

Smart cities: data, technology and sustainability

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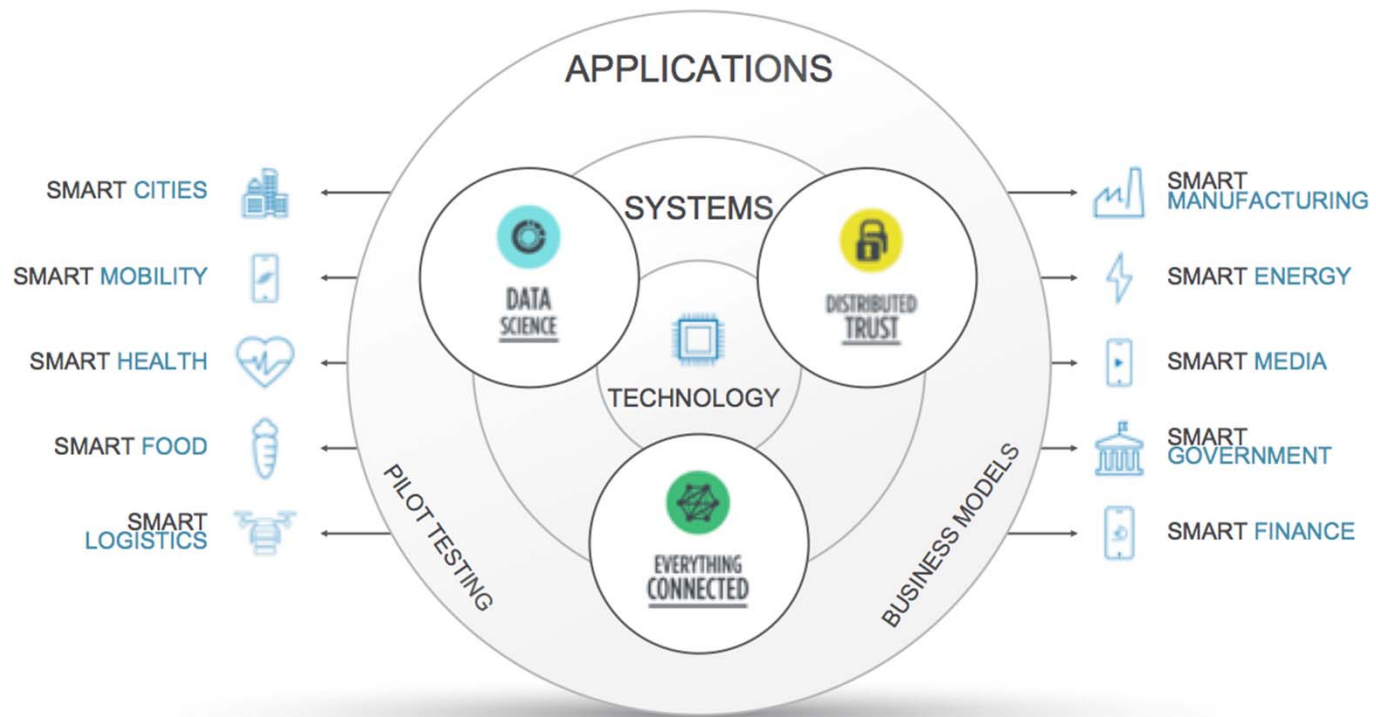


Vrije Universiteit Brussel

iMinds + imec

IMEC HAS **MERGED** WITH THE DIGITAL RESEARCH AND INCUBATION CENTER **IMINDS** INTO **ONE HIGH-TECH RESEARCH AND INNOVATION HUB FOR NANOELECTRONICS AND DIGITAL TECHNOLOGIES**, UNDER THE NAME **IMEC**.

imec



I. Why smart cities?



Cities are magnets

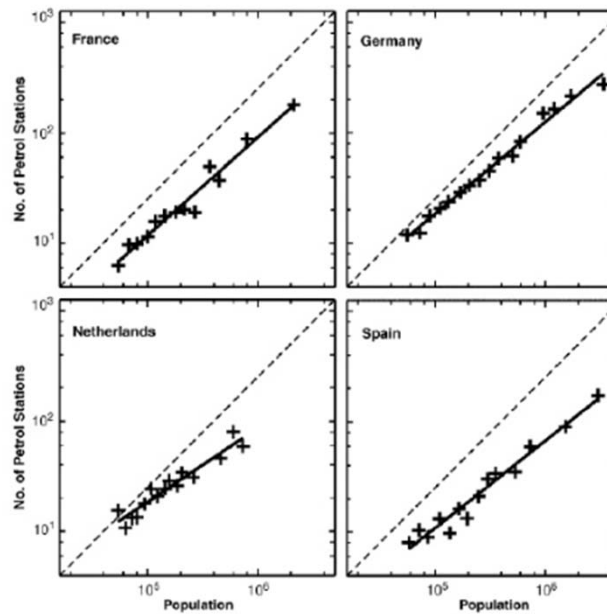


Cities are problems



West's law (1)

