SMART CITIES: OPPORTUNITIES FOR YOUR BUSINESS

#innovateuk14

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ON UK INNOVATION

SMART CITIES: OPPORTUNITIES FOR YOUR BUSINESS

Corin Wilson

Smart Cities Project Manager,
UKTI

SMART CITIES: OPPORTUNITIES FOR YOUR BUSINESS

- Corin Wilson, Smart Cities, UKTI - UK Government Perspective on Smart Cities
- Opportunity Peterborough – The business opportunity for UK companies in city development
- Cambridge Cleantech – Trade Association support for UK companies in smart city development
- Ethos Smart – The UK company perspective
- Living PlanIT – The International company perspective
- Q&A

SMART CITIES, THE UK AND BEYOND

- By 2050, the human population will have reached 9 billion people, with 75% of the world's inhabitants living in cities
  ('Global Market Opportunities and UK Capabilities for Future Smart Cities' Department for Business, Innovation and Skills, 09 Oct 2013)

- An estimated 80% of global GDP is from goods and services associated with cities

- By 2020 there will be 26 'Global Smart Cities and '90 Global Sustainable Cities'. 50% of these within North America and Europe
  ('Strategic Opportunity Analysis of the Global Smart City Market'. Frost & Sullivan, August 2013)

- Arup values the smart cities industry at more than $400 billion globally by 2020, with the UK expected to gain a 10% share focused for the most part in the areas of energy, water, waste, transport and health.

- Frost & Sullivan even larger, $1.5trillion global market by 2020.
  Key growth sectors seen as healthcare, infrastructure, education and energy

UKTI AND SMART CITIES

- UKTI Smart Cities Strategy – ‘Born’
- UKTI Global Smart Cities High Value Campaign
- Technology is Great
- Innovate UK
- Smart City Expo World Congress
- SE Asia Trade Mission
- Stakeholders

SMART CITIES OPPORTUNITIES

- Key is Technical and Commercial Investigation, Qualification, Accessibility, Support

- Project Opportunities:
  - Middle East
  - South East Asia
  - Americas
  - East Asia
  - South Africa
  - Scandinavia
  - New Zealand
  - India

THANK YOU

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SMART CITIES: OPPORTUNITIES FOR YOUR BUSINESS

Steve Bowyer

Acting Chief Executive
Opportunity Peterborough

PETERBOROUGH DELIVERING A TRULY SMART CITY

THE UK'S FASTEST GROWING CITY

A multicultural population of over 183,000 people

Ranked 2nd in the country for private sector growth

£1billion regeneration programme

Creating the UK's Environment Capital, with the country's largest cluster of environmental businesses

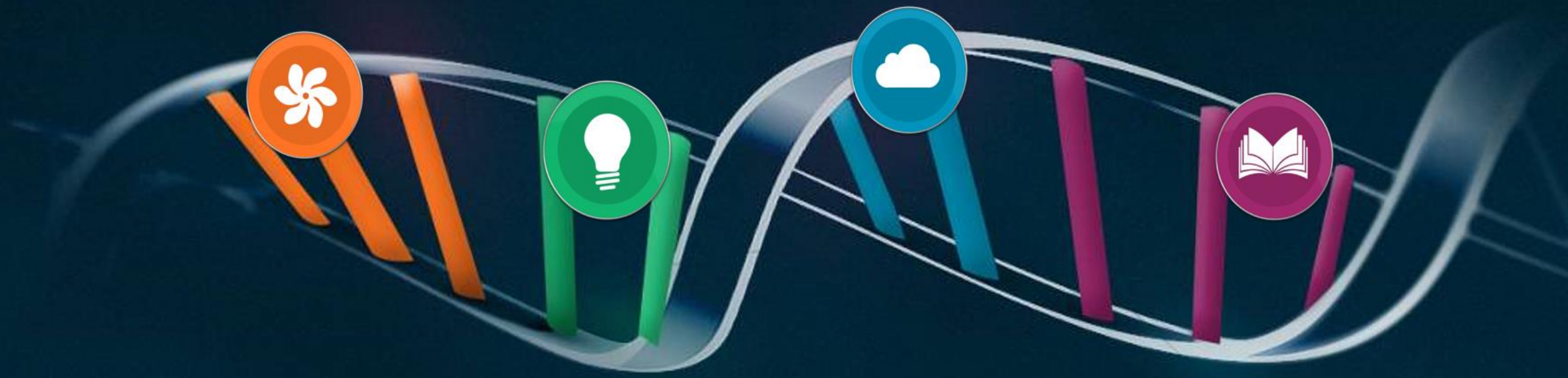
GIGABIT CITY: access to the world's fastest business internet speeds

ONE OF THE UK'S 4 FUTURE CITY DEMONSTRATORS

A diverse £ economy with world-leading companies in advanced manufacturing, finance and agriculture

Welcome to Peterborough…

In 2013 Peterborough was chosen as one of the Government's Future City Demonstrators - cities testing and developing innovative ways to make urban systems more integrated and more effective…



Peterborough DNA

Part of the Future Cities Programme

Peterborough DNA is creating a step-change in how the city works.

A programme of activities and initiatives are being delivered under four key themes…

Smart Business
sustainable in all senses of the word, economically resilient and with low-environmental impact

Innovation
catalysing innovation and changing the way the city responds to challenges

Open Data
bringing city data to life to demonstrate its value in a visually appealing way

Skills
the right local skills to meet demand now and in the future

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Central to Peterborough DNA is collaboration and partnership across the city between the private, public and third sectors

We've developed an accessible, engaging open data platform for everyone to view and use city data

"Data is being used in the city to offer insight about local school and health provision – helping residents reshape their city." The Guardian

CHALLENGES

Facing a challenge?

BROWSE TOPICS

- RESOURCES
- INFRASTRUCTURE
- COMMUNITY
- PLACES

EVENTS

VIEW ALL

31 OCT 2014 AT 09AM

Shop Window – Future of Water

KingsGate Conference Centre, Peterborough

Browse all challenges uploaded on Brainwave and see whether you can help solve any of them. Alternatively, if you are struggling with a challenge, post it here to give somebody an opportunity to provide you with a solution.

