

SMEs innovating with (personal) data

Challenges, barriers, interventions

Dr Lucie Burgess @LucieCBurgess

Head of Personal Data

Dr Michele Nati @michelenati_

Personal Data and Trust Lead Technologist

Dr Irene Lopez de Vallejo @ILdeV

Director Collaborative Research, Regional and International Development

Digital Catapult, UK @DigiCatapult

We work with companies of all sizes to transform their businesses through digital innovation

- Accelerating the practical application of digital technology
- Tapping into digital disruption to transform business
- From the grassroots up and the boardroom down
- Fostering a culture of open innovation
- Creating value through collaborative research
- Delivering commercial success, technological advancement and economic growth



Digital Catapult focuses on sectors where digital innovation can make the greatest impact, to increase productivity, efficiency and scale

DIGITAL MANUFACTURING

Manufacturing contributes over **£6.7trillion** to the global economy

In 2015 exports of goods produced by manufacturing sector estimated **£257bn**

The sector provided **2.6m** jobs in the UK in 2015

Digital technology could revolutionise **productivity, quality** and increase **allocative efficiency** in supply chain management and pricing

Increasing productivity and creating new value from concept to production and supply chain across the life cycle of products

CREATIVE INDUSTRIES



Nine sub sectors with a **combined Gross Value Added of £84.1bn** in 2014



Employs **2.3m people** and supports **182,000 businesses**, mostly small and medium size companies



Higher bandwidth and increasing mobile access is leading to a revolution in content programming and new services



Making the UK the best place in the world to create content for immersive systems

DIGITAL HEALTH AND CARE



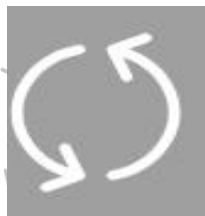
The UK digital health systems market was worth **£1.3bn** in 2014



The UK health analytics market was worth **£155m** in 2014

In 2015 the UK wearable medical device market was estimated to be between **£36m** and **£77m**

Enabling people to live longer, happier and healthier lives through digital technology



DATA DRIVEN

Cyber-security
Blockchain
Personal Data & Trust

CONNECTED

Internet of Things
5G
LPWAN

INTELLIGENT

Artificial Intelligence
Machine Learning
Big Data

IMMERSIVE

Augmented Reality
Virtual Reality
Mixed Reality

LIVE PROJECTS

Smart Contracts
Cyber 101
PwC Health

LIVE PROJECTS

IoTUK
5G Brighton
Things Connected

LIVE PROJECTS

Rolls-Royce
British Oxygen Co.
Hack&Pitch

LIVE PROJECTS

Immersive Lab
Augmentor
COMING SOON!

Digital Catapult's broad network helps UK firms deliver better products and services to market at home and abroad

CYBER 101
Business basics bootcamps for cyber security SMEs



UK Games Fund

Distributed Ledger Experiment

You are a pioneer testing smart contracts verified via the Distributed Ledger. You'll fill out a form in order to get the contract done. Don't worry. We'll walk you through it!

[Get started](#) [#support](#)

