



Disruptive Technologies and Their Impact on EuroGeographics Members.

2 October 2017

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Dis·rup·tion

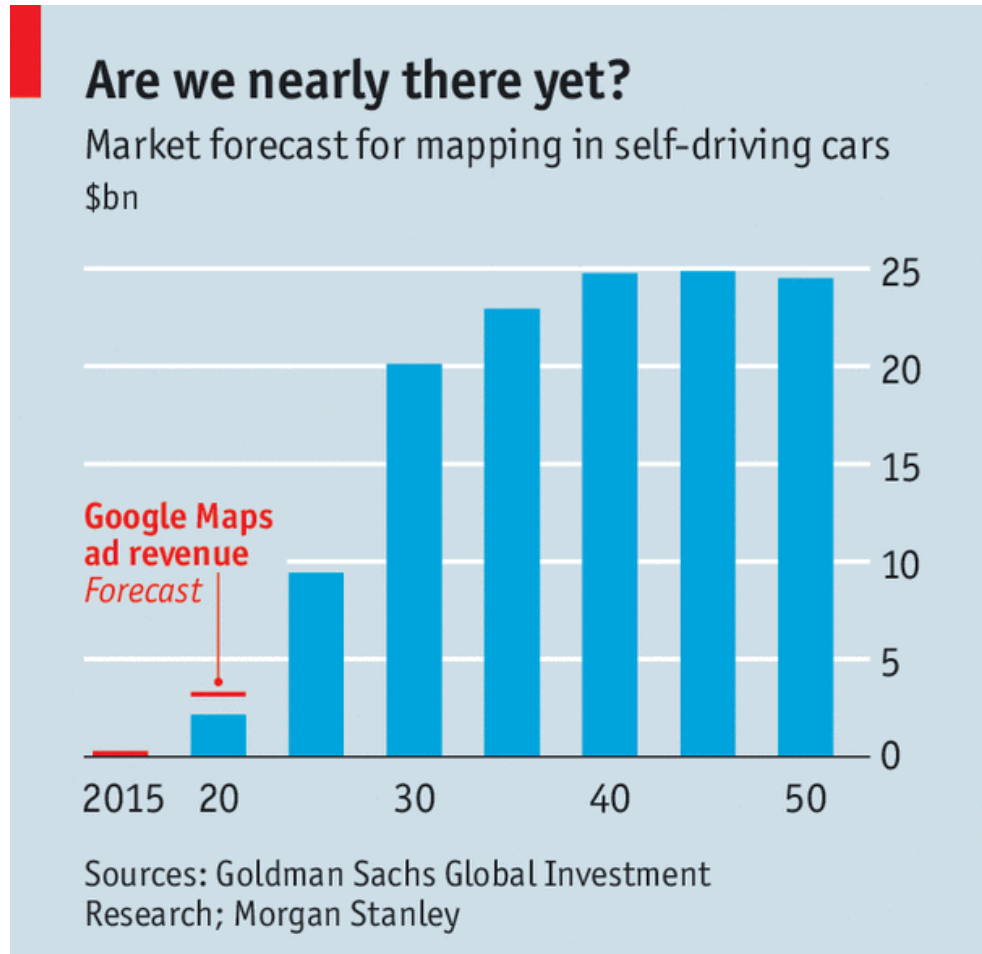
CPU Power ↗
Storage Capacity ↗
Network Bandwidth ↗



How to Harness the Opportunity?

- What are the key disruptive technologies that will impact you?
- How will the “Digital Platform” support your journey to become digital?
- How can you lead the change?

