NOKIOS 2012 – Smarter Public Sector

Changing the way the world works

November 1, 2012

Now it gets interesting!

European economy

Natural disasters

National Austerity

Global competition

Water security

Food security

Energy security

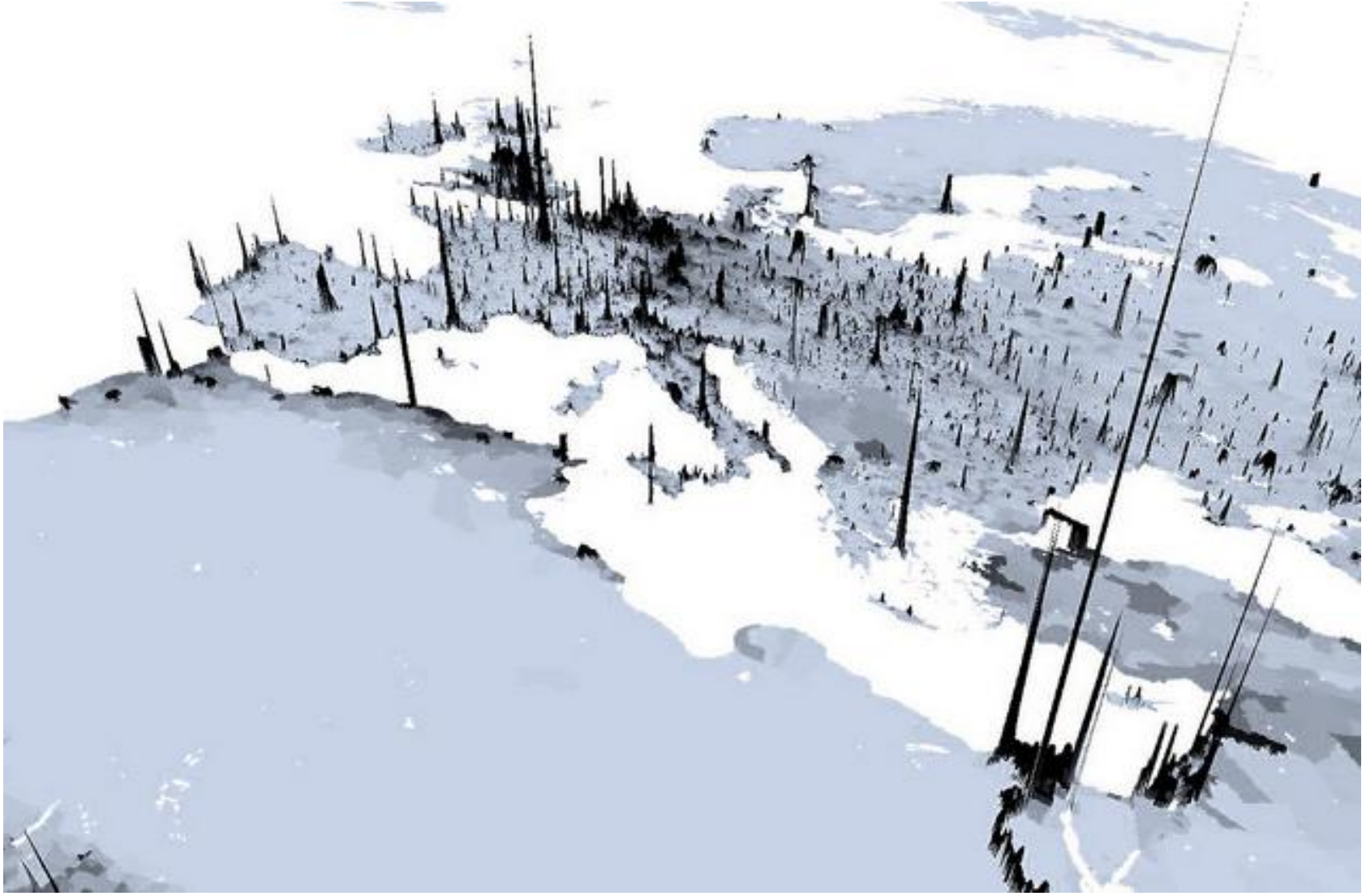
Travel security

In the 20th Century – while the planet's population grew fourfold…

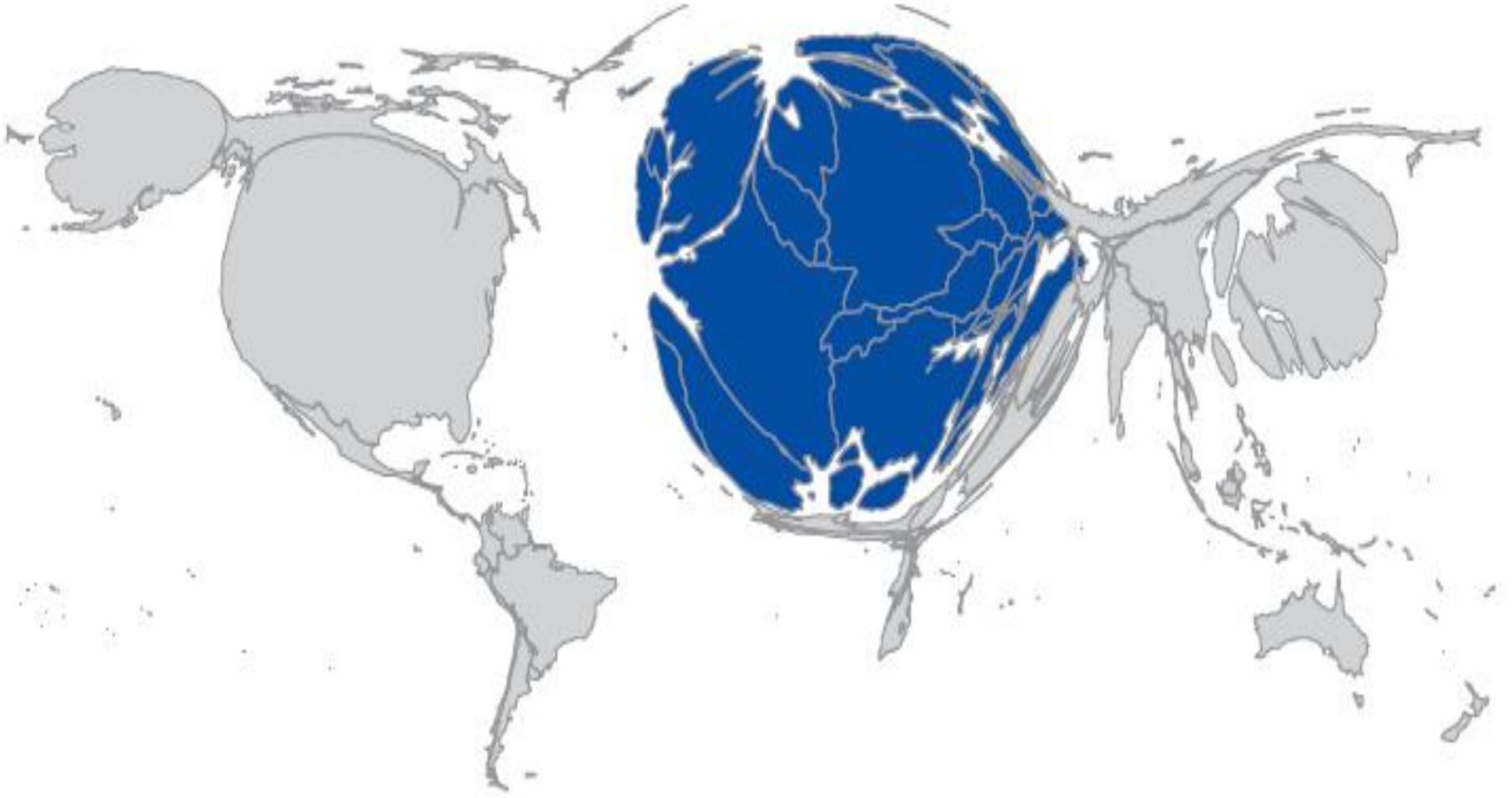
- European economies expanded by 40 times
- Materials use by 10
- Fossil fuel use by 16
- Fish hauls by 35
- Water use by 9

