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# Innokaupungit

Helsinki, 13.9.22

Jarmo Eskelinen, Executive Director  
Data-Driven Innovation

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the world

An aerial photograph of the Helsinki city center, showing a dense urban landscape with numerous buildings, streets, and green spaces. The image is framed by a grey border. Overlaid on the center of the image is the text "FORUM VIRIUM HELSINKI" in a large, white, sans-serif font.

# FORUM VIRIUM HELSINKI





67  $\mu\text{g}/\text{m}^3$   
NO POLLUTANTS

21°C  
TEMPERATURE

5.8 km/h  
WIND SPEED

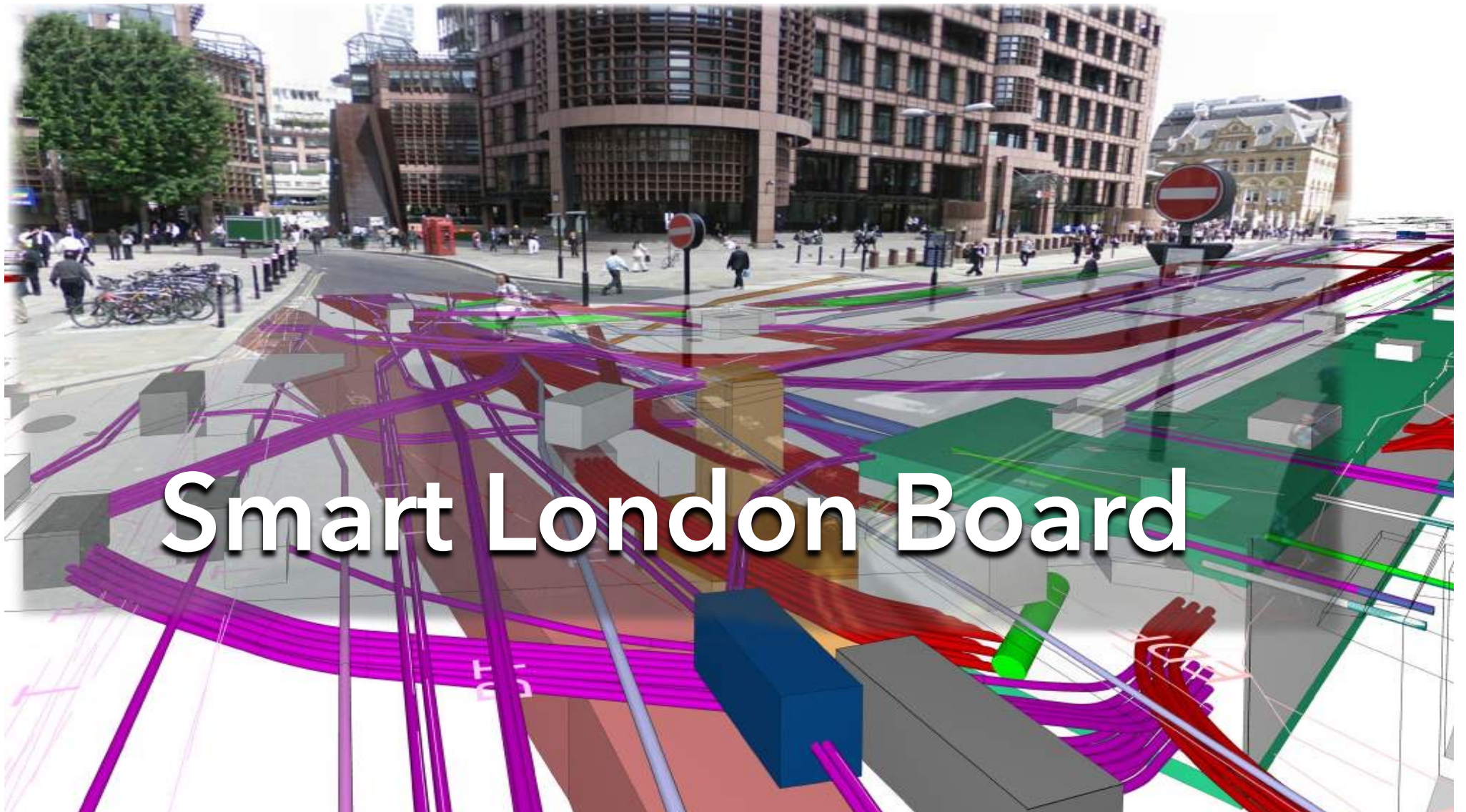
ORGANICITY

WE ARE  
FUTURE CITIES  
CATAPULT

15 DB  
SOUND

CATAPULT  
Future Cities









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**Data-Driven  
Innovation**

*Part of the Edinburgh & South East Scotland City Region Deal*



# Data-Driven Innovation



**CITY  
REGION  
DEAL**  
Edinburgh  
& South East  
Scotland



**UK  
Government**



**Scottish Government**  
Riaghaltas na h-Alba  
gov.scot

kaupungit ratkaisijoina





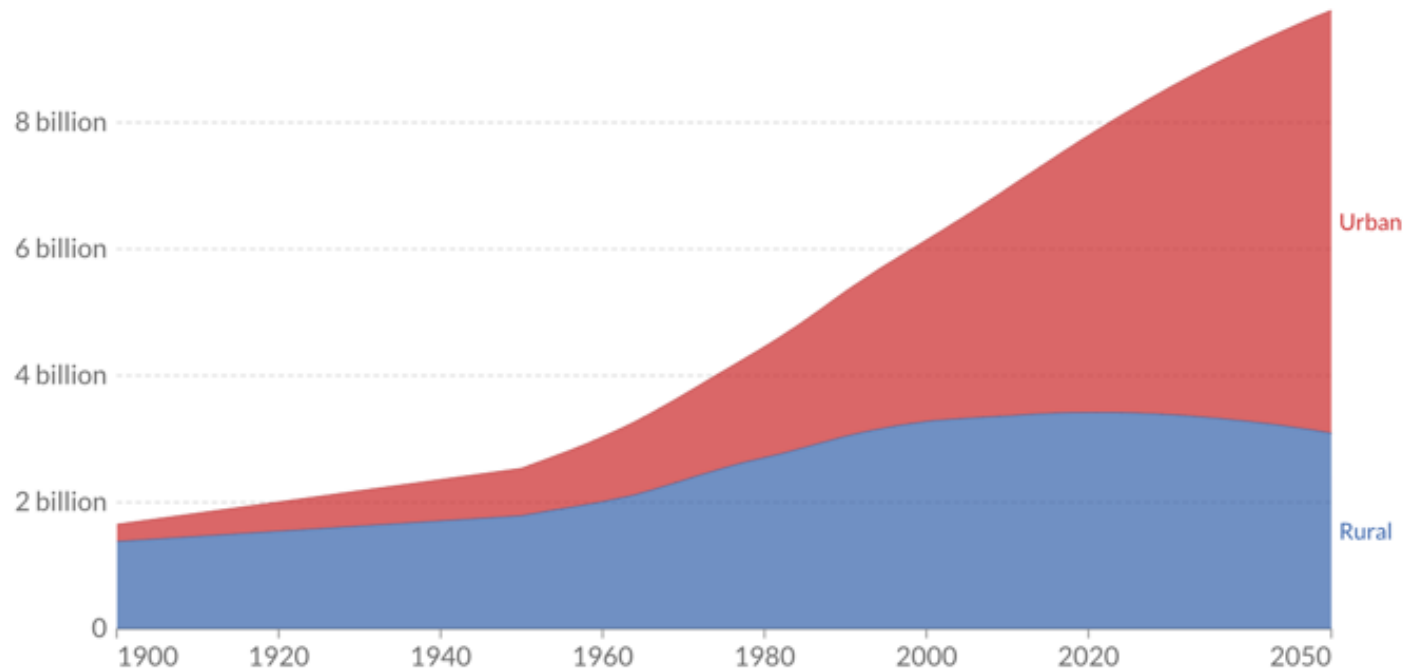
## Urban and rural population projected to 2050, World, 1900 to 2050