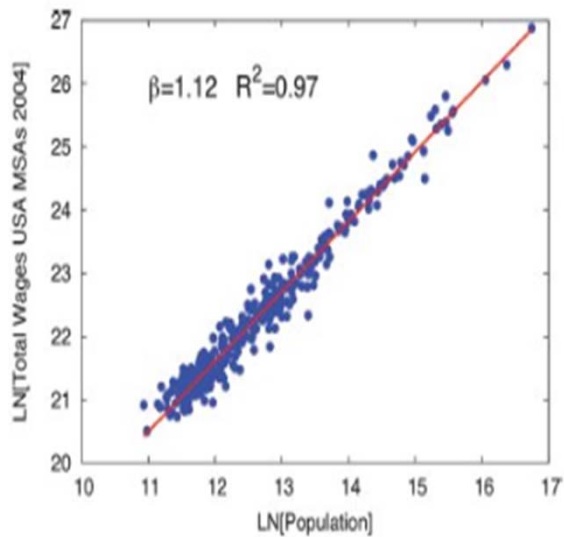
Infrastructure



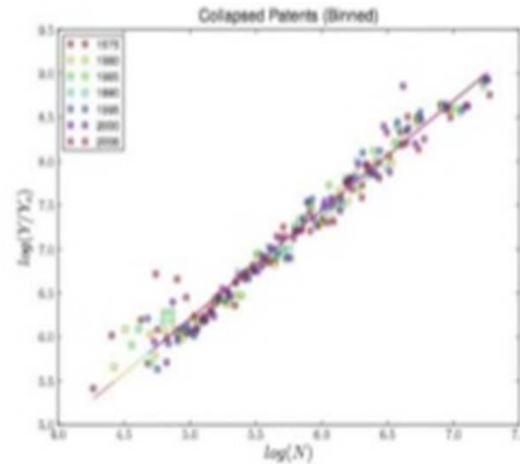
Sublinear: Decrease of 15%

West's law (2)

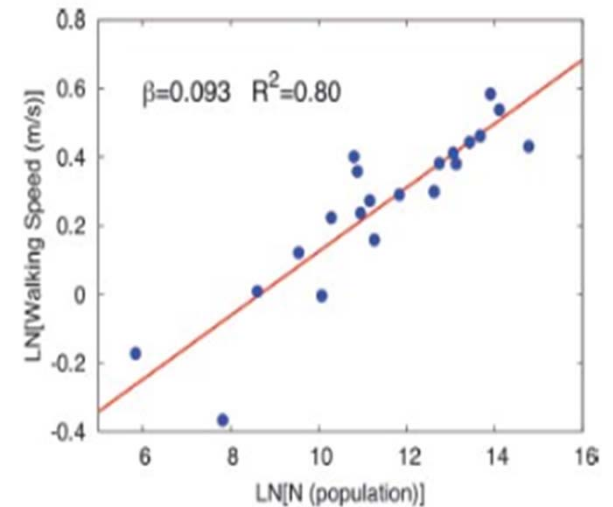
Wages



Patents



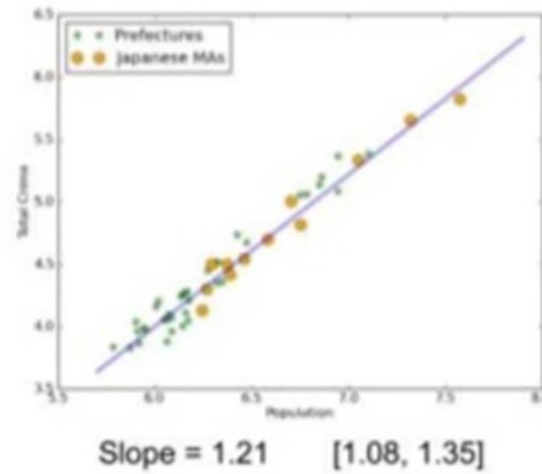
Walking Speed



Superlinear: increase of 15%

West's law (3)

