

Open Innovation 2.0: The Emerging Paradigm for Transformation and Prosperity

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Berlin,
December 4, 2015

Prof. Martin Curley

Vice President,
Director Intel Labs Europe
Intel Corp
& Chair EU OISPG



...the Winds of Change

- *“When the winds of change come, some people build walls, other build windmills”*
- *Brian and Sangeeta Mayne*

Let's go build
some windmills!



The World re-imagined at Light Speed

Knowledge



to



bing
Google
YAHOO!

Shopping



to



amazon
ebay

Communicating



to



Educating



to



Travelling



to



Expedia
easyJet
lastminute.com

Entertaining



to

NETFLIX



Sharing



to

Pinterest



Industries established over a **Century**
re-architected in under a **Decade**

From the Obvious...



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Technology Catalysts for Change



>1 Zetabyte Internet Traffic³



>1 Bn More Netizen's¹



>15 Bn Connected Devices²

...coming soon

Tectonic Shifts



Energy



Retail



Smart Cities



Healthcare



Finance



Transport

New Business + Usage Models



Big Data



Cloud



Mobile and Social



Internet of Things



Security

The Next Wave The Internet of Things

DATA GROWING AT 10X

DATA GROWTH BY 2016 – 90%
UNSTRUCTURED²

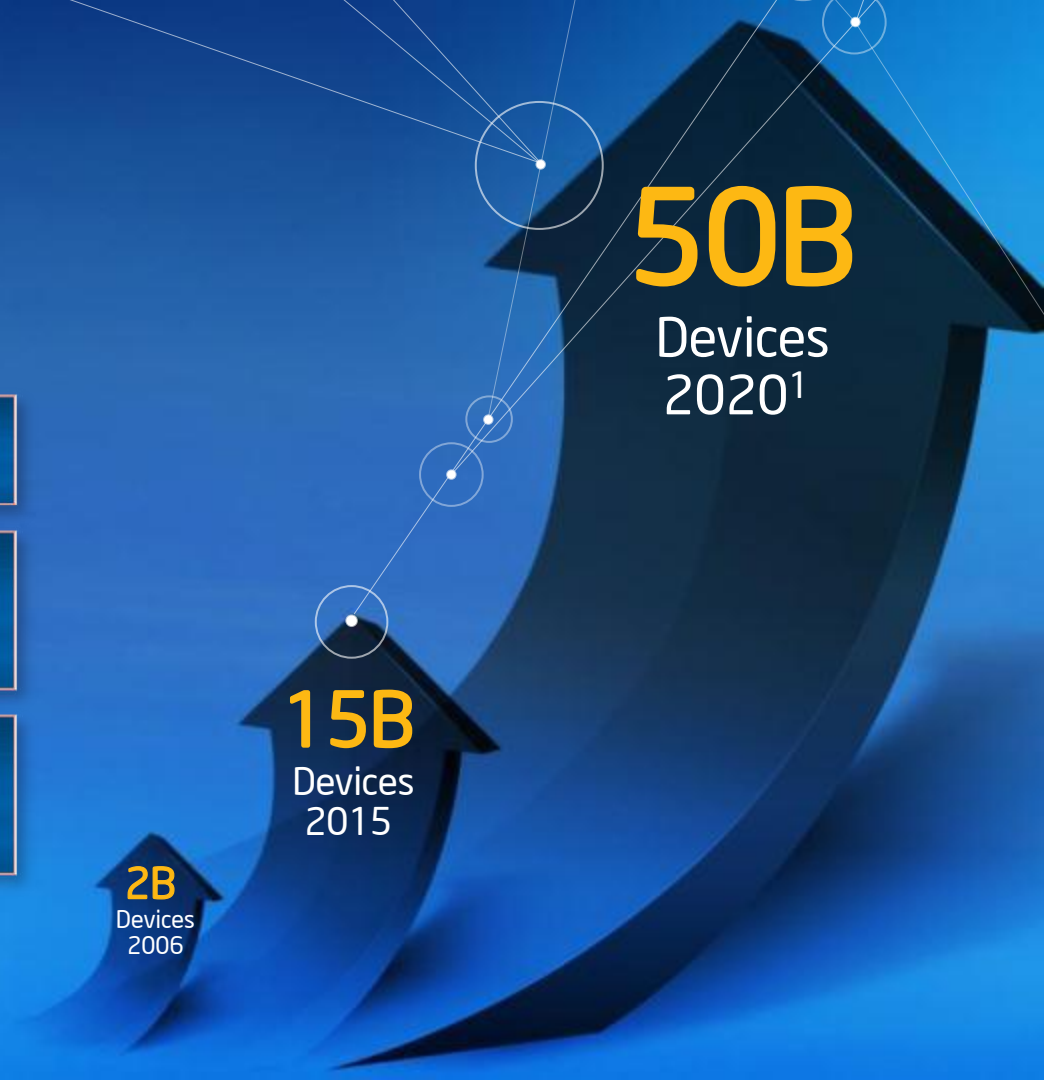
CONNECTED DEVICES GROWING AT
300%³

¹IDC*, Intel, United Nations

²IDC Digital Universe Study, December 2012

³McKinsey Global Institute*

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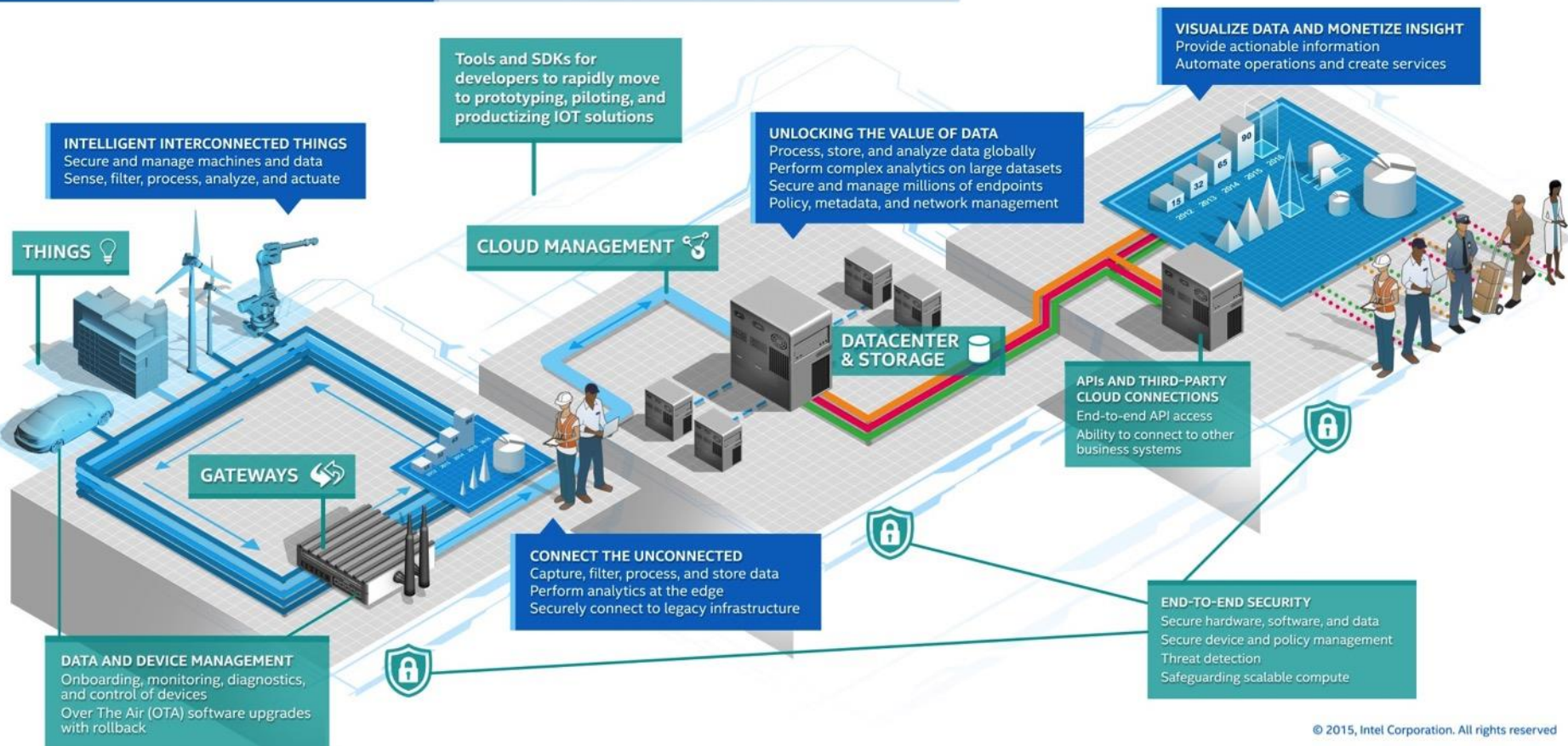




Intel® IoT Platform

Secure, Scalable, Interoperable

The Intel® IoT Platform is an end-to-end reference model and family of products from Intel—that works with third-party solutions—to provide a foundation for seamlessly and securely connecting devices, delivering trusted data to the cloud, and delivering value through analytics.