Our World  
in Data

Total urban and rural population, given as estimates to 2016, and UN projections to 2050. Projections are based on the UN World Urbanization Prospects and its median fertility scenario.

[↔ Change country](#)

☐ Relative



Source: OWID based on UN World Urbanization Prospects 2018 and historical sources (see Sources)

[OurWorldInData.org/urbanization](https://OurWorldInData.org/urbanization) • CC BY



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A photograph of a flooded street with a man using a long pole to clear debris. A dark car with license plate SK06 LWZ is partially submerged. The scene is overlaid with a red tint.

**ilkeiden ongelmien keskittymää**



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A small white Omron ASUM-1 mobile robot is positioned in a grocery store aisle. The robot has a black and white striped design on its side, a circular logo with the number '53', and a license plate that reads 'ASUM-1'. It is moving towards the right. In the background, a person is visible at a checkout counter, and shelves are stocked with various products. The text 'ratkaisujen kehittäjiä' is overlaid in white on the image.

ratkaisujen kehittäjiä



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kaupungit ovat yhteisöjä



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# digitaalinen kaupunki



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**top-  
down**

**markkina**

**bottom  
up**

Pic: SeeNoEvil





MOVE  
FAST AND  
BREAK  
THINGS

nopeuden haaste



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**kaupungin muuttaminen on hidasta**



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# päätösten pitkä häntä



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# yritykset markkina kaupunki

Pic: Jarmo Eskelinen, 2017 (cc)

# Teknologian kesyttäminen







# teknologia ydinosamisena



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Header

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# Case:

# LOTI – London Office for Technology and Innovation

 @LOTI\_LDN

 [www.lotlondon.com](http://www.lotlondon.com)

#LOTI

loti



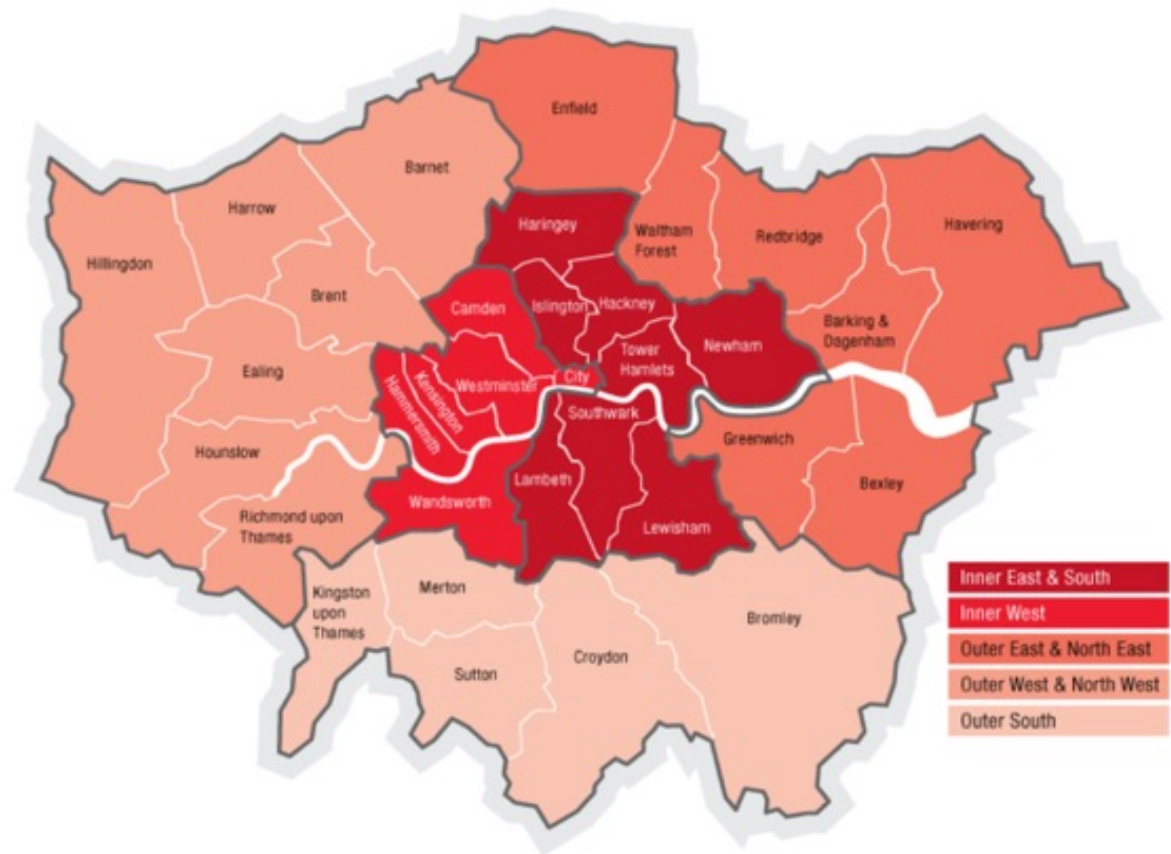
## Mayor Sadiq Khan: DATAN JA DIGITAALISUUDEN PAREMPI KÄYTTÖ VOI AUTTAA RATKAISEMAAN LONTOON ONGELMIA



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- 33 kaupunginosaa á 250 000
- 50 terveydenhoito-organisaatiota
- Monia kaupunginlaajuisia viranomaisia
- 48 yliopistoa
- 40+ laajaa kaupunkikehityskohdetta
- Saaristo teknologiahubeja

