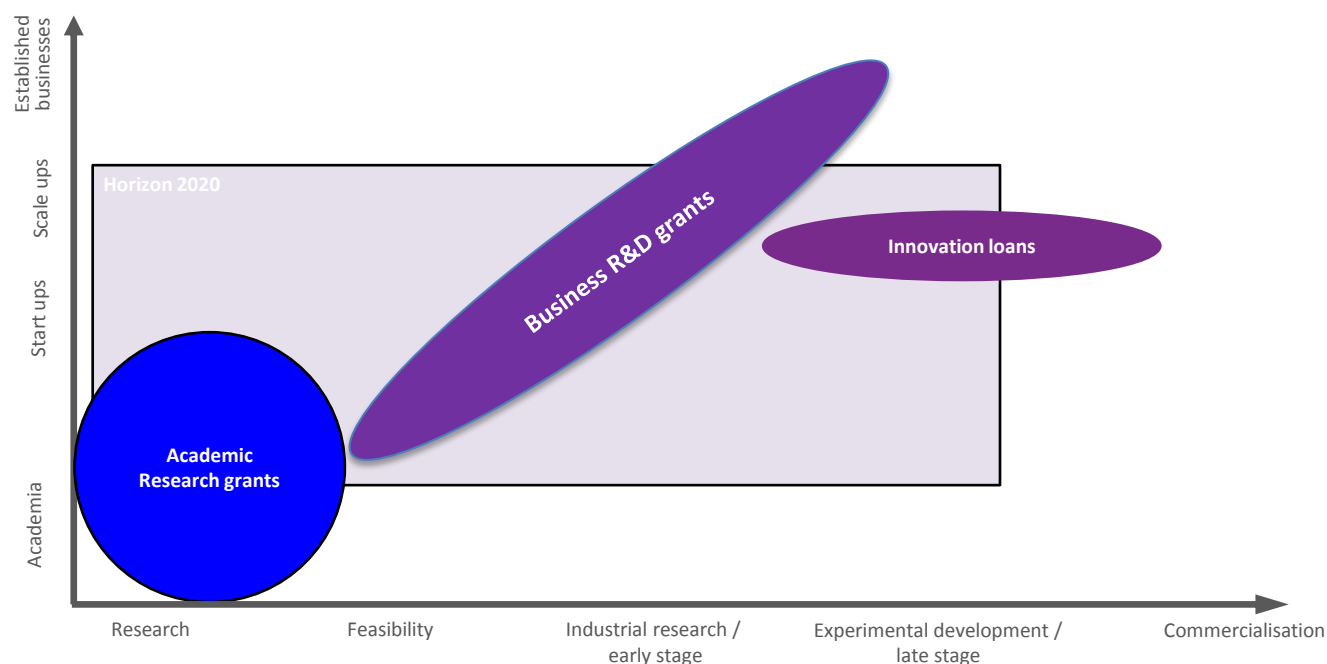
**Up to 100% of  
project costs  
Later stage R&D**



**Loan size  
£100k to £1m**

# Innovation Loans: Complementary to Grants

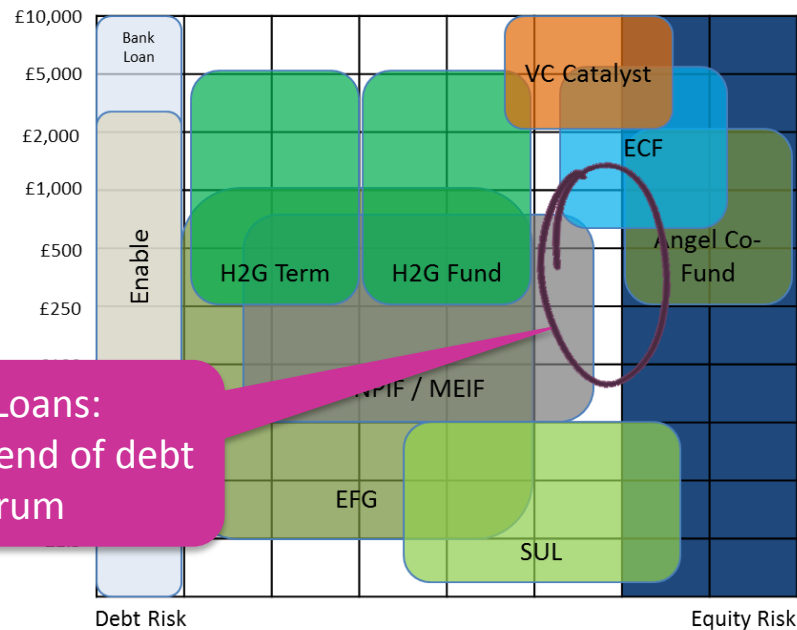
Innovation Loans sit as part of the continuum from research through to commercialisation – they are part of a new offer to innovative companies, not a replacement for existing activity.



Versus Innovate UK's grant programmes, Innovation Loans will support opportunities that are:

- Closer to **market**
- About the **business** as well as the **project**
- Ready to **scale up**

# Innovation Loans: Complementary to British Business Bank schemes



Innovation Loans:  
£100k-£1m, Top-end of debt  
risk spectrum

BBB Growth Finance Interventions	By contrast, Innovation Loans are...
Help to Grow	Focused on innovation Smaller average deal size Riskier Propositions Longer Terms More patient
Enterprise Finance Guarantee	Focused on innovation More growth focused Higher average deal size Riskier propositions Longer terms More bespoke
NPIF/MEIF (Debt)	Focused on innovation Higher average deal size UK-wide Riskier propositions Longer terms
Start-Up Loans	Focused on innovation Later stage Bigger loans Longer terms More bespoke

Versus BBB's programmes, Innovation Loans will focus on:

- Highly innovative R&D projects
- Suitable, credit constrained SMEs

# Innovation loans summary:

## For businesses (SME):

- Innovative
- Growth oriented
- “Scaling up” not “starting up”
- Credit constrained
- Later stage R&D project (experimental development) with clear route to commercial success
- Risky project / company

## For projects:

- Loan structured for project and commercial success
  - Availability period (up to 3 years)
  - Extension period (up to 2 years)
  - Repayment period (up to 5 years)
- £100k to £1m for eligible project costs
- Low interest rate (3.7%)
- Reasonable collateral
- Appropriate covenants

# Innovation Loans Application

## Part A: Innovation Assessment (the project)

- Competition – only highest quality proposals supported
- Technical and commercial assessment – 5 external assessors
- Scope
  - match sector / focus / challenge
  - ‘experimental development’, later stage R&D leading to commercialisation
- 10 questions and project finances
- We look for:
  - Highly innovative
  - Strong market potential
  - Solid project delivery
  - Clear route to commercial success
  - Needing public funding

## Part B: Credit evaluation (the business)

- Eligibility
  - UK based SME (single company only)
  - Not ‘in financial difficulty’
- 6 questions, business plan and business financials
- We look for:
  - Appropriate borrowing proposal for eligible project costs
  - Strong management team
  - Clear route to commercial success
- Suitability
  - Can afford to meet interest and principal payments when due
  - Can demonstrate a need for public funding
  - Balance of risk across our portfolio

# When will Innovation Loans happen?

- **£50m pilot programme**
- **5 competitions over 2 years**
- **First competition:**
  - Infrastructure Systems ‘First of a Kind Demonstrators’
  - Closed 17<sup>th</sup> January 2018
  - Drawdowns from April 2018
- **Second competition:**
  - Manufacturing & Materials ‘Manufacturing Readiness’
  - Opens late February 2018
- **Further competitions:**
  - Open scope
  - April / July / September 2018





Supporting UK innovative  
businesses today in  
developing the industries  
of tomorrow

