a.r.u.

About me

- PhD in Materials Science
- 7 years – high speed machinery
- 7 years – civil engineering consultancy
- 11 years – University of Cambridge, Director of CSIC
  - 5 years leading DC^2 – Digital Cities for Change
- Now – **Professor of Digital Innovation and Smart Places**

Jennifer Schooling

Multi-discplinary – Collaboration – Socio-technical

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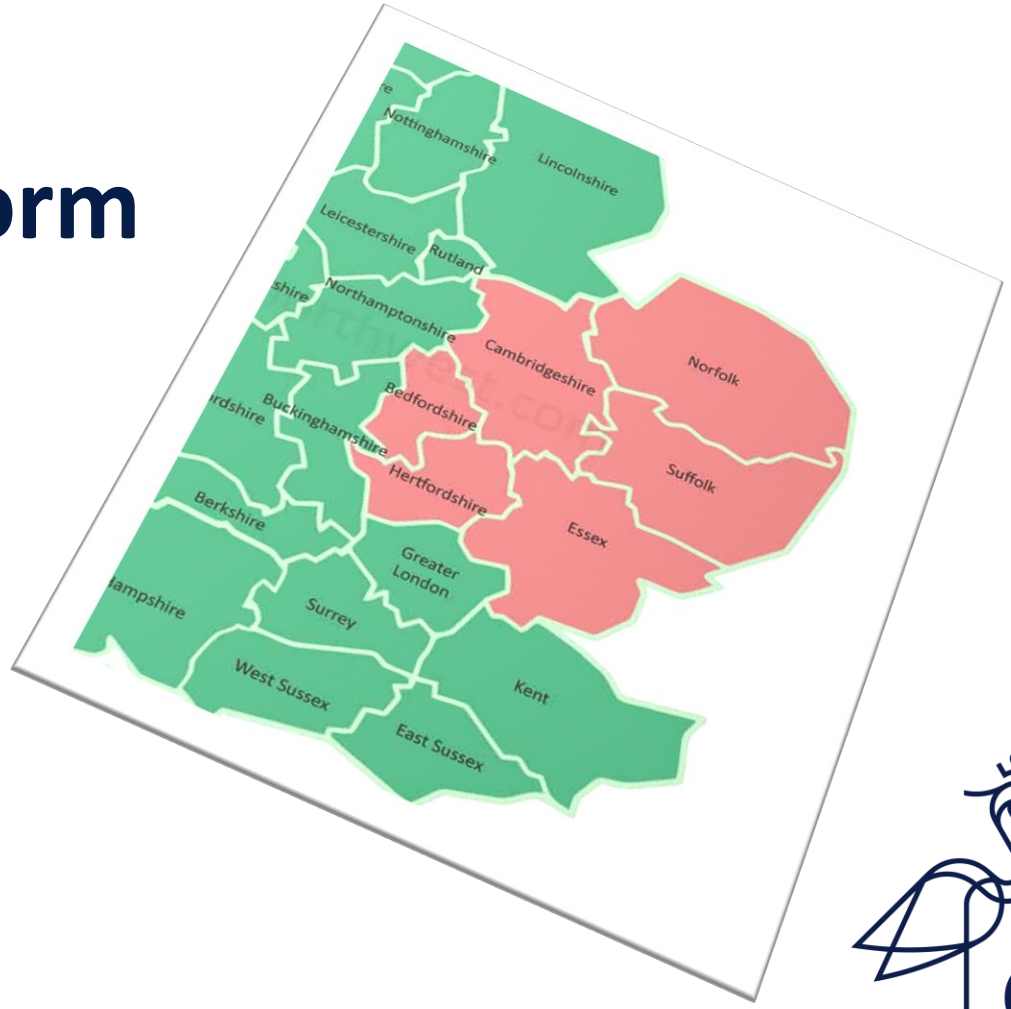
How can data transform our places?



Utopia?

Image from: www.stratosphrenetworks.com/

Distopia?