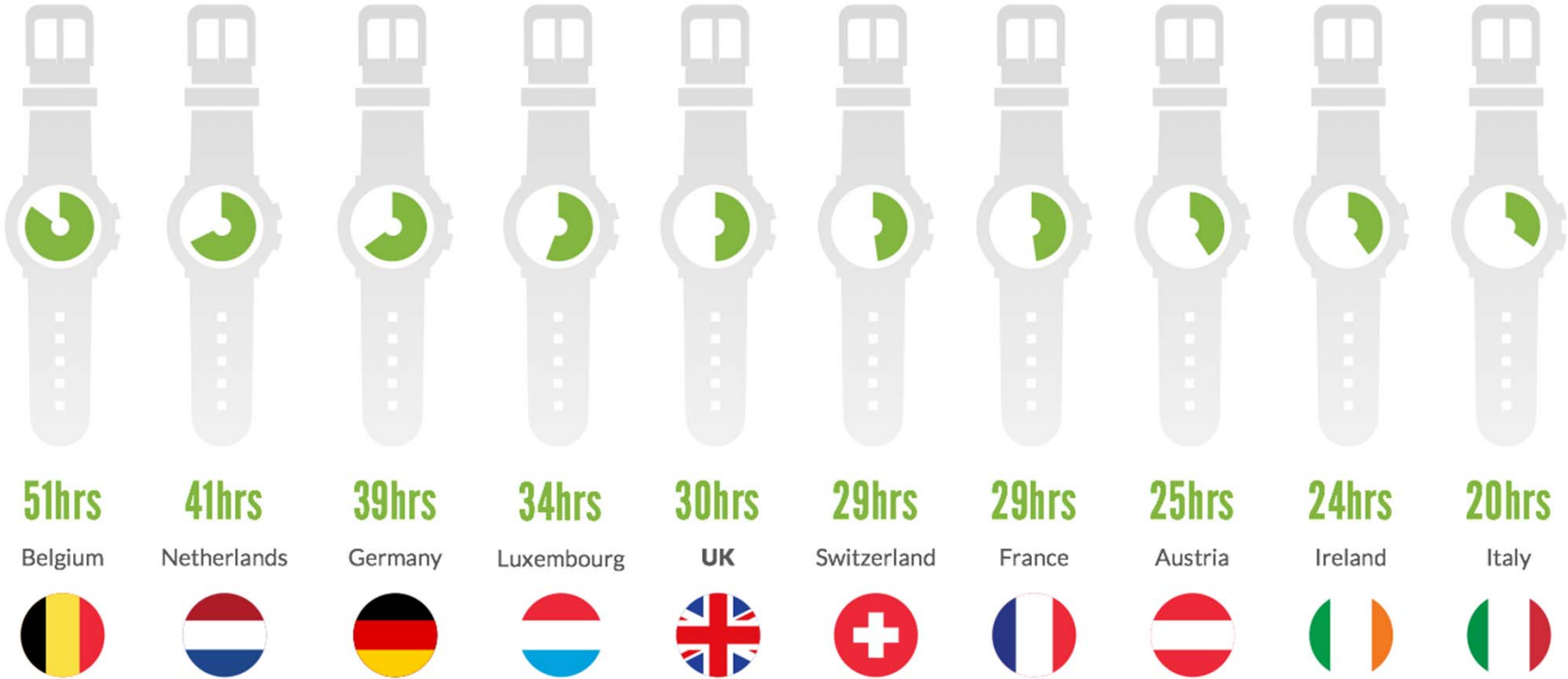
Crime



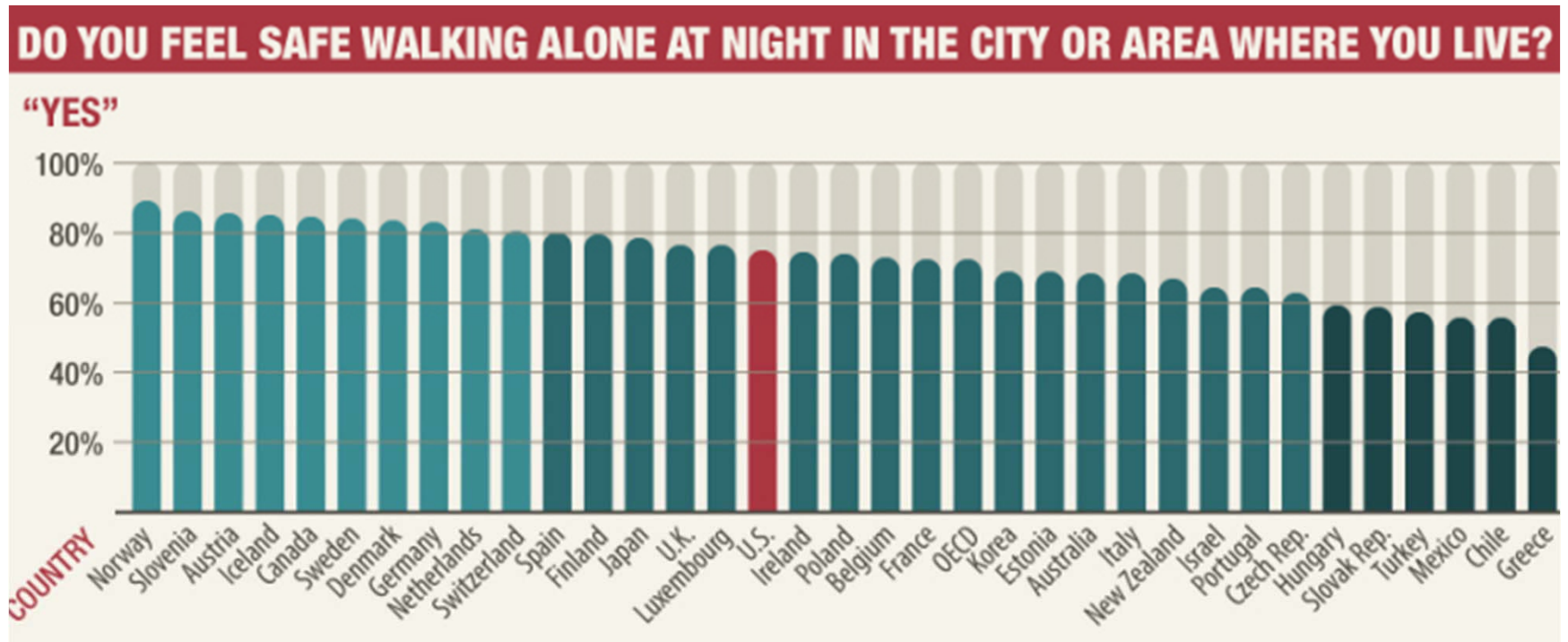
Superlinear: Increase of 15%

Mobility

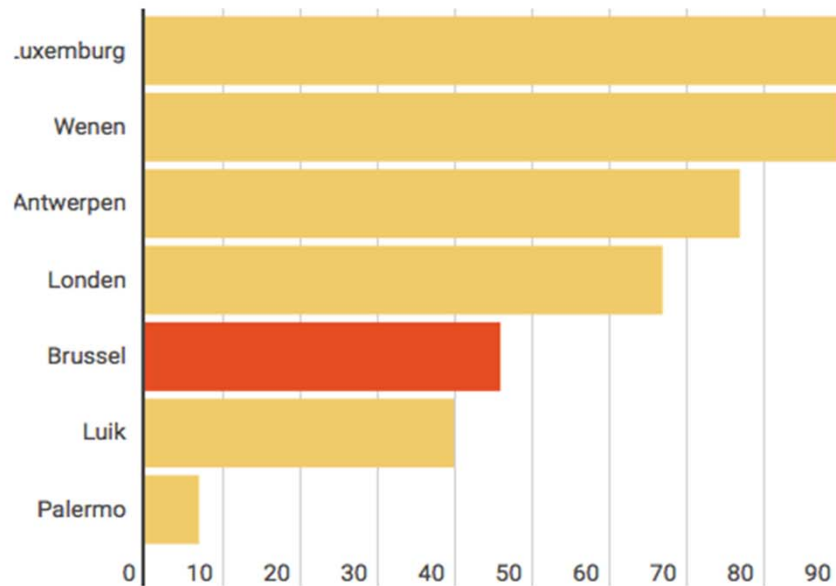
Europe's ten most congested countries in 2014 (by hours wasted annually):