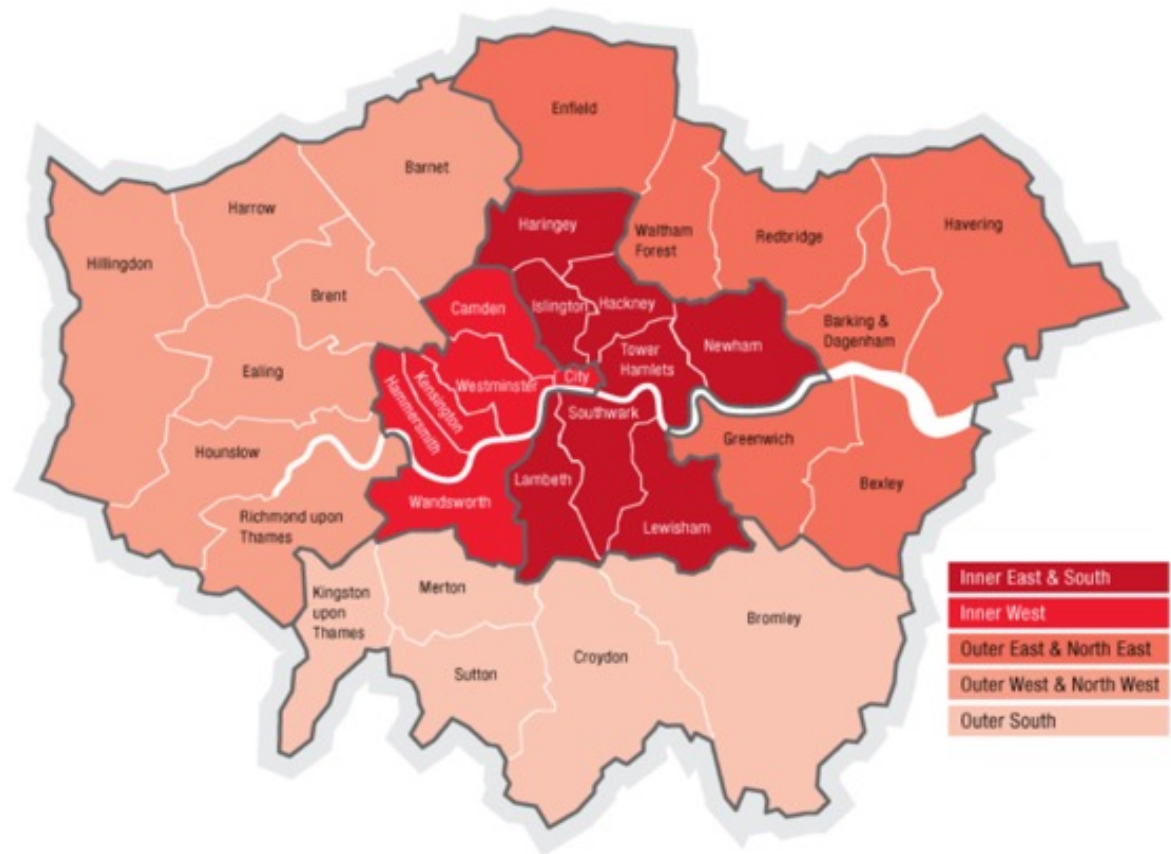


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- Puuttuva digitaalinen johtaminen
- Rajalliset ja raskaat yhteistyömallit
- Puutteellinen seuranta ja mittaaminen
- Heikko perusta – järjestelmät, data, lisenssit
- Hajanaisuus estää innovaatioyhteistyön



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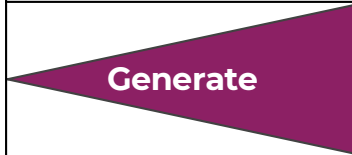
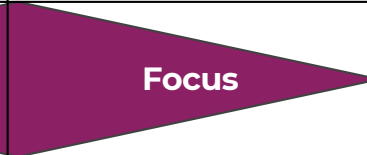
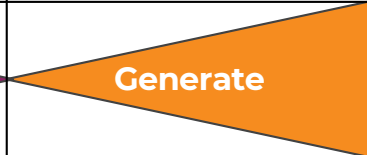
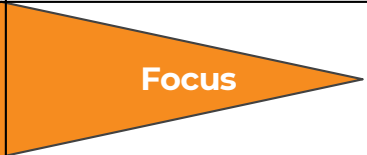
**LOTI helps boroughs work together to bring the best of digital and data innovation to improve public services and outcomes for Londoners.**

**loti**



# LOTIn tavoitelähtöinen metodologia

*Aloita tästä ↓*

|                    | HAASTEET                                                                           |                                                                                    | RATKAISUT                                                                           |                                                                                     | TAVOITE                                                                             |
|--------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| VAIHE              | 2 - Löydä                                                                          | 3 - Määritä                                                                        | 4 - Kehitä                                                                          | 5 - Toteuta                                                                         | 1 - Johda                                                                           |
|                    |   |  |  |  |  |
| HAASTE             | Mitkä ongelmat estävät tavoitteeseen pääsyn?                                       | Mitkä näistä voimme ratkaista?                                                     | Mitä ideoita meillä on ratkaisuiksi?                                                | Mitkä ratkaisut haluamme testata ja arvioida?                                       | Minkä todellisen muutoksen haluamme saada aikaan?                                   |
| TECH & DATA        | Mitkä ongelmat liittyvät teknologiaan ja dataan?                                   |                                                                                    | Miten teknologia ja data voivat auttaa ratkaisun toteuttamisessa?                   |                                                                                     | Ketkä ihmiset hyötyvät tästä toimenpiteestä, ja miten?                              |
| IHMISET & PROSESSI | Mitkä ongelmat liittyvät ihmisiin, prosesseihin, päätöksentekoon ja reunaehtoihin? |                                                                                    | Mitä tarvitsemme tavoitteeseen pääsemiseksi teknologian ja datan ohella?            |                                                                                     |                                                                                     |

## Ketterä projektinhallinta helpottaa riskinhallintaa

Ketterä projektimalli voi olla vähemmän riskialtis ja kallis kuin perinteiset vesiputousmallit koska virheet ja ongelmat havaitaan aiemmin.



[Lähde: Nesta  
playbook for  
innovation  
learning.](#)



Aloita tästä

## 1 - TAVOITTEET

Kenellä menee millä tavoin paremmin jos toimimme?

*What are our desired outcomes?*

## 2 - TOIMENPITEET

KUKA voi tehdä MITÄ toisin jos heillä olisi parempaa tietoa käytettävissään?

*What's the intervention?*

## 3 - YMMÄRRYS

Millainen näkymä meidän pitää saada tietoon jotta toimenpiteet ovat mahdollisia?

*What's the data product?*

LOTI Data -metodologia

## 6 - MAHDOLLISTAJAT

Datan lisäksi, mitä muuta tarvitaan tavoitteen saavuttamiseen?

*What other changes to people, processes, ways of working, policies and conditions need to be present?*

## 5 - ETIIKKA

Voimmeko käyttää tietoa laillisesti ja eettisesti?

*What legal gateway allows us to use this data in this way?*

*Just because we can do it, should we do it? Who might be negatively affected if we used data in this way?*

## 4 - DATA

Mitä dataa tarvitaan ymmärryksen synnyttämiseen?

