Smarter Welborne

Chris Cooper
IBM UK – Smarter Cities Technical Leader

coopecj@uk.ibm.com
@mobilityCooper
07967 275469

Being 'Smarter' is achievable in a world that is instrumented, interconnected, and intelligent

Sensors are being embedded across different types of environments and systems. Humans are now able to sense, measure and see the condition of everything.
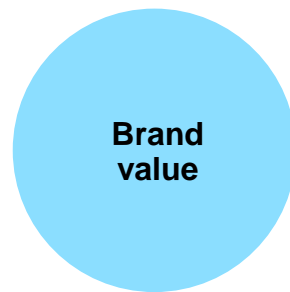
The amount of information produced by the interaction of all those things will be unprecedented.

Analyzed effectively, it can provide important new insights on different timescales.
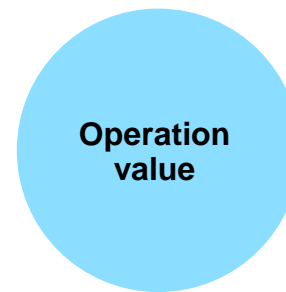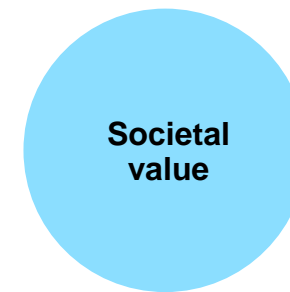
Instrumented

Interconnected

Intelligent

Delivering a Smarter Solent

Smarter outcomes

Strategic value
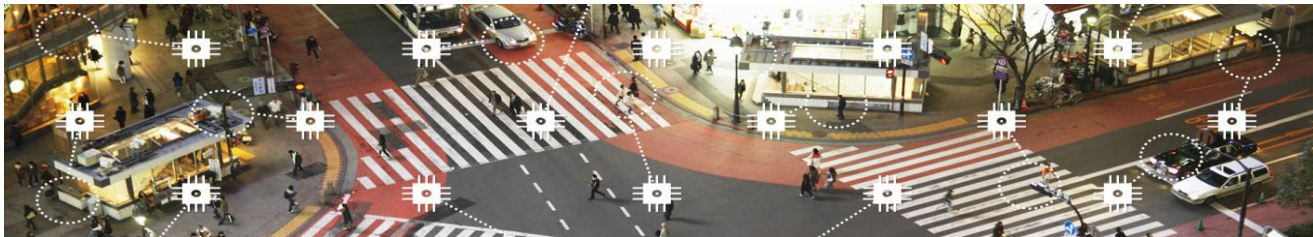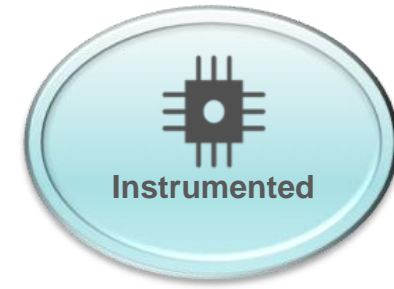
Positioning the city for future success and competitive advantage.

Brand value

Strengthening perception, reputation and influence.

Operation value

Improving existing operations and creating new capabilities.

Societal value

Creating social, cultural and environmental benefits.