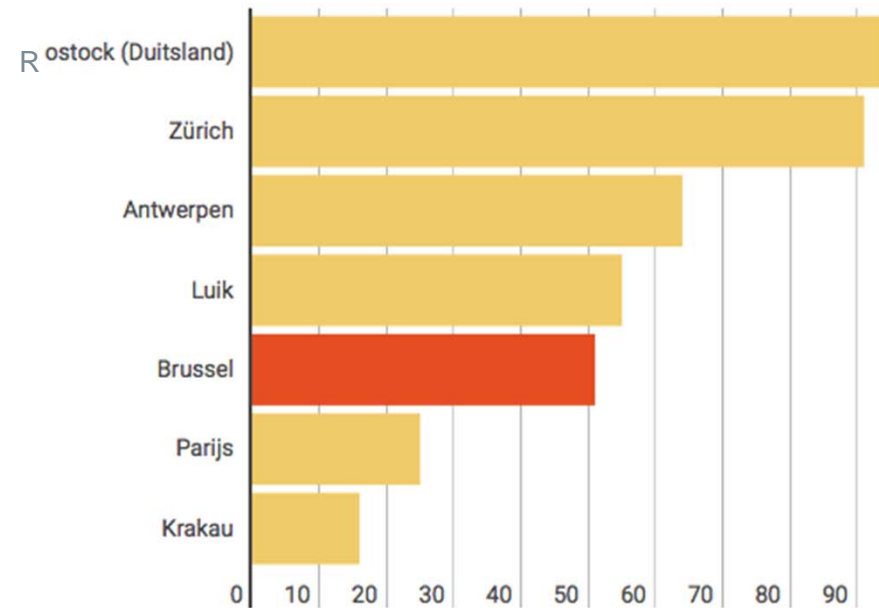
Safety



Sustainability & Quality of life

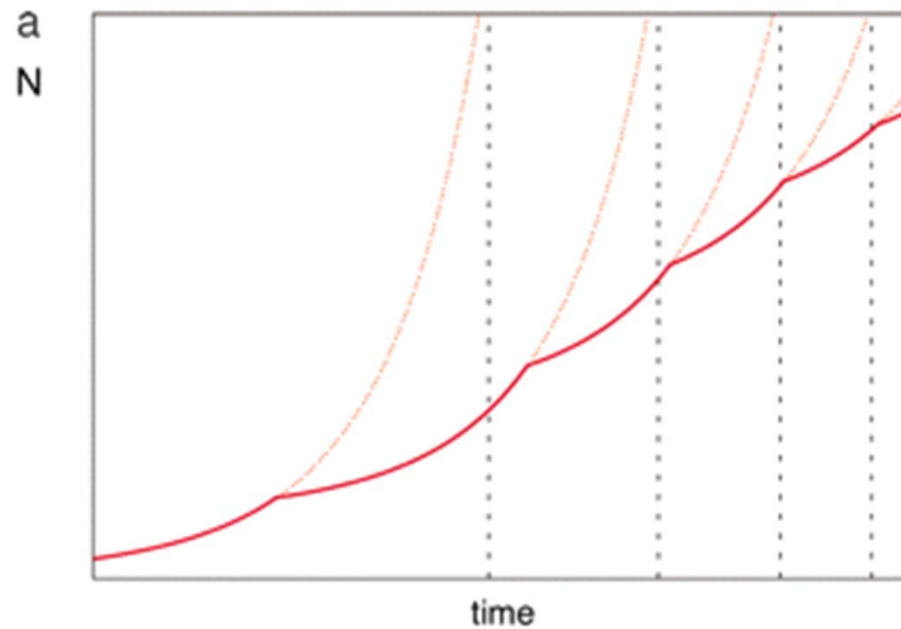


'Ik ben tevreden over de netheid in mijn stad'



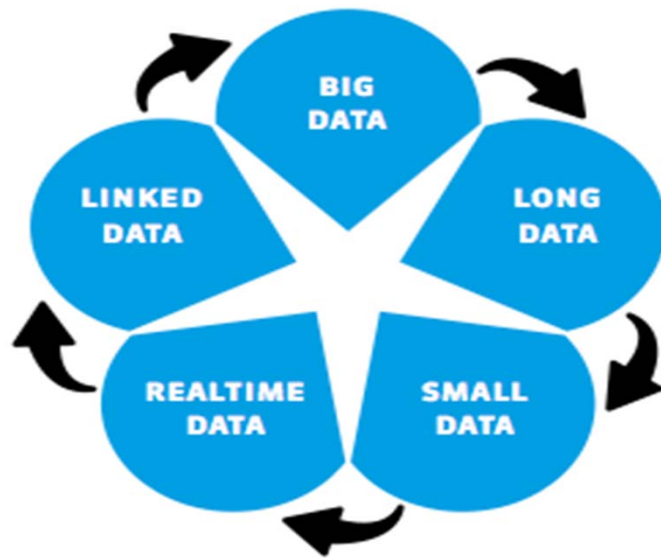
'Ik ben tevreden over de luchtkwaliteit in mijn stad'

West's law (4)



“The only way to avoid system collapse is innovation”