The Market for Digital Maps Shows Huge Opportunities

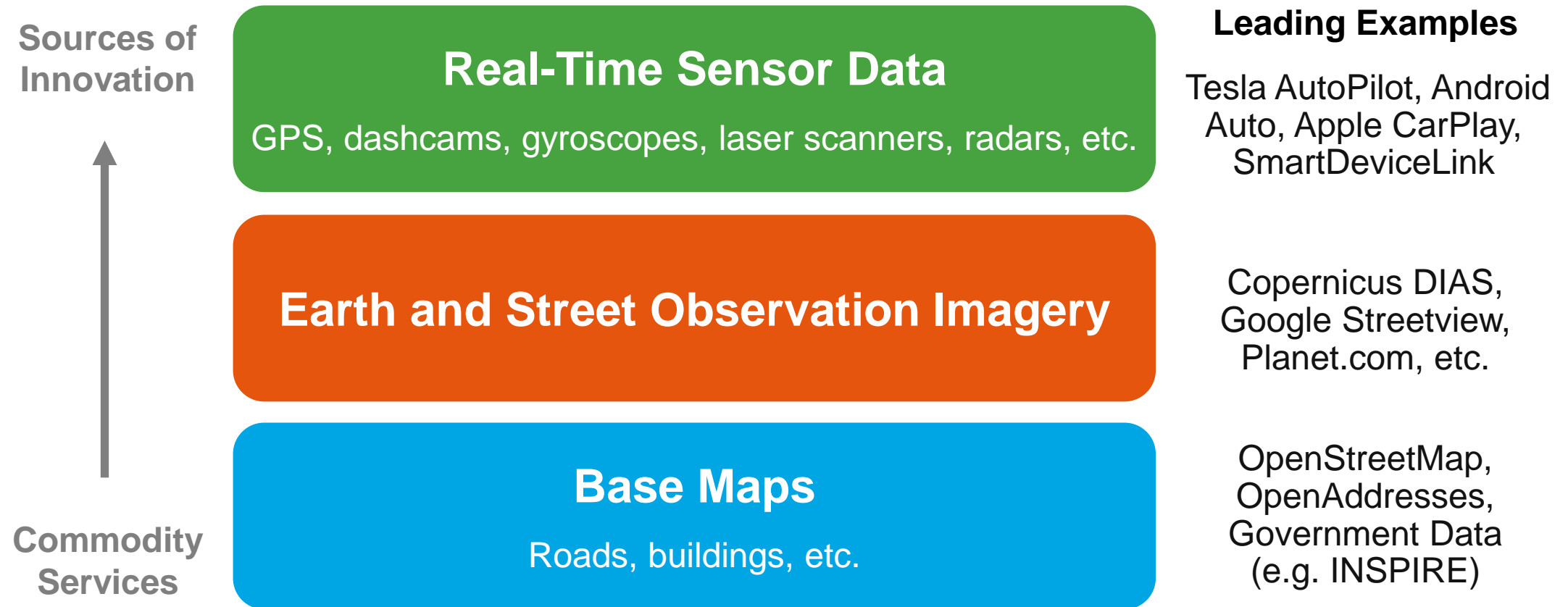


Economist.com

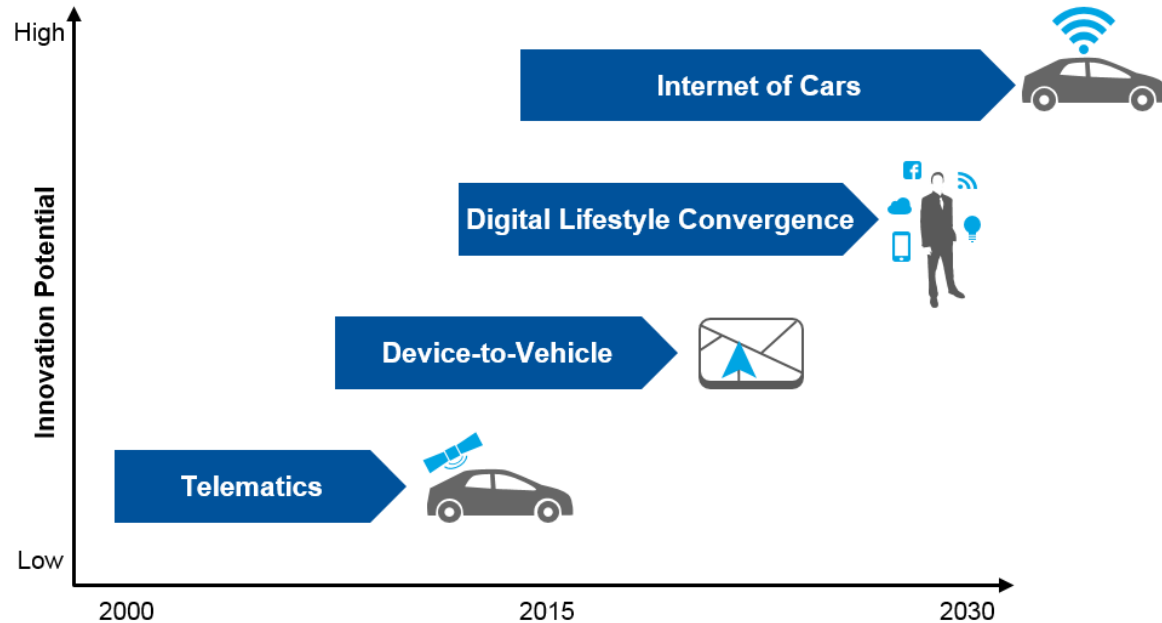
- The market for digital maps for autonomous cars will grow in value from around \$2.2bn in 2020 to \$24.5bn by 2050
- In 2016, Uber alone, announced an investment of \$500 million dollar in mapping software to collect more data on traffic patterns and precise pickup and drop-off locations