Source: EU

Population density in European cities



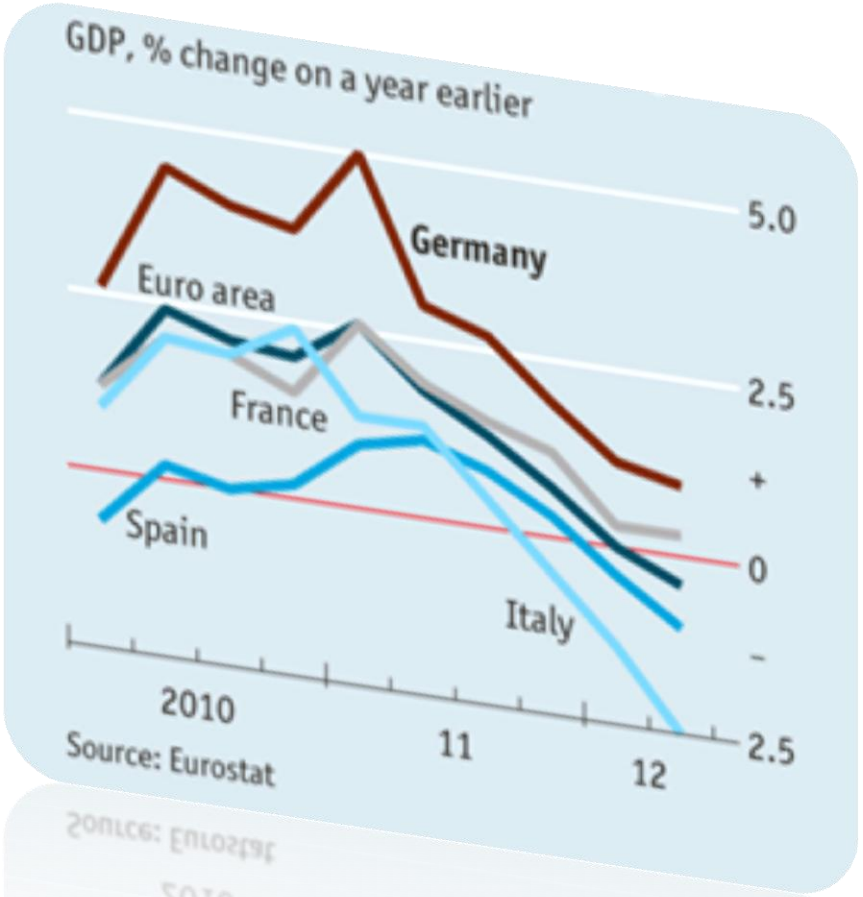
The world resized according to Government spending!



Source: Source: World Bank staff, based on IMF Government Financial Statistics.

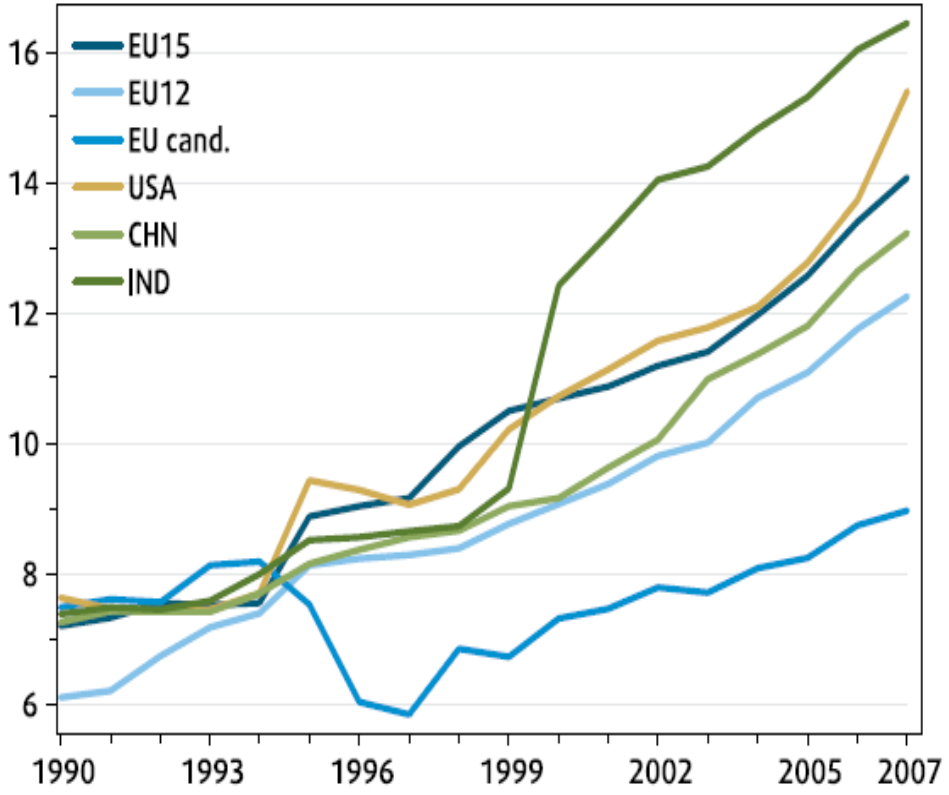
European GDP growth – key comparisons to Q2 2012

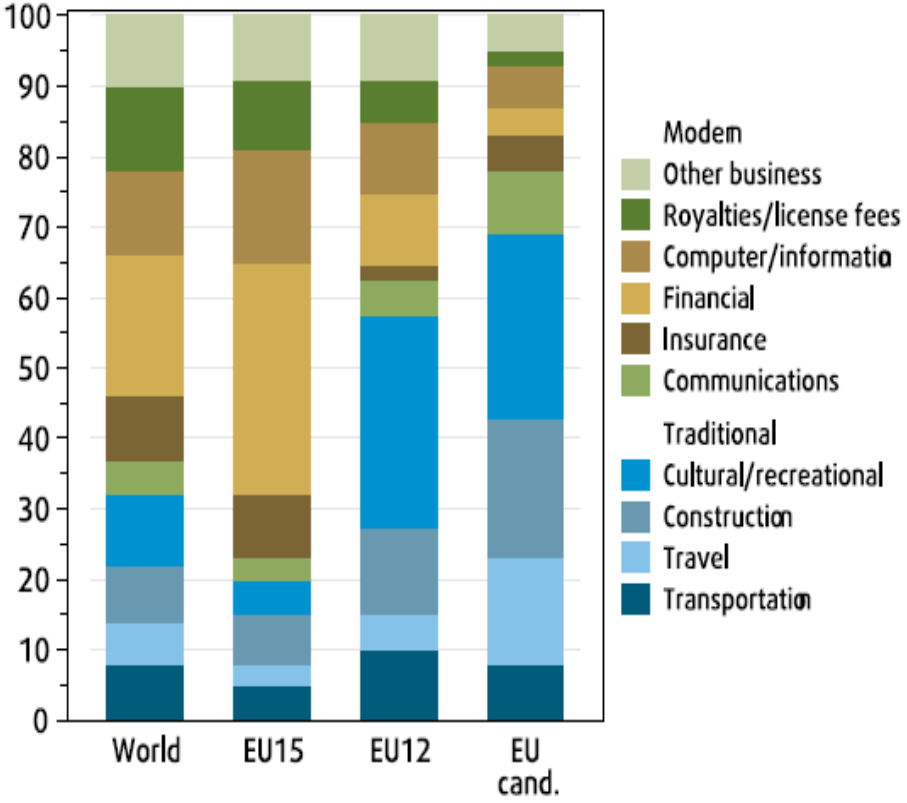
- German GDP grew in Q2 2012 – but only by 0.3%
- France, flat; Spain, -0.4%; Italy, -0.7%
- German exports continue to be buoyant