**Innovate UK**

# APPENDIX

# What will Innovation Loans be?

Innovation loans ARE..	Innovation loans ARE NOT..
Complementary to grants	A replacement for grants
A new later stage R&D project	For match funding a grant
A Pilot programme (£50m over 2 years)	Core competitions
Repayable	Free money, contingent or success based
On beneficial terms (State Aid) <ul style="list-style-type: none"> <li>- Low interest rate (3.7%)</li> <li>- Interest-only period (up to 3 yr project / up to 2 yr to get to market)</li> <li>- Repayment period (up to 5 yr)</li> </ul>	Typical commercial terms <ul style="list-style-type: none"> <li>- Limited availability</li> <li>- High rates</li> </ul> Overdrafts or revolving facilities
'Reasonably' collateralised	Unsecured (or PGs)
Available to single SMEs only	Available to sole traders, large companies, universities, collaborative consortia
Competitive, for the most innovative projects	Always open, for any purpose, for the 'easy stuff'
For suitable borrowers (scale ups)	For borrowers who can't afford it (start ups, who need equity)
For SMEs needing public support	For those who can / should borrow commercially

# Project Costs

Eligible costs include..	Costs that are typically ineligible..
Labour	Project audit, legal, accountancy
Overheads	Recoverable input VAT
Materials usage	Interest (including HP interest)
Capital (relating to usage in the project only)	Advertising
Sub-contract costs	Marketing
Travel & Subsistence	Entertaining & hospitality
Other (directly related to the project)	On-going production
	Profits in subsidiary sub-contractors etc
	Bonuses etc

- Costs must relate directly to the project
- Guidance and instructions in the Innovate UK application process
- Consider definition of “the project”
- Capital equipment can be funded for use in the project only, so consider:
  - equipment used for multiple purposes
  - depreciable life of equipment

# “Experimental development” means...

- Acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills with the aim of developing new or improved products, processes or services.

This may also include, for example, activities aiming at the conceptual definition, planning and documentation of new products, processes or services;

- May comprise prototyping, demonstrating, piloting, testing and validation of new or improved products, processes or services in environments representative of real life operating conditions where the primary objective is to make further technical improvements on products, processes or services that are not substantially set.

This may include the development of a commercially usable prototype or pilot which is necessarily the final commercial product and which is too expensive to produce for it to be used only for demonstration and validation purposes.

- Does not include routine or periodic changes made to existing products, production lines, manufacturing processes, services and other operations in progress, even if those changes may represent improvements

Any questions?

Dr Karl Dearn  
Reader in Mechanical Engineering



## Dr Karl Dearn

Reader in Mechanical Engineering  
School of Engineering,  
Department of Mechanical Engineering

[@Dr\\_KD\\_Dearn](#)

[Linkedin](#)

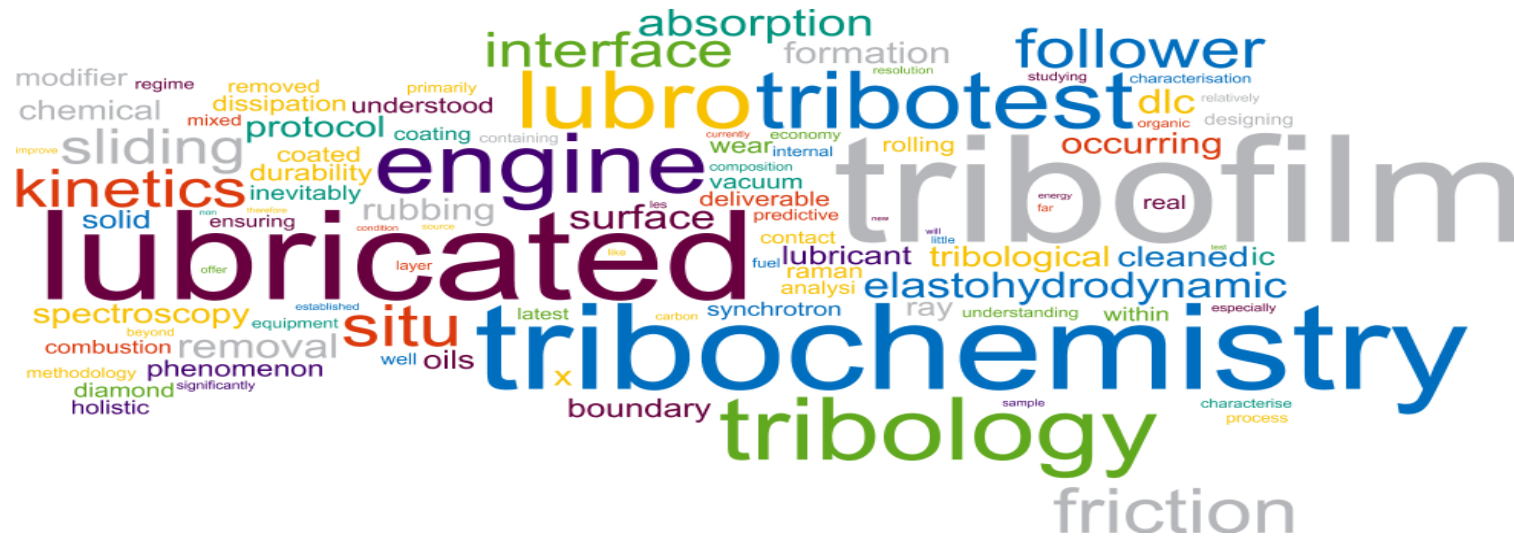
A snap shot  
of  
academic engagement:

From ball valves  
to fallopian  
tubes



Mason Institute of  
**Tribology**  
Birmingham

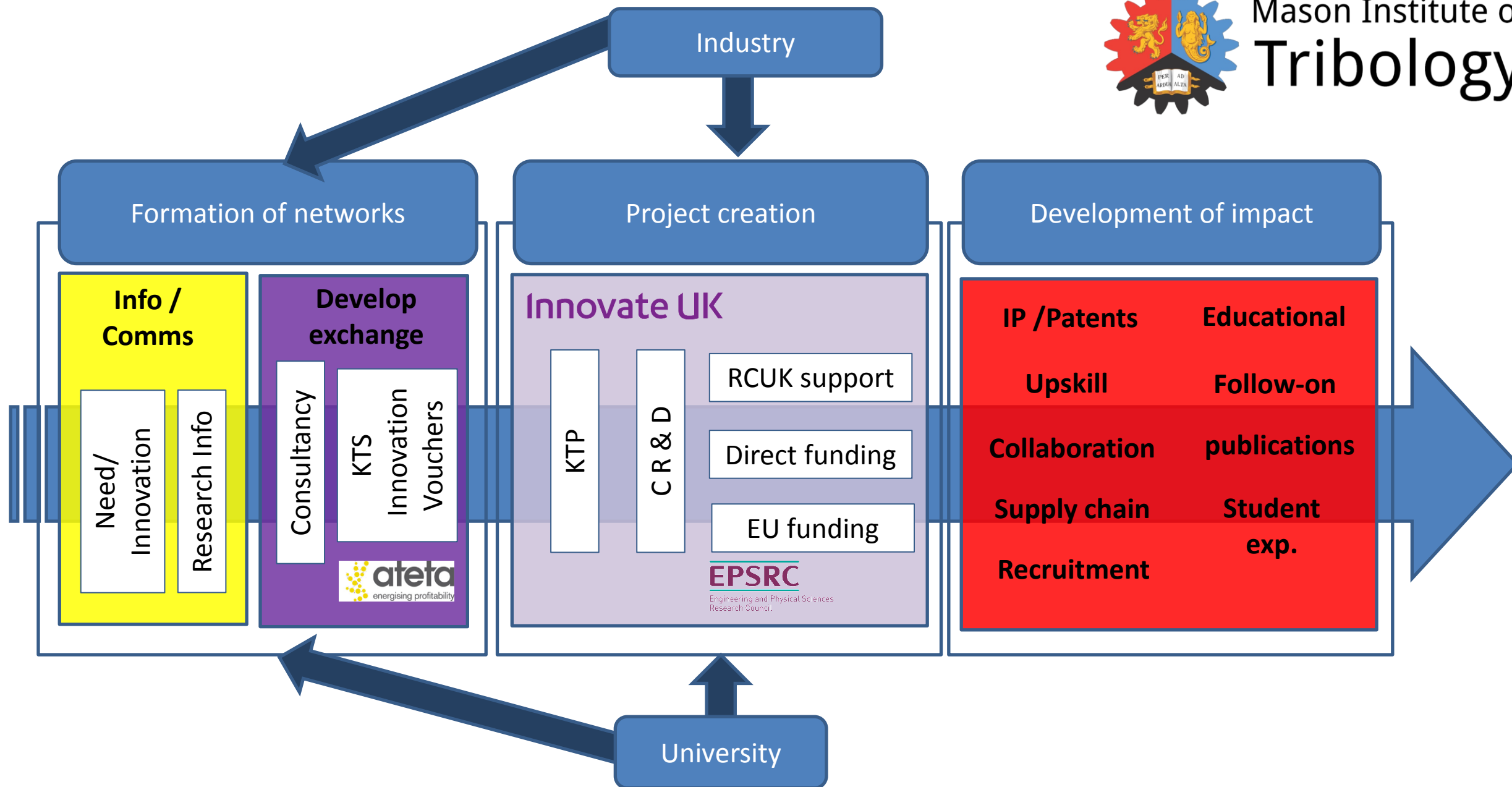


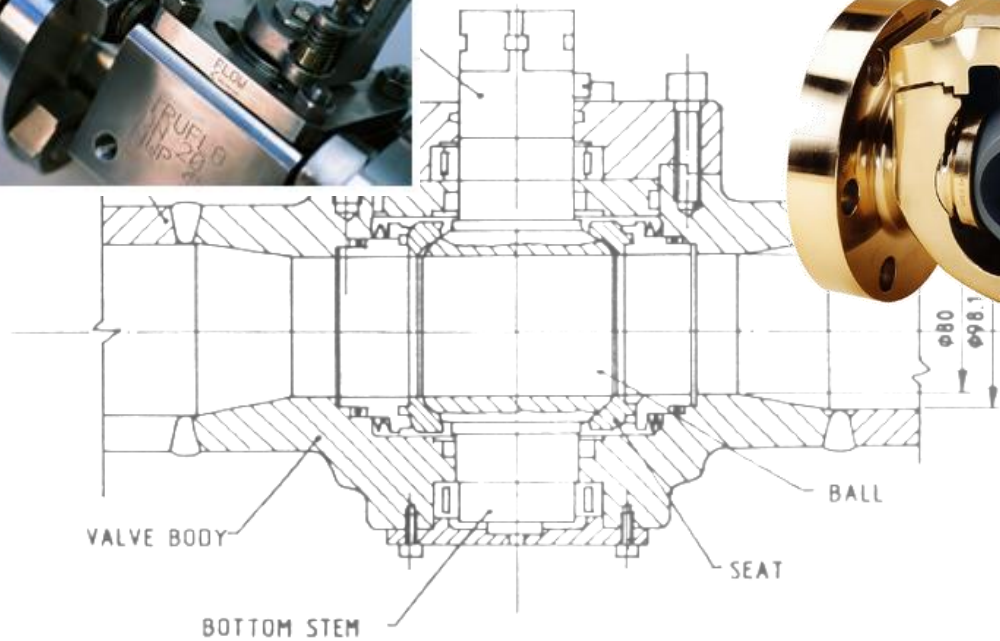


Mechanical design methodologies and tribology, this means:

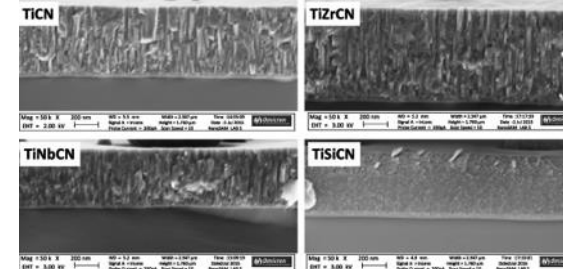
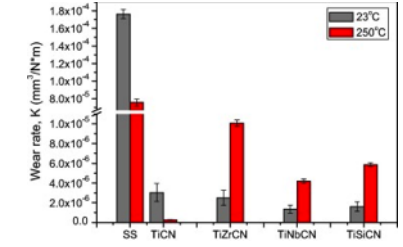
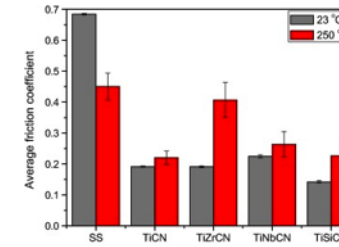
- I like making mechanical components and devices achieve higher levels of efficiency and performance
- Developing of design methodologies founded in fundamental principles of mechanics
- Developing applying tribological methods and techniques based on experience in materials science and mathematical tools
- In these areas:  
energy, materials, manufacturing, transportation and healthcare engineering