Silicon Valley giants seem to lead the effort

We Distinguish Between Three Tiers of Digital Maps



Four Stages of the Connected Car



Then: Telematics, general applications

Now: Convergence leading to the connected driver

Coming: New models for business, use, ownership

BMW Connected Drive also integrates with Amazon's Alexa

Source: BMW



Cars are prominent examples of IoT: Will you be a creator or participant?



What Constitutes a Smart City?

Smart City is "an urbanized area where multiple sectors cooperate to achieve sustainable outcomes through the analysis of contextual real-time information shared among sector-specific information and operational technology systems."



Nice

Challenge

- Reduce congestion and help citizens find parking.
- Optimise parking space (even at peak times 8% spaces are vacant).
- Nearly 400,000+ residents and 10 million tourists. Improve parking compliance.

Solution

- Intelligent Parking System with sensors embedded. New parking meters and helping motorists reach the space using mobile phone.
- Guidance through GPS system for motorists. Integrated with GIS for quickest way to reach the spot in city center.
- Partnered with private providers for the "Connected Boulevard" project (parking, lighting, environment, waste, management). 200 sensors along Boulevard Victor Hugo.

Benefit

- Studies suggest Smart Parking can help reduce congestion by up to 30%.
- Nice's City Authority Parking income increased >35%.
- Smart Parking can help increase revenue and reduce air pollution.
- The sensors are also embedded in street lights and can help achieve 20% to 80% savings.



Bottom Line Leverage Partners. Start Small and Then Grow.

UAVs aka Drones Are Becoming an Increasingly Used Technology That Saves Time, and Improves the Ability to Monitor