Source: Economist

India and USA have more mature export Services industry vs. Europe

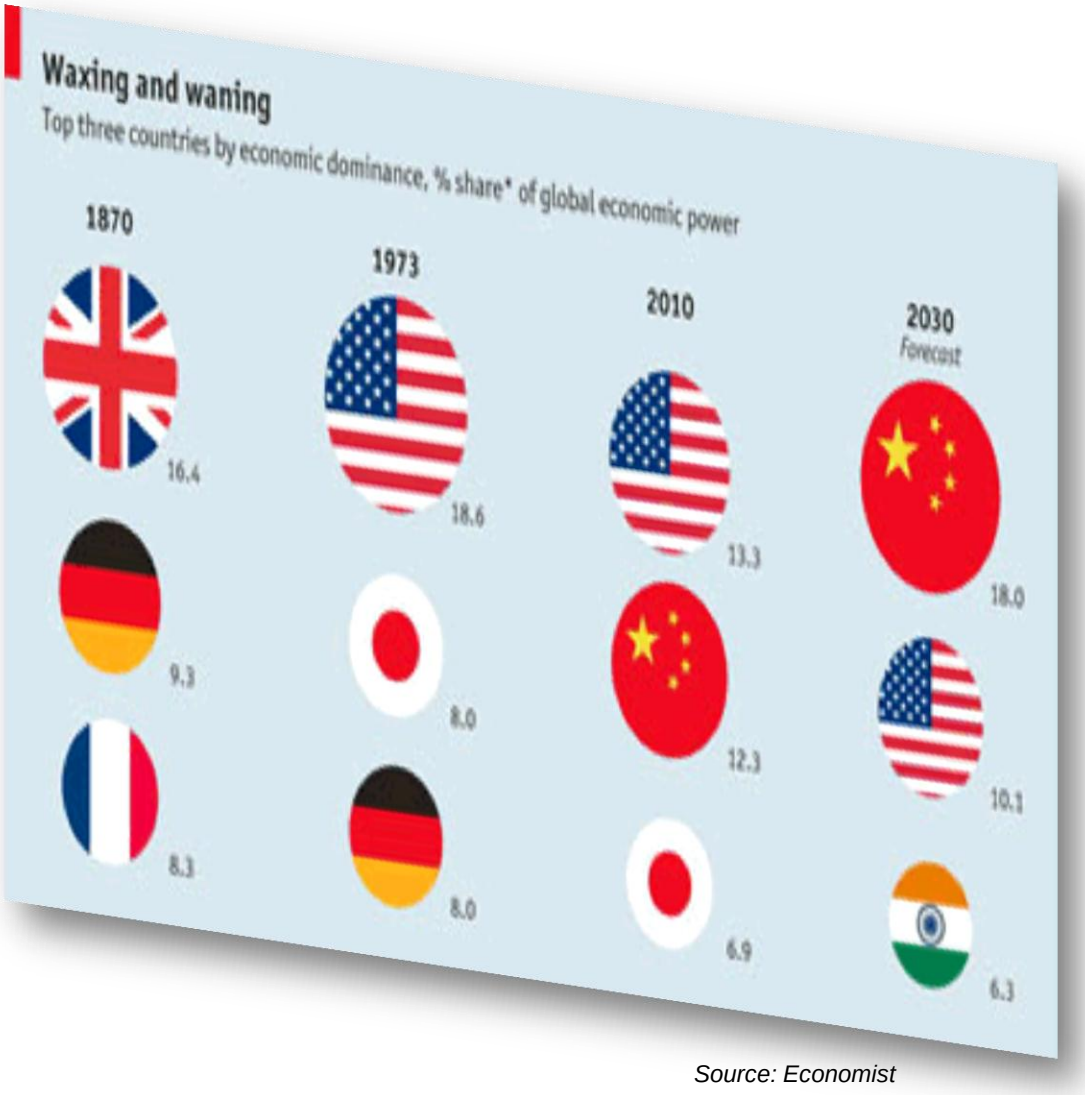




Source: Lundstrom Gable and Mishra (2011), using IMF Balance of Payments Statistics Yearbook.

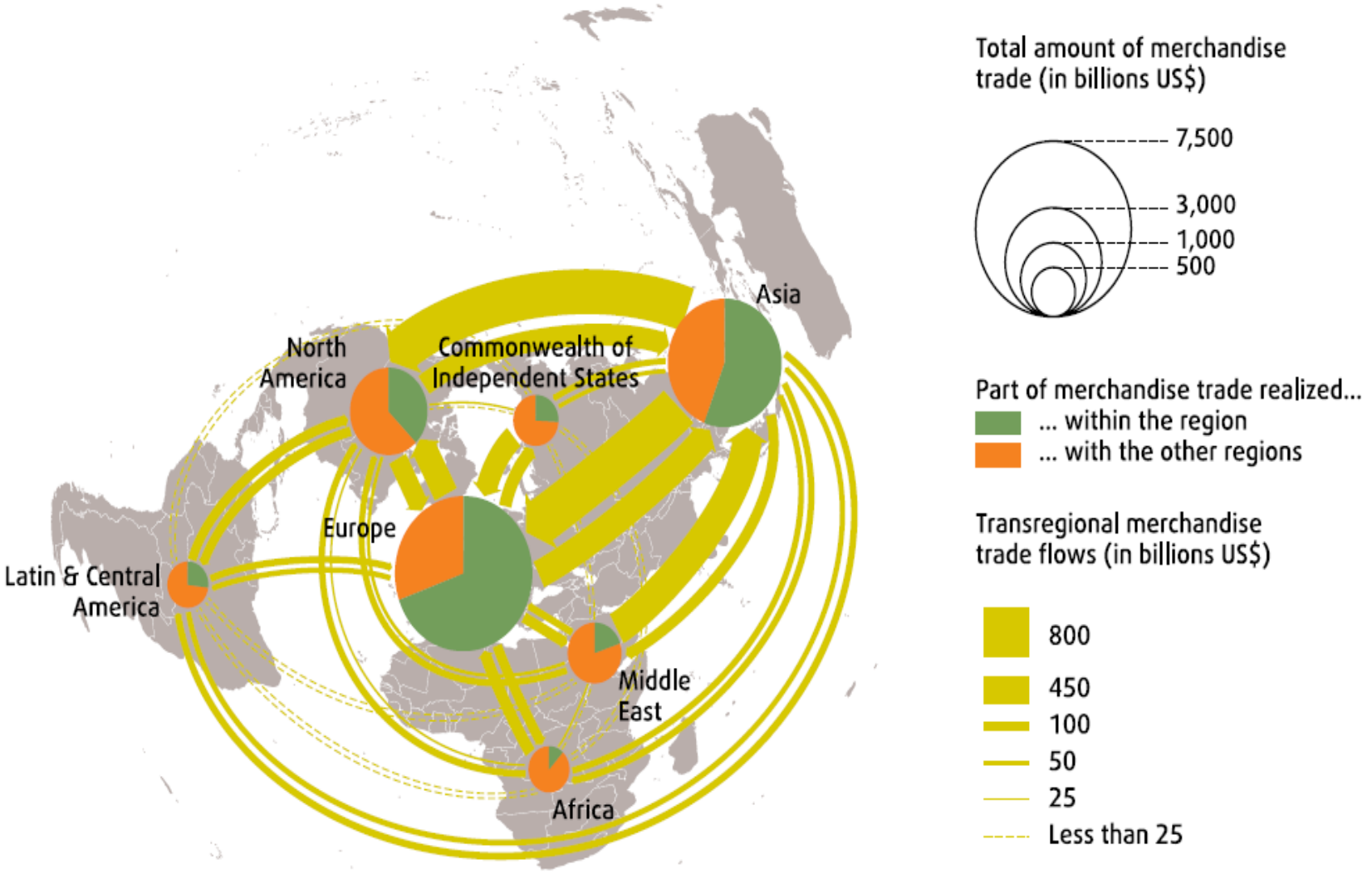
Europe's global influence – past, present, future…?

- European empires dominated the 1800s
- US rose in 1900s; Japan in Far East
- China, US and India key forces by 2030



Source: Economist

On the plus side: half of the global goods trade still involves Europe



Source: World Bank, based on WTO (2009)

On the plus side: Europe's digital environment – a positive outlook

- ICT accounts for 5% of European GDP
- Five of top six *Digital Economy* nations are European
- Social networking = >20% of all European page views in 2010

Digital economy rankings and scores, 2010

2010 rank (of 70)	2009 rank	Country	2010 score (of 10)	2009 score
1	2	Sweden	8.49	8.67
2	1	Denmark	8.41	8.87
3	5	United States	8.41	8.60
4	10	Finland	8.36	8.30
5	3	Netherlands	8.36	8.64
6	4	Norway	8.24	8.62
7	8	Hong Kong	8.22	8.33
8	7	Singapore	8.22	8.35
9	6	Australia	8.21	8.45
10	11	New Zealand	8.07	8.21

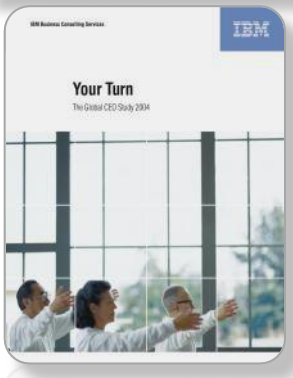
Digital Economy rankings: Source: IBM/Economist Intelligence Unit

Global CEO Study 2012: the fifth biennial CEO study

2004
Your turn

- Revenue growth is the #1 priority
- Responsiveness is key competence
- Improving internal capabilities as first step to growth

456 interviews



2006
Expanding the Innovation Horizon

- Business model innovation matters
- External collaboration
- Innovation must be orchestrated from the top

765 interviews

2008
The Enterprise of the Future

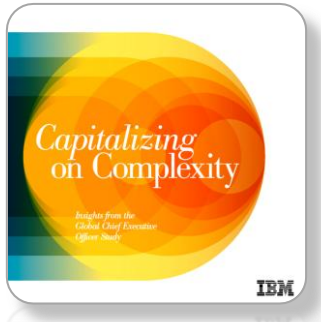
- Hungry for change
- Customers as opportunity to differentiate
- Business model innovation, global business designs