CHALLENGES

POST A CHALLENGE

SEARCH

SORT BY *Date Posted*

City Centre Vibrancy

POSTED BY HELENA HANSEN-FURE ON 09 OCT 2014

Disposal of Hessian Sacks

POSTED BY ALICIA FIELDHOUSE ON 15 AUG 2014

A GREENHOUSE FOR GOOD IDEAS AND A GATEWAY TO BUSINESS OPPORTUNITIES AND FUNDING, IS A FREE ONLINE PLATFORM WHERE ENTREPRENEURS, RESIDENTS AND COMMUNITIES CAN DEVELOP, SHARE AND DISCUSS IDEAS THAT SOLVE CITY AND BUSINESS CHALLENGES

A way to make use of old coffee sacks?
"Peterborough DNA has created space for thinking differently and trialling new things." Pav, Entrepreneur, Brainwave Challenge Fund winner

Funding to get good ideas off the ground – Michael Reid's prototype solar powered terrace heater is going from concept to market

Breakthrough thinking workshops to help people think like innovators and turn problems into opportunities

“Peterborough is full of people with a lot of good ideas and it’s wonderful that something’s being done to help them come to fruition.”
Michael, Product Innovator

Smart Fengate: Dedicated support for a city business park to catalyse innovation, create a circular economy and embed a support network for sustainable, long-term change

A brand new Skills and Innovation Centre to drive aspiration in young people and provide R&D facilities for innovating businesses

Graduates from across the UK head to Peterborough for six month placements to tackle business sustainability challenges

Hackathons to enable new thinking and new approaches to tackling specific city challenges

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Peterborough DNA
Part of the Future Cities programme

GROWTH, INNOVATION, SUSTAINABILITY

Find out more at

www.peterboroughdna.com
www.brainwaveinnovations.co.uk

@PeterboroughDNA

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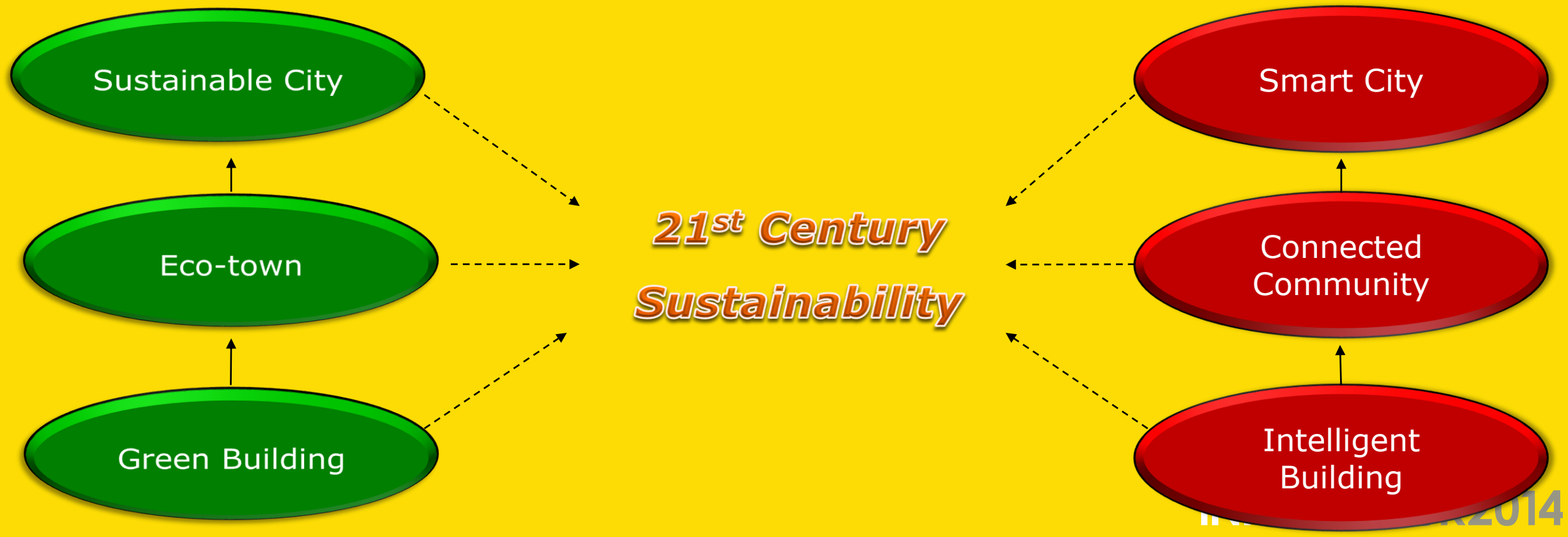
Smart Cities – Opportunities for Your Business

Trade Association Support for UK Companies in Smart City Development

Alan Kell OBE
Chair, Cambridge Cleantech Smart Cities Group
Managing Director, Intelligent & Green Systems

Intelligent & Green
The Route to 21st Century Sustainability



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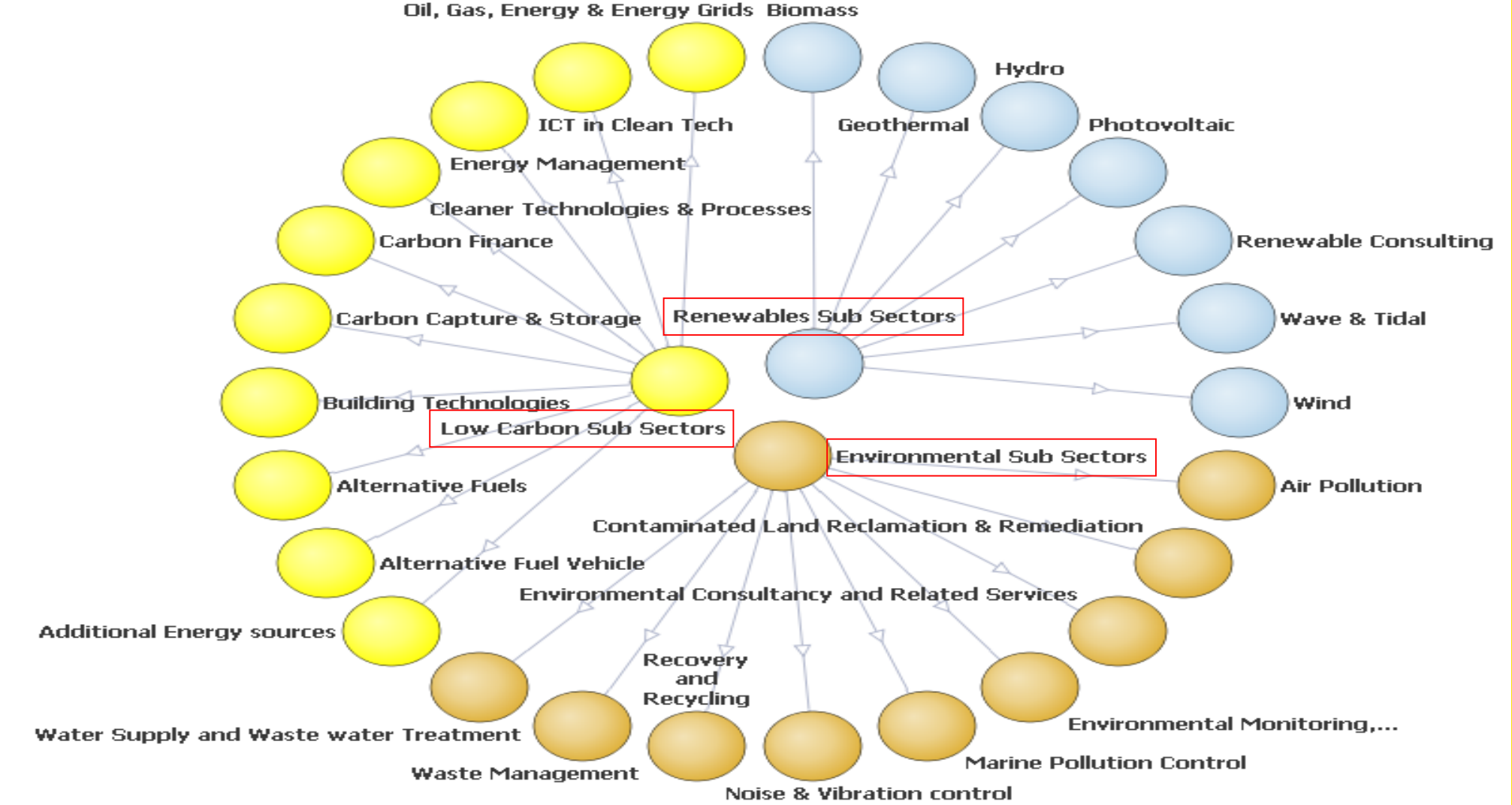
Cleantech Sector Definition