1. The power of real-time data

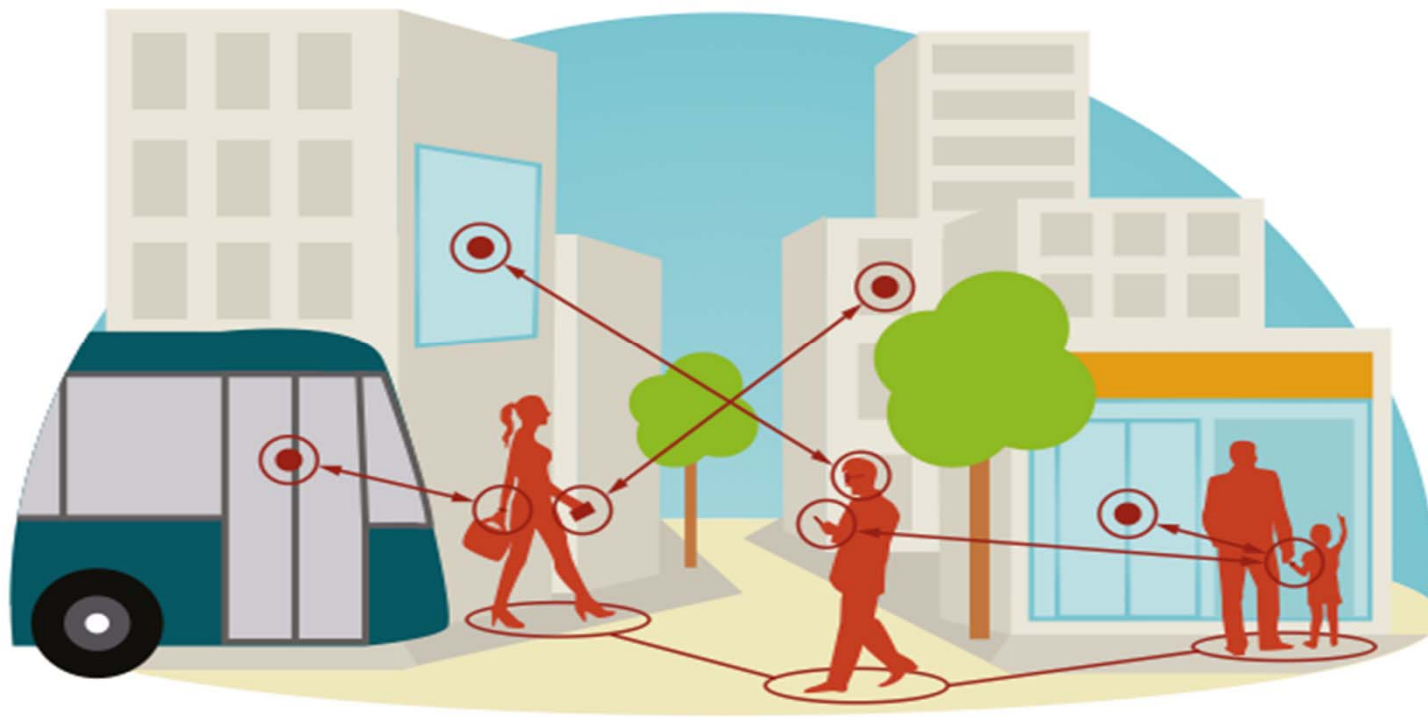


- Collect
- Connect
- Analyse
- Decide
- Measure impact

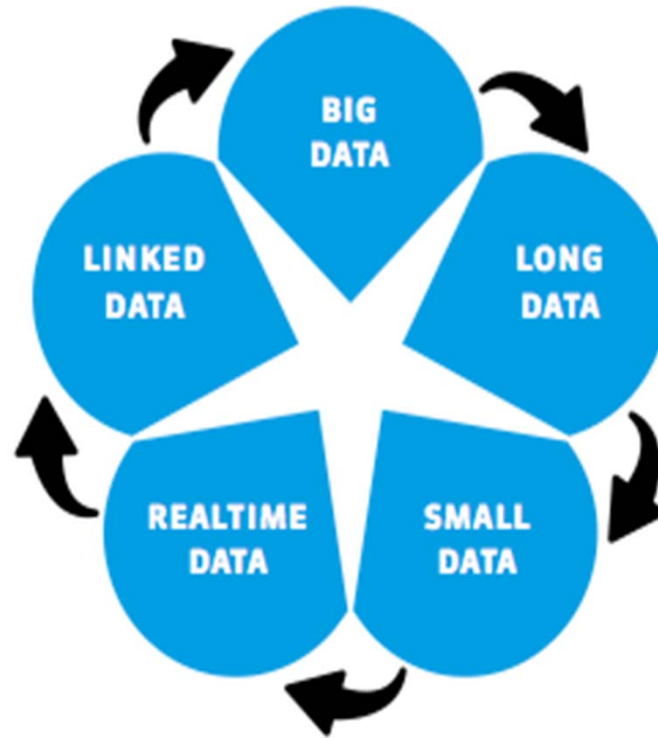
2. The power of open platforms



3. The power of systemic innovation



II. Data is (more than) the new oil

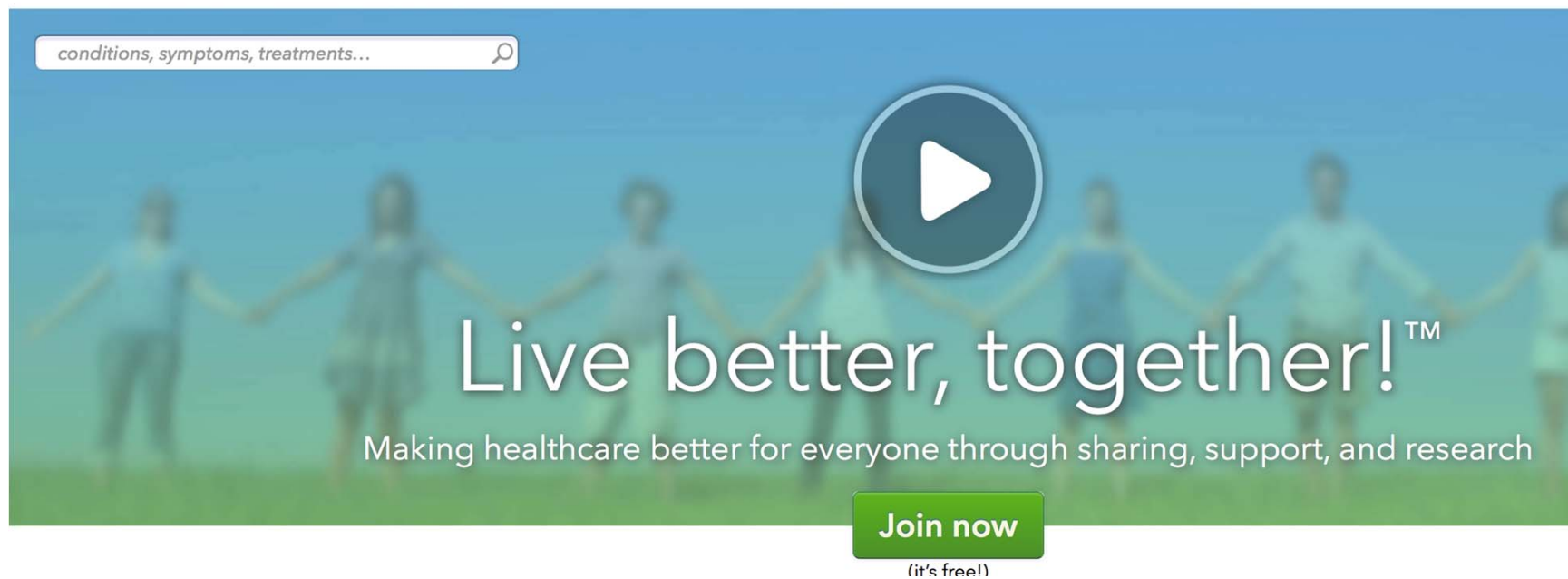


Data for operational efficiency



Data for new value propositions

patientslikeme®

A screenshot of the patientslikeme website banner. At the top left, there is a search bar with the placeholder text "conditions, symptoms, treatments..." and a magnifying glass icon. The background of the banner shows a group of diverse people holding hands in a circle on a grassy field under a blue sky. In the center, there is a large white play button icon inside a dark blue circle. Below the play button, the text "Live better, together!™" is written in a large, white, sans-serif font. Underneath this, in a smaller white font, is the tagline "Making healthcare better for everyone through sharing, support, and research". At the bottom center, there is a green button with the text "Join now" in white, and below it, in a smaller white font, is "(it's free!)".