Together, these form the basis of a **smarter ROI model.**

http://www.ibm.com/smarterplanet/uk/en/overview/examples/index.html
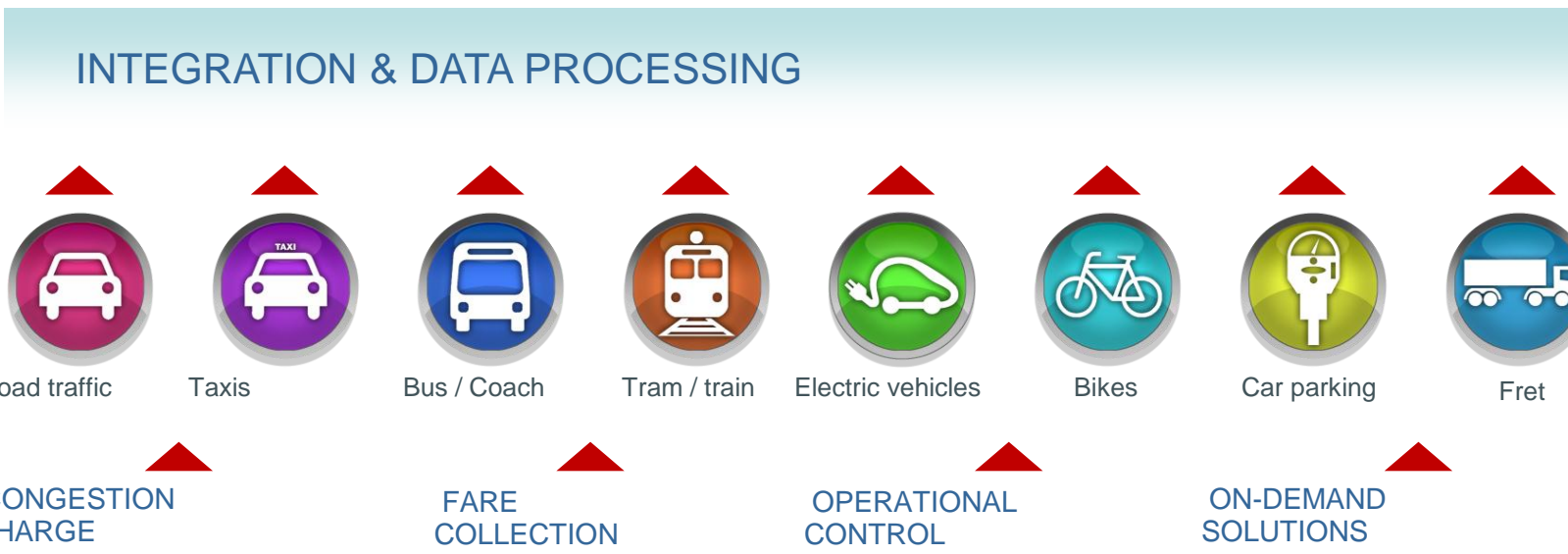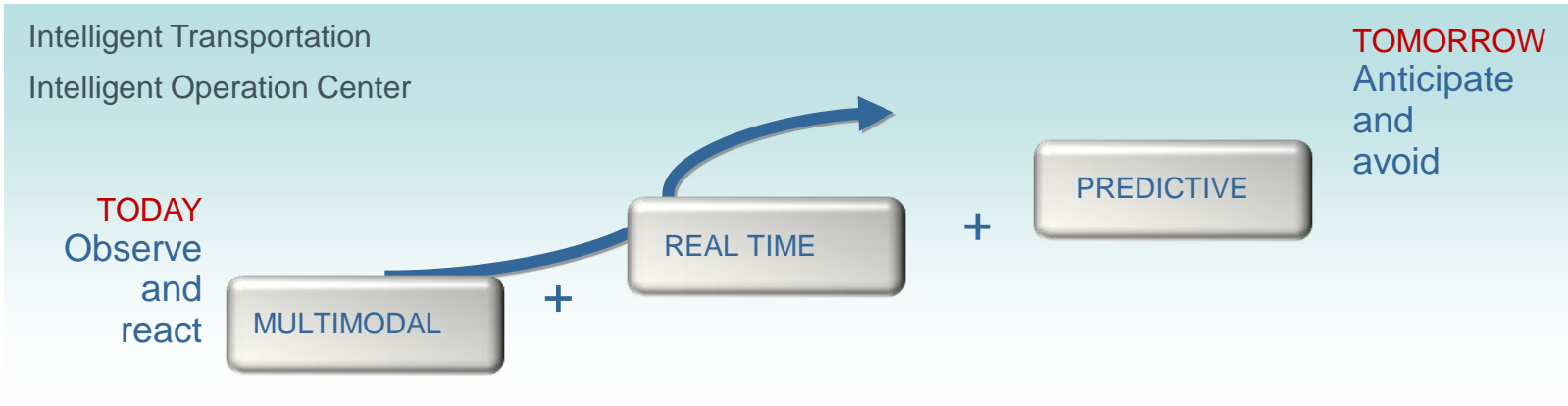
Delivering a Smarter Solent

- A sustainable environmental living space - Including smart energy, waste & water;

- A new approach to transport & mobility;

- Enabling economic growth and a live/work balance.