# Mason Institute of Tribology



Knowledge  
Transfer  
Partnerships

Innovate UK



Erasmus+

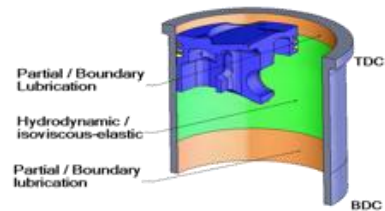




# Dearman Engine and Auxiliary systems

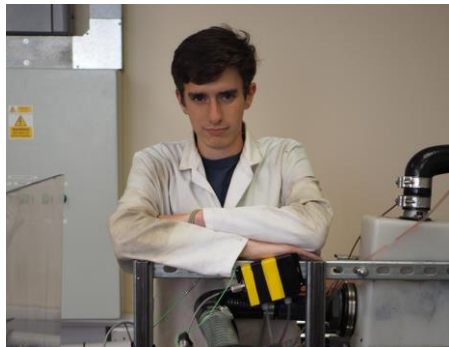
Innovate UK

## Efficiency improvements



### Tribology

- Material selection
- Friction/ wear
- Lubrication
- Components

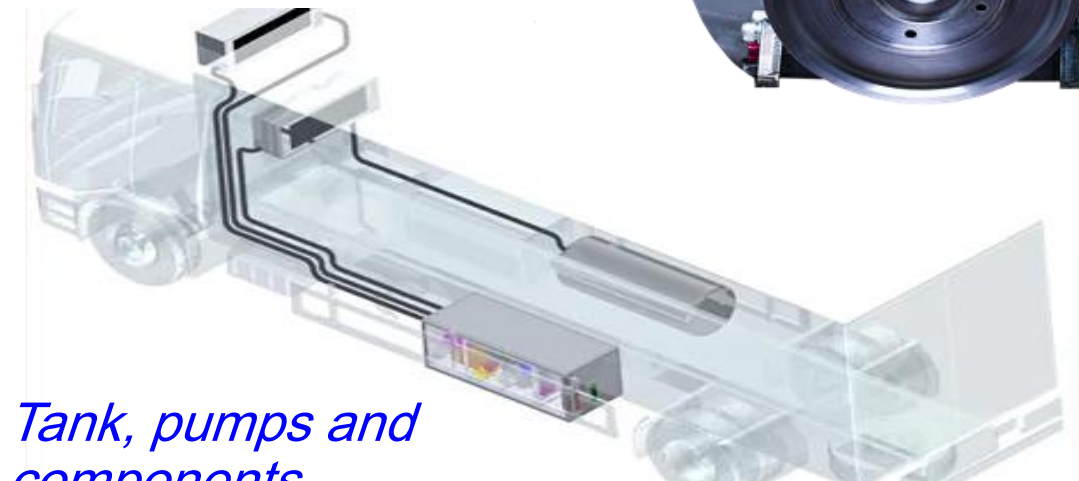
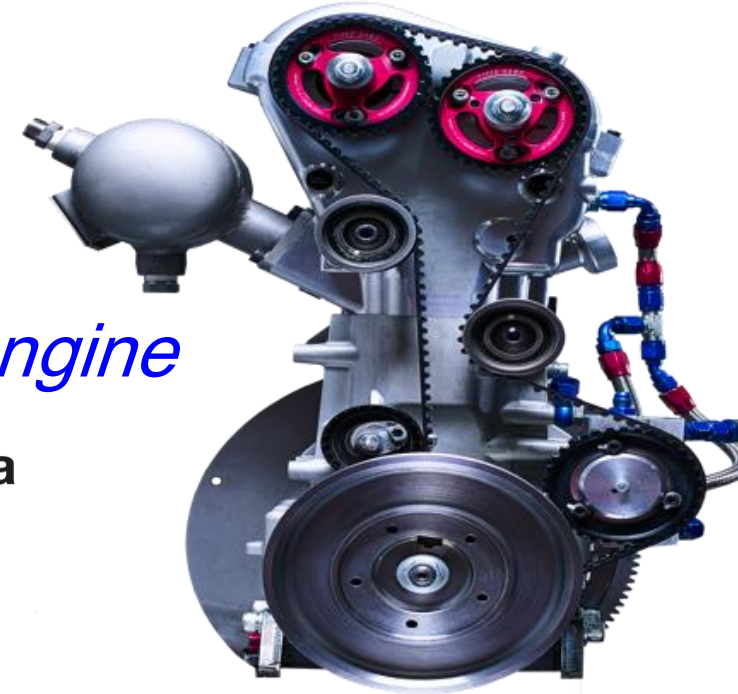