1130 interviews

2010
Capitalizing on Complexity

- Embody creative leadership
- Reinvent customer relationships
- Build operating dexterity

1541 interviews

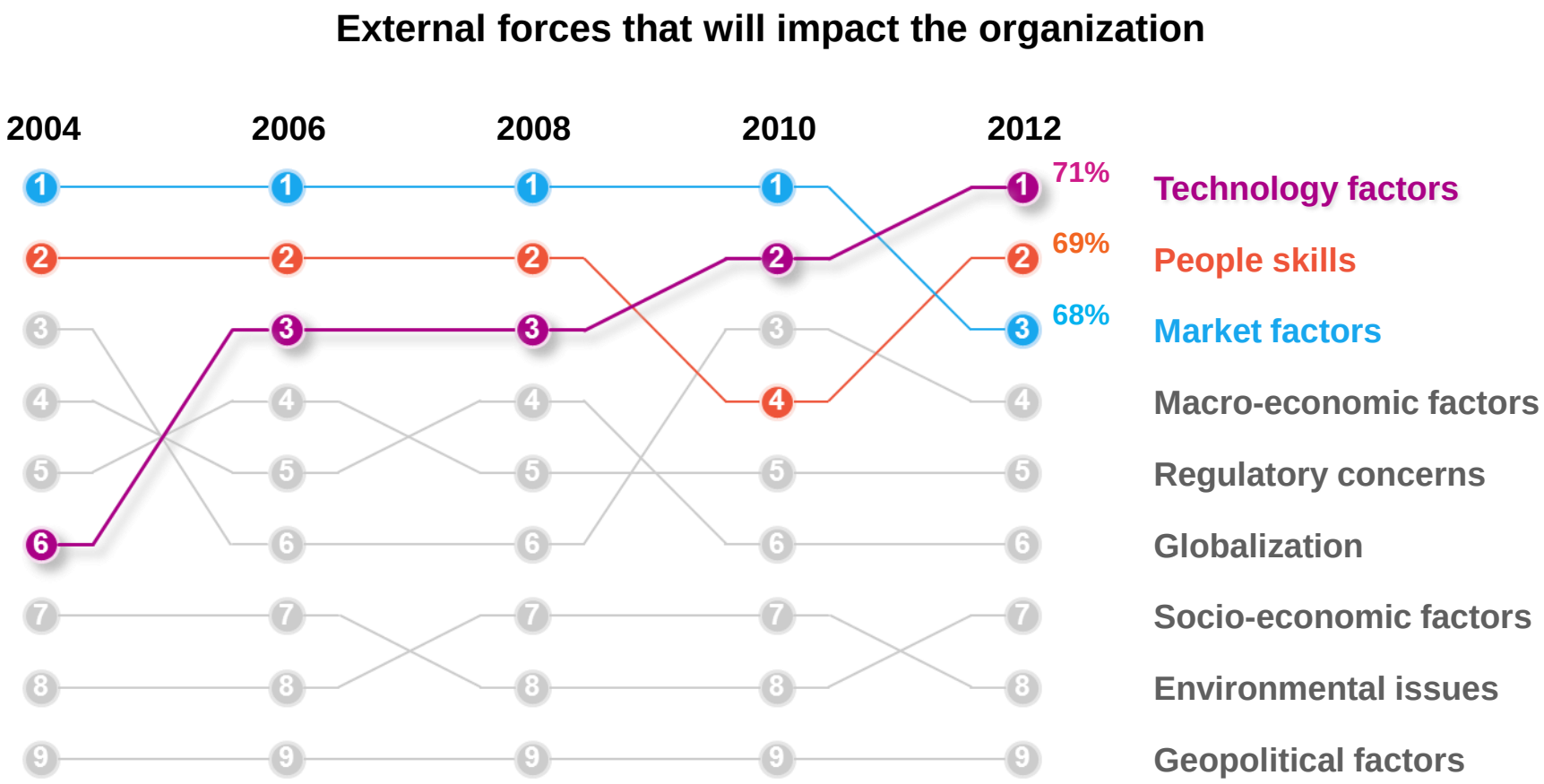


2012
Leading through Connections

- Empowering employees through values
- Engaging customers as individuals
- Amplifying innovation with partnerships

1709 interviews

CEO Survey: technology identified as most important 'external force'



Source: Q1 "What are the most important external forces that will impact your organization over the next 3 to 5 years?"