conditions, symptoms, treatments...

Live better, together!™

Making healthcare better for everyone through sharing, support, and research

Join now

(it's free!)

Data for user behaviour change

Table ES.1 Potential energy savings due to measures targeting behaviour

Intervention	Range of energy savings
Feedback	5–15 %
Direct feedback (including smart meters)	5–15 %
Indirect feedback (e.g. enhanced billing)	2–10 %
Feedback and target setting	5–15 %
Energy audits	5–20 %
Community-based initiatives	5–20 %
Combination interventions (of more than one)	5–20 %

EEA, 2013

Data drives business model innovation

Harvard
Business
Review

INFORMATION & TECHNOLOGY

4 Business Models for the Data Age

by Thomas C. Redman

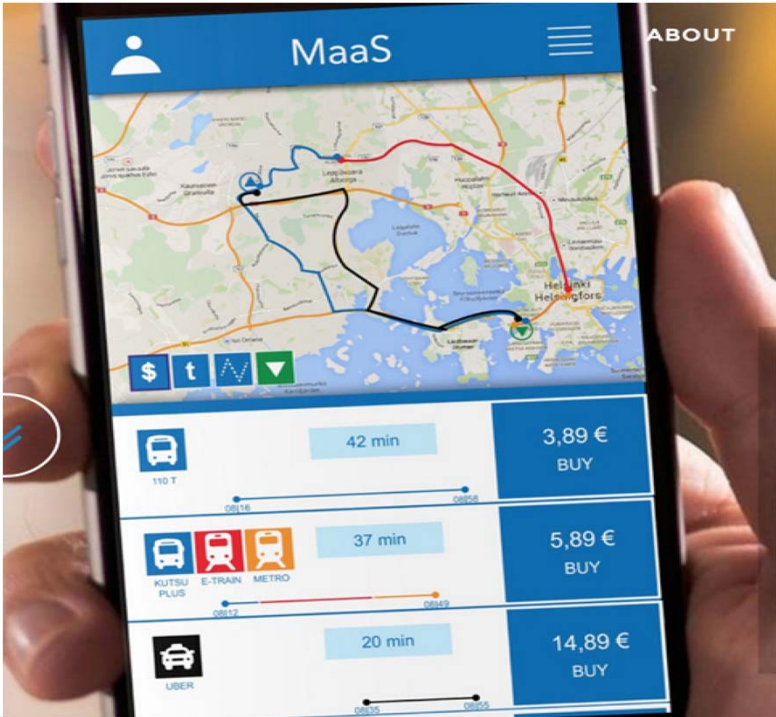
MAY 20, 2015



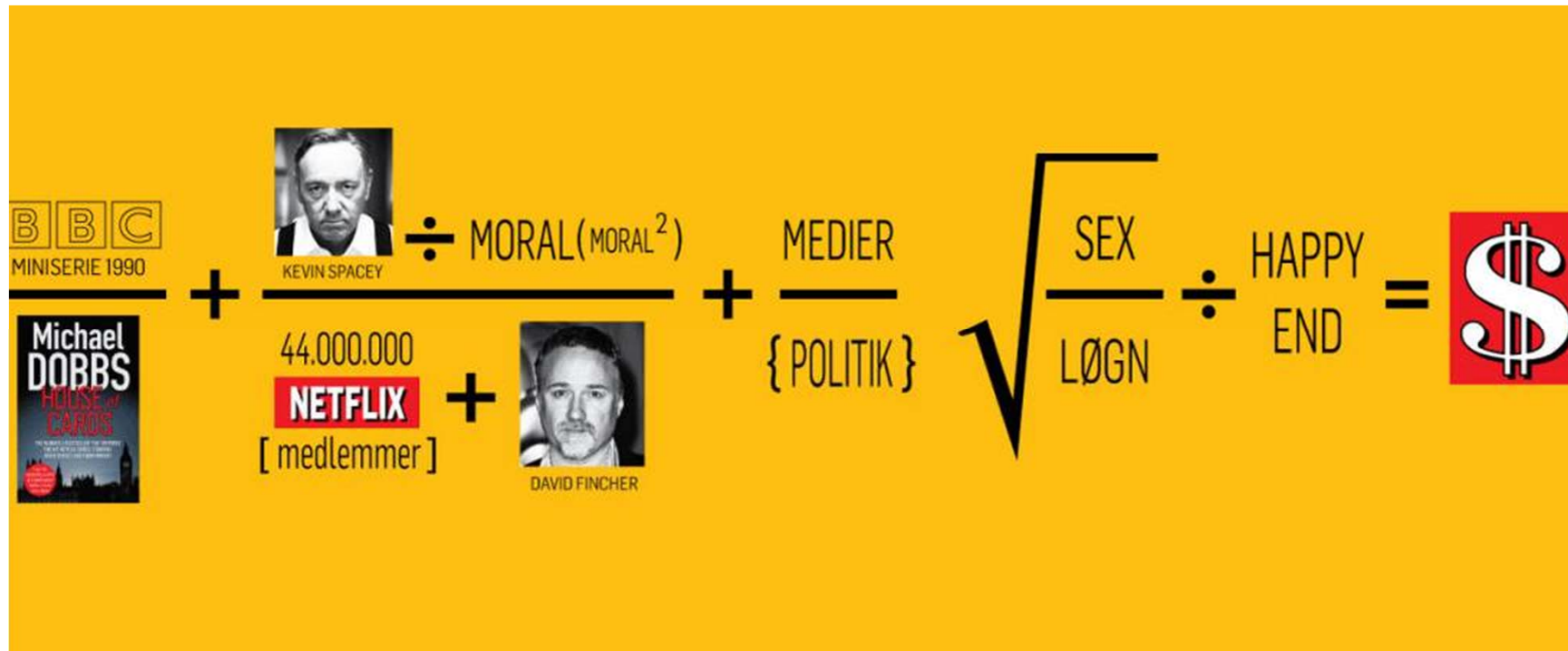
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Data sharing models