- A novel approach to managing community resources and providing employment- 'a CuSCo' - aka the "Community Utility Service Company"

Delivering a Smarter Solent

Services for cities, citizens and operators

Intelligent Transportation

Intelligent Operation Center

TODAY
Observe and react

TOMORROW
Anticipate and avoid

MULTIMODAL + REAL TIME + PREDICTIVE

INTEGRATION & DATA PROCESSING

Weather forecast

Social networks & Other data

| Road traffic | Taxis | Bus / Coach | Tram / train | Electric vehicles | Bikes | Car parking | Fret |

CONGESTION CHARGE

FARE COLLECTION

OPERATIONAL CONTROL

ON-DEMAND SOLUTIONS

http://www.youtube.com/watch?v=xuD-MbEDy7Q

Delivering a Smarter Solent

Citizen Interface

Delivering a Smarter Solent

Supply and demand equilibrium diagram: Price (P*) on vertical axis, Quantity (Q*) on horizontal axis, showing Demand and Supply curves intersecting at Equilibrium.
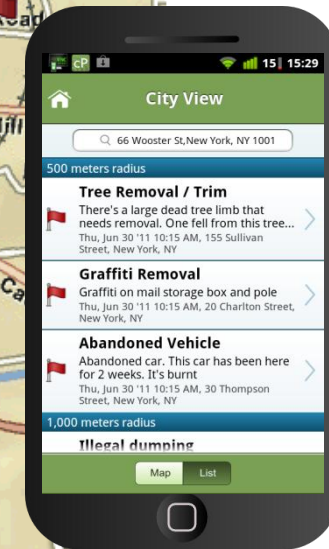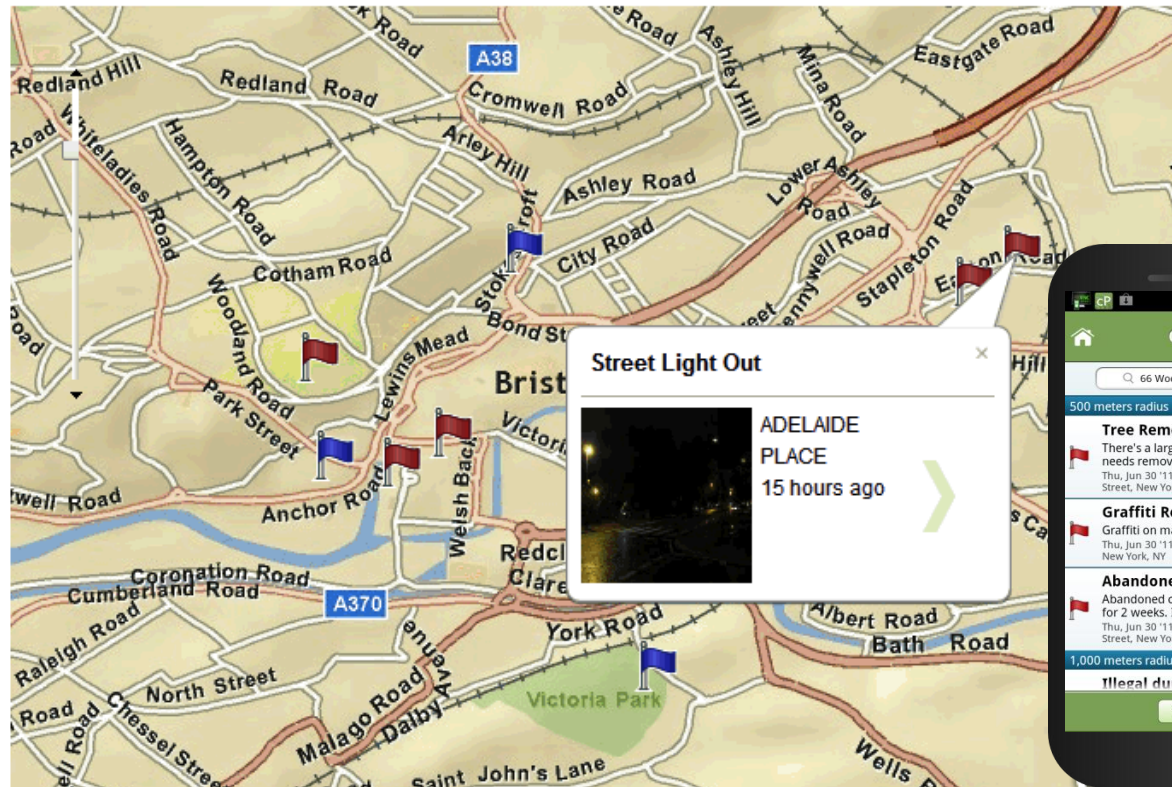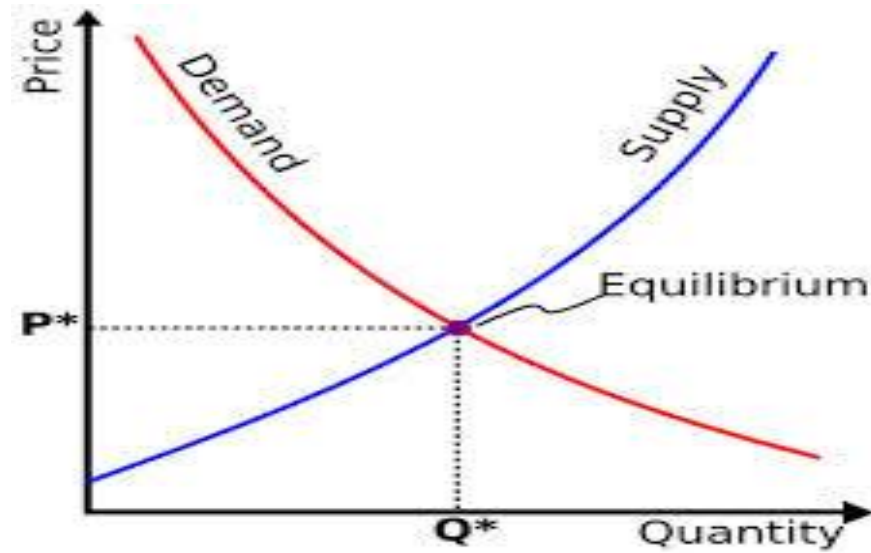
West Midlands Collaborative Commerce Marketplace screenshot