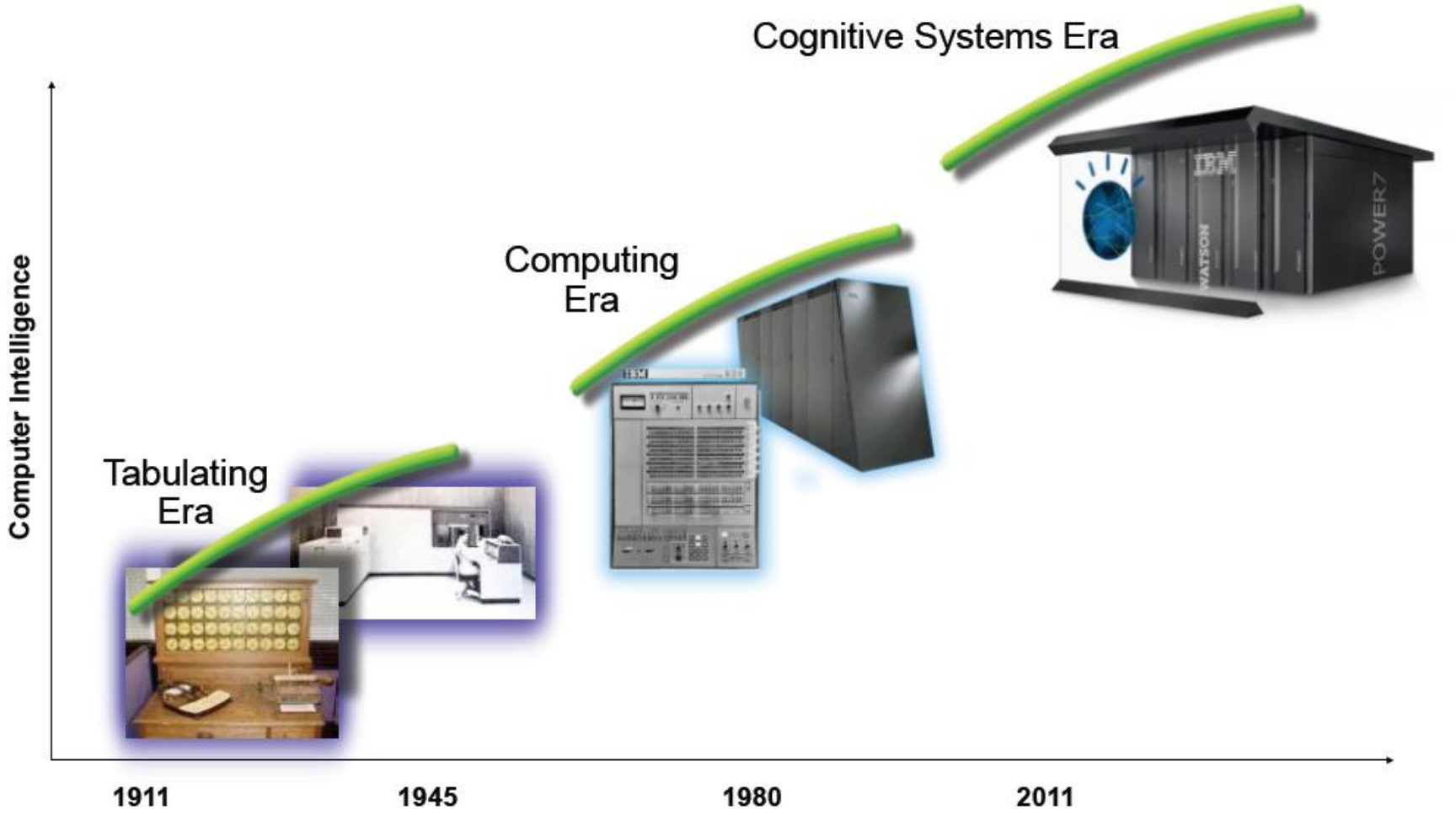
Our planet is becoming more…

Instrumented **Interconnected** **Intelligent**

Technologies that are changing the world

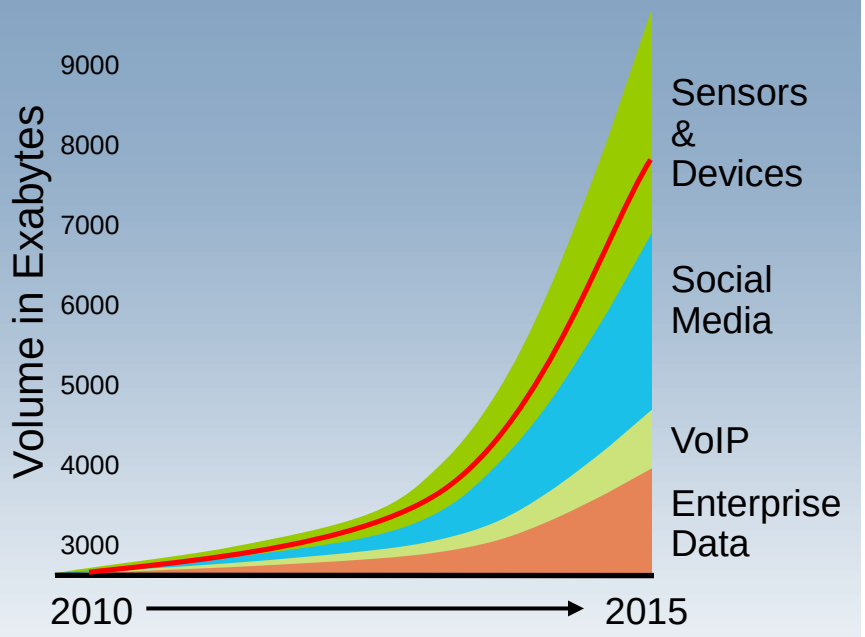
- Cloud
- Security
- Mobile
- Storage
- High Performance Computing

We are entering a new era

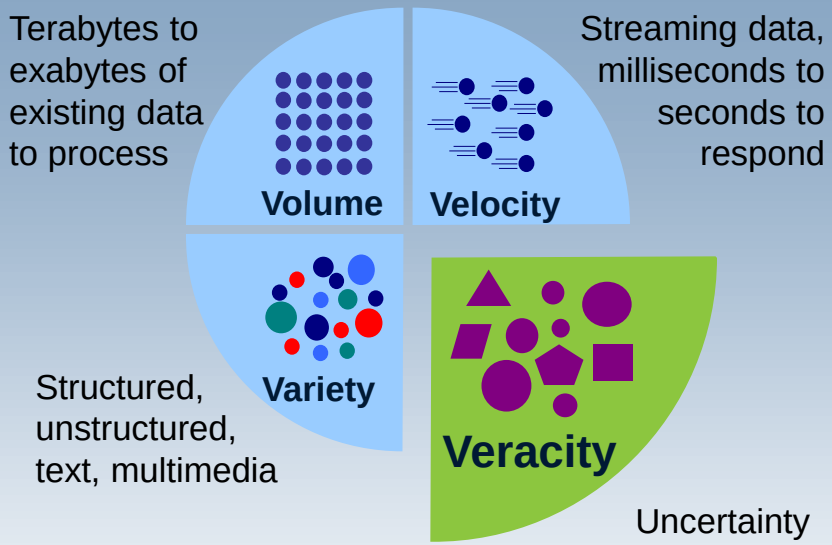


The era of 'Big Data'

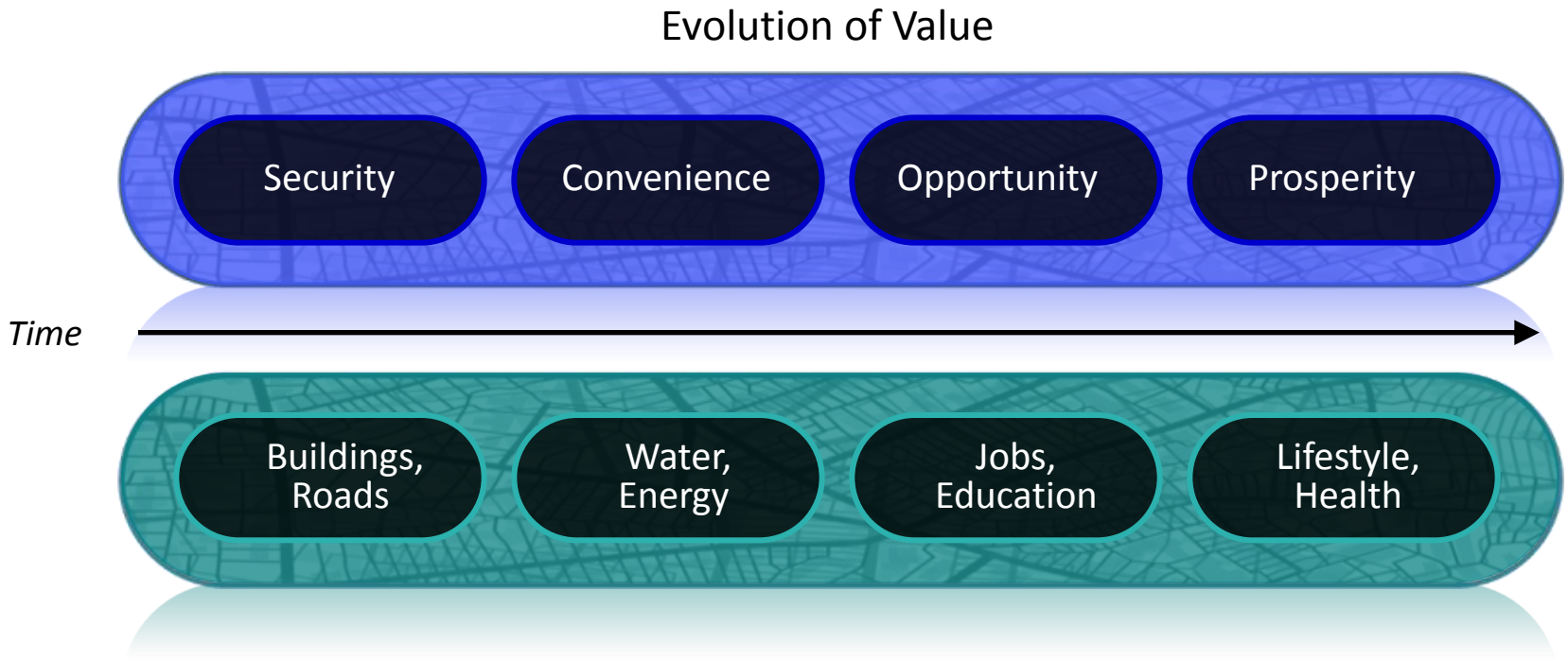
Uncertain data on the rise



Dimensions of data growth



Citizens are placing increasing demands on leaders



For the first time in human history the majority of the world's population lives in urban areas.