Data disrupts incumbent businesses

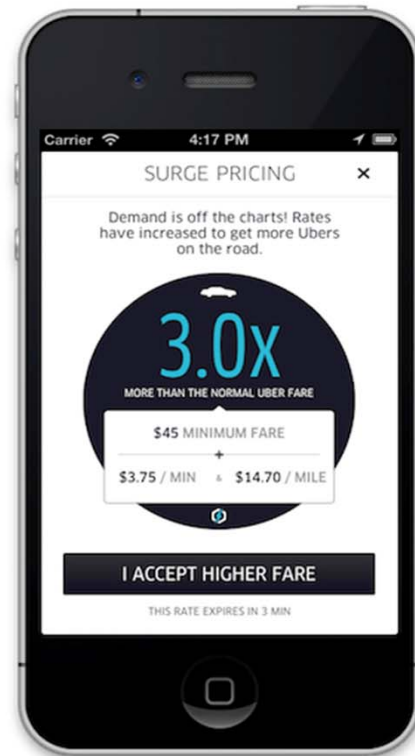


<http://www.trulydeeply.com.au>

Data disrupts privacy



Data disrupts pricing



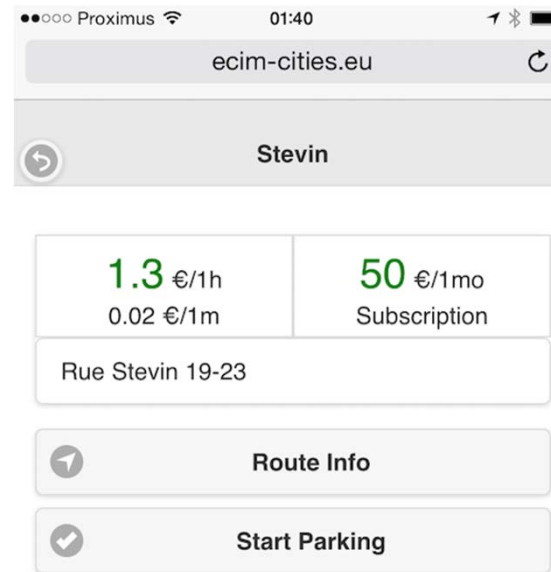
Data disrupts public governance



III. Smart cities, data & living labs



The power of living labs



Public & Private Open

Data **iMinds**



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Brussel

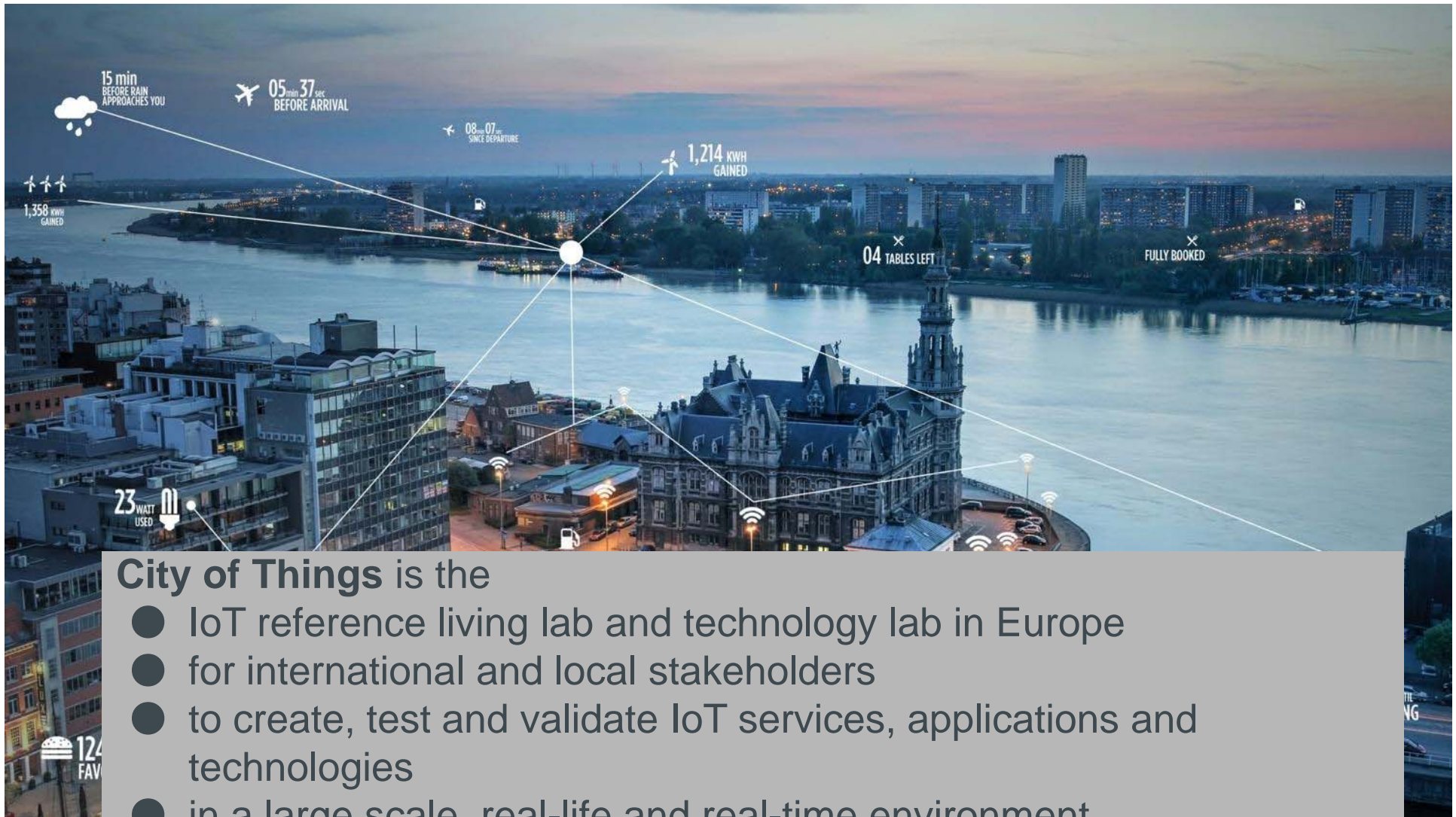
In-app Payment
Systems

Open API for
Parking Entrance

The power of living labs



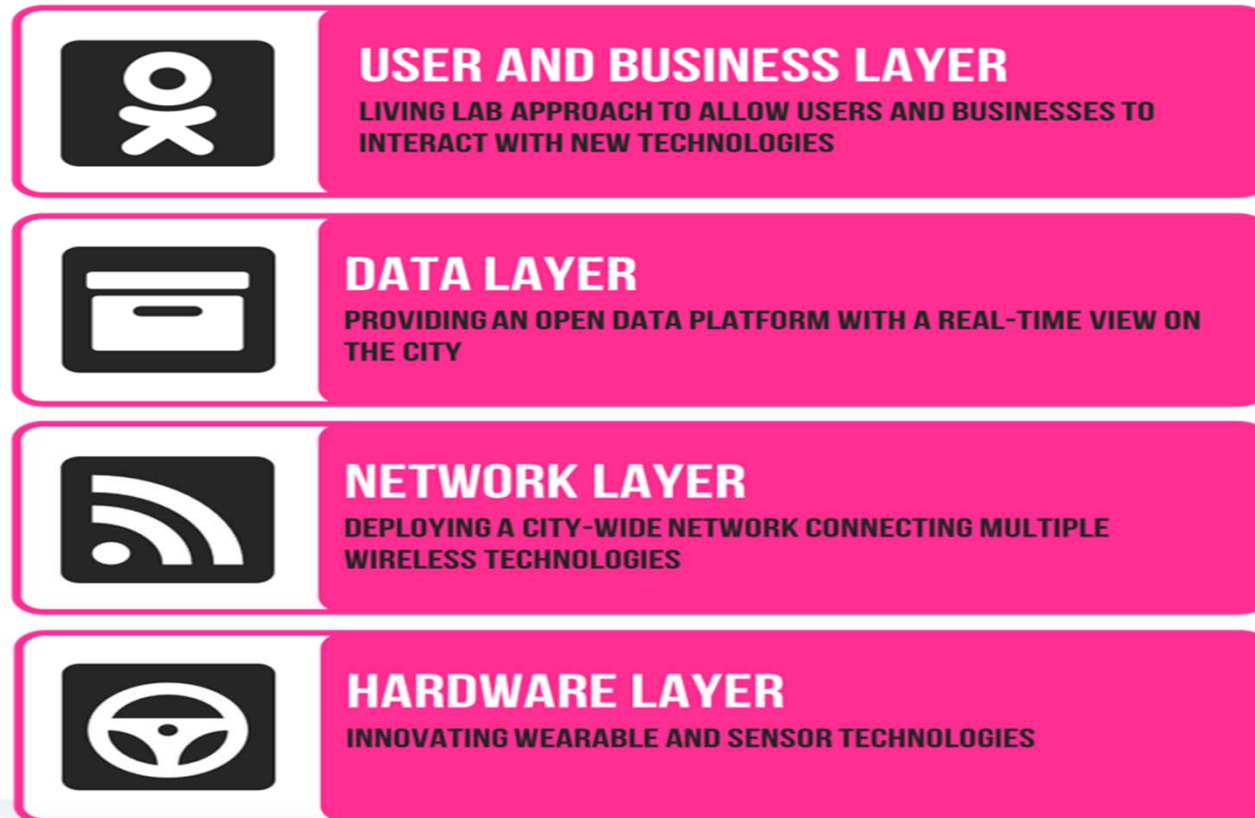
HIn.be



City of Things is the