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Tech and the city
Smart cities

The truth about smart cities: 'In the end, they will destroy democracy'

Outrage: 'for the Smart Cities Mission, cities are solely instruments of economic growth'

21 JUNE, 2016 • BY HIMANSHU BURTE

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Would YOU live in Google's 'city of the future'? High-tech Toronto neighbourhood that will monitor resident's daily lives using sensors in everything from bins to traffic lights raises privacy concerns

South China Morning Post EDITION: INTERNATIONAL

LIFESTYLE

CHINA HK ASIA WORLD COMMENT BUSINESS TECH LIFE CULTURE SPORT WEEK IN ASIA POST MAG STYLE .TV

Lifestyle

Smart cities: are we sleepwalking into a Big Brother future of constant surveillance in the name of improved efficiency and safety?

https://wallpaperaccess.com/download/dystopia-1950702


Employment
Resilience
Access to services
Good environment
Entertainment
Social inclusion
Democracy &
participation
Clean air
Gerrard St
https://i.imgur.com/jU7R26K.jpg

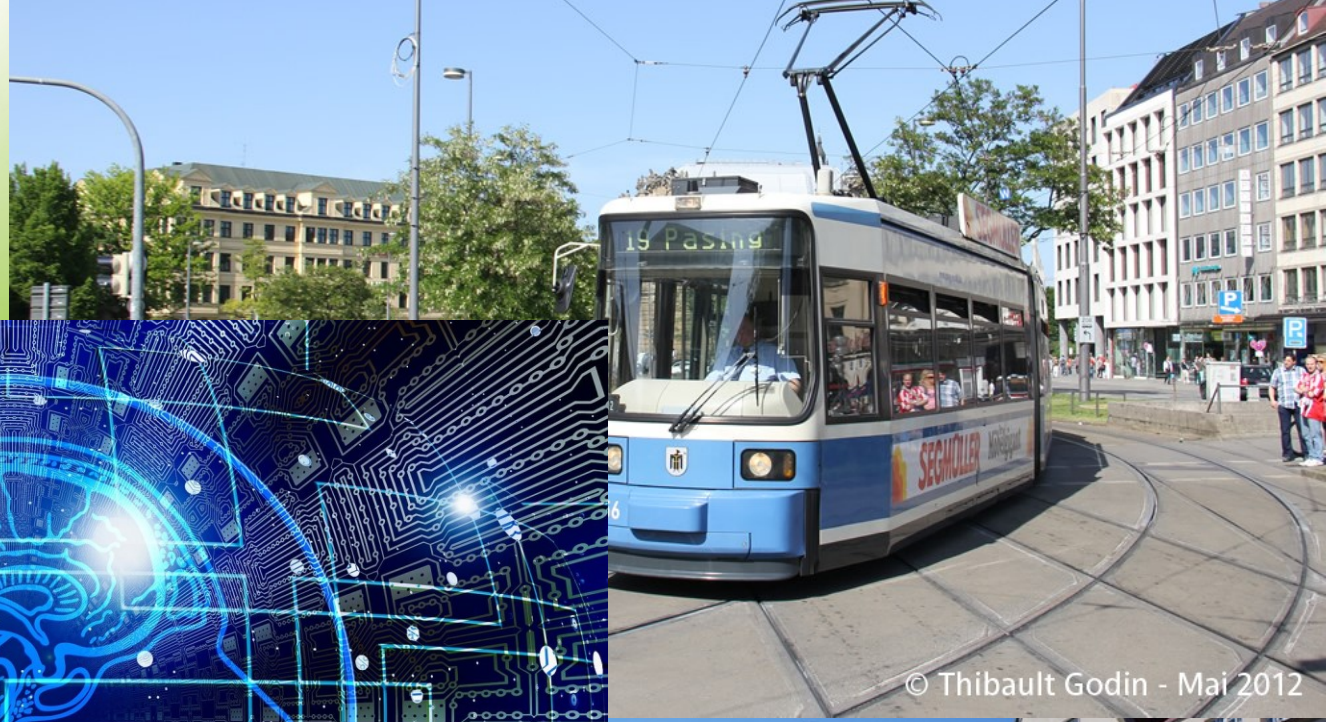
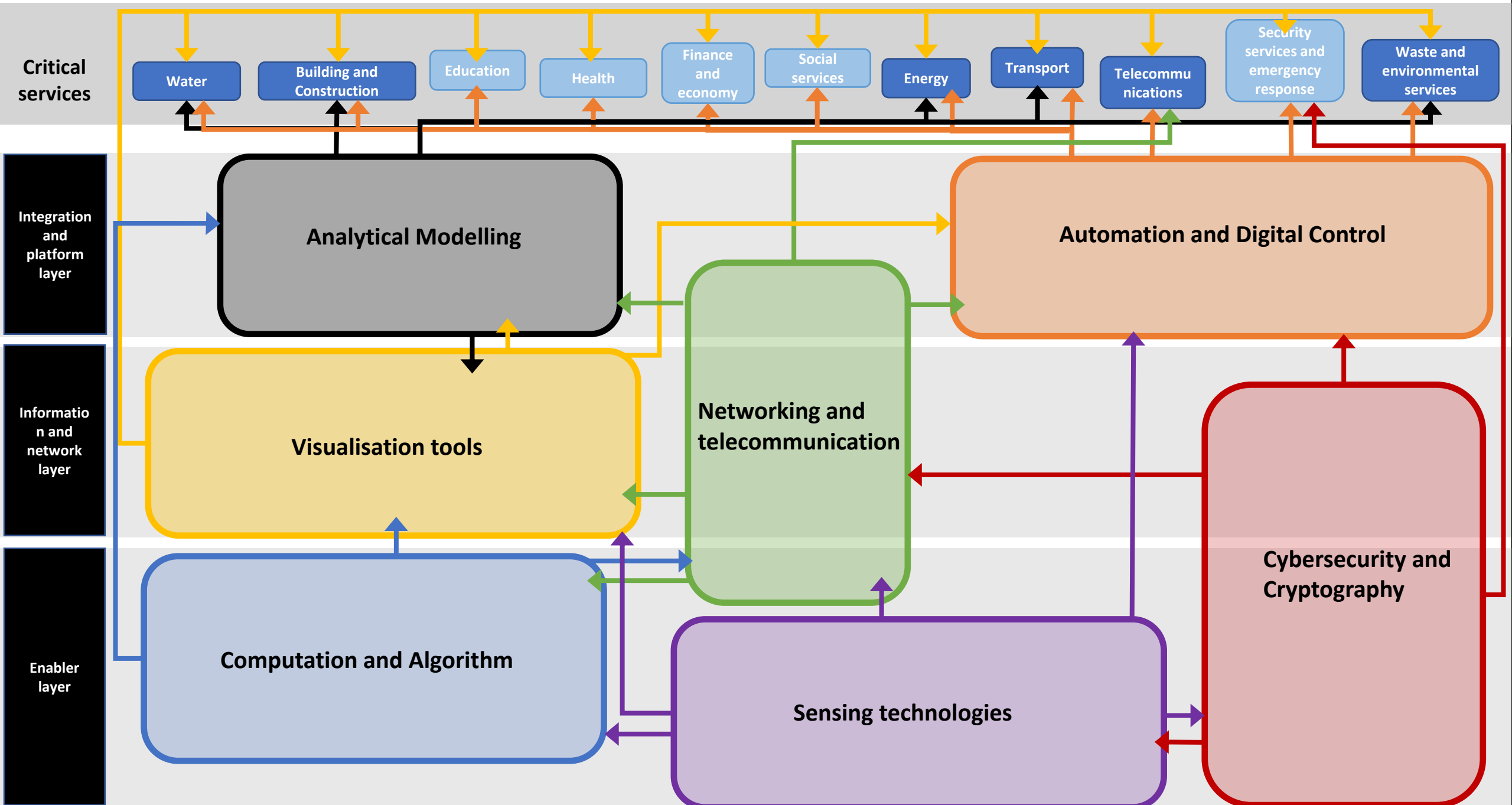