THE WORLD BANK
Working for a World Free of Poverty

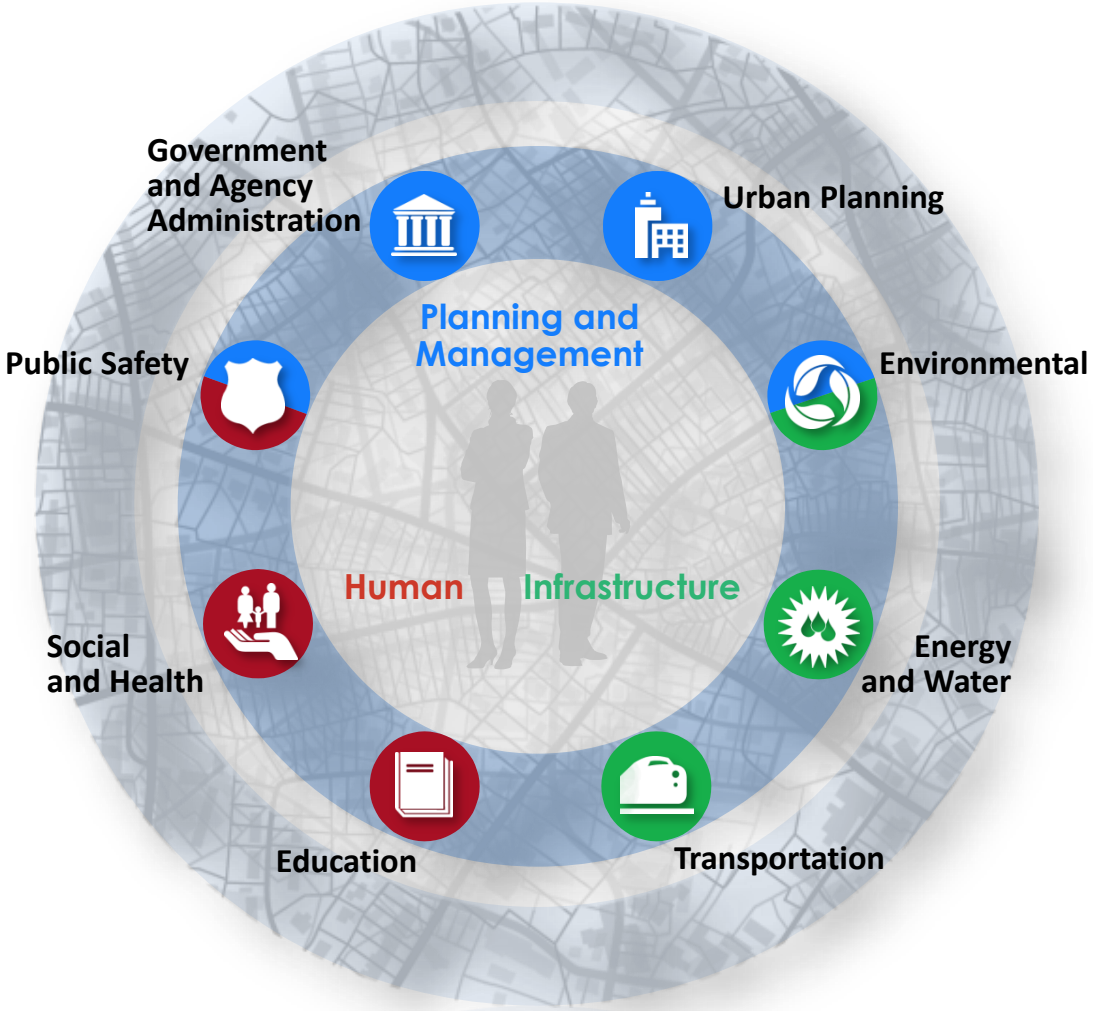
3 billion people – half the world's population – live in cities

Almost 180,000 people move into cities each day

Two-thirds of all people will live in cities by 2050

Leaders create opportunities from today's harsh realities

Leaders must innovate across services to meet and exceed citizen expectations



Planning and Management

Design and implement a city plan to realize full potential for citizens and businesses; while efficiently running daily operations

Infrastructure

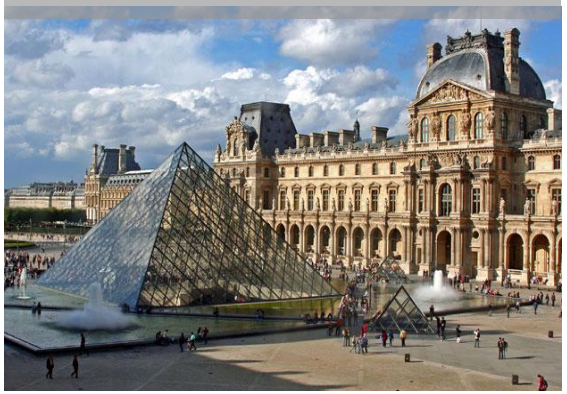
Deliver efficient fundamental city services that make a city desirable for citizens

Human

Provide effective services that support the economic, social and health needs of citizens

Smart Planet resonates…

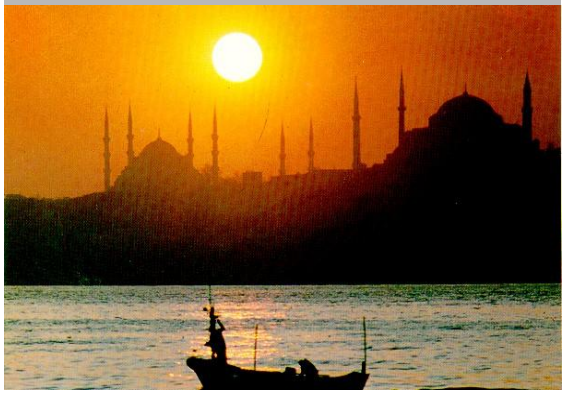
THE LOUVRE, PARIS – SMART FACILITIES MANAGEMENT



RUSSIAN RAILROADS, SMARTER TRANSPORTATION

EDF DÉMÁSZ, HUNGARY – SMART ENERGY MANAGEMENT

ISTANBUL – SMART TRAFFIC DATA ANALYSIS



UNIVERSITY OF BARI, ITALY – SMART CLOUD SERVICES

RIO DE JANEIRO, BRAZIL – INTEGRATED OPERATIONS CENTER

How Governments can lead the transformation agenda

- Consolidate IT infrastructure
- Streamline Government Supply Chains
- Reduce Energy Use
- Move to Shared Services for Mission-Support Activities
- Apply Advanced Business Analytics to Reduce Improper Payments
- Reduce Field Operations Footprint and Move to Electronic Self-Service
- Monetize Government assets

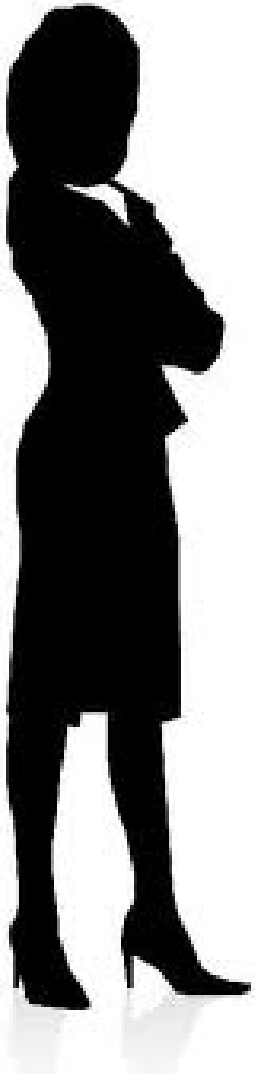
One Trillion Reasons research paper. Published by the Technology CEO Council

Lessons learned

- Understand the opportunity and necessity
- Define your value proposition
- Don’t design for improvement – design for success
- Best practices
- Leadership

Harry van Dorenmalen, Chairman, IBM Europe

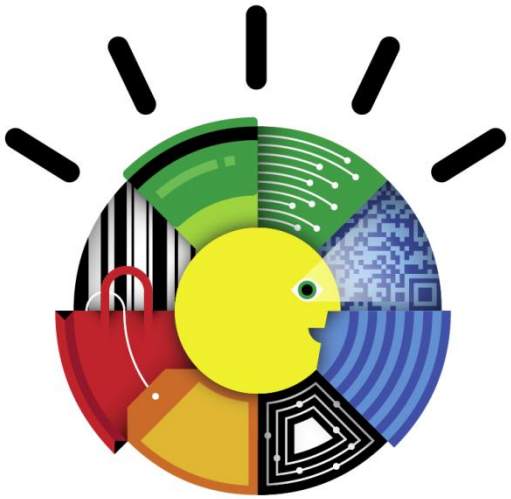
The challenges of CIOs and marketing leaders are aligning