Source: Greater Cambridge Partnership Cleantech Strategy & Action Plan, May 2010

Energy Management Sector - Examples

Green Energy Options	Design and manufacture energy management displays	Hardwick, Cambs
Alert Me	Domestic energy monitoring	Cambridge
eSight Energy	Energy management software	Swavesey, Cambs
Meniscus Systems	Energy management systems monitoring	Huntingdon, Cambs
Ista Energy Solutions	Commercial energy management solutions	Harston, Cambs
Sentec	Products for the smart metering sector	Cambridge
AMiHo	Wireless control for smart metering	Cambourne, Cambs
Envirocomb	Energy monitoring software and services	Royston, Herts
Energy ICT	Energy information technology	Stansted Abbotts, Herts
TEAM	Energy monitoring software and services	Milton Keynes
Radir	Energy management and control	Milton Keynes
Hybridise	Energy management services	Epping, Essex

Emergence of Hi-Tech Cluster in Greater Cambridge

	1971	1981	1991	2001	2014
Hi-tech jobs	20,200	25,100	**34,900**	46,200	50,000
	Scientific Instruments	Computing Industrial inkjet Scientific Instruments Software	Telecoms Computing Industrial inkjet Scientific Instruments Software Biosciences	Telecoms Computing Industrial inkjet Wireless communications Scientific Instruments Software Biosciences	Nanomaterials Drugs delivery Sensors/actuators Alternative fuels Cleaner processes Medical engineering Photovoltaics Drug modelling Biomass Sentient computing

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Founders

AVEVA
CONTINUAL PROGRESSION

MARSH

REDDIE & GROSE
Patents | Trade Marks | Designs | Plant Varieties

RICARDO

love every drop
anglianwater

pwc

futurebusiness

MITIE

Anglia Ruskin University

UNIVERSITY OF CAMBRIDGE

Unilever

Price Bailey
CHARTERED ACCOUNTANTS

JM
Johnson Matthey

DEYTON BELL

TaylorWessing

Autodesk

Alconbury Weald

Cambridge University Hospitals NHS
NHS Foundation Trust

climate energy

HEWITSONS

ttpgroup

David Ball Group plc

ARM

BOUYGUES
ENERGIES & SERVICES

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Associate Founders

RIDGEONS
Timber & Builders Merchants

ROTHAMSTED RESEARCH

Deloitte.

BDO

cyan

savills

APC
ADVANCED POWER COMPONENTS

Cambridge Regional College
first for training & skills

alternativenergy

bp

Utili track
Business Utility Brokers

EcoCooling

sentec

haverhill research park

LIETCORP

THE SCOTT PARTNERSHIP

ameycespa

EVERSHEDS

RLW

CAMBRIDGE RESEARCH PARK

sitec
LED Lighting

LarkfleetGroup

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Cambridge Cleantech Business Support