*Can we use our existing data?*

*Can we get data from other public or private sector organisations?*

*Do we need new (e.g. smart city) tech to generate the data?*

loti

# Tavoitelähtöisen mallin hyödyt:

1. Metodologia toimii johtotähtenä
2. Priorisoi haasteet ja ratkaisut
3. Motivoi rajojen ja organisatorisen kankeuden ylittämiseen
4. Auttaa keskeneräisten ja toimimattomien ratkaisujen kitkemisessä
5. Jaettu tavoite vauhdittaa yhteistyötä





## Digital Inclusion Innovation Programme

Supporting boroughs to tackle digital exclusion in London



## Digital Inclusion in Temporary Accommodation

Working with boroughs to ensure that no one is digitally excluded as a result of living in Temporary Accommodation.



## Supporting Dementia Care

Equipping community support groups with the right skills and knowledge to provide digitally inclusive services to people affected by dementia



## Innovation in Procurement

Introduction In its first year of operation, one of LOTI's three work areas focused on improving



## Future Workplace

Helping boroughs understand how they can use staff policies, technologies and new ways of working to create high-performing workplaces.



## Device upcycling

Helping London's public sector organisations to upcycle their retired devices to benefit digitally excluded Londoners.



## **How to upcycle retired devices in your organisation**

A simple and practical guide and process map to help organisations upcycle their retired devices.



## **Mapping Digital Exclusion Toolkit**

A guide to using the London Digital Exclusion Map and Persona Bank in your locality.



## **LOTI Guide to Designing Smart City Projects**

A guide to designing smart city projects that are outcomes focused and embed trust, ethics and security as foundational principles.



## **How to Establish A Data Ethics Governance Board**

## **Amazon Echo Pilot: A Case Study from Greenwich**

## **Data Quality: Why it Matters and How to Improve It**





# Bloomberg Philanthropies City Data Alliance



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A black and white photograph of a crowded pedestrian street. A large mural is painted on the side of a bridge or overpass, depicting a complex, abstract scene. A group of people is standing on the bridge, looking down at the street. The street below is filled with a large crowd of people walking in both directions. The buildings on either side of the street are multi-story, with various architectural details and windows. The overall atmosphere is one of a busy, vibrant urban environment.

**kaupungit innovaatioalustana**



# *case:* Data-Driven Innovation



**We will establish the region  
as the Data Capital of Europe,  
drawing inward investment,  
fuelling entrepreneurship and  
delivering economic growth**

**£660m budjetti**

1000 yrityskumppanuutta

**10 toimialaa**

**15 vuotta**

**6 DDI-innovaatiokeskusta**

**100,000 data scientists**

**400 start-upia**

**700,000 data-  
kansalaista**

**1 supertietokone ja  
datakeskus**





# Innovaatio- alusta



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Edinburg  
Futures  
Institute



Usher Institute



Easter Bush



National  
Robotarium



Bayes  
Centre



Edinburgh International Data Facility



# Data Skills Gateway



**Dataopetus  
kouluissa**



**Dataopetus  
opistoissa**



**Dataopetus  
yliopistossa**



**Datataidot  
työpaikoilla**

**DDI Datataidot –ohjelma on alueen asukkaiden saatavilla  
riippumatta taustasta, sukupuolesta ja asuinpaikasta.**

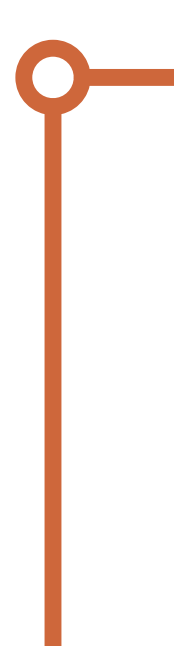
# DDI - toteutuspolku



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**DDI** Data-Driven  
Innovation



The logo for Data-Driven Innovation, featuring a stylized 'DDI' in orange, yellow, and teal colors.

## Data-Driven Innovation

**DDI pähkinäkuoressa – mitä,  
milloin, ja miten**

Perustettu World Wide Webin synnyn  
jälkeen (ja monet vasta 2000 -luvulla)



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Data-Driven  
Innovation

amazon

1994

Booking.com

1996

Google

1998



Alibaba.com™

1999

Skyscanner

2002

facebook.

2003

airbnb

2008

UBER

2009

deliveroo

2013

Revolut

2015



Tekoälytutkimus Edinburghissa alkoi 1963 jolloin Alan Turingin työtoveri Donald Michie perusti ensimmäisen AI-laboratorion



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Viime vuosikymmenenä  
Edinburghista on tullut Britannian  
nopeimmin kasvava digitaalisen  
liiketoiminnan keskus (alan  
työllisyyden kasvu 8.2% per vuosi)  
(DCMS, 2021)



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 Department for Business, Energy & Industrial Strategy



## Enabling a World-Leading Regional Digital Economy through Data Driven Innovation

Edinburgh & South East Scotland City Region  
A Science and Innovation Audit Report sponsored by the  
Department for Business, Energy & Industrial Strategy  
MAIN REPORT

2016 Britannian hallitus tuki Tiede- ja Innovaatioselvityksiä joilla pyrittiin lisäämään ymmärrystä alueellista kilpailueduista.

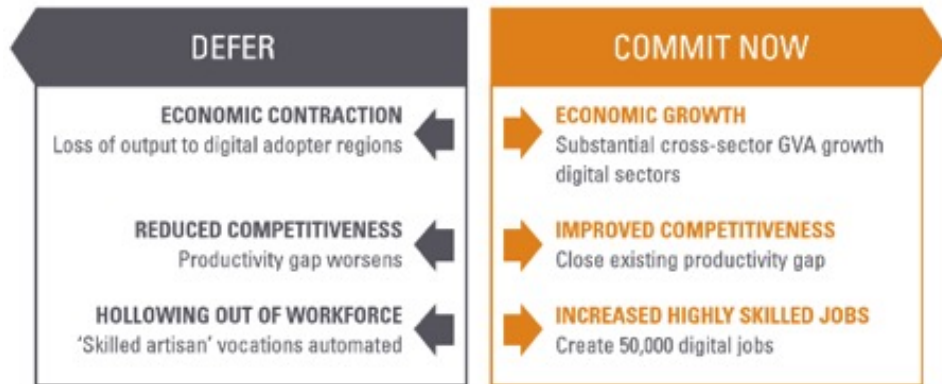
Edinburghin selvitys tunnisti **Datavetoisen Innovaation** alueen ainutlaatuiseksi voimavaraksi.



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**Data-Driven  
Innovation**



- Edinburghin alue voi olla maailmanlaajuisesti tunnettu datavetoisten yritysten keskittymä – the “Data Capital of Europe”.
- Triple helix –mallin mukainen yritysten, julkistahojen ja tutkimuslaitosten kumppanuus, talousvaikutus £2.9 - £5 mrd.