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... Re-imagining the World at Light Speed

Smart Grid



to



e-on
ENERNOC
pulse energy
Vigilent
SimpleEnergy

Smart Cities



to



London,
Dublin,
San Jose

Construction



to



Crossrail
TPX Energy

Agriculture



to



Education



to



Transportation



to



Healthcare



to



When the **impossible**...
becomes **possible**

... to the much harder, enabled by Open Innovation 2.0

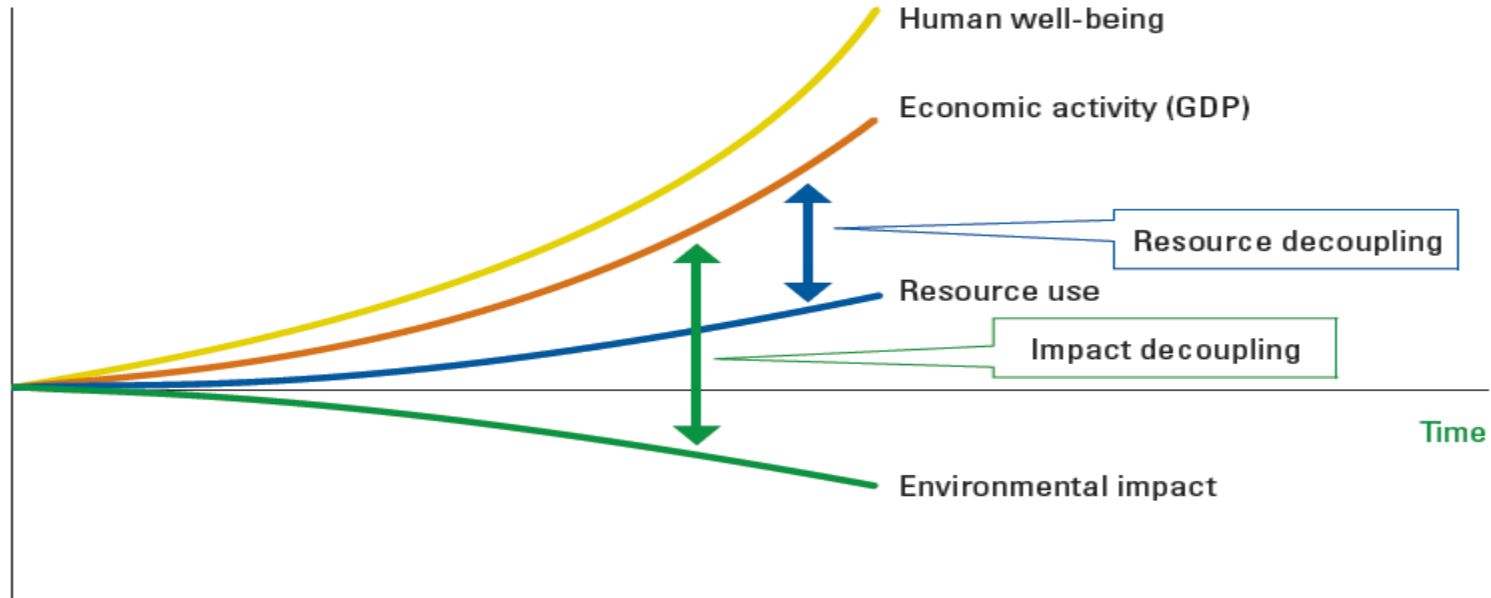


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Sustainable Intelligent Living: Resource Decoupling



Towards Sustainable Intelligent Living

• **Former business model**

- Volume driven
- Consumption
- Energy and resource intensive
- Inherently hazardous/toxic
- Linear systems
- Chemistry and physics
- Proprietary
- Organization
- Product

New business model

Value/Purpose driven
Preservation
Knowledge intensive
Inherently safe
Circular systems
Biology and information
Open
Ecosystem
Service