Department of  
BioTechnology,  
Government  
of India

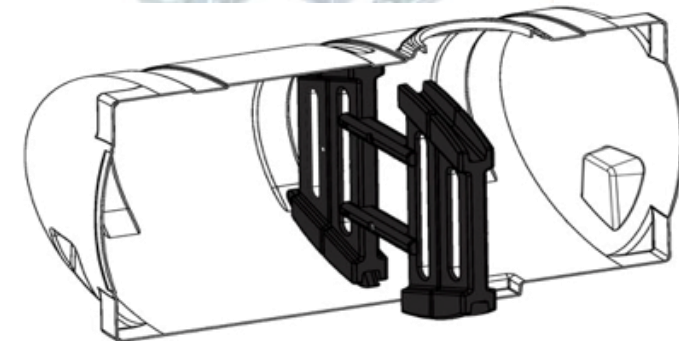


Newton-Bhabha  
Fund

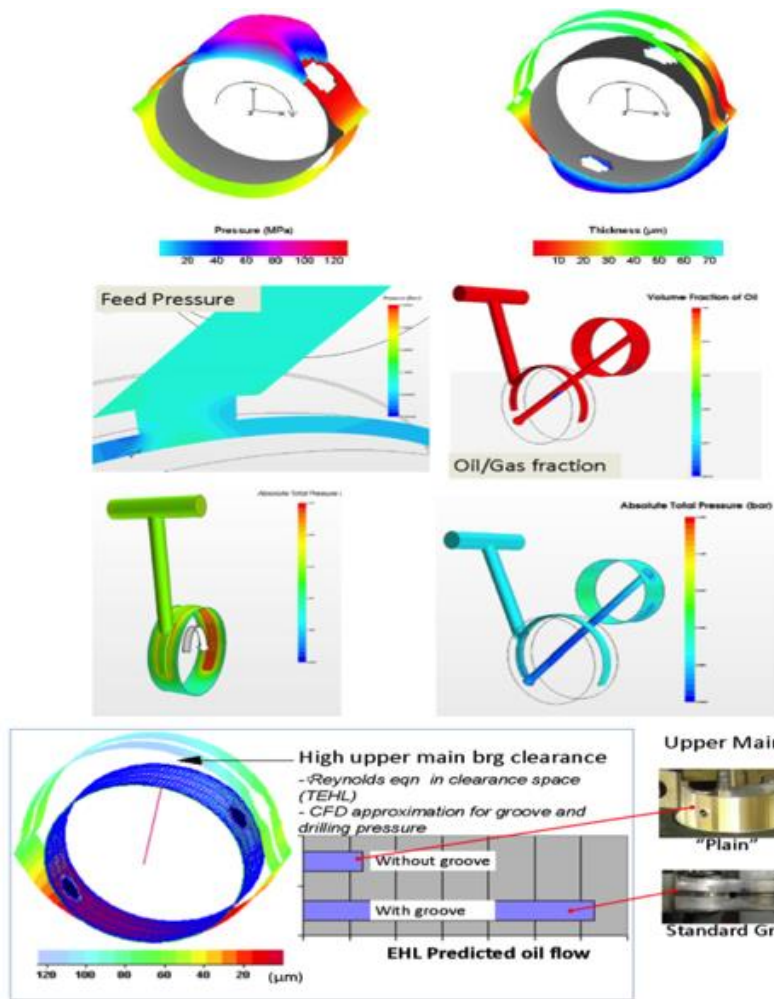
*On-engine*



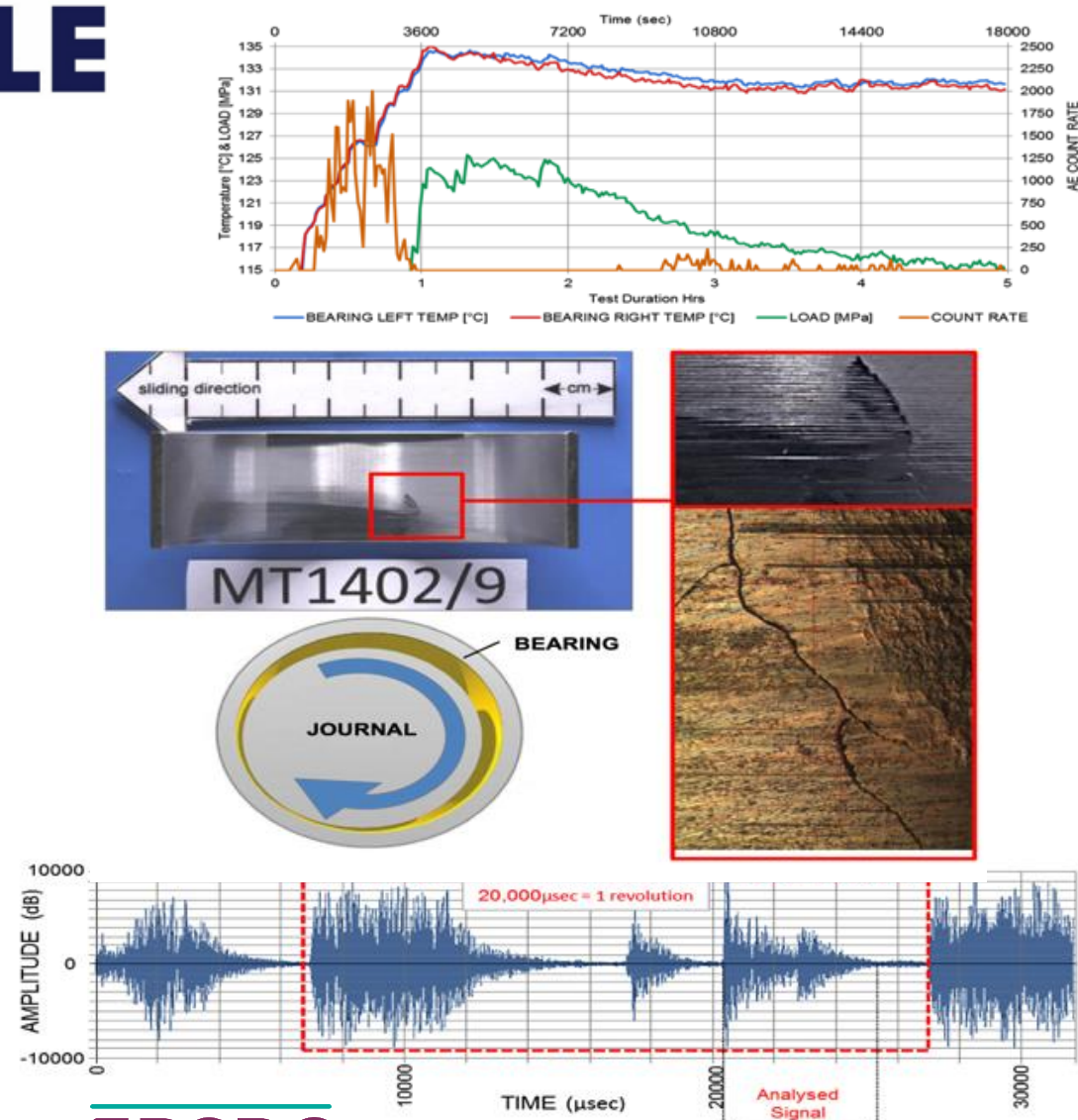
*Tank, pumps and  
components*



# Minimum Oil Flow Models in Bearings



# Condition monitoring - Seizure



Engineering and Physical Sciences  
Research Council



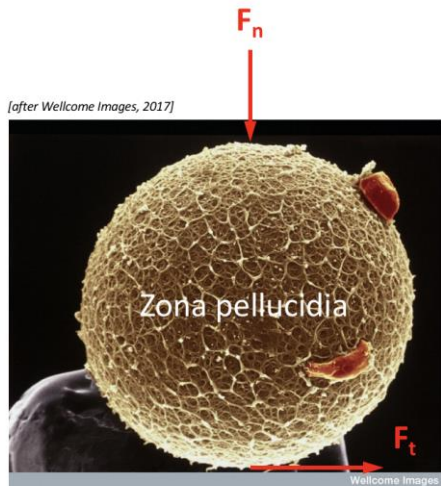
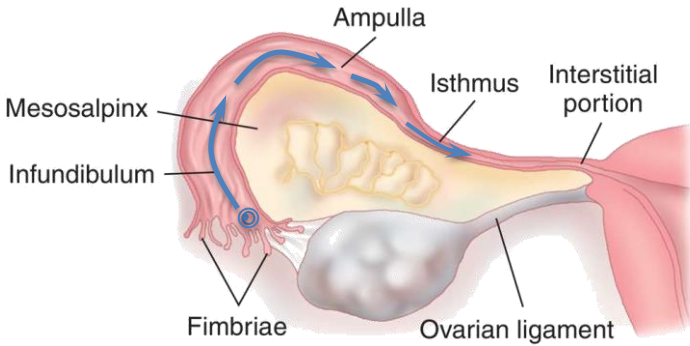
Mason Institute of  
Tribology



# BORN SLIPPY: A tribological discourse on hysterosalpingography as a therapeutic treatment for infertile women

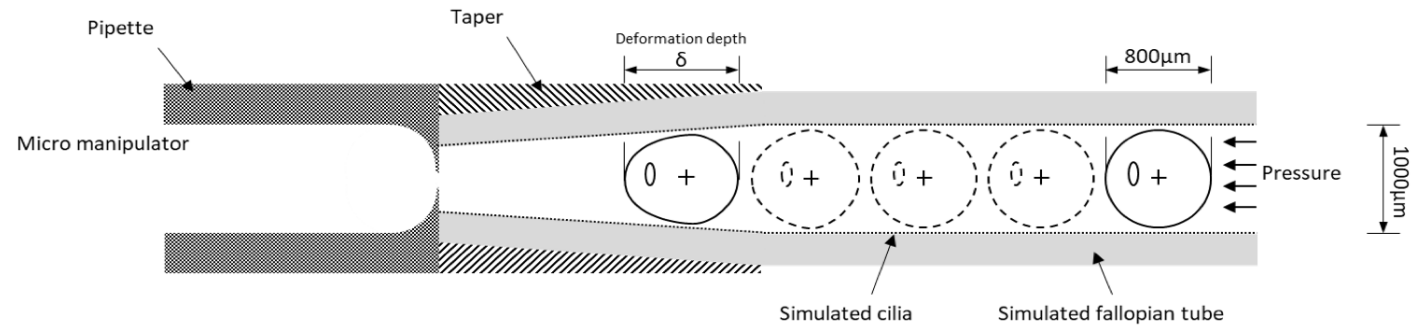


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**Tribology**

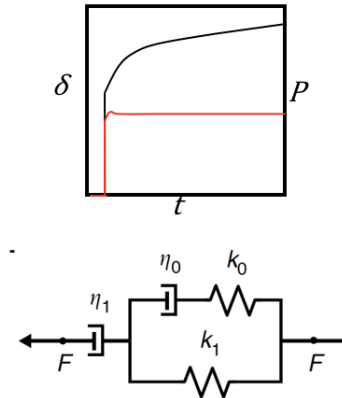
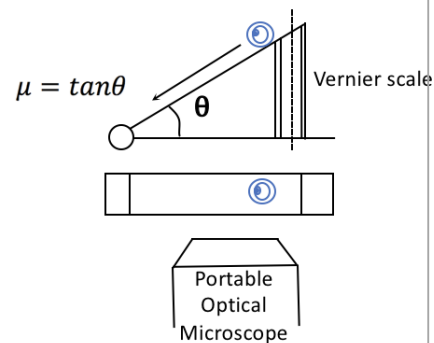


CONTACT AND FRICTIONAL DAMAGE

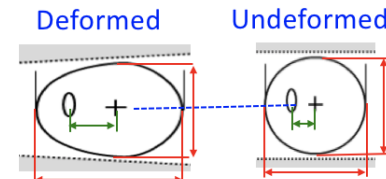
## 2) Kinematic friction



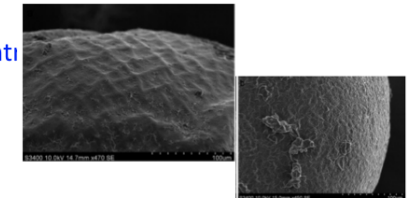
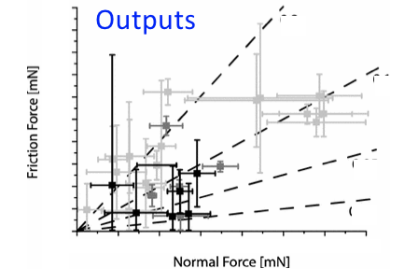
## 1) Stiction/gliding



Determining deformation and kinematics



Computer vision:- Tracking  
 - Locus of identified centri  
 - Minor/ Major Axis  
 - Roll/ slide ratio  
 SVM to predict response



[Kaviani, Shabanipour, Mirnategh, 2013]

**EPSRC**

Engineering and Physical Sciences  
Research Council









Innovate UK



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Any questions?