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Innovation



Data-Driven Innovation –  
ohjelma liitettiin osaksi  
**Edinburgh City Region Dealia.**

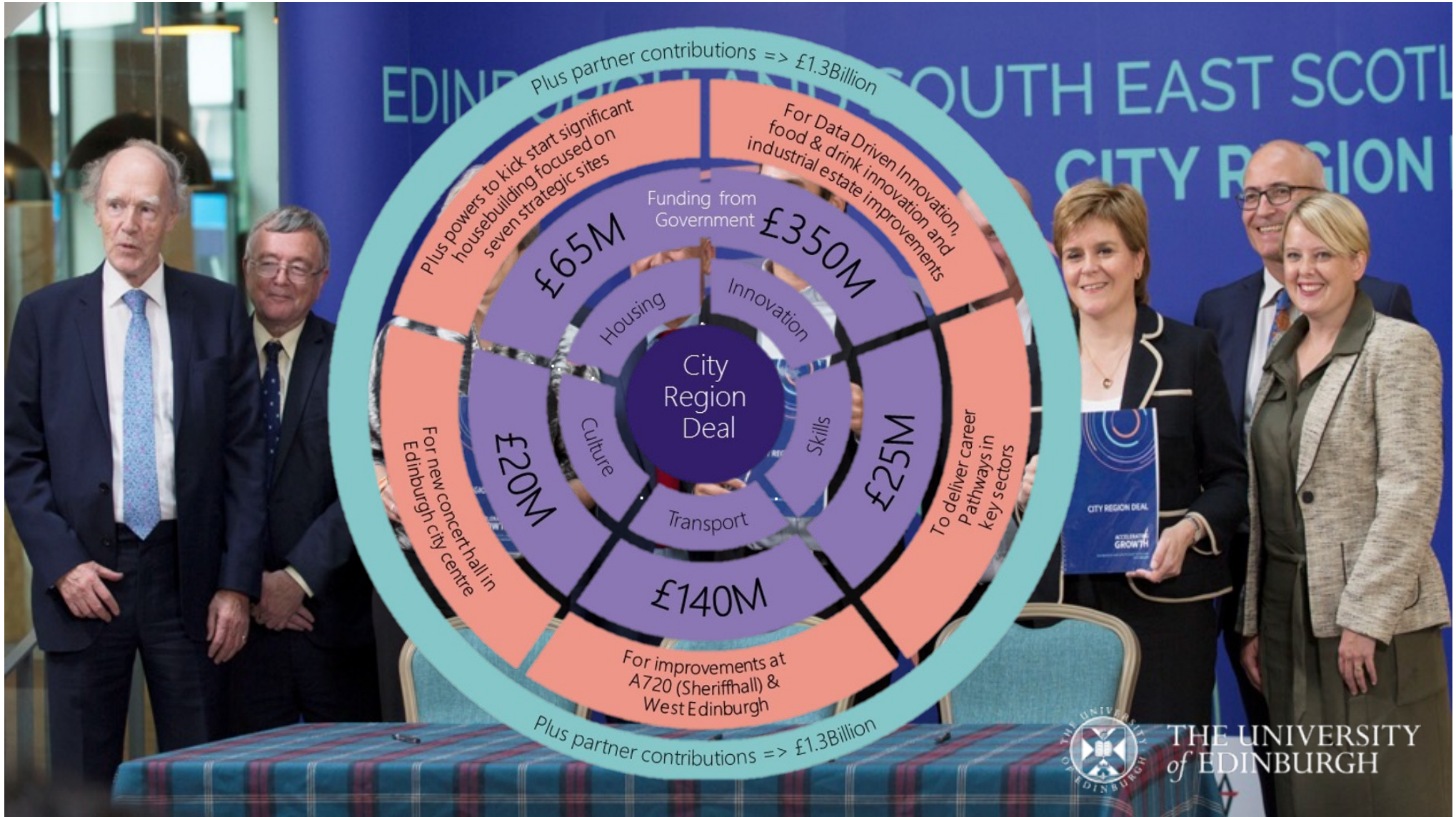


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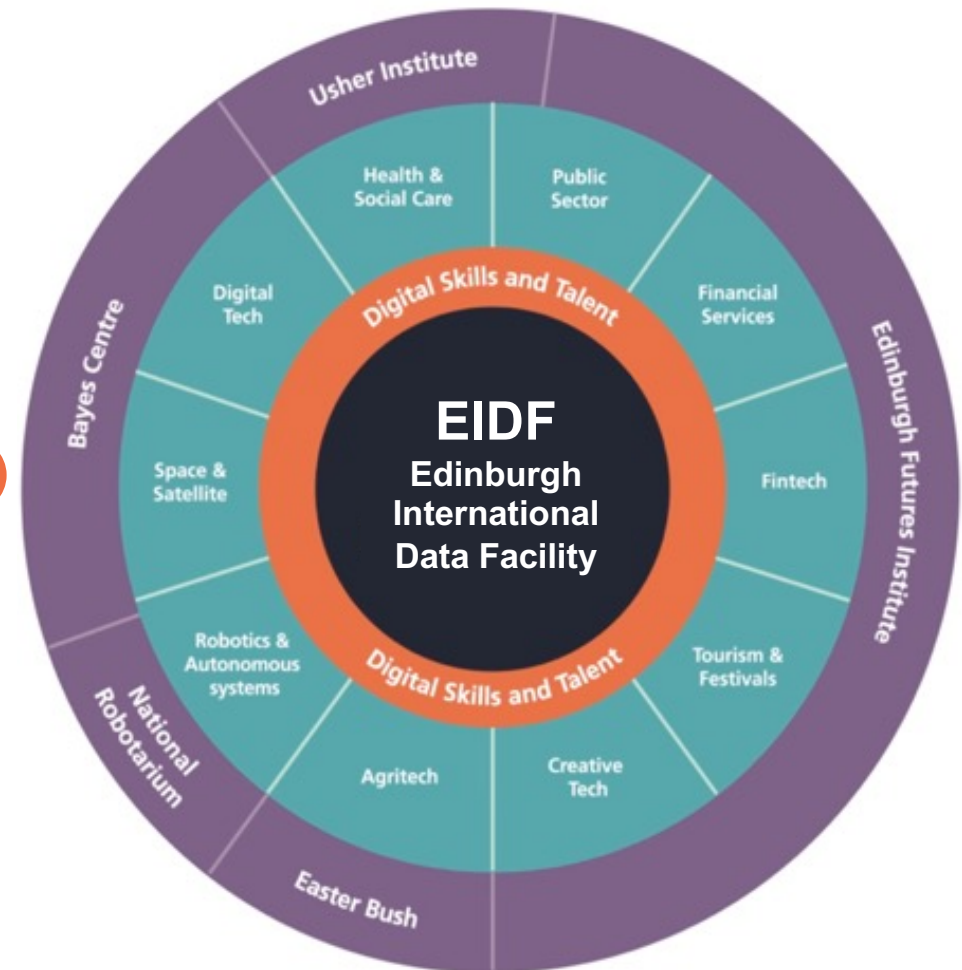


**Data-Driven  
Innovation**





**6 DDI Hubia – 1 innovaatioalusta**  
53,000 m2 uutta tilaa tutkijoille,  
yrityksille ja opiskelijoille  
työskennellä, verkostoitua ja  
innovoida yhdessä.