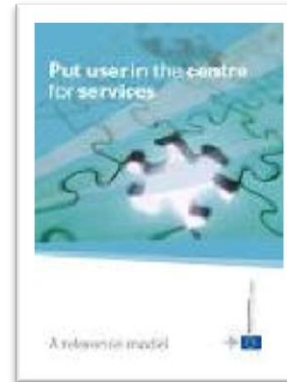


Introducing Open Innovation 2.0

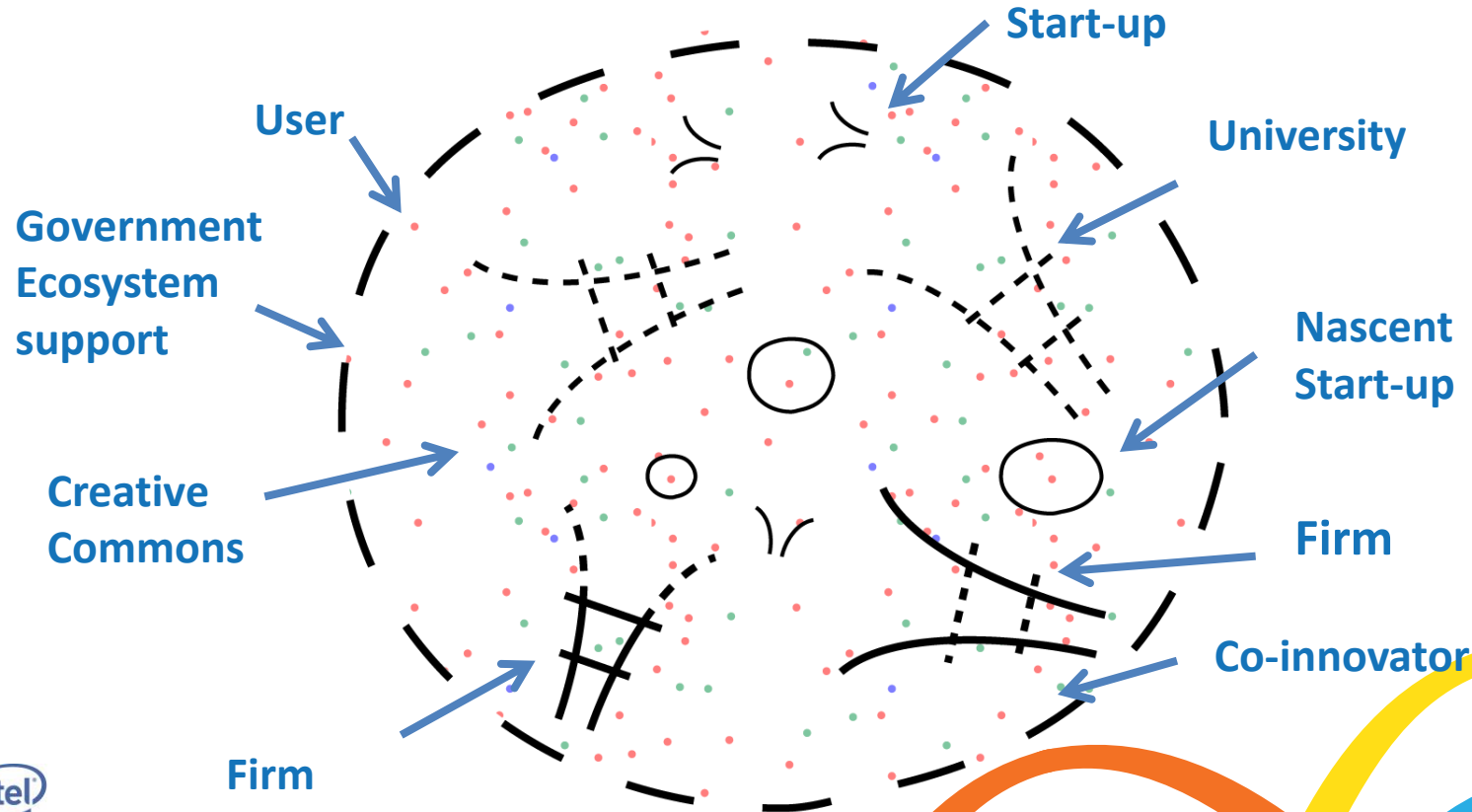




OISPG Researching and Mapping the Landscape



Open Innovation 2.0: A new paradigm



Design Patterns

- The way is long if one follows precepts (rules), the way is short if one follows...patterns

Seneca

Patterns: Models for imitation

Design Patterns: Generally Reusable Solutions
to commonly re-occurring problems

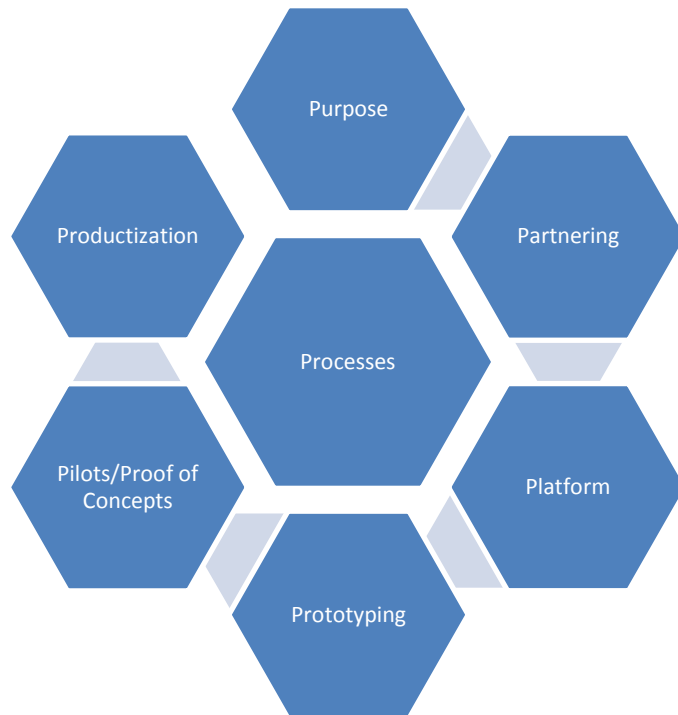


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>>help make large scale innovation adoption like painting by numbers

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Open Innovation 2.0 – some core patterns



Shared Vision

It starts with a Vision.....