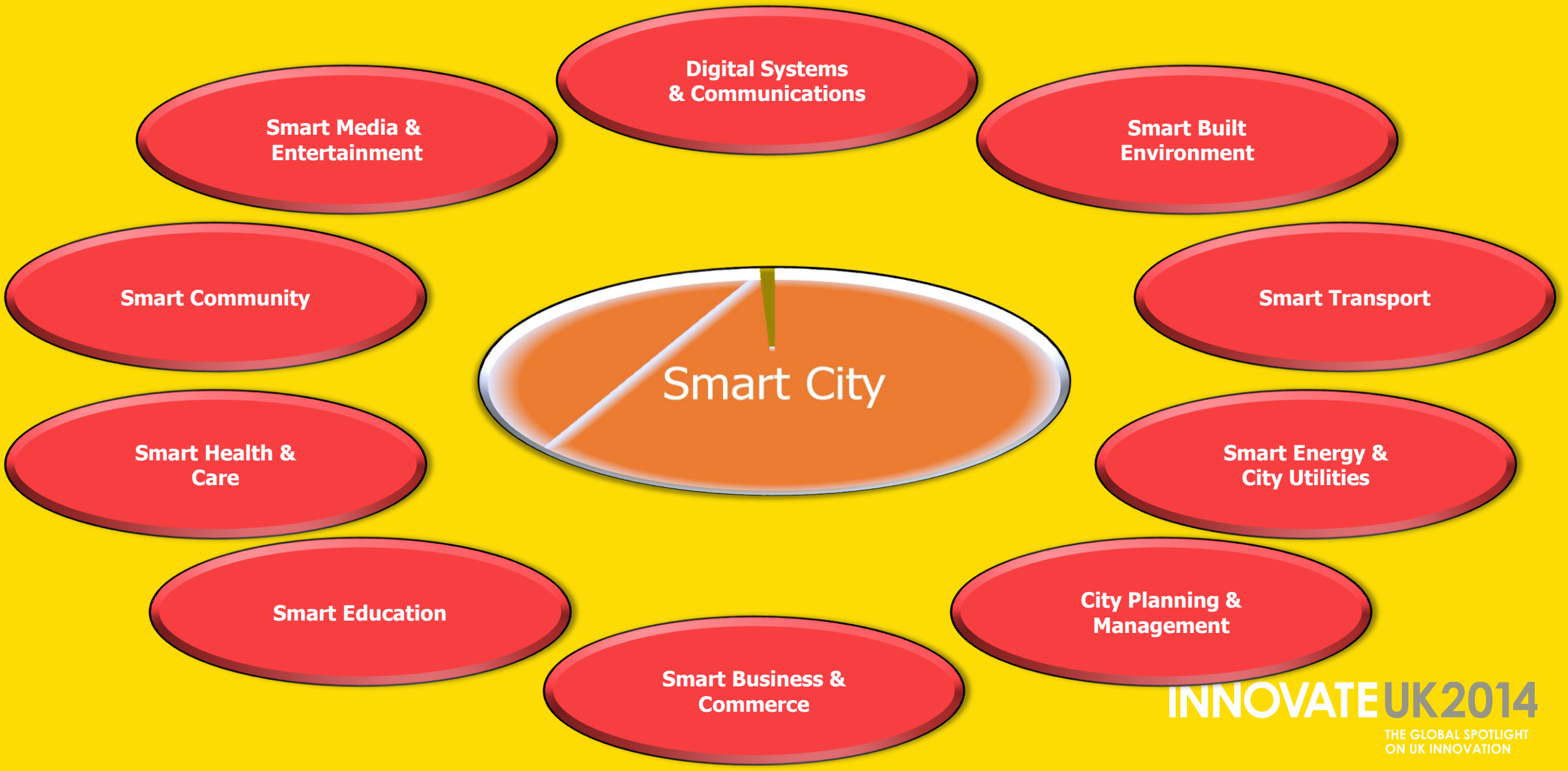
- Access to Finance
  - How to Pitch for Cleantech Investment
  - Funding Brokerage Service
  - Finance SIG
  - Grant alerts service
- Supply Chain Opportunities
  - Alerts Service eg Sainsbury's water & lighting competition
  - Formal supply chain service (with partner)
  - Supply chain events eg Nuclear, Sizewell C
- Government Regulatory Updates
  - Simplified, web portal

Significant Developments of Smart Technologies

- Ubiquitous smart phones
- Low cost, high powered sensors
- High speed communications networks
- Powerful data analysis capabilities (big data)

- Leading to the ability to capture and analyse data *in real time*, allowing the *dynamic management* of city events

I&G Systems



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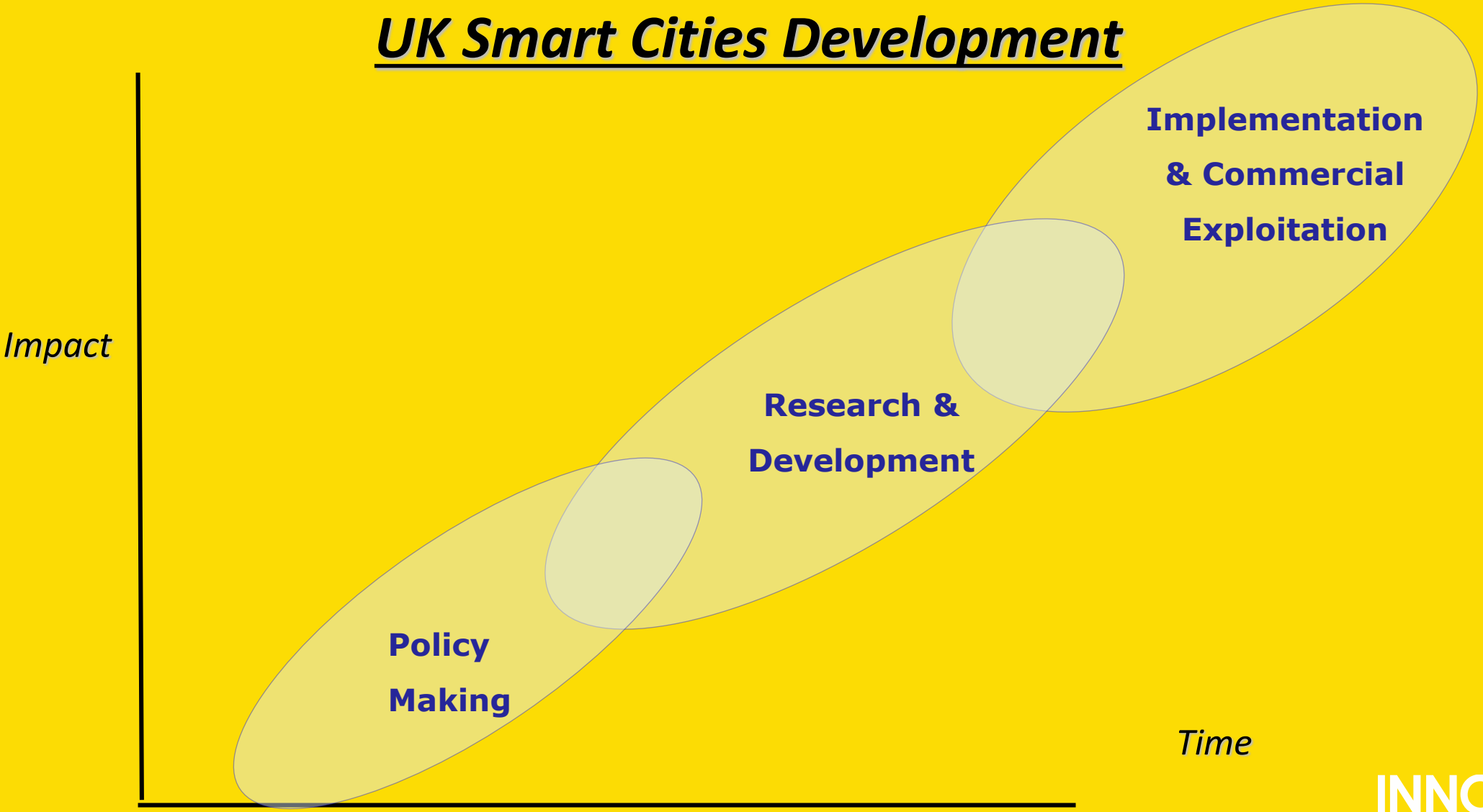
I&G Systems