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# Bayes Centre

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# EIDF Data

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# Easter Bush

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# Robotarium

Open to  
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# Futures Institute

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# Usher Institute

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## 5 TRADE -teemaa

- Talent
- Research
- Adoption
- Data
- Entrepreneurship



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## **Talent – 100.000 graduates**

Embed data skills into a wide range of courses and degrees across the Universities, and collaborate with other education providers to deliver data skills across all age groups.



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**Data-Driven  
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### **Research – £690+ m**

Accelerate the growth of the body of knowledge of Data Science and disciplines which explore the impact of data on society, retaining the academic excellence.



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## **Adoption** – 1000 partners

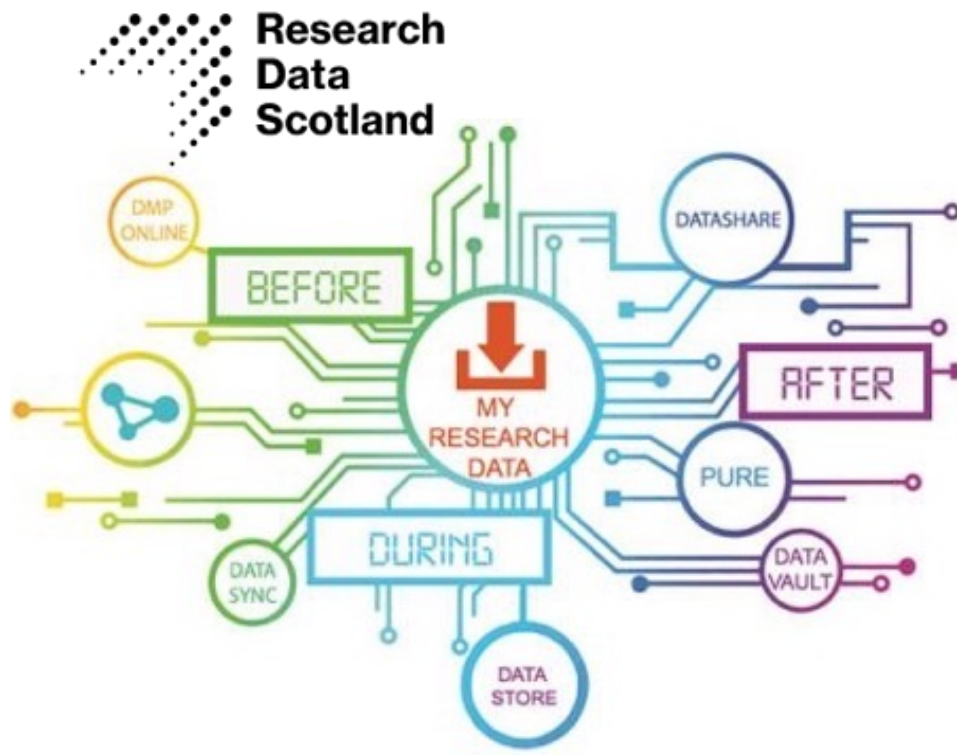
Support companies that aspire to become more data aware, or data-centric. Help companies to solve problems they face with their data.



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**Data-Driven  
Innovation**



## Data

Develop the data infrastructure and operational capability to locate, clear and make data available for teaching, research and innovation activities.



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**Entrepreneurship** – 400 start-ups  
Support the formation and scaling  
up of data-centric start-ups through  
incubators, accelerators, and  
securing investment.



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## TREASURY 5 CASE MODEL

| The Case        | The question            | What the Business Case must demonstrate     |                                                    |
|-----------------|-------------------------|---------------------------------------------|----------------------------------------------------|
| Strategic Case  | Is the proposal needed? | Will it further the aims & objectives?      | Is there a clear case for change?                  |
| Economic Case   | Is it value for money?  | Have a range of options been considered?    | Is it the best balance of cost, benefits and risk? |
| Commercial Case | Is it viable?           | Is there a supplier who can meet our needs? | Can we secure a value for money deal?              |
| Financial Case  | Is it affordable?       | Are the costs realistic and affordable?     | Is the required funding available and supported?   |
| Management Case | Is it achievable?       | Are we capable of delivering the project?   | Do we have robust systems and processes in place?  |

## 6 Green Book Business Casea

- **Strategic** - tarpeellisuus
- **Economic** - hyödyllisyys
- **Commercial** - kannattavuus
- **Financial** - rahoitus
- **Management** - toteutus