And now  
Pitches

# Midlands Engine Investment Fund



**MIDLANDS  
ENGINE**  
Investment Fund



Delivered by British Business Bank  
Financing growth for Midlands businesses

**University of Birmingham Business Club: Breakfast  
Briefing - 8 February 2018**

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**European  
Investment  
Bank**

*The EU bank*



Department for  
Business, Energy  
& Industrial Strategy



@meifbbb  
[www.meif.co.uk](http://www.meif.co.uk)

# British Business Bank

The UK's economic development bank

An independent plc since Nov 2014, with the UK government as sole shareholder

We work with 100+ partners



We improve finance markets for smaller businesses, so they work more effectively and dynamically



This helps businesses thrive and prosper, building economic activity in the UK



[www.meif.co.uk](http://www.meif.co.uk)



# The business finance guide

- Written by experts, an easy-to-understand guide to finance options at each stage of business life cycle
- Wide range of supporters, links put in front of c.1m businesses through direct marketing and partners
- Re-launched in June 2017 with enhanced digital content
- [www.thebusinessfinanceguide.co.uk/bbb](http://www.thebusinessfinanceguide.co.uk/bbb)



# Midlands Engine Investment Fund

## supported by the European Regional Development Fund

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### Financing the Midlands Engine

- Close collaboration between BBB, BEIS, DCLG and 10 Local Enterprise Partnerships (LEPs) in the West Midlands and East & South-East Midlands
- Fund of Funds, bringing together over £250 million of ERDF, EIB and BBB funding to invest in SMEs across the region between 2017 and 2022
- MEIF funding will support new and growing SMEs, create jobs and encourage and attract additional private sector investment
- Public procurement undertaken to appoint commercial fund managers to run underlying funds



[www.meif.co.uk](http://www.meif.co.uk)

# Midlands Engine Investment Fund

---

- **Small Business Loans**

- For recent start-ups and existing SME businesses seeking to borrow £25k - £150k to kickstart activity
- **BCRS Business Loans** - £17m fund in the West Midlands

- **Debt**

- For established SMEs needing to borrow from £100k to £1.5m to finance growth
- **Maven Capital Partners** - £50m fund in the West Midlands

- **Equity**

- For SMEs with ambitious growth plans seeking an equity injection of up to £2m

- **Early Stage and Proof-of-Concept**

- For early stage SMEs looking for funding up to £750k to commercialise innovative new products or services

**Funds to be announced shortly**

[www.meif.co.uk](http://www.meif.co.uk)



**European Union**  
European Regional  
Development Fund



**European  
Investment  
Bank**  
*The EU bank*



Department for  
Business, Energy  
& Industrial Strategy



# Midlands Engine Investment Fund

## Who can apply?

An SME with a material part of its operations, staffing or trading based in the MEIF area (or to be established within 2 years).

State aid and sector restrictions may apply.

## Why apply?

MEIF funds can provide funding options that can act as the boost a business needs, for example by:

- Funding expansion projects
- Making asset acquisitions
- Launching a new product/service
- Filling gaps in working capital

## How to apply?

Visit the MEIF website to find out details of the available funds and managers.

1. Find a fund manager at [www.meif.co.uk](http://www.meif.co.uk)
2. Make an enquiry direct to the fund manager and **submit a business plan**
3. The fund manager will contact you to see if the business qualifies
4. Make a formal application
5. The fund manager evaluates the application and makes investment decision

[www.meif.co.uk](http://www.meif.co.uk)





**MIDLANDS  
ENGINE**  
Investment Fund



Delivered by British Business Bank

Financing growth for Midlands businesses

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Bank**

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[www.meif.co.uk](http://www.meif.co.uk)

Next...

# BIG DATA CORRIDOR

A NEW BUSINESS ECONOMY. SMART APPROACH. BRIGHT FUTURE



European Union  
European Regional  
Development Fund



# Big Data Corridor – why you?

An exciting opportunity to be part of the **Big Data Corridor grant funded programme**

- access to expert technical and commercial support
- exploit the opportunities of data driven innovation for your business



# What's in it for you?

- Big Data Corridor will
  - give businesses in the Greater Birmingham and Solihull LEP a competitive edge in this emerging market
  - help accelerate your capabilities in the use of data
  - maximise your opportunity to increase growth and your market share of the growing global data economy

# Why is data important?

- Data is driving the UK's digital economy
  - basis of competition and growth
  - enhance your productivity
  - optimising efficiencies
  - create real value in development of new products and services.

# What's on offer?

## **Little or no experience of handling data?**

- Support to develop knowledge and skills
- Learn how to use information to the advantage of your company

## **Already know what you are doing?**

- Technical expertise and business advice to accelerate your product development and / or business plans

# Who is involved?

- 3-year project until October 2019 on big data funded by the partners and ERDF (European Regional Development Fund)
  - BCC: Digital Birmingham: Lead Partner & project management & SME engagement
  - Aston University: Research co-operations, consultancy, demonstrators for photonics
  - Birmingham City University: Data platform, research co-operations
  - Enable iD: Consultancy on data use, privacy and product development
  - Innovation Birmingham: Business support, iCentrum access
  - WMCA: Data owner, innovation





## How?

- **Sector insight workshops** to help your business better understand data capture and management; use of sensor technologies and data commercialisation – **starting early October**
- **Online data platform and toolkit** designed to enable experimentation with data and provide resources for new product development – **going live mid-October** **Expert technical assistance** from leading academics and technology organisations with product development from ideation to commercialisation