„...I believe that this nation should commit itself to achieving the goal before this decade is out, of landing a man on the moon....“

John F. Kennedy 1961



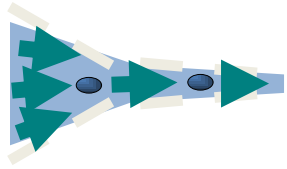
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Shared Value

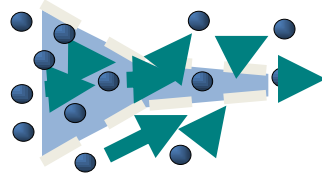
- Re-conceiving the intersection between society and corporate performance
- Find Win – Win outcomes
- Profit through solving Big problems



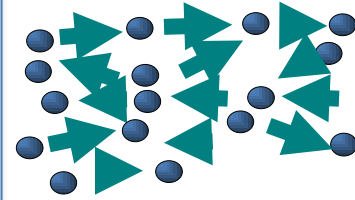
Innovation extending from the Lab



Centralized inward
looking innovation
Closed Innovation



Externally
focused,
collaborative
innovation
Open Innovation



Ecosystem centric,
cross-organizational
innovation
**Innovation Networks
Ecosystems**



Innovation Adoption Matters

“Innovation is not innovators innovating, it is customers adopting”

Michael Schrage, MIT



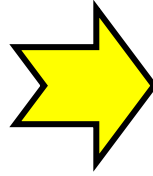
80% of Innovation Value comes from the widespread adoption of Innovation with 20% of value coming from the production of Innovation (OECD)



The Rise of the User

User as “Research-Object”

- Observation and Surveying
- Prototype Development
- Testing (Usability, Feasibility, Market Testing)
- Piloting



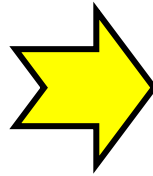
User as Innovator

- Interactive User Feed-back
- Incremental User Innovation Ideas
- User Idea Generation
- User Community innovation
- Services by Definition “Co-creation”

Industry R&D Led



Consumers



Contributors

User/User Community Led



Innovators



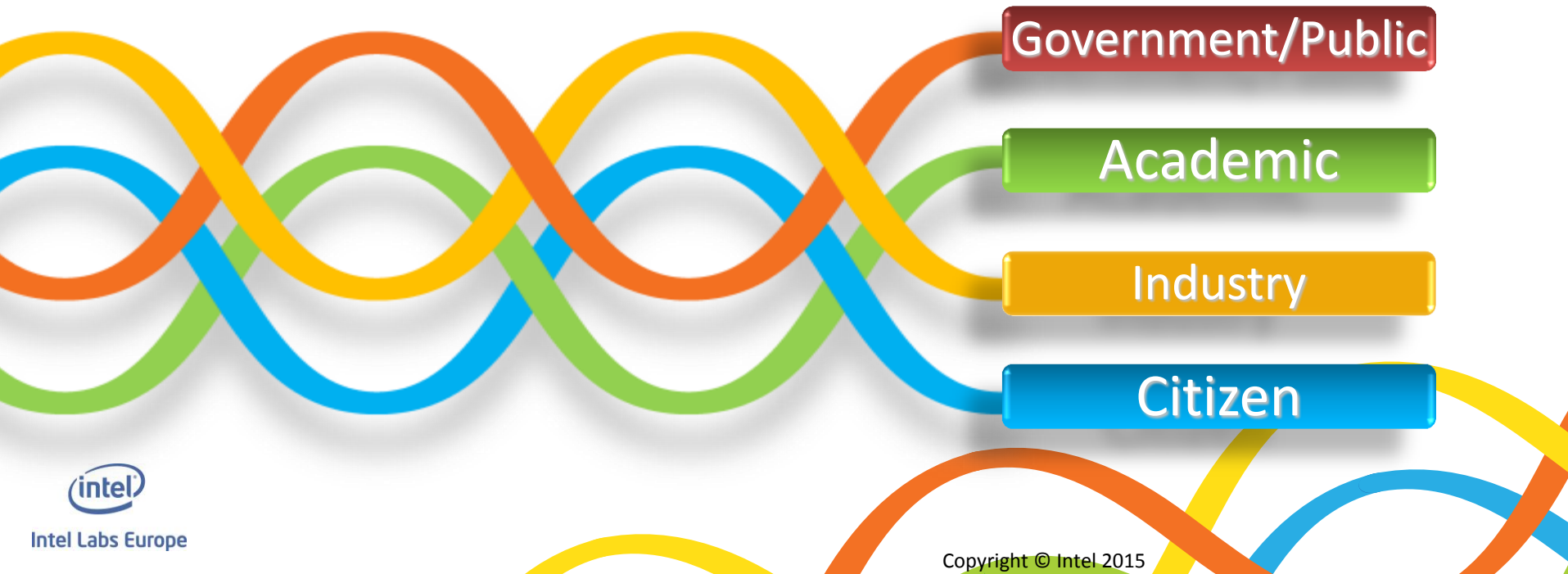
Design for Adoption

- Utility
- Usability
- User Experience
- Ubiquity (Network effects)