UK Smart Cities Development



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Cambridge Cleantech Smart Cities Group

- Aims

  To support the commercial development of companies supplying smart city solution by providing:

  - Mainstream commercial opportunities (city, community, mixed use development, and sectoral)
  - Business partnering opportunities
  - Finance & investment opportunities
  - Marketing through supplier database and focussed smart cities trade directories
  - Business events and trade shows

Cambridge Cleantech Smart Cities Group

In Summary

Smart + Clean = Green

Industry lead to achieve business lift-off

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SMART CITIES: OPPORTUNITIES FOR YOUR BUSINESS

Adrian Ulillse

MANAGING DIRECTOR

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STEVE LEWIS
CEO & FOUNDER
LIVING PLANIT

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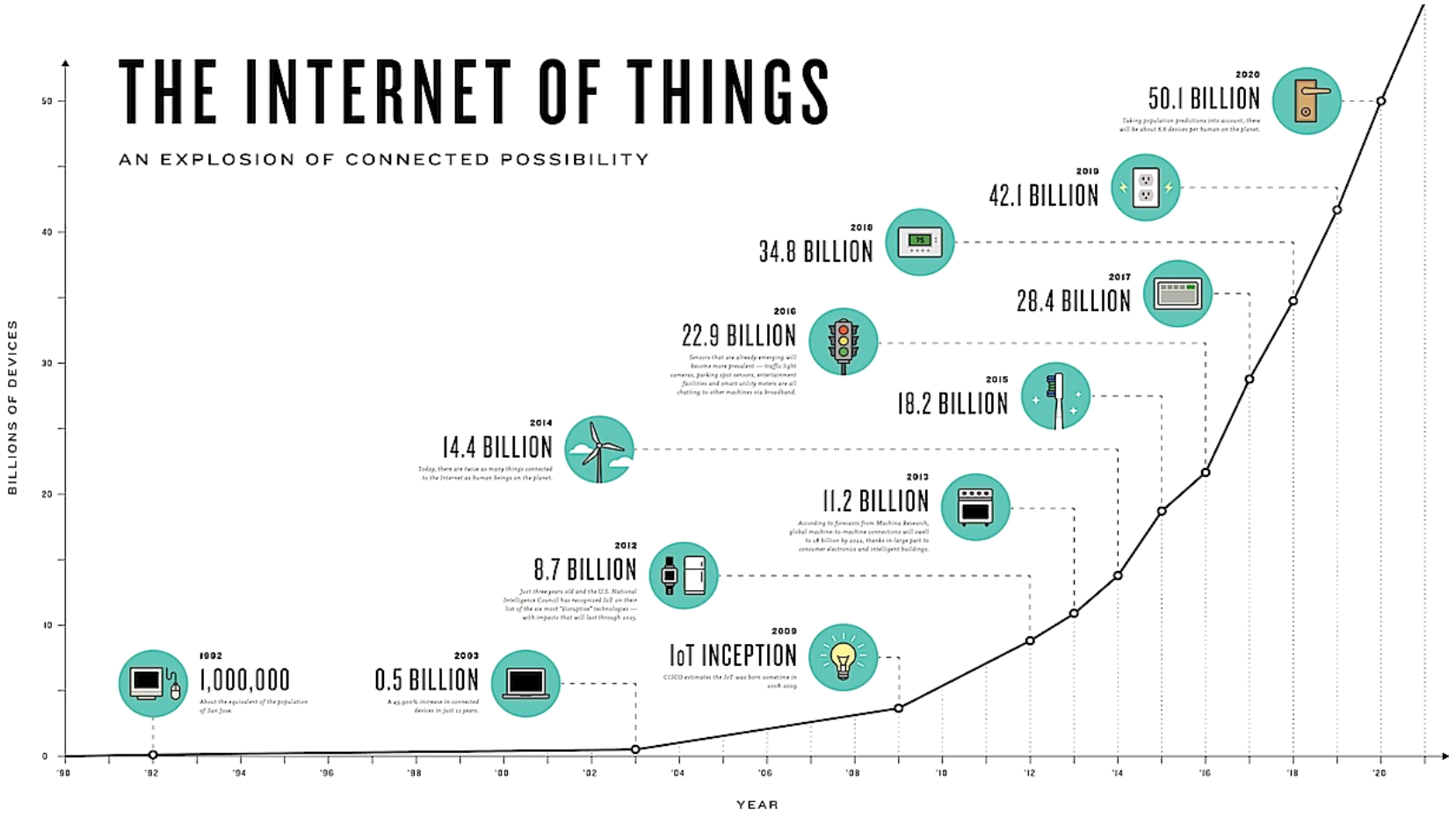
INTERNET OF THINGS

The Internet of Things connects devices such as everyday consumer objects and industrial equipment onto the network, enabling information gathering and management of these devices via software to increase efficiency, enable new services, or achieve other health, safety, or environmental benefits.

INTERESTING, BUT WAIT A MINUTE…



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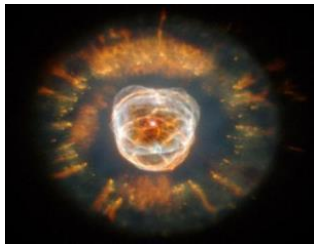
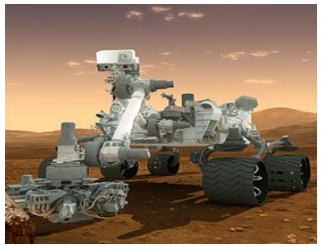
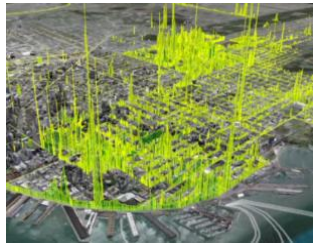
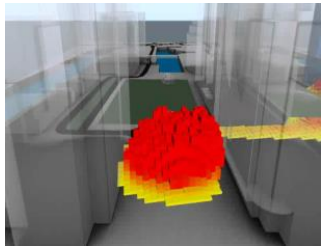
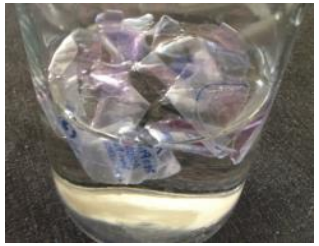
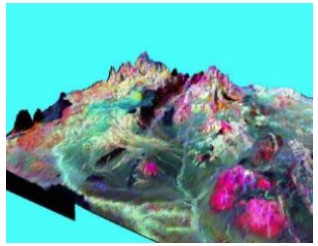
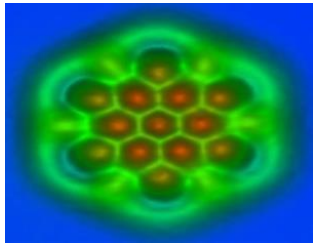
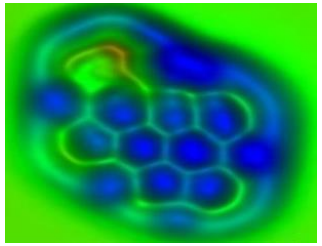
“EDGE” IS EXPANDING…