- IoT reference living lab and technology lab in Europe
- for international and local stakeholders
- to create, test and validate IoT services, applications and technologies
- in a large scale, real-life and real-time environment

City of Things set-up



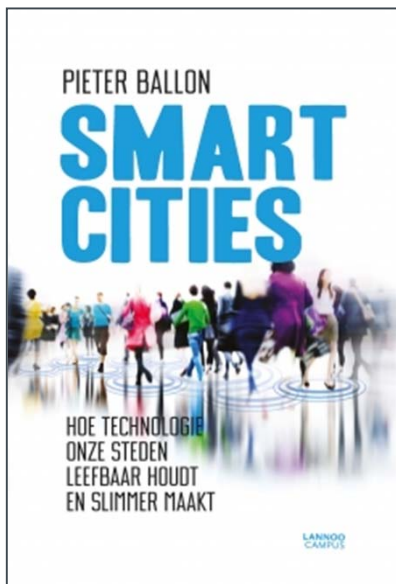
Diapositive 31

1

Wie heeft het brondbestand van deze visual? Ik zou die willen uitbreiden (o.a. met PETS, maar op termijn ook nog met andere zaken)...

Jan Adriaenssens;

Thanks! – want to know (& do) more?



City of Things Living Lab



Chair Smart Cities



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