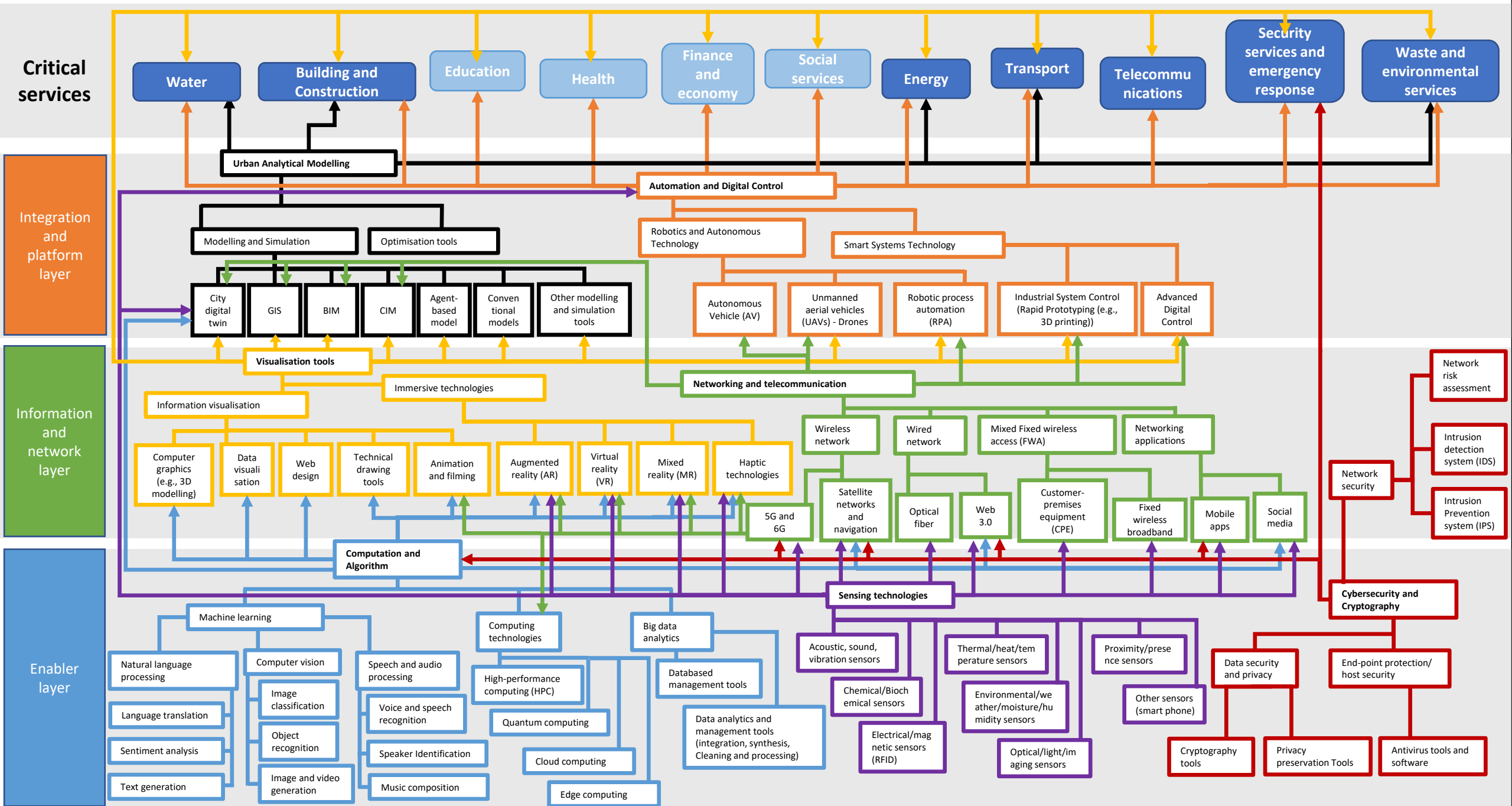
Image by Beverly Buckley from Pixabay

Image from vodafone-institute.de

Technologies and Tools for Digitalising Critical Services



Technologies and Tools for Digitalising Critical Services



DATA NEUTRALITY

Data is never neutral and objective in its nature

TECH / ARTIFICIAL INTELLIGENCE / AMAZON

Gender and racial bias found in Amazon's facial recognition technology (again)