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LIVING PLANIT

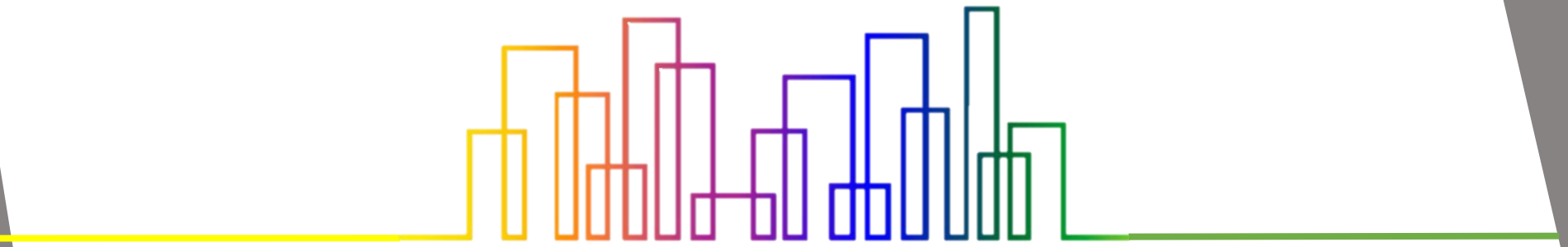
Vision

Improving Urban Life Through Technology.

Mission

Pioneer Edgeless Computing – resilient and scalable infrastructure for the Internet of Things that converges digital and biological systems with urban infrastructure. In so doing, Living PlanIT is contributing to the long term viability of society and the planet.

LIVING PLANIT



PLANIT URBAN OPERATING SYSTEM™

EDGELESS COMPUTING

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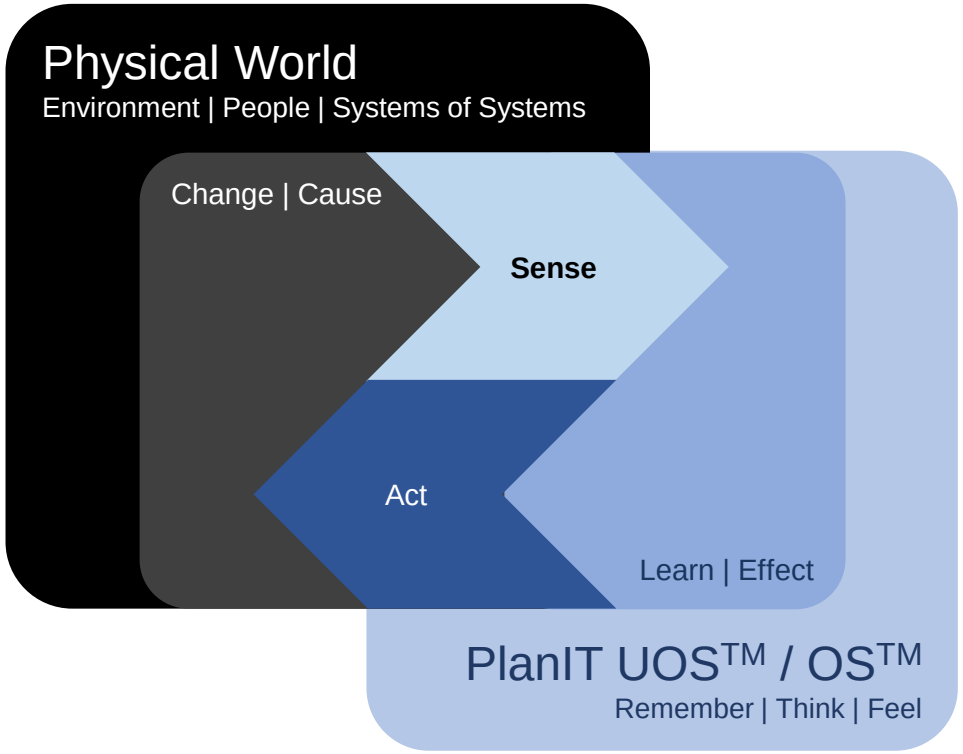
LIVING PLANIT