IMMERSIVE LAB

THINGS CONNECTED

An LPWAN support programme for IoT entrepreneurs and developers

- @DigCatapult
- #ThingsConnected
- digicatapult.org.uk/things-connected

Get your IoT solution to market faster

Test and develop your IoT solution

Free to use

Do not compromise your devices



Augmentor

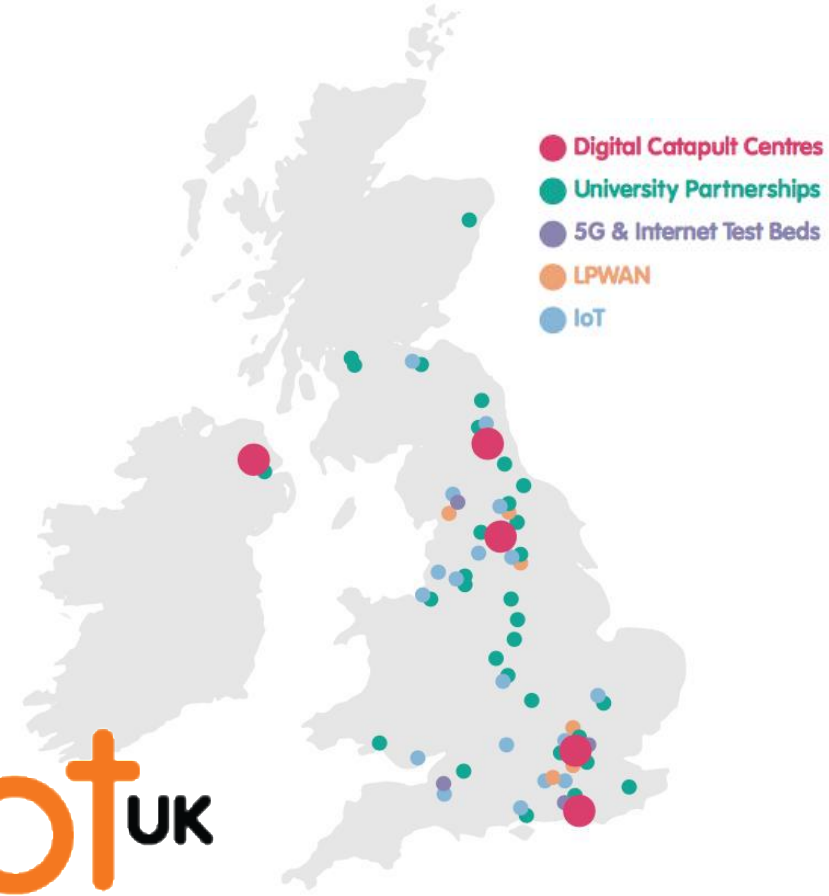
Powered by

CATAPULT Digital **Seedcamp**

iot UK

SYNCHRONICITY

IoT European Large-Scale Pilots Programme



How we make digital innovation happen

We make innovation happen by **removing the barriers to growth** faced by businesses.

We work with SMEs and large corporates in open innovation and research **projects**.

We **convene** communities (e.g. PIMS, PDTN).

We co-develop **compliance tools & privacy labels**.


We participate in development of **standards** (BSI & ICO).

- Large scale test beds
- Driving engagement between small companies and large companies
- Collaborative Research & Development projects
- Accelerating the growth of markets by supporting ecosystems and helping exports
- Development of standards
- Building prototypes, testing feasibility of technologies
- Helping large companies become more efficient through the introduction of digital innovation
- Providing access to facilities, skills and space

The World today

- Global internet users > 50% global population
 - Still decentralised and neutral but value unevenly distributed
 - Age of **network** effects
 - Age of walled gardens and **technical lock-in**
 - Low marginal cost, platforms dominate
 - = New age of **monopoly**
- 

The World today

- Personal Data **availability** is growing
 - Businesses digital **transformation** is leveraging that
 - Transparency and trust becoming of paramount importance
 - Only 1 in 5 Consumers read privacy statement
 - Only 15% feels to have control over how their data are used
 - 76% of consumers feel they have no control over how their data is shared or with whom
 - Regulatory framework now in place to measure it (**GDPR**)
- 

The importance of innovation and the economy

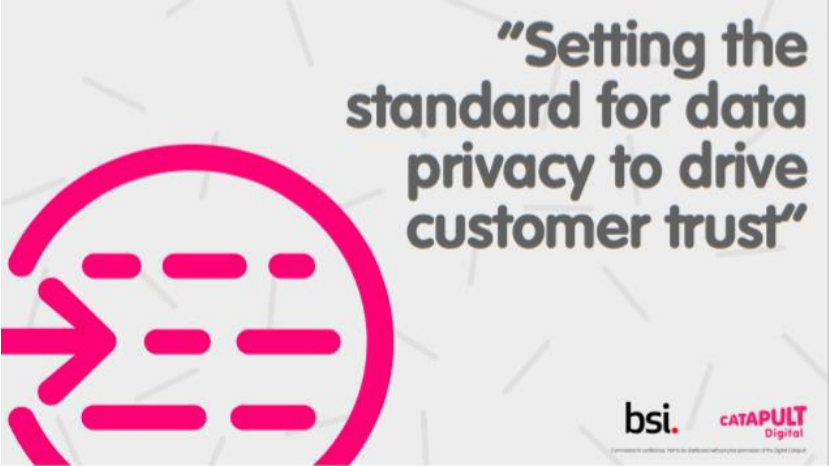
- Following the financial crisis and global recession, the economy is central
- Recognition that entrepreneurship can help to solve global problems
- Innovation brings together a perfect storm of disruptive technologies
- New applications in smart cities, robotics, autonomous vehicles, data markets, energy sustainability, retail, digital manufacturing, creative industries, finance ...
- New business models are as important as technology

“ *I want you to get rich, but you don't get to be greedy and selfish because our societies don't accept that anymore.* **”**

— Emmanuel Macron

<https://techcrunch.com/2017/06/16/emmanuel-macron-proves-that-he-still-cares-about-startups/?ncid=rss>

New business models to preserve privacy?