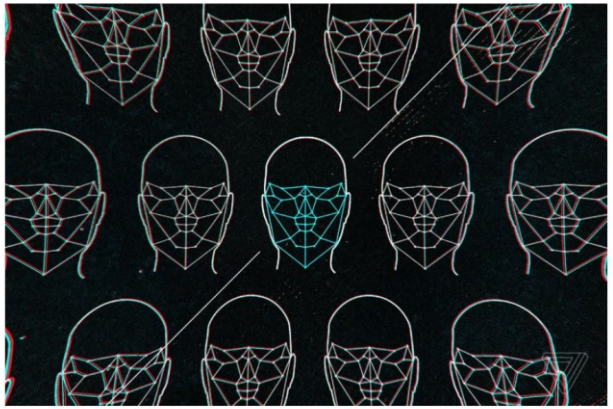
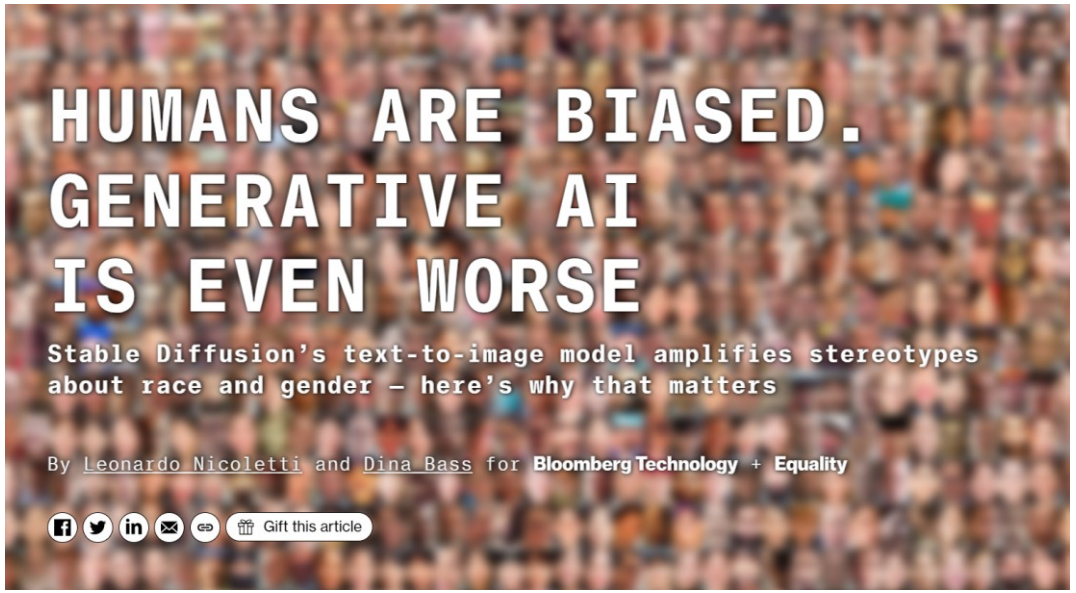


Illustration by Alex Castro / Th

/ Research shows that Amazon's tech has a harder time identifying gender in darker-skinned and female faces