Experience, Predict, Improve



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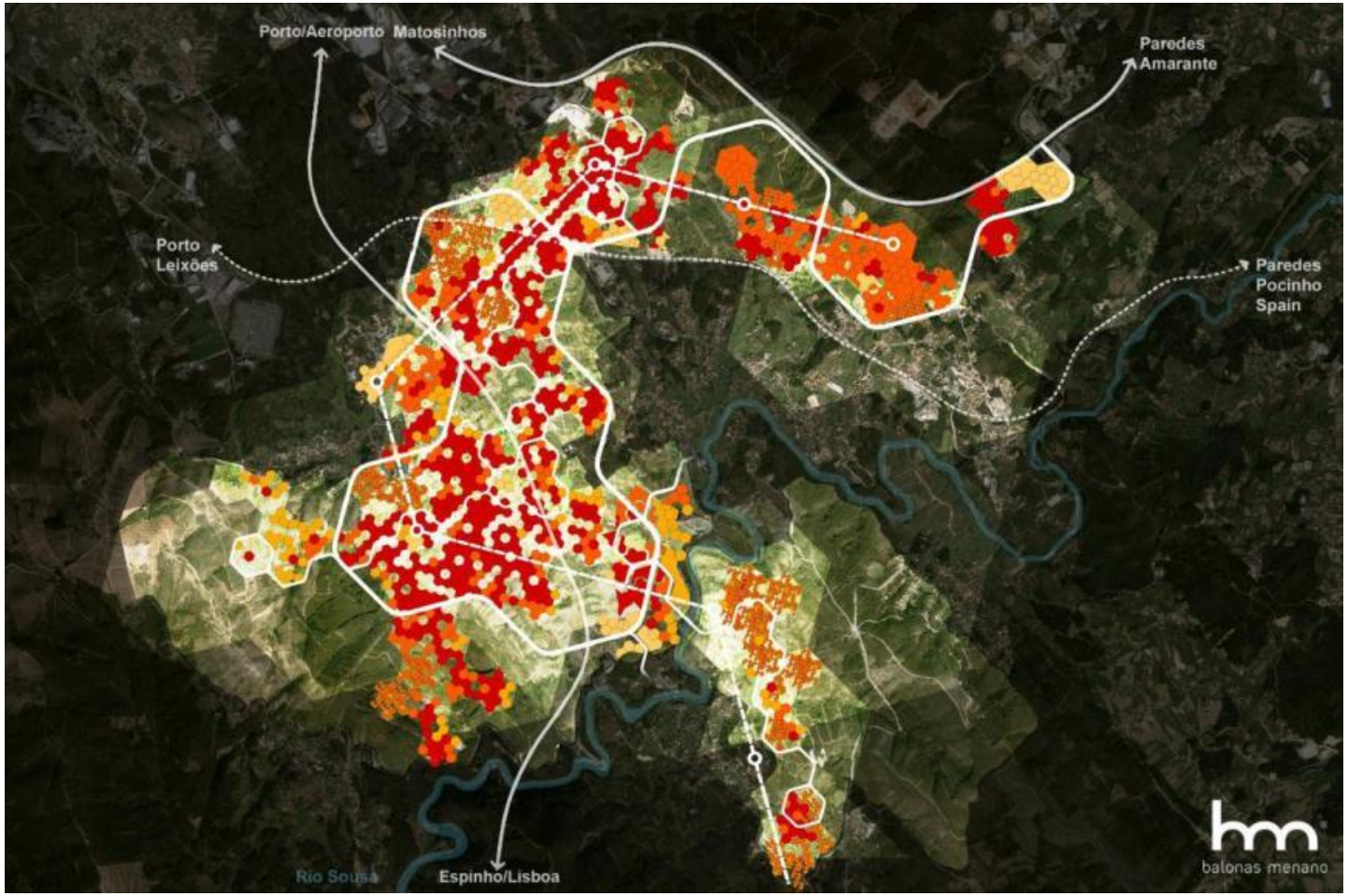
PLATFORMS & MARKET SHARE

- There is a phenomena of high share in software markets:
  - A product with high share generates a common sense around it.
  - A common sense that Community Colleges train on that product.
  - A common sense that temporary workers know the product.
  - A common sense that certification in the product is a valuable thing.
  - A common sense that the industry can exchange data or aggregate data using schema specific to that product.
  - A common sense that someone doing something new should move to that product.
  - A common sense in terms of how the press covers the product and its development.
  - A common sense in terms of the books written about the product.
  - The product can become a carrier of the vision of the industry and be part of industry events.
- Once a product is in this position then listening hard and improving it gets easy. The toughest piece is getting to a position to get the phenomena started.

PLANIT VALLEY, PT



GREENWICH, UK

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LONDON CITY AIRPORT, UK

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FLORIADE, NL

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BASINGSTOKE, UK

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HONG KONG AIRPORT, HK

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SAO PAULO, BR

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CONVIDA, BR

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CONE, BR

CHENGDU, CH

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STRATEGIC ALLIANCE PARTNERS

McLaren ELECTRONIC SYSTEMS

CISCO

Hitachi Consulting

Microsoft Be what's next.

SAMSUNG

hp

IBM

Buro Happold

BOSCH

PHILIPS

powered by amazon web services

תודה
Dankie Gracias
Спасибо شكراً
Merci Takk
Köszönjük Terima kasih
Grazie Dziękujemy Dėkojame
Ďakujeme Vielen Dank Paldies
Kiitos Täname teid 谢谢
Thank You
Tak
感謝您 Obrigado Teşekkür Ederiz
감사합니다
Σας Ευχαριστούμε
ขอบคุณ
Bedankt Děkujeme vám
ありがとうございます
Tack

partners@living-planit.com

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SMART CITIES: THE UK AND CHINA SPEAKERS

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Smart Cities Project Manager,
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SMART CITIES: THE UK & CHINA

- Opening Address – Corin Wilson, Smart Cities, UKTI. Overview of UK/China collaboration

- Huawei – Operating in a Smart City World

- Hikvision – Operating in a Smart City World

- Panel Discussion – Chaired by John Davies, Director, Technology Partnerships, UKTI
  - Huawei
  - HikVision
  - TP-Link
  - Oppo
  - Qin Li, Head of Information Economy, UKTI China
  - Corin Wilson, Smart Cities, UKTI

SMART CITIES, THE UK, CHINA AND BEYOND

- By 2050, the human population will have reached 9 billion people, with 75% of the world's inhabitants living in cities.
  ('Global Market Opportunities and UK Capabilities for Future Smart Cities' Department for Business, Innovation and Skills, 09 Oct 2013)

- An estimated 80% of global GDP is from goods and services associated with cities

- By 2020 there will be 26 'Global Smart Cities and '90 Global Sustainable Cities'. 50% of these within North America and Europe.
  ('Strategic Opportunity Analysis of the Global Smart City Market'. Frost & Sullivan, August 2013)

- Frost & Sullivan, $1.5trillion global market by 2020. Key growth sectors seen as healthcare, infrastructure, education and energy

- Arup values the smart cities industry at more than $400 billion globally by 2020, with the UK expected to gain a 10% share focused for the most part in the areas of energy, water, waste, transport and health

SMART CITIES, THE UK, CHINA AND BEYOND

- 截止今年9月，我国311个城市提出或在建智慧城市
- By this September, 311 cities in China proposed or started smart city projects
- 2013政府工作报告或者国民经济“十二五”规划中正式提出建设智慧城市的全国地级以上城市共52个
- 52 cities nationwide of the regional level or above formally proposed smart city projects during their 2013 Government Work Report or the Twelfth FYP for National Economy
- 北京、广州、天津、上海等23个城市正式发布智慧城市相关专项规划或行动计划
- 23 cities (e.g. Beijing, Guangzhou, and Tianjin) formally announced special planning or action plan on smart city
- Source: CATR (China Academy of Telecommunication Research)

SMART CITIES, THE UK, CHINA AND BEYOND

- The UK has particular strengths which could account for between 10% and 25% of the total $400billion global smart cities market by 2020 as follows:

- Glasgow Future Cities demonstrator, £24M investment
- £189 million funding for capital investment in data centres and energy efficient computing
- Open Data Institute – Set up by Sir Tim Berners-Lee & Prof Nigel Shadbolt; CEO – Gavin Starks