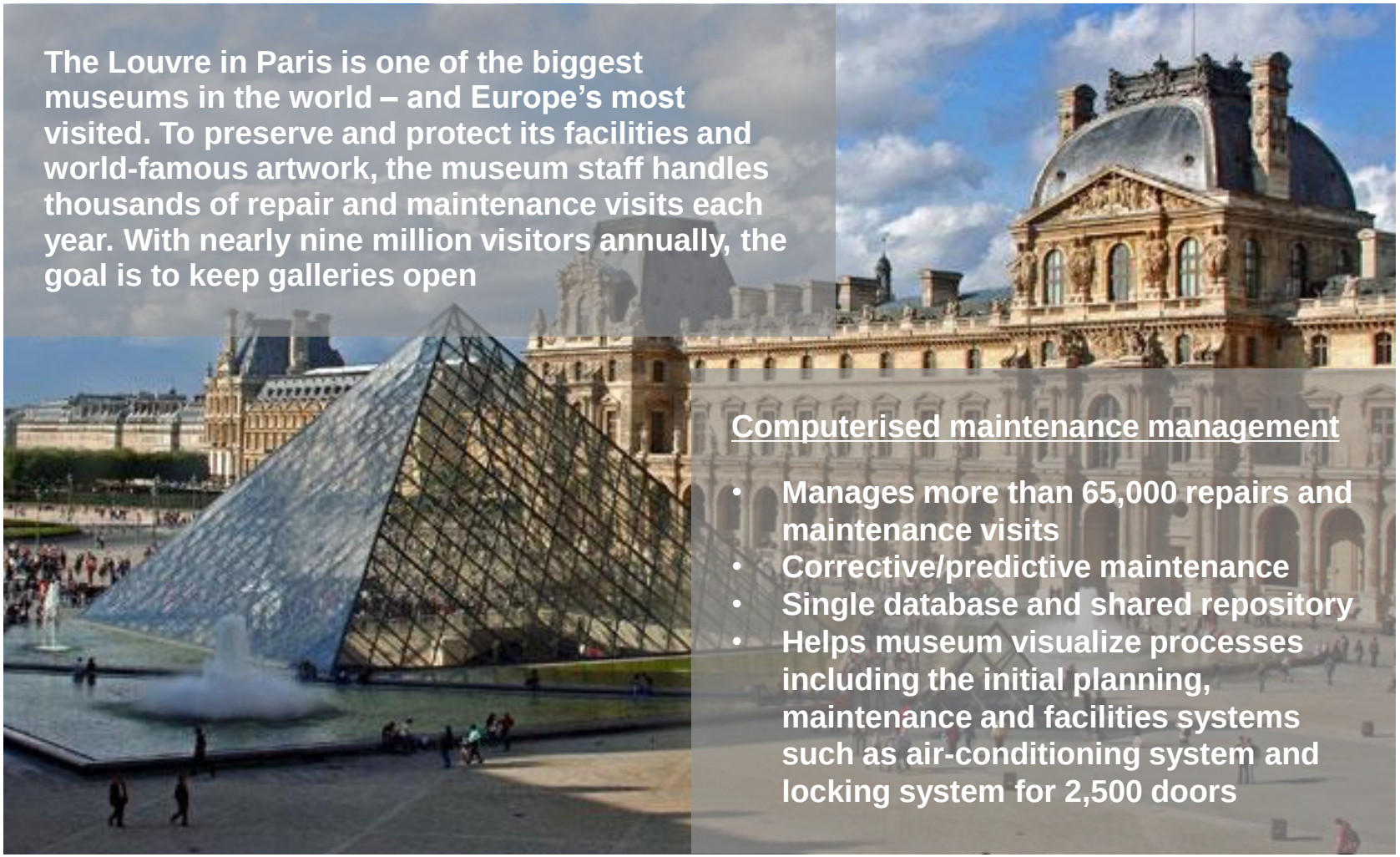
Understand each customer as an individual

Create a “system of engagement’ that maximises value creation at every touch

Design your brand and culture to be authentically one



Smarter Buildings: The Louvre, Paris



The Louvre in Paris is one of the biggest museums in the world – and Europe's most visited. To preserve and protect its facilities and world-famous artwork, the museum staff handles thousands of repair and maintenance visits each year. With nearly nine million visitors annually, the goal is to keep galleries open

Computerised maintenance management

- **Manages more than 65,000 repairs and maintenance visits**
- **Corrective/predictive maintenance**
- **Single database and shared repository**
- **Helps museum visualize processes including the initial planning, maintenance and facilities systems such as air-conditioning system and locking system for 2,500 doors**

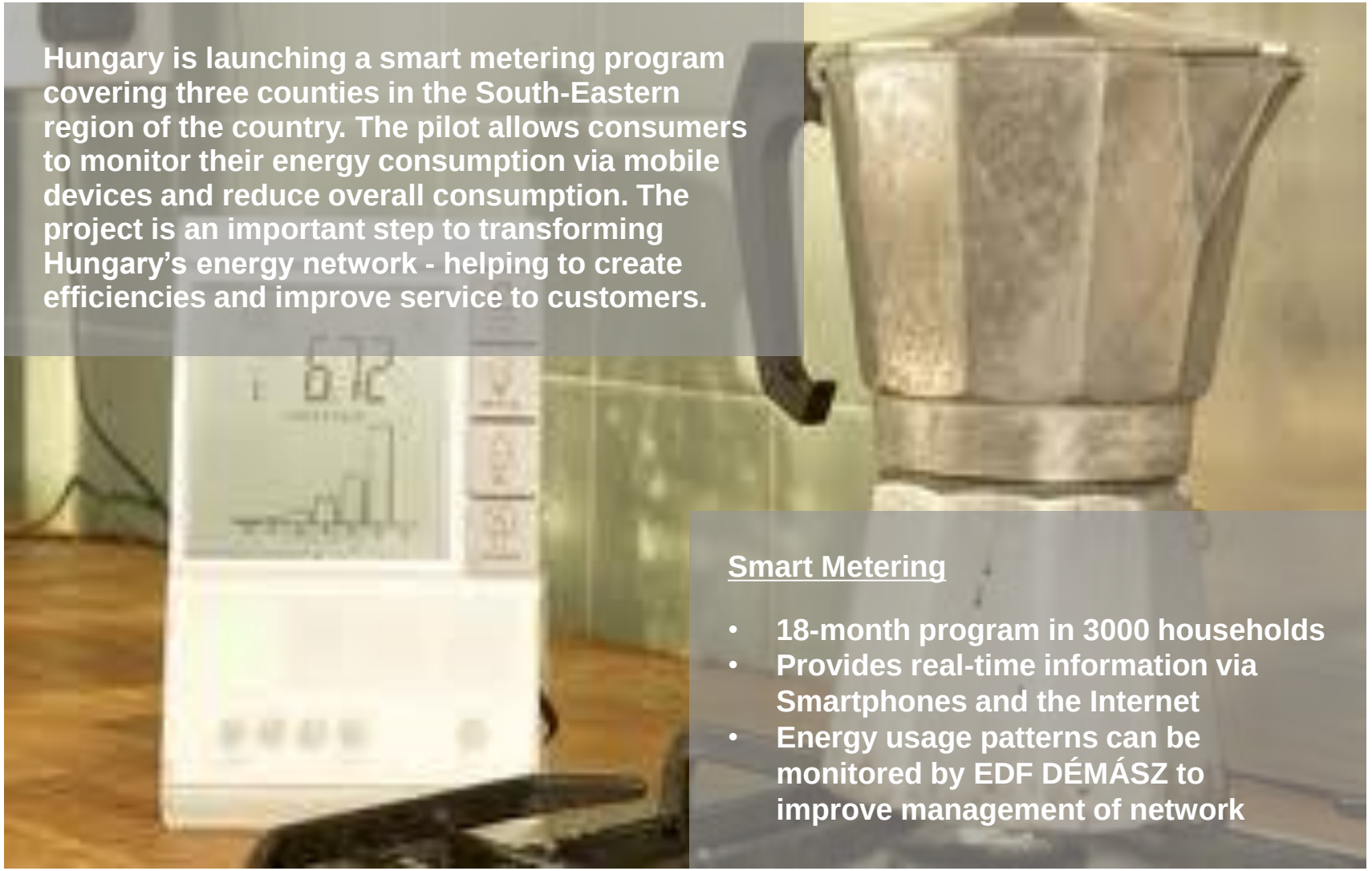
Smarter Planet: Russian railroads

The backbone of the Russian Federation is its railways. With 85,500 kilometers of track and 664,600 railcars transporting people and goods across 11 time zones, Russian Railways employs 1.2 million people. Many millions more rely on the trains to make their living. If the railroad drives the economy, data drives the railroad...

Digital communications infrastructure

- Fibre-optic network along entire track
- Data centers manage movements of 1.3 billion passengers
- Consolidating 17 datacenters to 3
- Single data platform for 400 parallel projects, ensuring interoperability
- Data will enable passenger number increase and lower freight costs
- New programs for traffic management, digital document entry and ticket sales