Smarter Welborne

Smarter Transport
Modal Hubs (Rail/Bus/Bike)
Bike Scheme
BRT
Car Club
EV charging
Real time info
Connected to the region

Smarter Computing
Local datacentre -
Shared Cloud
SME & Local IT
compute services -
consult & design
- Install & manage

Smarter Start-Ups
Innovation Space
Shared Business services
Easier Collaboration:
  Business, 3rd sector,
Academia.
SME growth engine
University research projects.

Smarter Grid
Collective Switching
Eco Energy
(wind/solar/hydrogen)
ESCO enablement
Community
Power/Heating

1:5000

Smarter Home
E-Health enablement
Automation in the
home (e.g. Energy)
New Materials to
build homes.
Cooperative
management of
homes.

Smarter Space
Principle of a Living Work Space
Joined up design principles
-driving the exploitation of information
- With a modular Build
- "Architectural Framework"
-Full Lifecycle Asset Management embraced
Living Lab – Working Lab

Smarter Living
Homes that earn you ££'s
Sustainable living
A sense of community
Connected & Self-sufficient
Increased GVA

Delivering a Smarter Solent
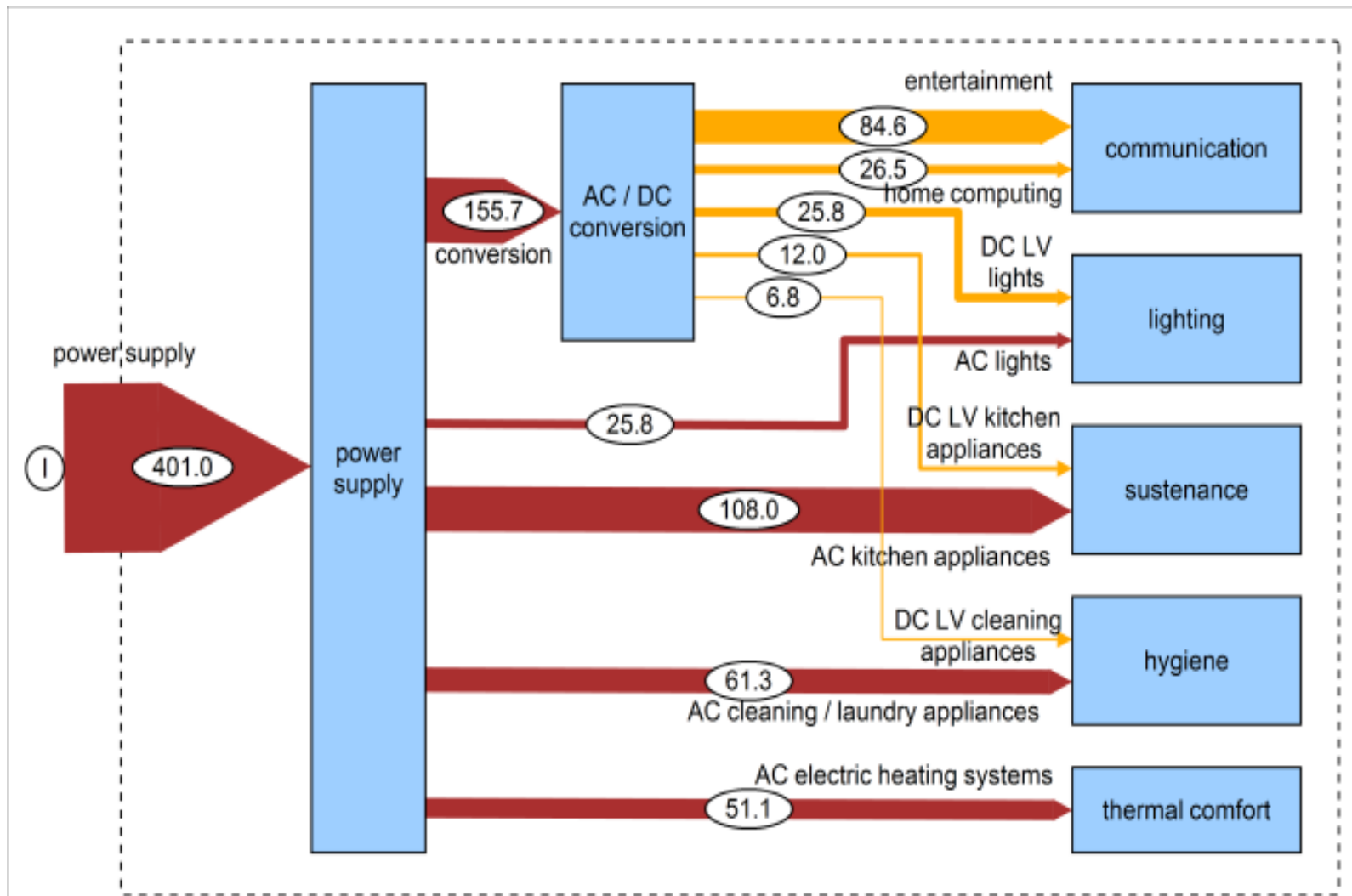
Towards resource-efficient and service-oriented integrated infrastructure operation: Challenges and Opportunities