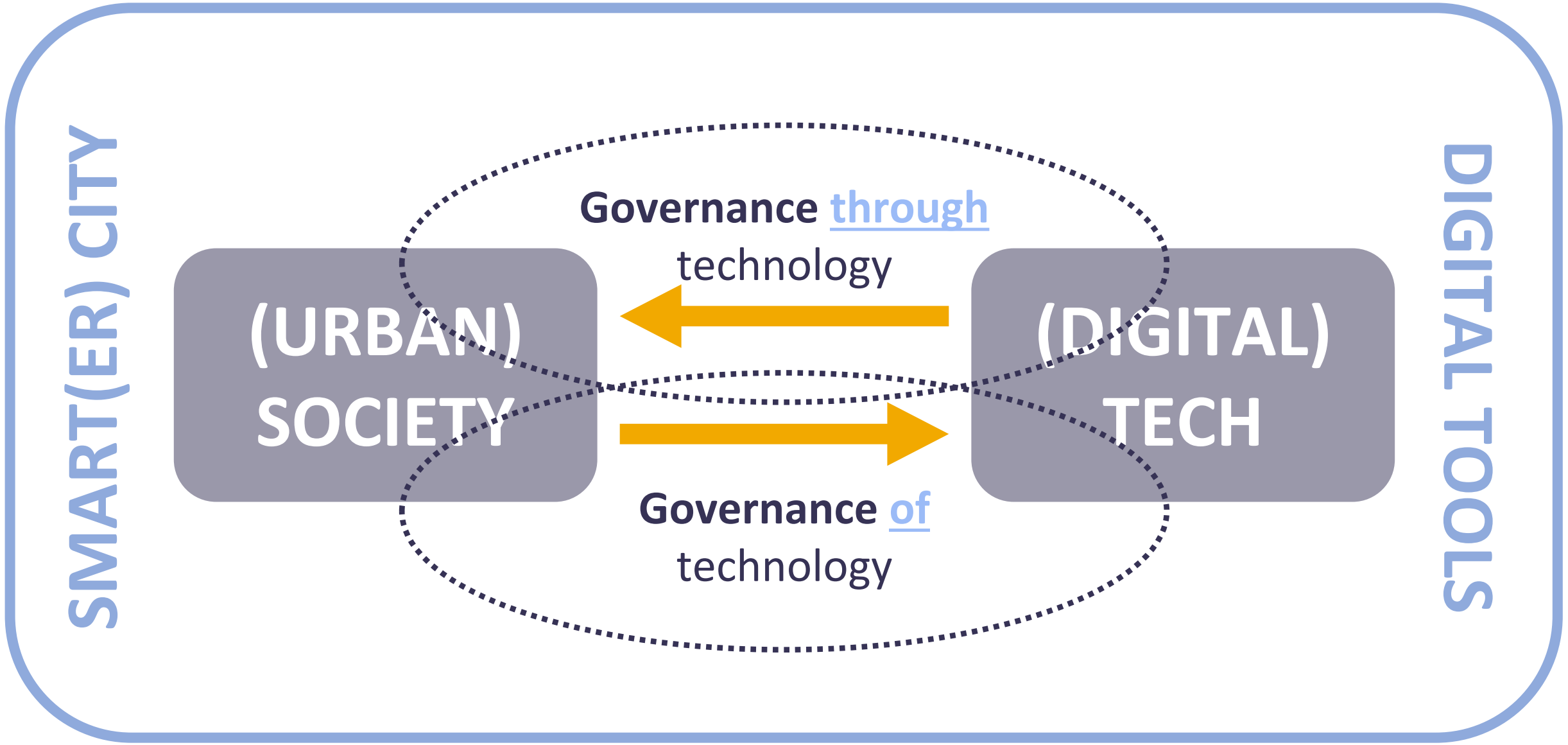
By James Vincent, a senior reporter who has covered AI, robotics, and more for eight years at The Verge.

Jan 25, 2019, 2:45 PM GMT | 0 Comments / 0 New



DATA BIAS

DC²


SMART(ER) CITY
DIGITAL TOOLS
(URBAN) SOCIETY
(DIGITAL) TECH
Governance through technology
Governance of technology

DC²

GOVERNING

Governance: achieving socially desirable outcomes efficiently (resources), effectively (quality) and democratically (trust).

Ethics: anticipating, evaluating and managing societal impact

Create **public value** through **responsible digitalisation** in the **urban built environment**

Technology: data generation, processing, analysing, visualising, sharing, storing…

Empirical focus: built environment systems/sectors, interdependencies, impact on services and local economy

KNOWING

DC²

OPPORTUNITIES FOR DATA-INFORMED SERVICES

Energy

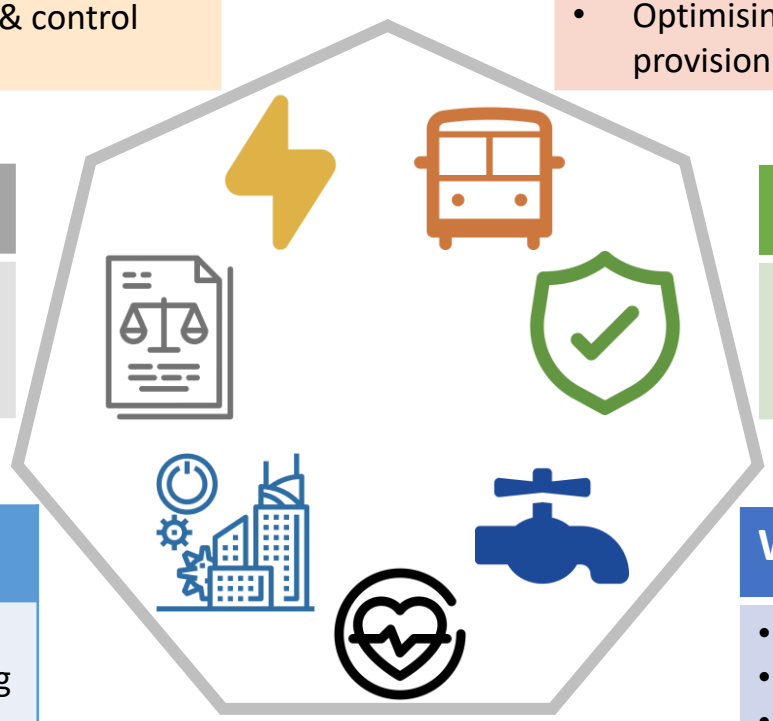
- Forecasting
- Predictive maintenance
- System optimization & control