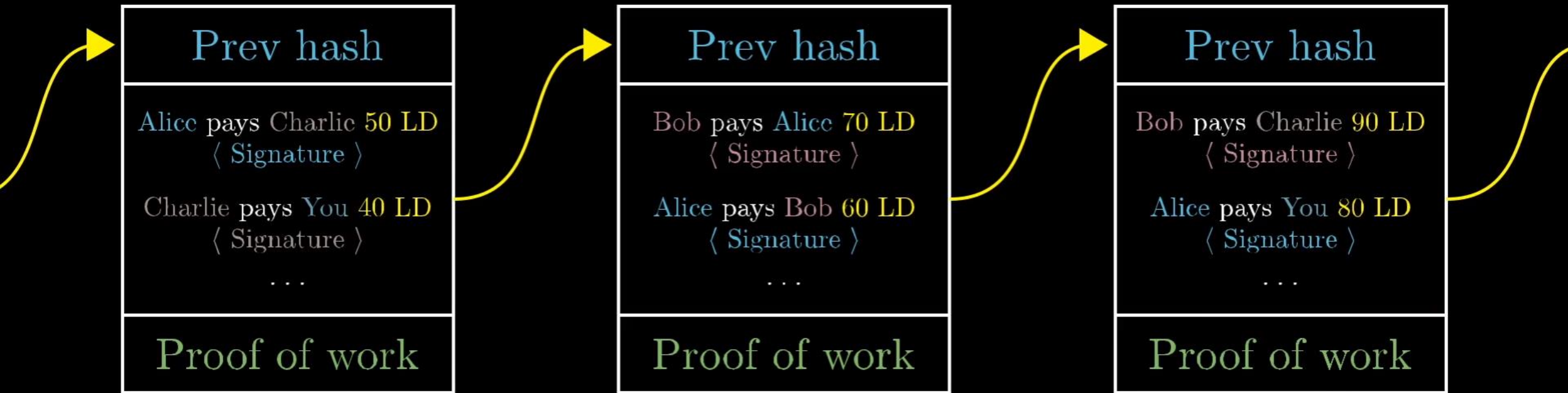


Planet.com Offers Whole Earth Selfies Every Day With a 3.7 Meters Resolution

<http://www.sciencemag.org/news/2017/02/fleet-tiny-satellites-will-photograph-entire-earth-every-day>

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Blockchain Technology Enables a Shift from an Operational Role to That of a Regulator and Supervisor



<https://www.youtube.com/watch?v=bBC-nXj3Ng4> (duration 26 minutes)

THE DIGITAL PLATFORM



Who Will Interact With Your Customers?



Logos are representative, not comprehensive.

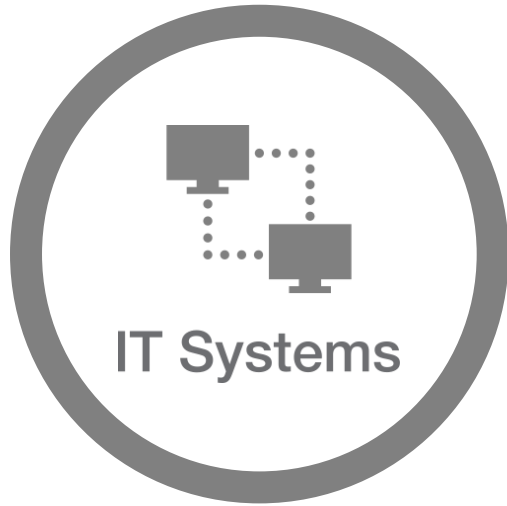
The DIAS Platform Aims to Bring the User to the Data



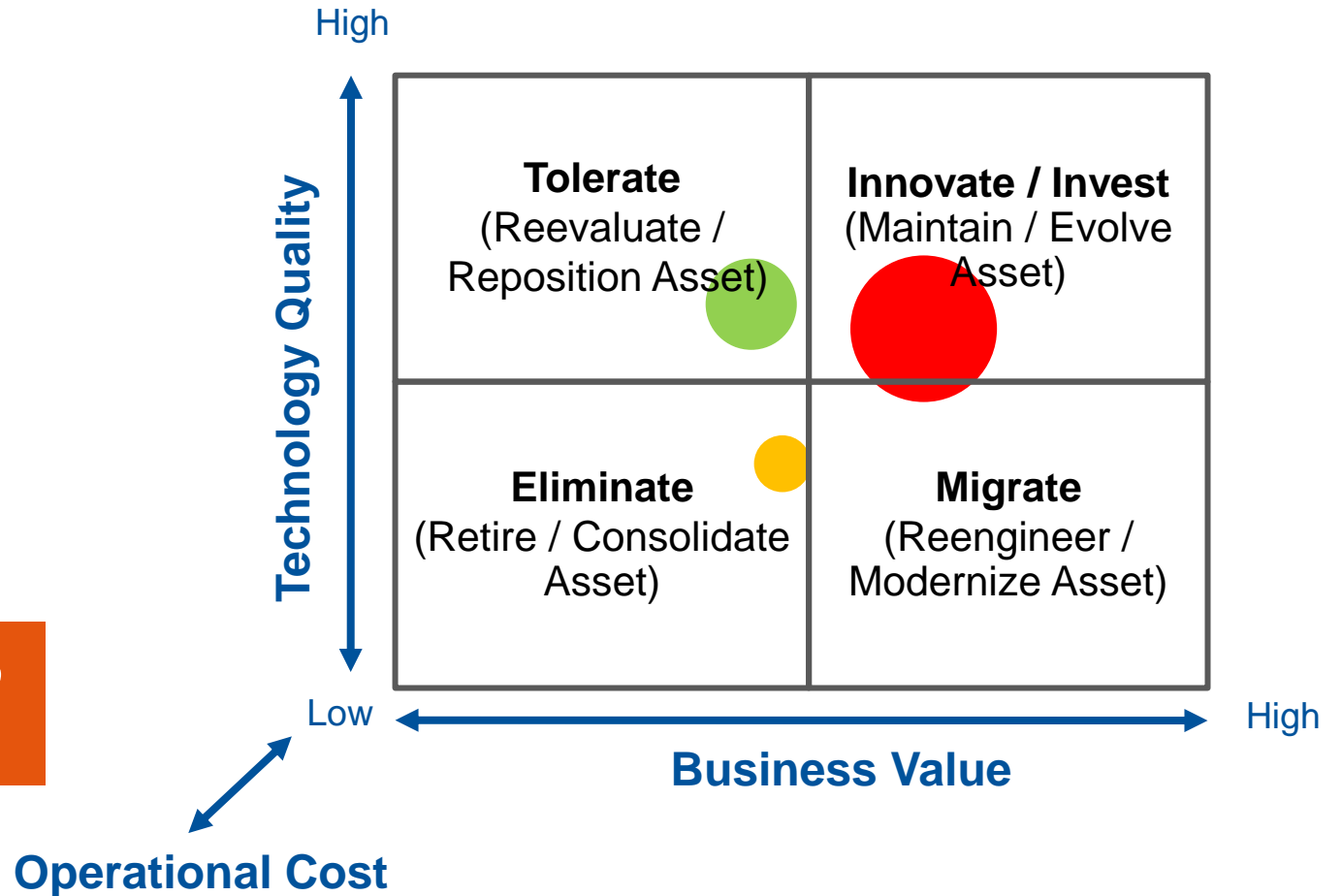
- A « service desk » (human)
 - ~10,000 subscribers
 - ~30 millions of transactions
- 98% availability of data
- 100% availability of portal
- On-demand service (science and operational)
- Connecting experts