UKTI AND SMART CITIES

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UK/CHINA AND SMART CITIES

- UKTI offices in Beijing, Shanghai, Guangzhou, Chongqing and Wuhan (March 2015)
- 英国贸易投资总署在中国北京，上海，广州，重庆及武汉（2015年3月）设有代表处。

- UKTI working on smart cities with MIT and CATR; MOHURD and Digital China
- 在中国智慧城市建设上，英国贸易投资总署与中国工信部，工信部电信研究院；住建部和神州数码有着紧密的联系。

- UKTI working with cities including Wuhan; Xuzhou; Qingdao; Qianhai; Beijing
- 其中，英国贸易投资总署也与武汉，徐州，青岛，深圳前海，北京等智慧城市代表城市/区域有密切的合作。

- December 2014 UKTI report on 10 China smart cities projects for UK/China partnership
- 至2014年12月，英国贸易投资总署将发布10个中国智慧城市潜在项目，为英中两国在智慧城市建设中作为合作探讨

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DATA AS AN ENABLER FOR SMART CITIES

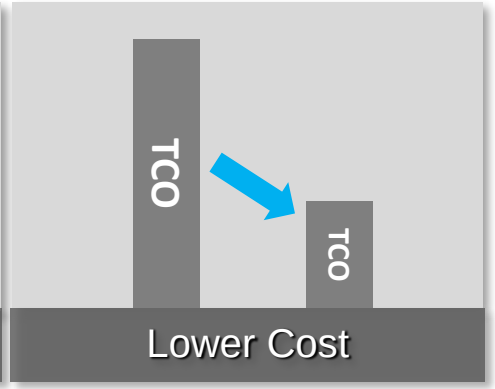
John Morrison

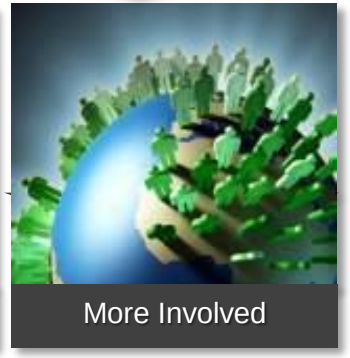
Director, UK Enterprise

AGENDA

- Smart Cities Trends and Drivers
- Smart City Approach
- Smart Framework
- So What Next

SMART CITY DRIVERS





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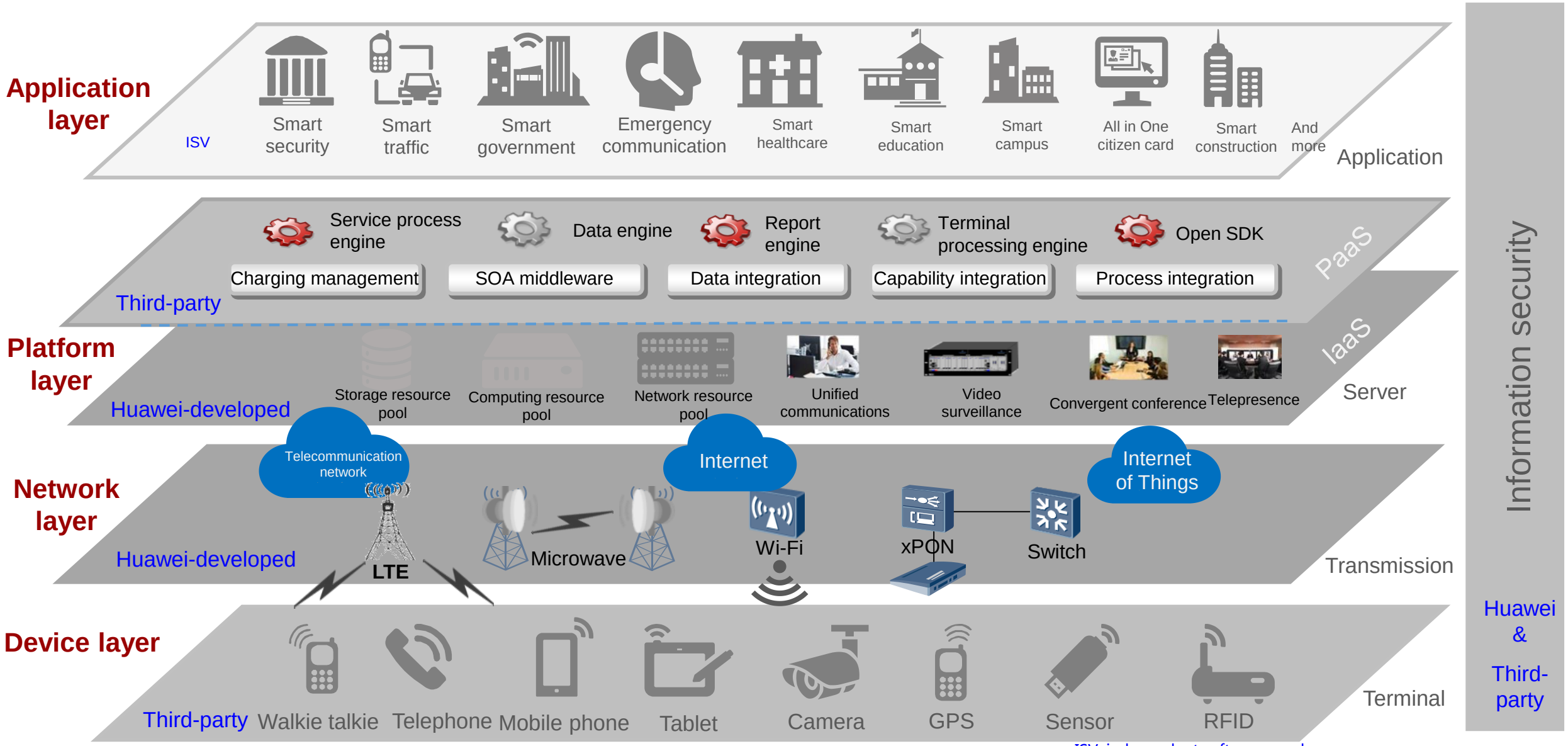
STEPS TO BUILD A SMART CITY

1. Establish a clear development plan
2. Build a perceptive city
3. Build a smart city under unified management
4. Building Scientific Standard & Open platform
5. Choose a Suitable Business Model

HUAWEI SMART CITY FRAMEWORK



ISV: independent software vendor

SO WHAT NEXT?

- Technology moves from static infrastructure to dynamic enabler
- Citizens move from consumers of services to key stakeholders and innovators
- Businesses move from suppliers to partners with the city
- City moves from straightforward growth to transformation
- Collaboration is the key

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