Katy Roelich1, Christof Knoeri1, Julia K. Steinberger1, Liz Varga2, Philip T. Blythe3, David Butler4, Rajat Gupta5, Gareth Harrison6, Chris Martin1, Phil Purnell1
1) University of Leeds; (2) Cranfield University; (3) Newcastle University; (4) University of Exeter; (5) Oxford-Brookes University; (6) University of Edinburgh.

The Welborne Technology Story

Annuity →

Create the Technology Assets & Know how →

Ongoing Governance →

Phase 1a
-Governance model established.
- Establish the CusCo

Phase 1b
- Governance in practice.
- Collaboration

Phase 2
-Innovation Centre

Phase 3
-Foundation Sensing
-Core Infrastructure

Phase 4
- 1st Welborne arrivals
- CuSCo running services

Phase 5
–Exploit the assets elsewhere
- Start 2nd wave of Build

2014   2015   2016   2017 - onwards

Smarter Computing
2014-2015+
Phase 1 to 4

Smarter Transport
2014 -2016+
Phase 1 to 5

Smarter Start-Ups & SME's
2014- 2016+
Phase 1 to 5

Smarter Grid
2014 to 2015+
Phase 1 to 4

Smarter Home
2014-2016+
Phase 1 to 5

Smarter Space
2014-2016+
Phase 1 to 5

Smarter Living
2014-2016+
Phase 1 to 5

ECONOMIC GROWTH

Delivering a Smarter Solent