Source: DIAS Information Day Presentation 1-6-2017

It Is Really Time to Clean-Up Your Legacy



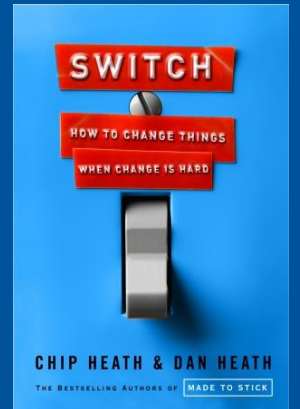
Use APIs to open-up your systems to your ecosystem partners



Get Your Elephant Out of Its Comfort Zone



Direct the Rider
Motivate the Elephant
Shape the Path



Picture: <http://www.endandit.nl/1406694/cute-overload-vrouw-zingt-olifant-slaap>

Thank you.

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Barcelona

Challenge:

- Efficient water utilization as part of 22@Barcelona initiative (A \$230 Million initiative).
- More than 20 Smart City initiatives.

Solution:

- Irrigation system sensors offers data on humidity, soil condition, sun etc.
- ~175 irrigation points feed data to a central platform.
- Software helps farmers decide when to water plants.
- The platform is a JV between Barcelona and providers.
- City invested \$380,000 in the project.
- Linked to GIS for real-time visualization.

Benefit:

- Costs down 25% with system generated savings: \$555,000 per year.
- Open Platform (Sentilo) to share data with other departments, sensor, software or app developers. Also cooperating with City of London.

Bottom Line: Focus on Need, Not Technology. Open the Data.



London

Challenge:

- How to manage fast population growth.
- London estimated to have 10 million by 2030.

Solution:

- Open Data: London Data Store has >500 sets of Open Data.
- Transport for London (or "TfL") makes its data feed about the tube timings, buses etc available to the app developers.
- Greater London Authority has Open Communities: Talk London has online discussion forums.
- Smart London board includes representatives from academia, business and entrepreneurs to explore how London can use more technology and data.

Benefit:

- Emphasise transparency and performance. Almost everything from school performance (even demand in future), policing statistics etc. can be seen online.
- London Dashboard helps visualise city performance. Listen London tool can help "listen" to the London related issues on social media. London already has a Congestion Charging Scheme.

Bottom Line: Involve Citizens, Emphasize Transparency.