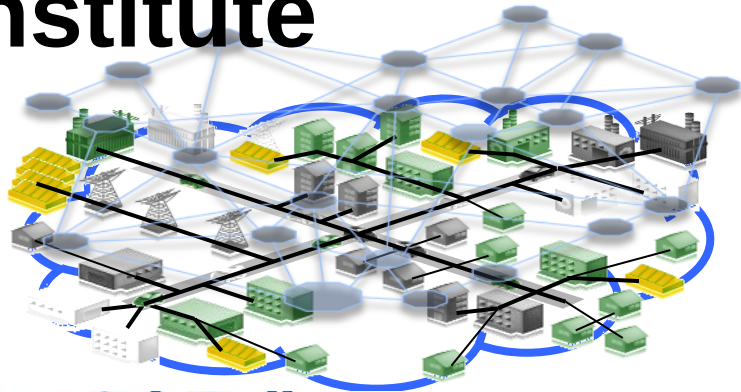


Quadruple Helix Innovation

Government, Academia, Industry and Citizens collaborating together to drive structural changes far beyond the scope of any one organization could achieve on it's own



Intel Sustainable Connected Cities Institute



Imperial College
London



The Testbed: London

Institute Research Outputs

- Novel user experiences
- Understanding of future workloads
- Future network architectures & protocols
- Security & privacy insights
- New opportunities in big data
- Architectural requirements
- New business models
- A step on the way to creating more environmentally friendly, sustainable cities



Open Innovation 2.0 at Work!



Intel Labs Europe



London Living Lab

Case Study 1: Intel, ICRI Cities & the Future Cities Catapult

Hyde Park Project

 Affordable
Environmental
Monitoring for Urban
Green Spaces

 Water, Air & Soil
Quality

 Noise & Light Pollution

 Public Engagement

Brixton Listening Labs
Urban Behavior
Change & Walking



Project Distance

 Internet of School
Things

 School Dashboard

Air Quality Enfield

 Air Quality
Awareness

 Improving Traffic
Flow

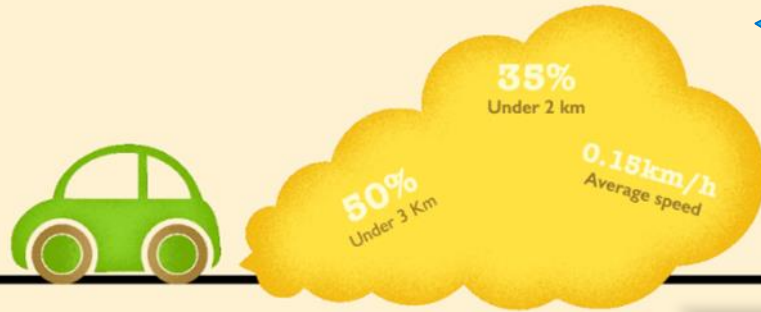
 Improving Local
Environments

 Mini Holland
Scheme

*Collaboration between Public Bodies,
Industry, Academia and Citizens*

Can families playing a game together affect air quality?

CAR JOURNEYS IN LONDON



Air Quality Sensor Network



Air Quality Awareness



Improving Traffic Flow



Improving Local Environments



TRACKING APP
VISUALISED DATA

New Sensor

Current Levels

Swindon-East (Average: 8.75)