Smart metering: Hungary

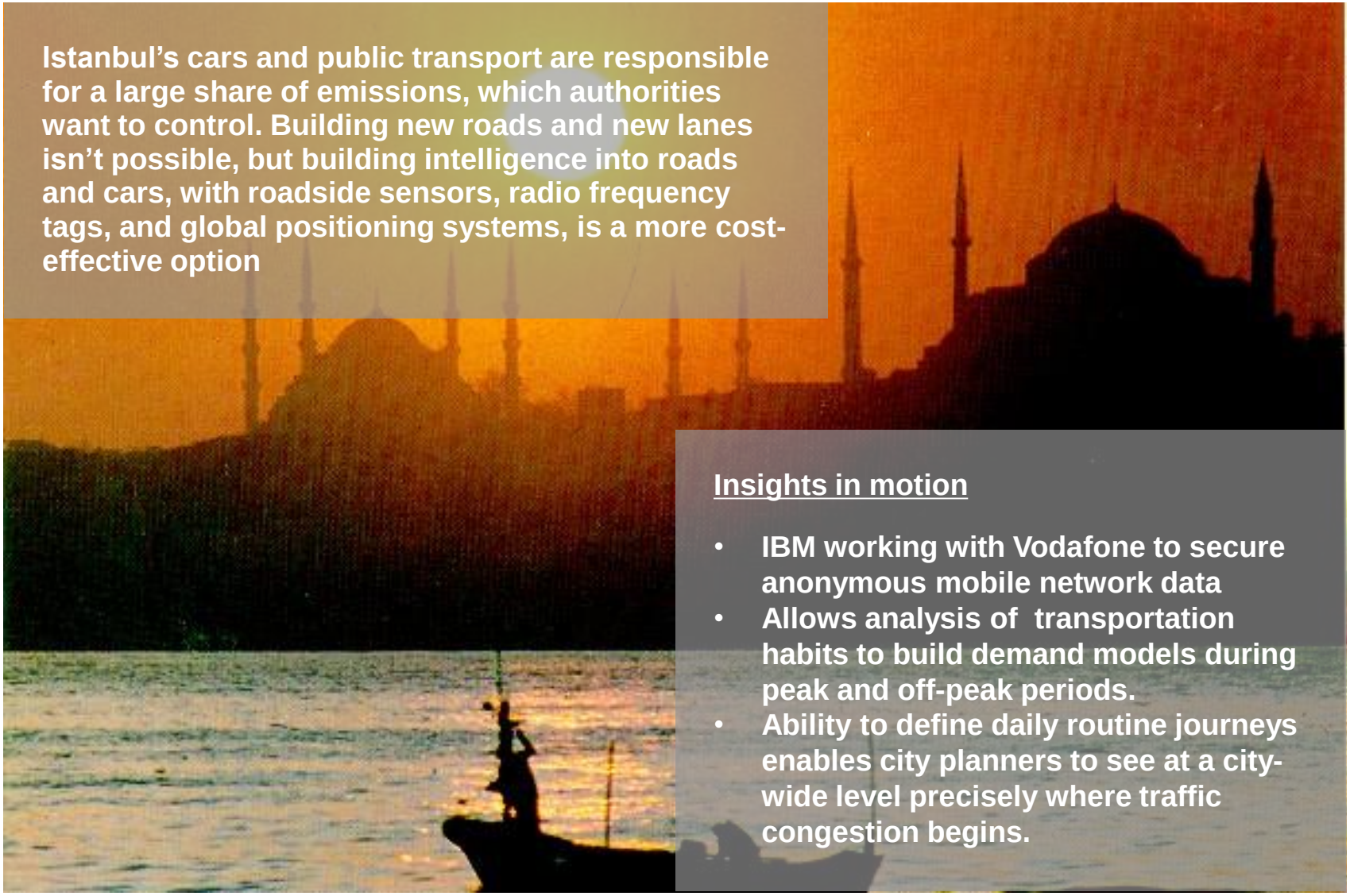


Hungary is launching a smart metering program covering three counties in the South-Eastern region of the country. The pilot allows consumers to monitor their energy consumption via mobile devices and reduce overall consumption. The project is an important step to transforming Hungary's energy network - helping to create efficiencies and improve service to customers.

Smart Metering

- **18-month program in 3000 households**
- **Provides real-time information via Smartphones and the Internet**
- **Energy usage patterns can be monitored by EDF DÉMÁSZ to improve management of network**

Smarter Cities: Istanbul



Istanbul's cars and public transport are responsible for a large share of emissions, which authorities want to control. Building new roads and new lanes isn't possible, but building intelligence into roads and cars, with roadside sensors, radio frequency tags, and global positioning systems, is a more cost-effective option

Insights in motion

- **IBM working with Vodafone to secure anonymous mobile network data**
- **Allows analysis of transportation habits to build demand models during peak and off-peak periods.**
- **Ability to define daily routine journeys enables city planners to see at a city-wide level precisely where traffic congestion begins.**

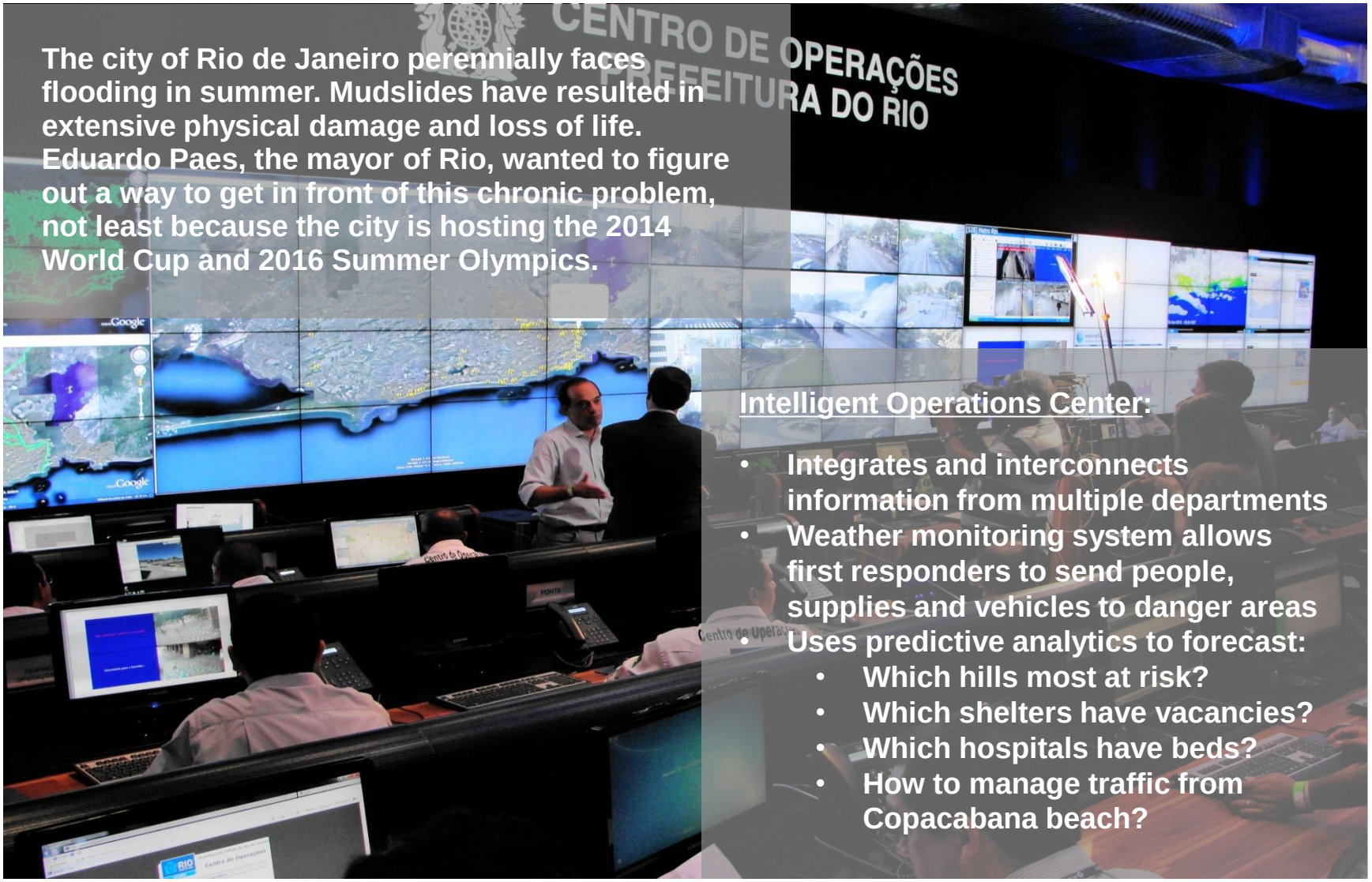
Smarter Planet: University of Bari, Italy

The University of Bari in Puglia, Southern Italy, has built a Cloud solution that enables fast, low-cost applications to be built for traditional local industries like fishing, wine growing and logistics

Local fishing fleet

- **Fishermen report their catch using mobile devices via Cloud**
- **Catches allocated, processed and packaged while still at sea**
- **Link to live auctions which serve local markets/restaurants**
- **Incomes have increased by up to 25%; time-to-market reduced by 70%**

Smarter Planet outside Europe: Rio de Janeiro, Brazil



The city of Rio de Janeiro perennially faces flooding in summer. Mudslides have resulted in extensive physical damage and loss of life. Eduardo Paes, the mayor of Rio, wanted to figure out a way to get in front of this chronic problem, not least because the city is hosting the 2014 World Cup and 2016 Summer Olympics.

Intelligent Operations Center:

- **Integrates and interconnects information from multiple departments**
- **Weather monitoring system allows first responders to send people, supplies and vehicles to danger areas**
- **Uses predictive analytics to forecast:**
  - **Which hills most at risk?**
  - **Which shelters have vacancies?**
  - **Which hospitals have beds?**
  - **How to manage traffic from Copacabana beach?**