How much should we trust algorithms?

- How transparent are algorithms? Can we trust a ‘black box’?
- To what extent do machine learning models incorporate systematic bias?
- What rights do people have to opt out of their use?
- To what extent might algorithms violate our privacy?



Who Wouldn't Want a Digital Butler?

April 14, 2017 in 2017 Online Forum: Platform Law

Maurice E. Stucke¹ & Ariel Ezrachi²

Personal digital assistants are alluring. Many of us already benefit from basic digital assistants such as Google Assistant, Apple's Siri, Facebook's M, and Amazon.com's Alexa. They can read to our children, order beer and pizza, update us on traffic and

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BUSINESS LAW

How Pricing Bots Could Form Cartels and Make Things More Expensive

by Maurice E. Stucke and Ariel Ezrachi

OCTOBER 27, 2016

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oct16-27-138704353

How competitive is our market economy? Not as much as it ought to be. And the growth of big data threatens to make things even worse. Antitrust regulators already struggle to keep markets competitive. How will they fare in a world where intelligent pricing algorithms subtly collude with one

Blockchain: what price for trust?

- When might it be better to use other forms of secure data access?
- For very secure systems (e.g. NHS data) are public ledgers appropriate?
- How well can smart contracts encode agreements which are nuanced by design?
- Distributed ledgers/ smart contracts, like all code, are subject to bugs ...

There is little doubt that smart contracts will find compelling use cases and achieve those objectives in many instances. But equally, it is important to realise the limitations of smart contracts and understand that there are many elements of contractual relations that are not suitable for performance through deterministic computer logic embodied in a smart contract. If there are unrealistic expectations for what the technology can achieve, early adopters may find that they frustrate, rather than simplify, their dealings with others.

Chapter

[Banking Beyond Banks and Money](#)

Part of the series [New Economic Windows](#) pp 97-120

Date: 01 September 2016

Features or Bugs: The Seven Sins of Current Bitcoin



**“Setting the
standard for data
privacy to drive
customer trust”**



bsi.

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'Food labels for privacy' - PAS 4891



- Voluntary standard, working with the BSI, for organisations to communicate their privacy policy online



- Research shows that **users accept privacy policies without reading them**

- This approach significantly simplifies privacy policies using the UK ICO's guidance on 'layered privacy policies'

- First draft: statements without icons (May 2017)

- Second draft: use of icons (Dec 2017)



Nobody reads'em

Online store/service/book	Word count
Paypal	36,275
Hamlet	30,066
Apple iTunes	19,972
Macbeth	18,110
Windows Live	14,714
Apple iOS 5	13,366
Facebook	11,195
Google all-inclusive	10,640
Apple iCloud	10,724
Amazon Kindle	7,115
Amazon.co.uk	5,212
Twitter	4,445
Google	4,099