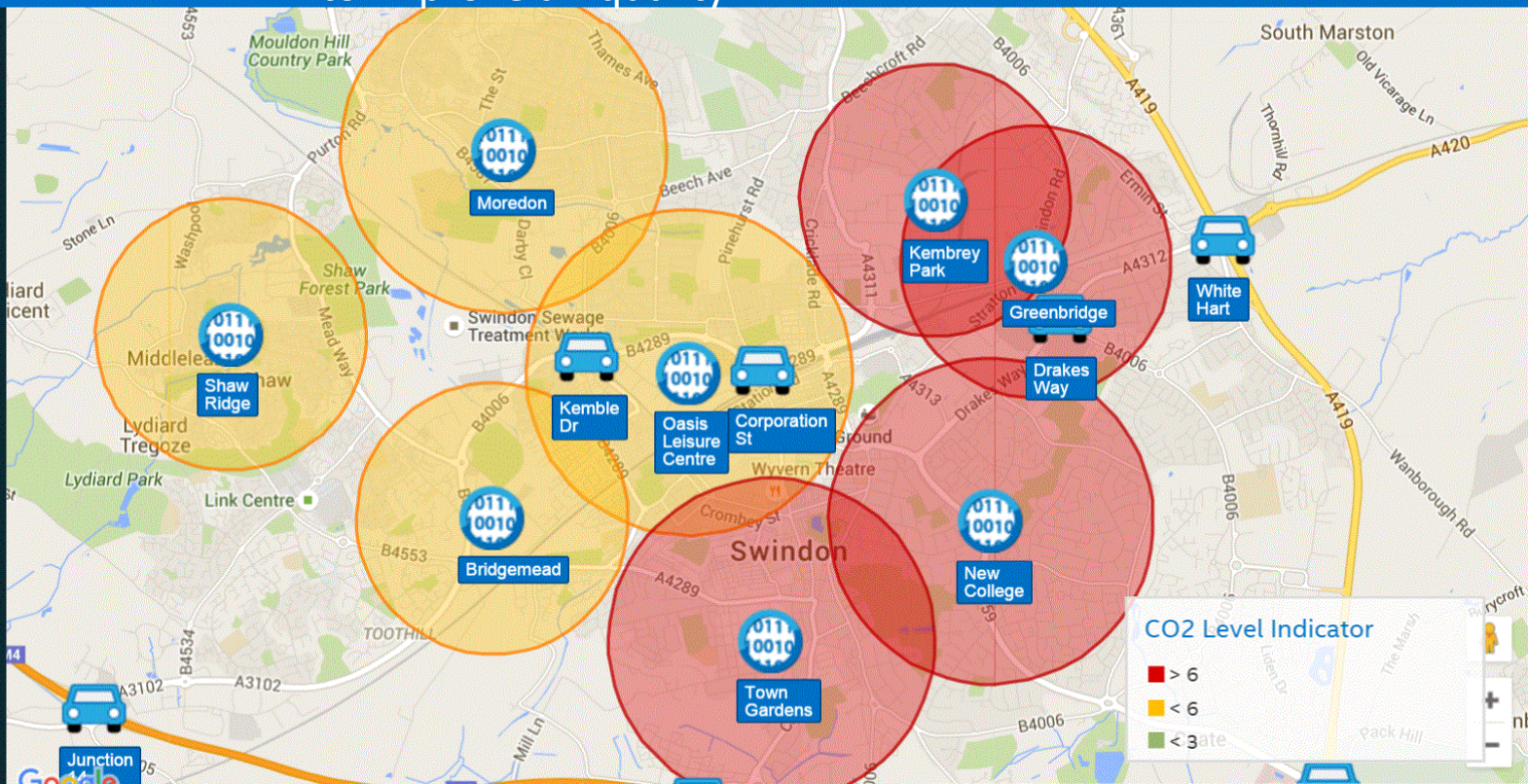
Greenbridge	10
Kembrey Park	10
New College	5
Town Gardens	10

Swindon-West (Average: 5.00)

Bridgemead	10
Moredon	10
Oasis Leisure Centre	0
Shaw Ridge	0

London-West (Average: 4.75)

Hammersmith	1
Hurlingham Park	10



As Traffic volume increases, sensors detect the declining air quality, actuate changes.....

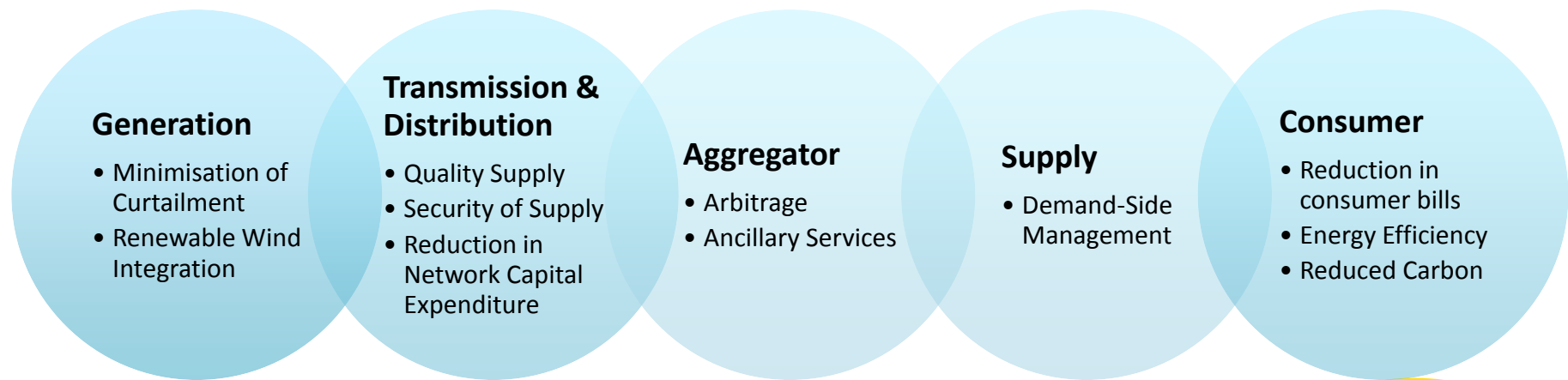
Enernet Ireland

Innovation Open Lab

Intel® Labs Europe



ENERNET: Expected Benefits – SHARED VALUE





INNOVATION VALUE INSTITUTE™
"managing IT for business value"

Multi-disciplinary research and education establishment co-founded by the National University of Ireland Maynooth and Intel Corporation.