Mobility

- Transport demand forecasting
- Optimising traffic flow
- Optimising infrastructure provision & maintenance

City governance

- Efficient service delivery
- Identifying local needs
- Informing policymaking



Public safety

- Supporting disaster response
- Managing epidemics
- Extreme weather event forecasts

Urban planning

- Strategic planning
- Integrated infrastructure planning
- Smart urban management

Water and waste

- Water quality prediction
- Supporting wastewater mgt.
- Optimising waste classification

Healthcare

- Public health surveillance
- Health system organization
- Patient health monitoring

Based on UN Habitat 'AI and Cities' report, 2022

DC²

IMPLICATIONS FOR AI IN CITIES

"the lifecycle of an AI system must be designed to **uphold—if not enhance—a set of foundational values and principles**, including the internationally agreed-upon human rights framework and SDGs, as well as **ethical principles such as fairness, privacy and accountability**"

UN Habitat 'AI and Cities' report, 2022

"ensuring responsible, ethical AI is more than designing systems whose result can be trusted. It is about **the way** we design them, **why** we design them, and **who** is involved in designing them"

Dignum, Virginia (2022). Responsible artificial intelligence – from principles to practice.

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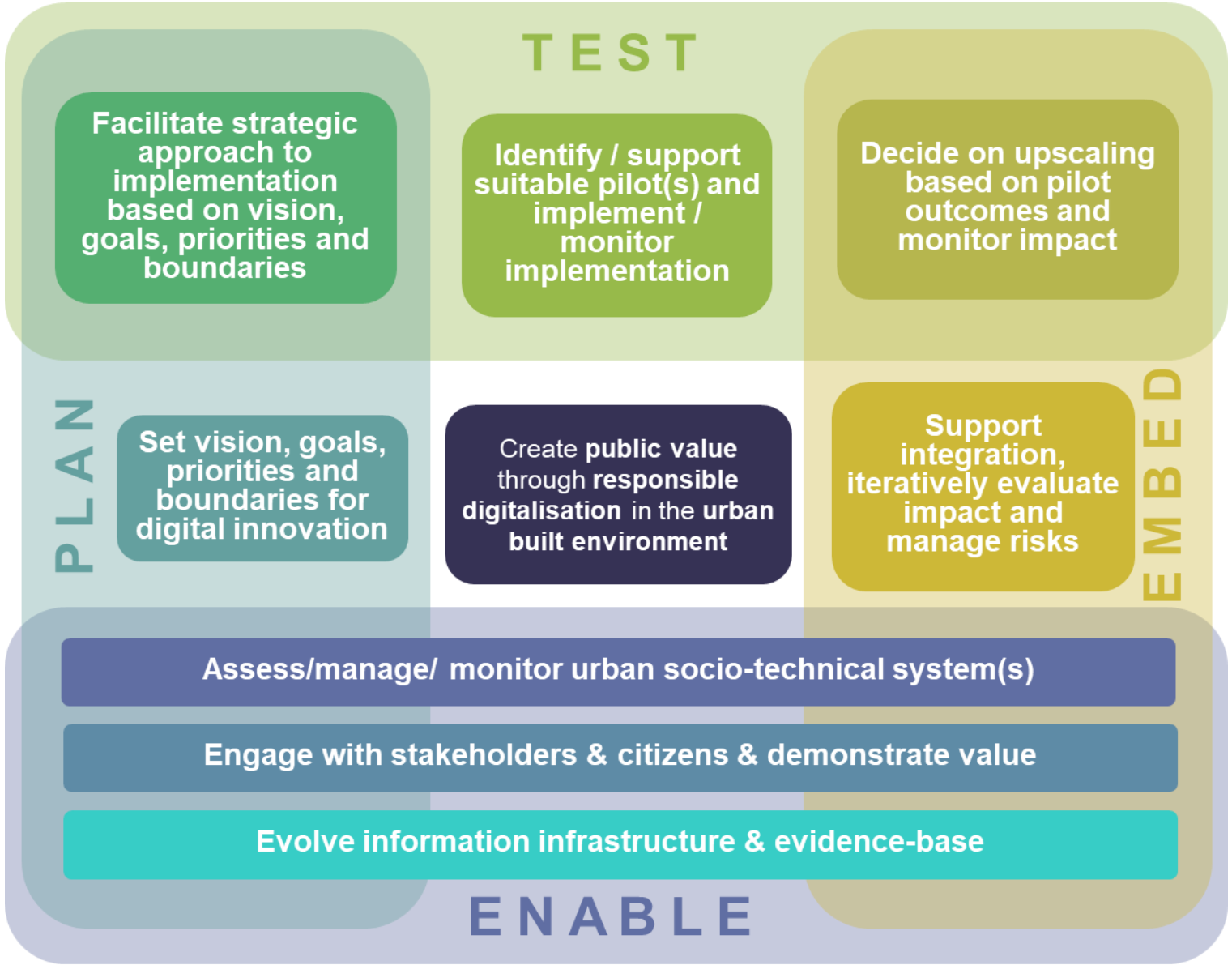
DIGITAL INNOVATION PROCESS (DIP) MODEL