# Available now:

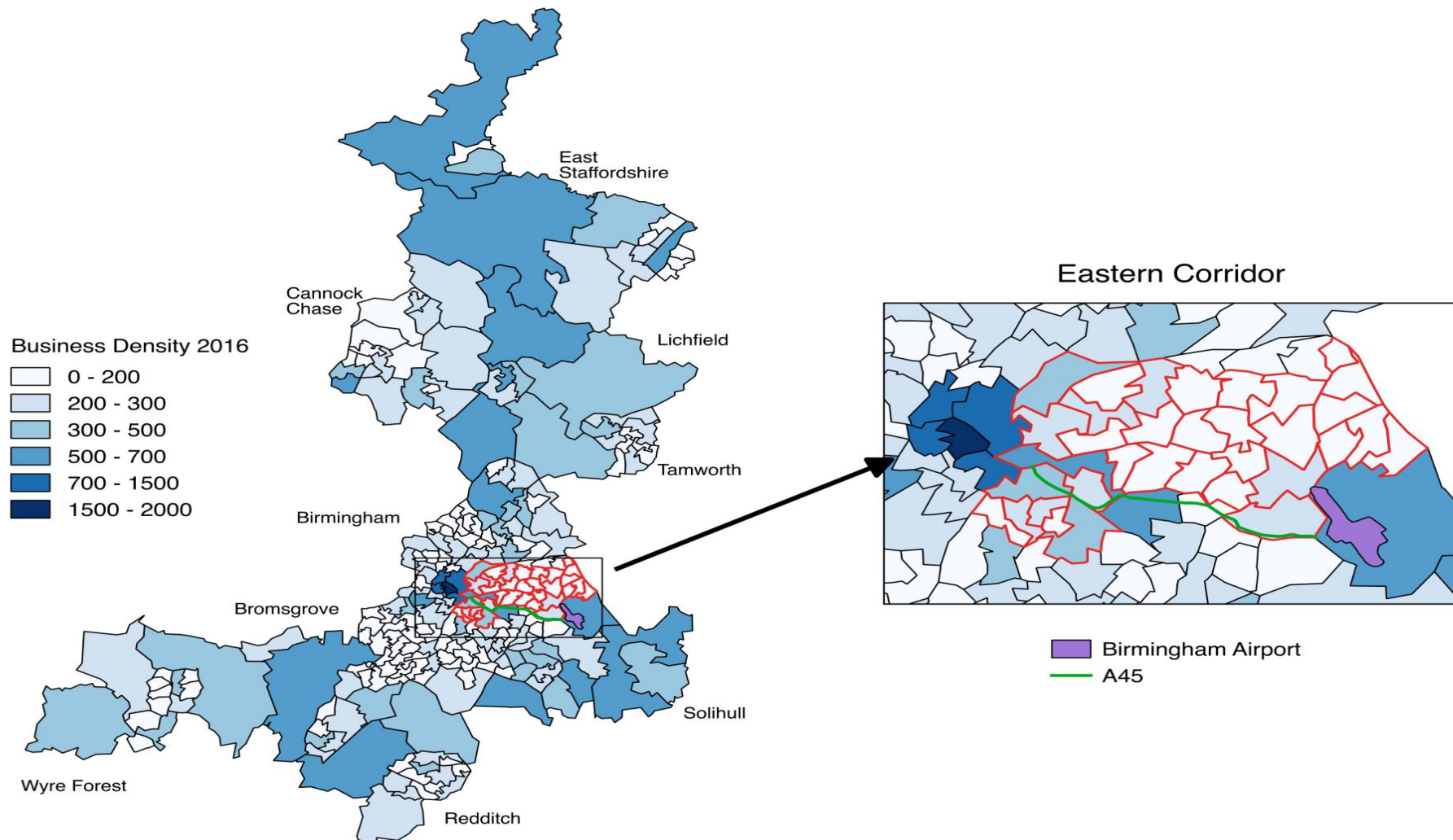
## Workshops/mentoring/network

- Managing finance in your growing business
- Every business owns IP – how does it affect you?
- Data as an asset:
  - Health and social care
  - Education
- Helping business access NHS markets
- Overview of transport in the West Midlands
- Empower your business with open data
- Introduction to APIs
- Cybersecurity – risk and reality
- BDC will respond to demand

## Tailor made demonstrators

- **Smart lighting** – dual use of lighting for illumination and data communication
- **Energy efficient hybrid lighting system** – combining delivery of natural light with LED, intelligent traffic and weather adaptive street lights
- **Optical fibre sensing** – distributed sensing system and intelligent monitoring of temperature, air quality in buildings, humidity and others
- **Gas sensing** for environmental monitoring

# Can you participate?

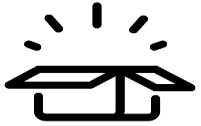


- All SMEs within GBSLEP can apply (Greater Birmingham and Solihull Local Enterprise Partnership)
- BDC will engage with stakeholders and citizens in Eastern Corridor to improve quality of life
- Aim to develop solutions that could help with specific issues e.g. health/mobility

## What we provide to qualifying businesses



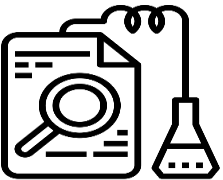
- 12 hours support “understand data”



- Help in bringing new products to market



- Creation of employment opportunities



- Research co-operations for innovation and development

## How to sign up:

- Visit <https://bigdatacorridor.com/>
- Complete a registration of interest
- One of our partners will be in touch to agree and arrange your support package
- Attend workshops or events

# How to find out more?

Website and expression of interest at: [bigdatacorridor.com](http://bigdatacorridor.com)

E-mail us at: [bigdatacorridor@birmingham.gov.uk](mailto:bigdatacorridor@birmingham.gov.uk)

Phone us at: Digital Birmingham office: 0121 303 8779

Next...



# RESEARCH & DEVELOPMENT MAXIMISING YOUR INVESTMENT







# RESEARCH & DEVELOPMENT TAX RELIEF



## WHAT'S IT WORTH?

### – SMEs

- effective saving of between 26% and 33%

### – Large Companies 'RDEC' scheme

- Effective 9.6% credit
- Reduces your corporation tax bill
- Loss-making companies get cash-back

## IMPACT OF GRANT FUNDING

You can still make a claim:

- Notifiable state aid
- by project



~~SME claim~~

RDEC claim



- Other grant funding



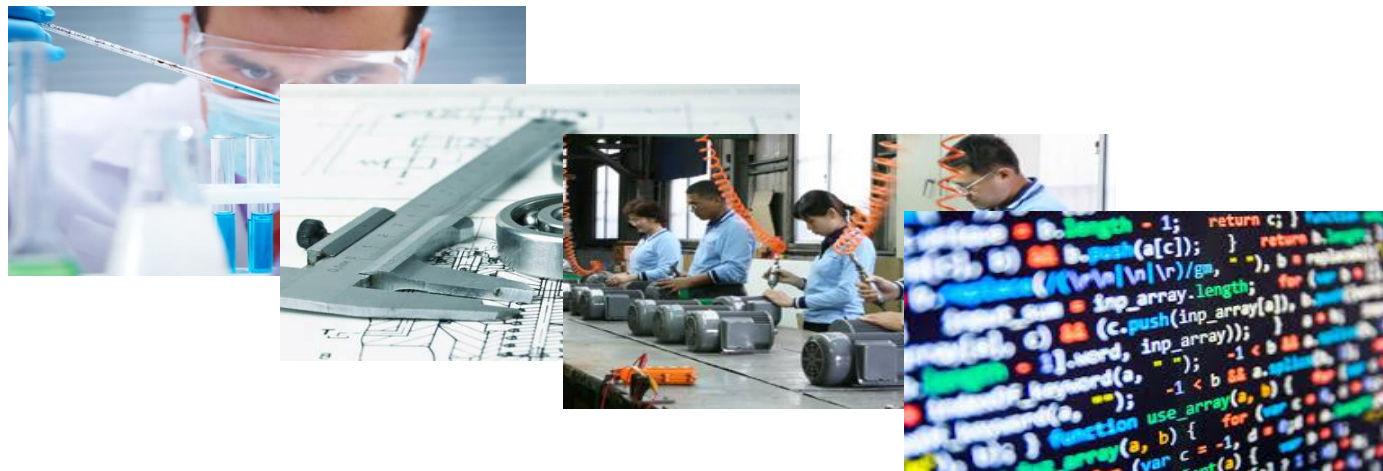
composite claim



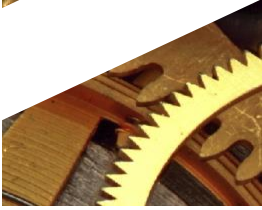
# RESEARCH & DEVELOPMENT TAX RELIEF

## ADVANCE IN SCIENCE OR TECHNOLOGY

- **Not just ‘world firsts’** but
- Seeking improvements to
  - products
  - processes
  - services
  - materials



- **Not just lab work, but**
  - engineering
  - production
  - design
  - software

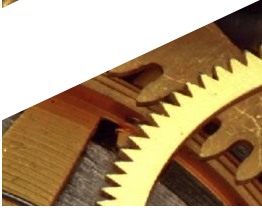


# RESEARCH & DEVELOPMENT TAX RELIEF

Resolution of  
scientific or technological **UNCERTAINTY**



- How do we do that?
- *Can* we do that?
- Problems
- Testing
- Multiple iterations
- Failure



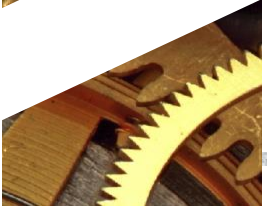
# RESEARCH & DEVELOPMENT TAX RELIEF

Not **READILY DEDUCIBLE**  
by a **COMPETENT PROFESSIONAL**

- “Give that to Bob  
– he’ll sort it”



- Not in public domain
- Replication



# RESEARCH & DEVELOPMENT TAX RELIEF

How to maximise your claim

## Our approach

- Don't start with the numbers
- Speak to engineers, not accountants
- Answer HMRC's key questions up front
- Industry experience





# Please get in touch



**Steve Dennett – Senior Manager**

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**T:** 0121 232 9643

Next...