Shared Vision: Drive a structural change in the way organizations get value from Information Technology

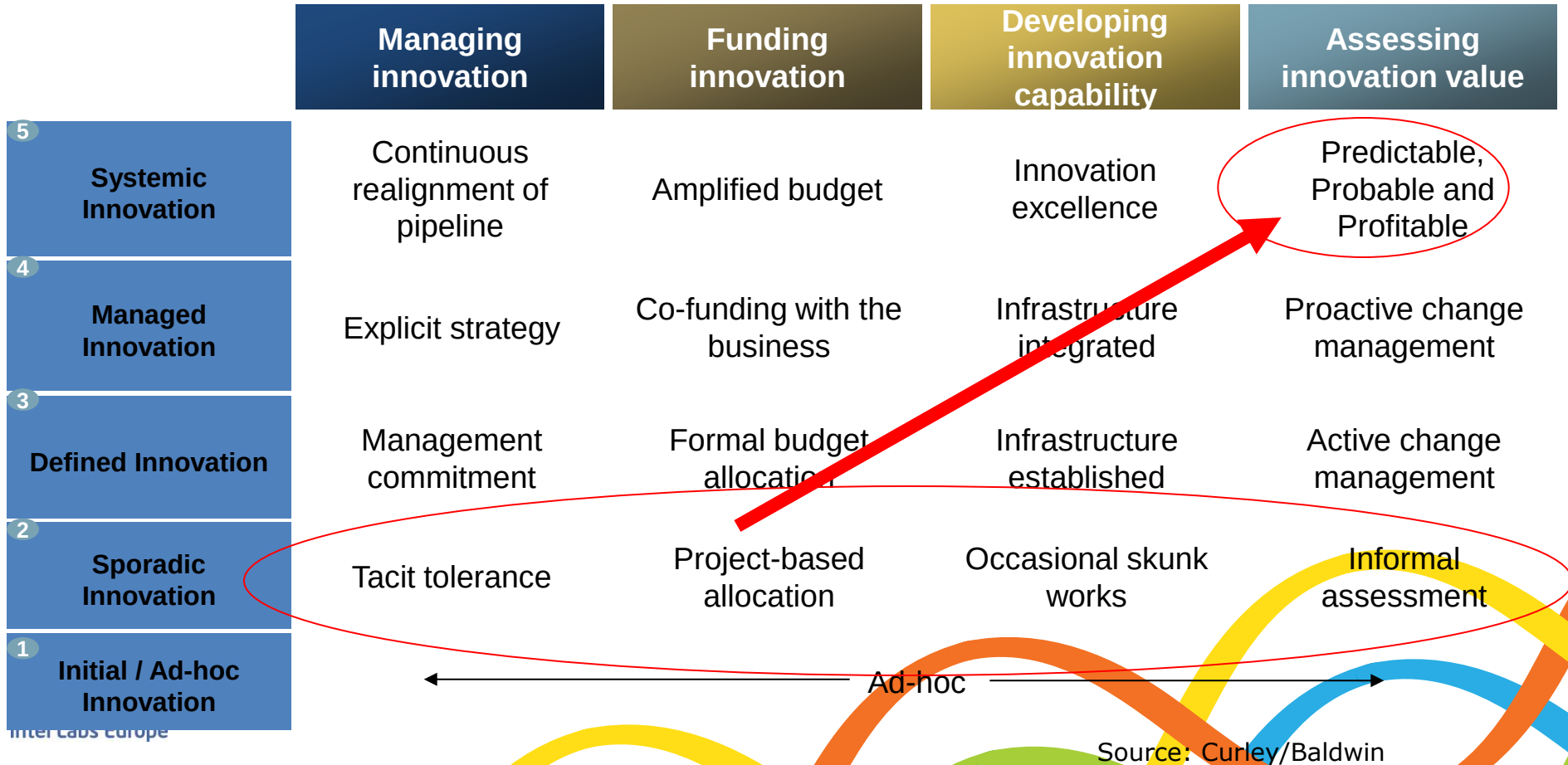


NUI MAYNOOTH
Ollscoil na hÉireann Má Nuad

BCG



Improving Innovation Capability and Results: Innovation Maturity Model







Christian Morales
VP & GM Europe,
Middle East, Africa
- Intel

Elias Drakopoulos
SVP B2B Europe
- Deutsche Telekom

Mike Flannagan
VP & GM Data &
Analytics
- Cisco

Press Announcemet of Challenge Up! at the
Mobile World Congress 2015 (March) in Barcelona



**challenge
Up!**
IoT Accelerator
by Intel, Cisco and
Deutsche Telekom

OI2 Case study



www.intel.com/europe/labs/



www.ivii.ie