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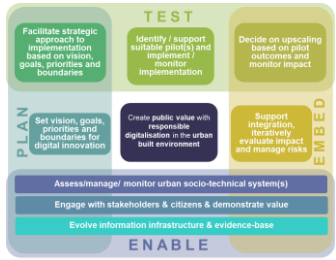
COMPETENCY FRAMEWORK

Action-based Competencies

Knowledge-based Competencies



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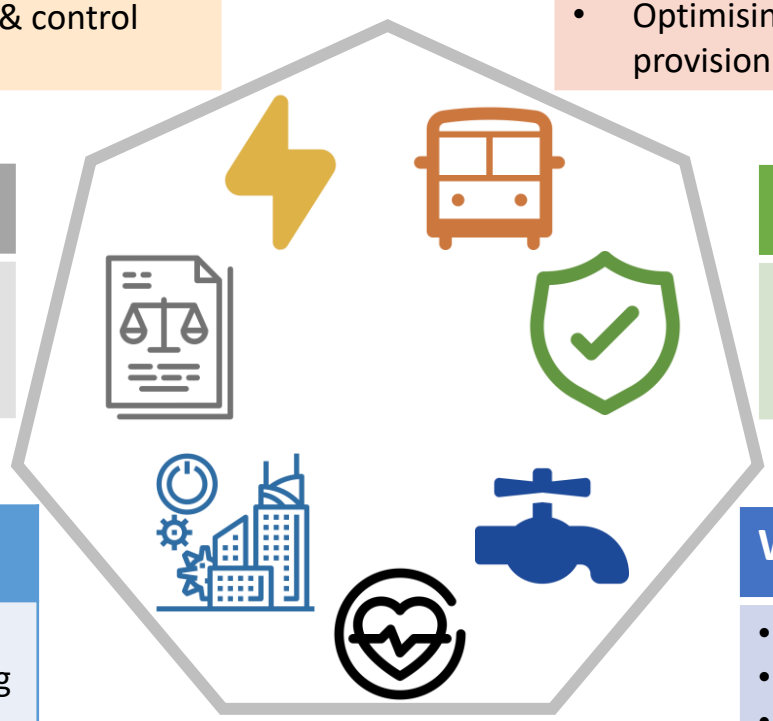

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Based on UN Habitat 'AI and Cities' report, 2022

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OPPORTUNITIES FOR COLLABORATION

- RESEARCH PROJECTS
- EMPIRICAL WORK
- SHARED LEARNING
- IMPACT & KNOWLEDGE TRANSFER

- PLACE-BASED INITIATIVES
- ETHICAL AI
- EXPLAINABLE AI
- COMPETENCY FRAMEWORKS

DC²

OPPORTUNITIES FOR COLLABORATION

East Anglia Digital Innovation for Places

Digital Cities for Change

Digitalising the Planning Process

Ethical AI for Public Value

Exec Ed: Leading Urban Digital Innovation for Public Value

DC²

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