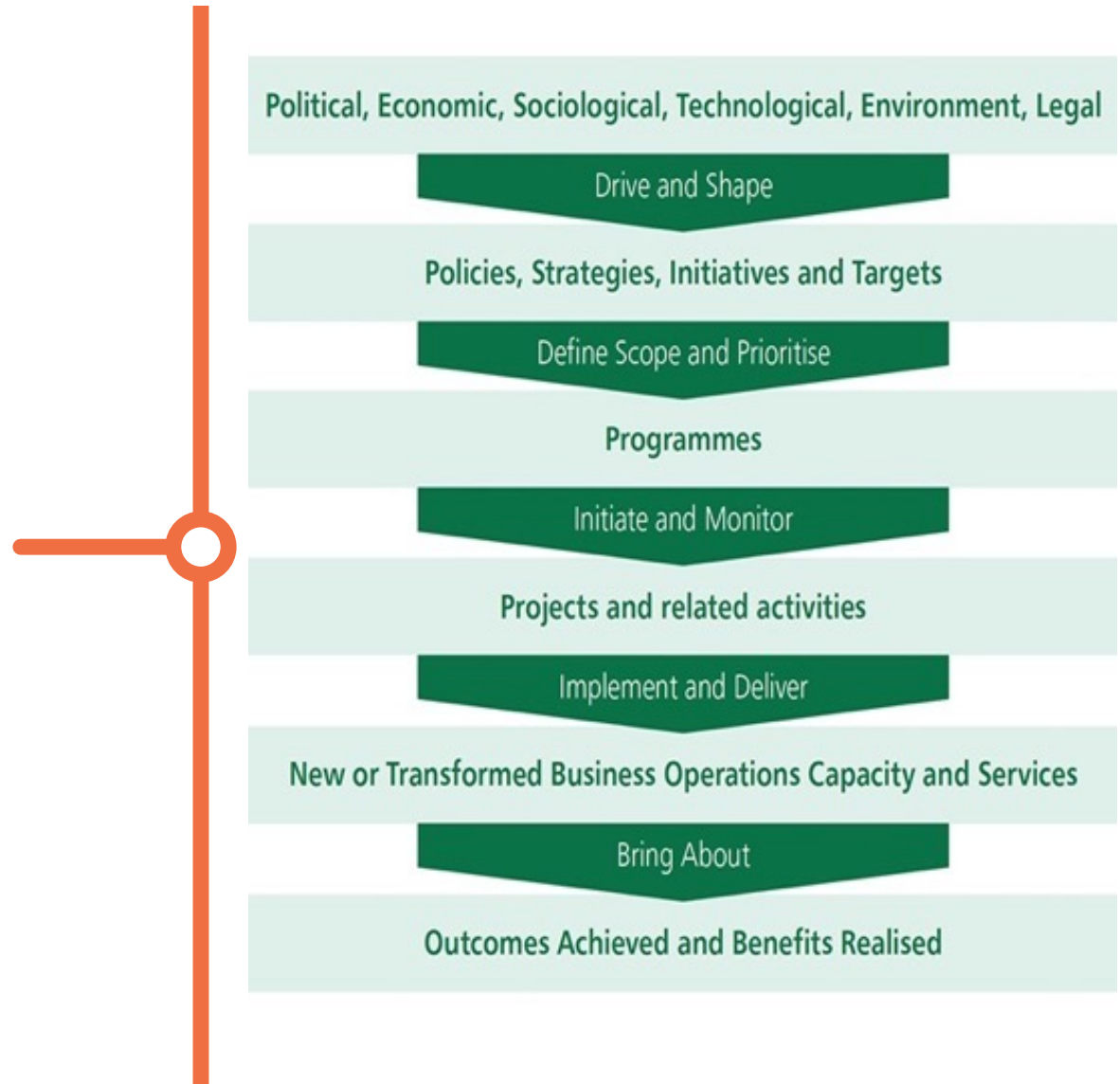


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1. Strategic Outline case
2. Outline Business case
3. Full Business Case



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## BRP - Benefits Realisation Plan

- Perusta Theory of Change
- Yhteinen BRP & ohjelmakohtaiset matriisit
- Sisäinen kvartaaliseuranta
- Ulkoinen raportointi vuosittain



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- Strateginen lähtötilanne
- Panokset – investoinnit
- Tuotokset – projektit
- Tulokset – lyhyen välin
- Tulokset – pitkän välin
- Vaikuttavuus – pysyvä muutos

- Strateginen lähtötilanne
- Panokset – investoinnit
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- Tulokset – lyhyen välin
- Tulokset – pitkän välin
- Vaikuttavuus – pysyvä muutos



## Theory of Change

- Strateginen lähtötilanne
- Panokset – investoinnit
- Tuotokset – projektit
- Tulokset – lyhyen välin
- Tulokset – pitkän välin
- Vaikuttavuus – pysyvä muutos



## DDI Monitoring and Evaluation Framework

Monitor and report investments made and levels of activity delivered

Gather and report evidence, assess impact, co money and apply lessons learned to maximise

| Investments                                                           | Outputs                                                                                                                                   |                                                                               | Outcomes /Impacts                                                                                                                                                              |                                                                                                                                                                               |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | Activities                                                                                                                                | Beneficiaries                                                                 | Short-term                                                                                                                                                                     | Medium-term                                                                                                                                                                   |
| Initial investment to increase space, new ideas and scope of location | <b>DDI level:</b><br>Concentrate DDI activity in the five hubs<br>Increase the space available to co-locate and collaborate with partners |                                                                               |                                                                                                                                                                                | <b>DDI level:</b> DDI activity increases growth and expenditure in City Region                                                                                                |
| Investment in new focused activities                                  | <b>Talent:</b> Increase training capacity and design and deliver new (academic and professional) courses                                  | Students/ learners (academic and professional)                                | <b>Talent:</b> More learners take up courses and develop DDI skills                                                                                                            | <b>Talent:</b> Learners apply DDI skills in the workplace or establish own enterprise                                                                                         |
| Investments from partners to increase access to data                  | <b>Research:</b> Undertake more DDI focused research and extend its quality and scope                                                     | Research partners (public, private and third sector)<br>Academic community    | <b>Research:</b> More research investment is leveraged unlocking new data insights, ideas and IP Interaction takes place between researchers and partners on a more open basis | <b>Research:</b> Research activity improves teaching and attracts Learners and partners apply research to develop new products, services and approaches                       |
| Complementary City investments                                        | <b>Adoption:</b> Undertake programme of engagement with businesses, public and local schools (via Outreach Programme) to raise awareness  | Businesses, Public (consumers/ service users)<br>School children and teachers | <b>Adoption:</b> Greater joint working with businesses on DDI based products and services and greater awareness in schools and the public about impact of data                 | <b>Adoption:</b> Business, school children and public make different choices, take up of talent and research increases, new markets develop                                   |
| Infrastructure                                                        | <b>Data:</b> WCDI to gather, store and prepare usable datasets accessible to self and partners                                            | Data partners (public, private and third sector)                              | <b>Data:</b> Better access to a wider range of data sets increases research and enterprise activity                                                                            | <b>Data:</b> Growth rate of DDI activity in City region increases and its reputation grows                                                                                    |
|                                                                       | <b>Entrepreneurship:</b> Scale up support for start-ups through provision of stipends, incubation space and mentoring                     | Businesses and entrepreneurs                                                  | <b>Entrepreneurship:</b> Increase in number of spin out companies                                                                                                              | <b>Entrepreneurship:</b> Number of start-ups entering scale up rises and mentoring improves survival rates<br>More investment in enterprise is leveraged (e.g. venture funds) |