Gamestation.co.uk PC Pitstop

TILBURG UNIVERSITY

3

Slide courtesy of Nicolo Zingales, Tilburg University

THE PERSONAL DATA RECEIPT



The receipt helps the visitor understand the use of their personal data



A visitor arrives at

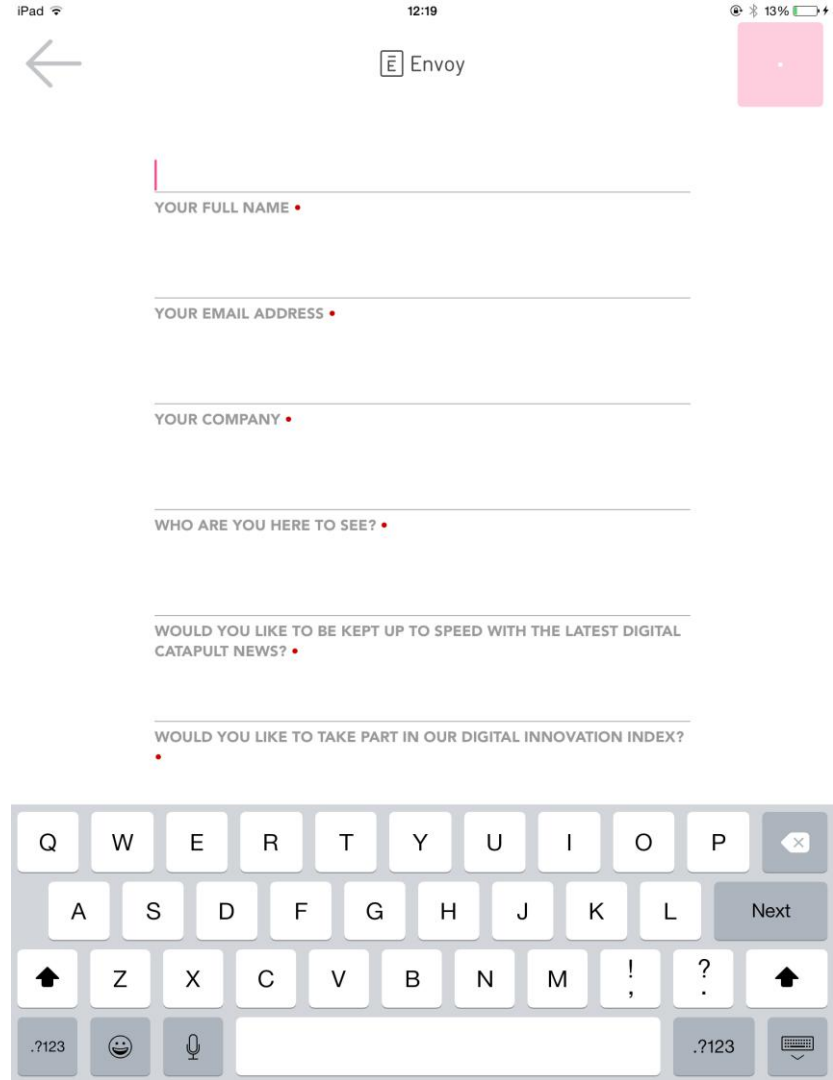
**DIGITAL
CATAPULT
CENTRE**



Personal data receipt sent by email

Personal Data Receipts objectives

- Demonstrate that providing a PDR will help to **build trust** between organisations and their customers ...
- ... and that this trust can be **mutually beneficial**.
- Define **best practice** & provide guidance for the creation of PDRs
- **Educate** and inform individuals and companies about managing personal data and GDPR.
- **Engage** with many of the visitors to the centre, to get their feedback on the PDR and understand whether it builds their trust.
- Start to develop a **wider ecosystem** of major companies and organisations building trust through PDRs





Data Controller

14/11/2016 15:08

After your visit at Digital Catapult

To:



2016-11-14

Hello

When you recently signed in to the Digital Catapult you gave us some of your personal information.

Below is a receipt of your personal information to show what we collected, and how we use it; we're trialling this receipt to show how individuals and organisations can track and manage the use of personal data. [Find out more >>](#)

Please keep this email for future reference.

Your Personal Data Receipt

The personal information you gave Digital Catapult



- Full name
- Email address
- Organisation
- Signature

The purpose of collecting your personal information



- For your health and safety while you are visiting us.
- For demonstrating to our funders our engagement with organisations.
- If you signed up for it, sending you marketing information.

How your personal information will be treated



Sharing

- If you are a member of the Personal Data & Trust Network we share your details with the Knowledge Transfer Network (KTN).
- Otherwise, we do NOT share your personal information with anyone else.



Storage

- Your personal information is stored securely on servers within the EU.
- We will hold your data for as long as necessary, but no longer than seven years or until you ask for it to be removed.



Information

- If you want us to stop using the above information, for the purposes we've listed, please [send us a request](#) and reference the Receipt ID below.

Receipt ID: 00vb000000Y29zTAAR

With this personal data receipt, we are getting ready for the implementation of the General Data Protection Regulation (GDPR) across Europe.

[Find out more](#)

We take the management of your personal data seriously,

The Digital Catapult Team

Data Controller

CATAPULT
Digital

Digital Catapult
101 Euston Road
London NW1 2RA
Company Registration number: 07964699

digitalcatapultcentre.org.uk

Personal Data Receipts benefits

- **For organisations**

- Build trust & transparency with your **customers / users**
- Clarify how you use and process personal data
- Provide a **simplified** view of terms & conditions which is easy to understand in online contexts
- Demonstrate that providing PDRs is easy!

- **For individuals**

- Track, manage and control the use of your personal data.
- **Understand** what you are letting service providers do with it
- No need to read the fine print or long pages of terms and conditions

Future directions and challenges

- **Industry engagement** and implementation
- **Personal data receipts at scale**
- **Uncertainty** around implementation of **GDPR**
- **Proliferation** of trust marks, privacy seals...
- **All feedback appreciated!**



THANK YOU!

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 digidcatapult.org.uk

 Digital Catapult

 0300 1233 101

 info@digidcatapult.org.uk

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