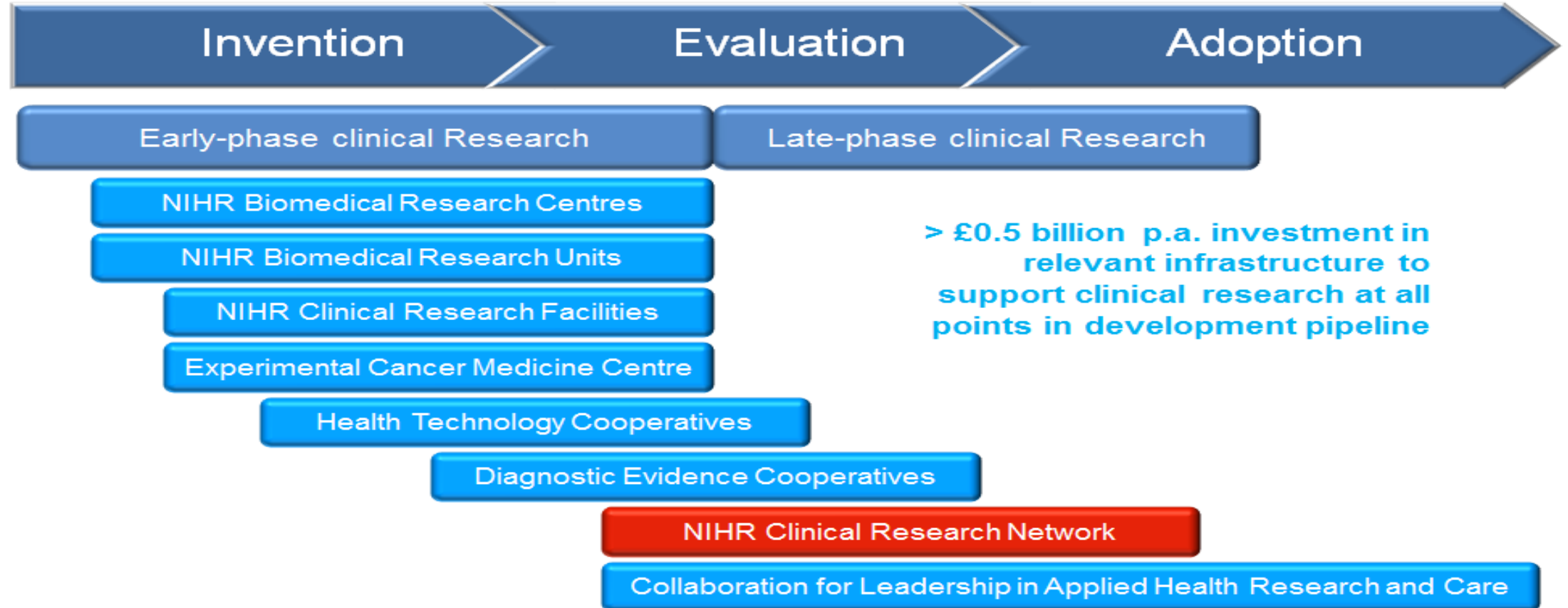
# The CRN: Who we are and what we do

Sinead Collinge  
Industry Operations Manager

CRN: West Midlands



# Where we fit in



# Key statistics



## Improved study set-up and delivery

- **86%** of WM trusts delivered to commercial research in 17/18
- Increased the number of commercial contract studies delivered in the WM in 17/18 – **154%**
- The Network continues to demonstrate that the UK is internationally competitive in speed of study set-up by recruiting **27 global and European first patients** into multiple studies in 2015/16

# Clinical Specialties



- West Midlands Clinical Research Network delivers research across 30 clinical specialties:

Ageing  
Anaesthesia, perioperative medicine and pain management  
Cancer  
Cardiovascular disease  
Children  
Critical care  
Dementias and neurodegeneration (DeNDRoN)  
Dermatology  
Diabetes  
Ear, nose and throat  
Gastroenterology  
Genetics  
Haematology  
Health services and delivery research  
Hepatology

Infectious diseases and microbiology  
Injuries and emergencies  
Mental health  
Metabolic and endocrine disorders  
Musculoskeletal disorders  
Neurological disorders  
Ophthalmology  
Oral and dental health  
Primary care  
Public health  
Renal disorders  
Reproductive health and childbirth  
Respiratory disorders  
Stroke  
Surgery

# Our Services

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## 1) Early Feedback

- expert guidance on delivery of study in NHS
- Identify Collaborators – Academic & Clinical

## 2) Feasibility

- Site Identification
- Site Intelligence

## 3) Set Up

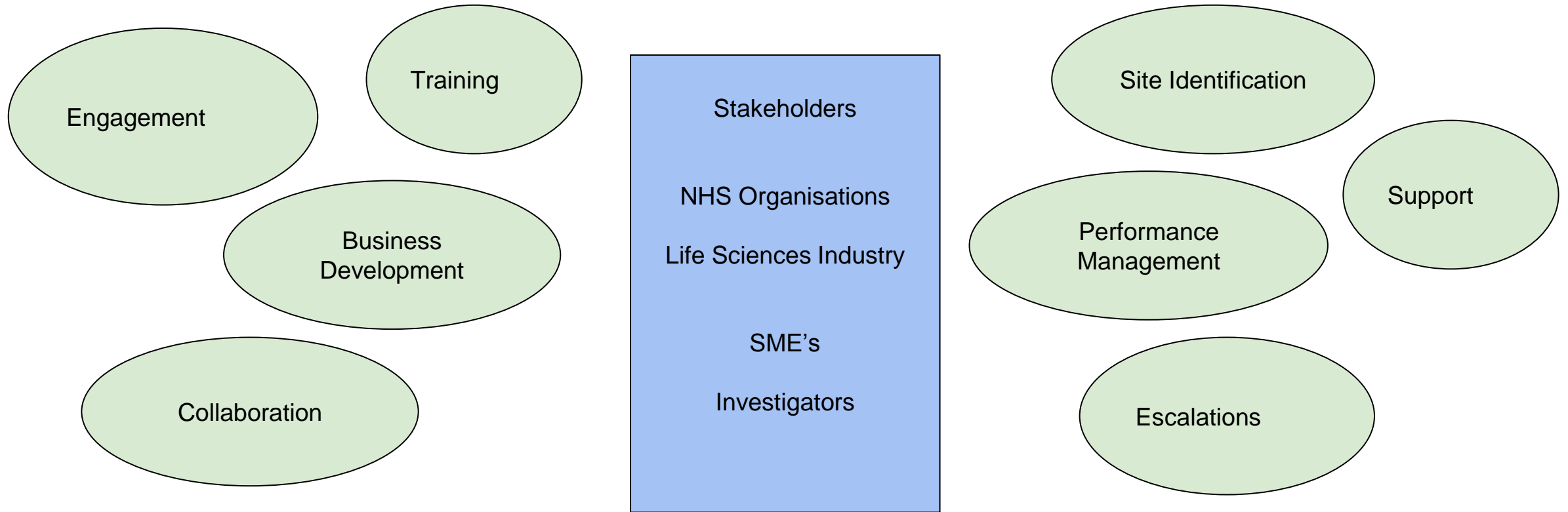
- Study Support Service
- Industry Costing Template
- Model Agreements

## 4) Performance Management

- Study Milestone Schedule
- Pro-active recruitment monitoring
- Staff support



# Our Business



***Promote the West Midlands to the Life Sciences Industry as the go-to place for research delivery***



# Contacts & Further Information

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## Industry Team

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Study Support Services

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**Thank you to our speakers  
and for your attention**

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