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Innovation

## Sisältöjen ja toimintatapojen balanssi

- Mitä tehdään
- Miten tehdään
- Jatkuva kehittyminen



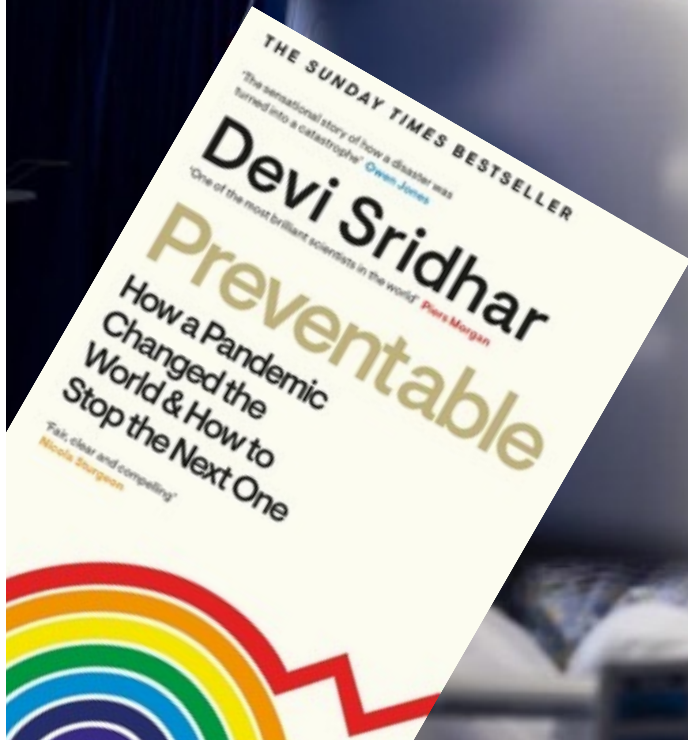
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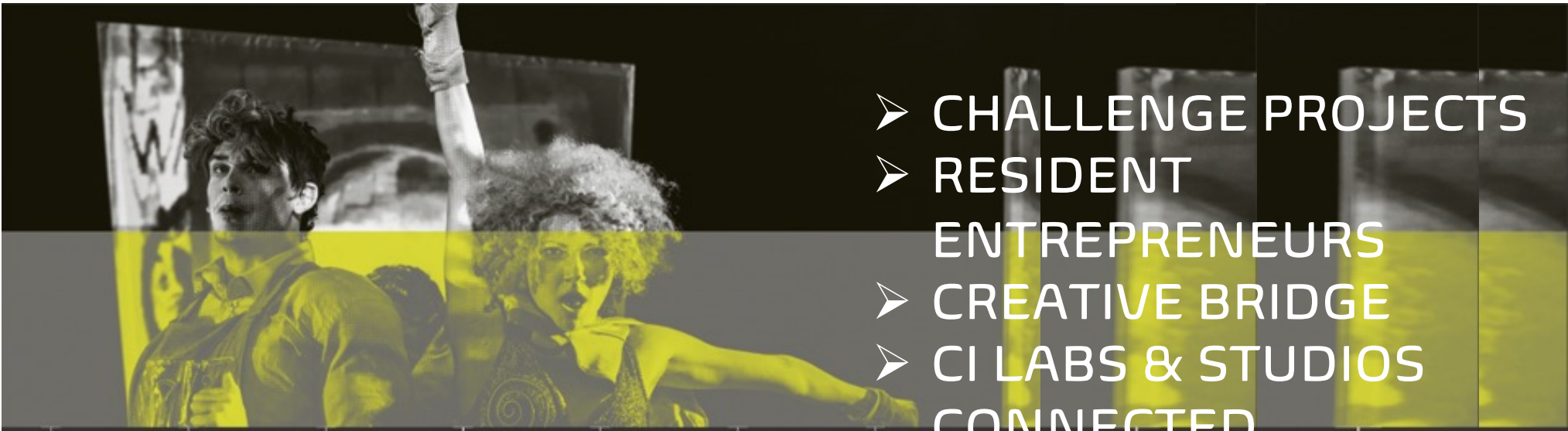


# Covid Data Collaborative







- 
- CHALLENGE PROJECTS
  - RESIDENT ENTREPRENEURS
  - CREATIVE BRIDGE
  - CI LABS & STUDIOS
  - CONNECTED INNOVATORS
  - HORIZON PROJECTS

APPLICATIONS  
+ + + + +  
OPEN SOON!

Find Out More



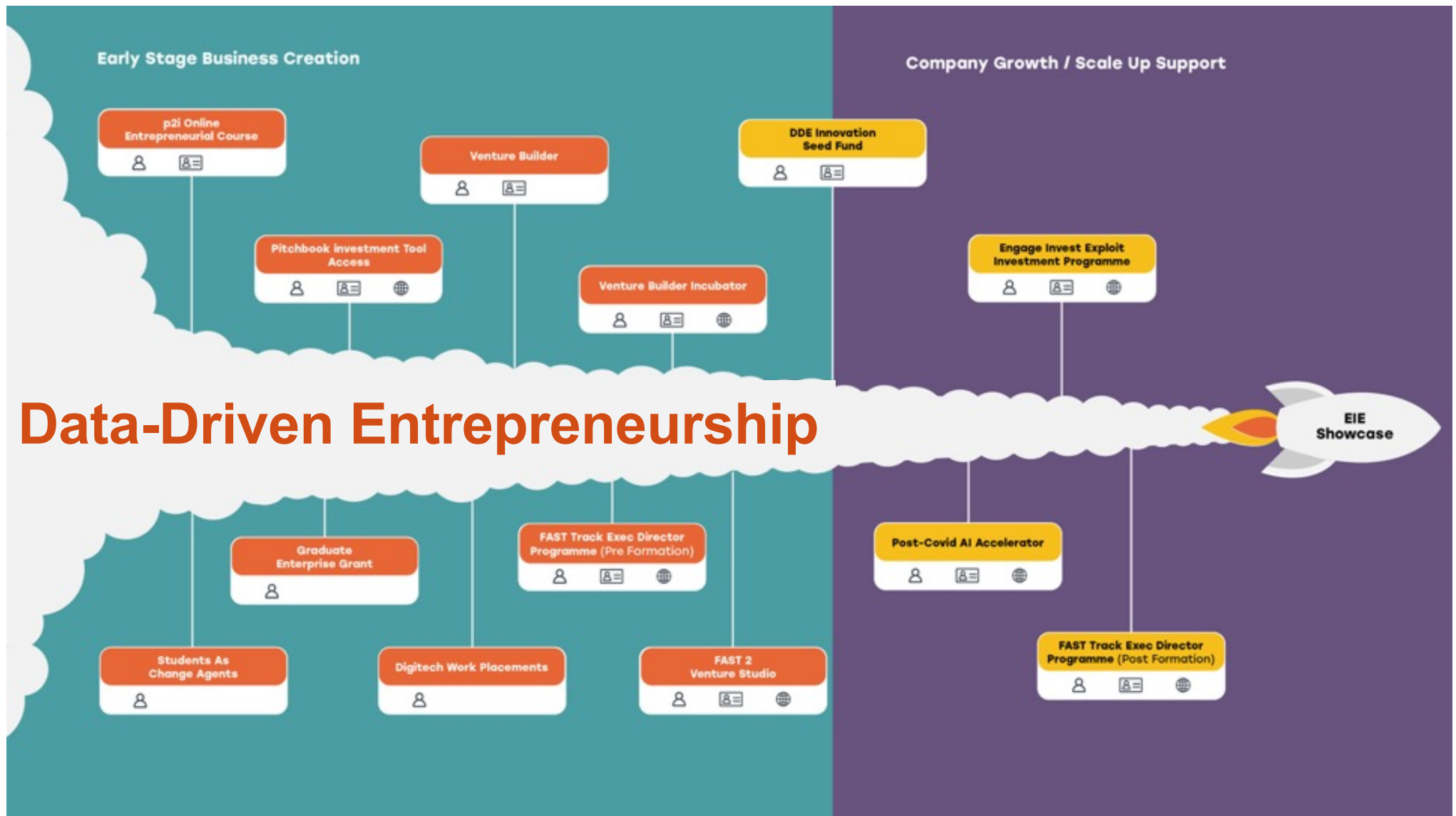


 Publications

## The Climate Crisis is a Child Rights Crisis: Introducing the Children's Climate Risk Index



# Data-Driven Entrepreneurship





# IGS – Intelligent Growth Solutions





# doing data right

*trustworthiness of  
government and innovation  
as a responsibility and an opportunity,  
not a barrier*

- haasteet tiivistyvät kaupungeissa
- kaupungit aktiivisia ratkaisijoita
- nopeuden haste vs kaupungin inertia
- teknologia ydinosamisena
- tavoitelähtöinen kehittämismalli
- kaupunki innovaatioalustana
- fokus ydinvahvuuksista
- vahva rakenne – nopeat kokeilut



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# Innokaupungit

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the world