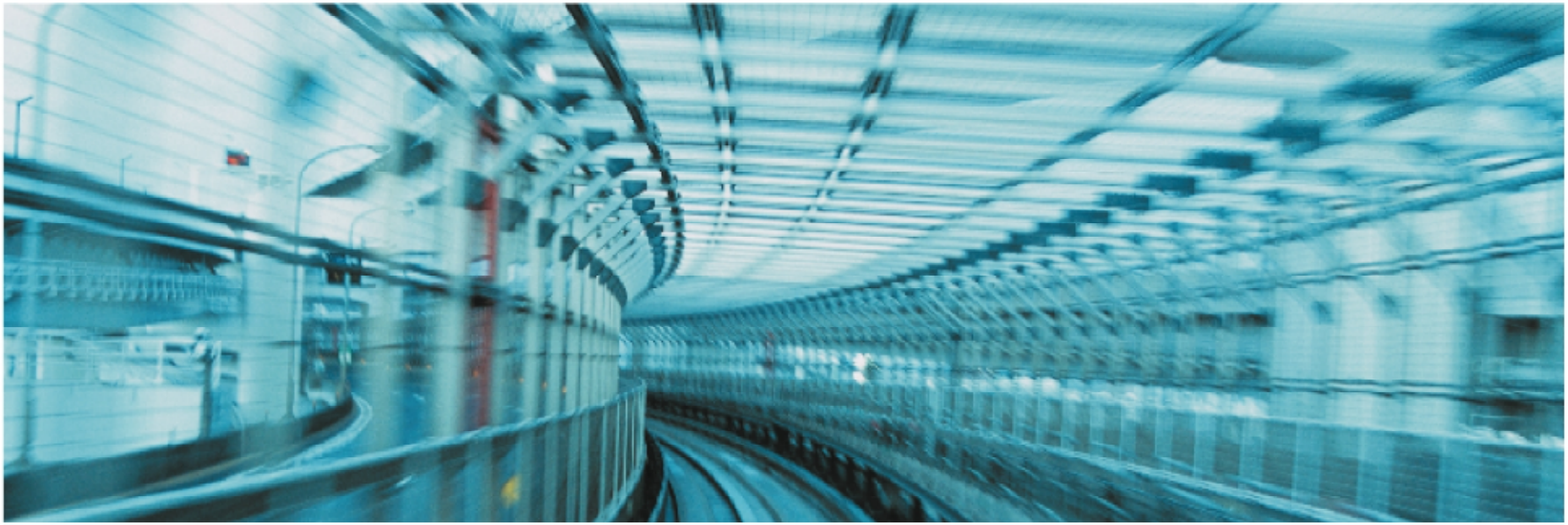
IBM BUSINESS REALITY SUMMIT
Building strategies for a smarter business

IBM

Let's Build a Smarter Planet:

The Power of IT as a Driver of Growth and Innovation



Let's build a smarter planet.

It was the worst of times…

The near collapse of our financial system

The longest recession in modern times

Reality of energy and environmental problems

It may be the best of times…

Government cooperation on banking issues

Funds will be spent to stimulate the economy

Willingness of citizens to change their habits

Focus on collaborative innovation

…to make smarter decisions that improve our society for the long term

The imperative for government and industry today is threefold.

DELIVER VALUE	EXPLOIT OPPORTUNITIES	ACT WITH SPEED
Focus on systems	Build future capabilities	Manage change
Do more with less	Transform your economy	Leadership
Re-align relationships		Risk and transparency

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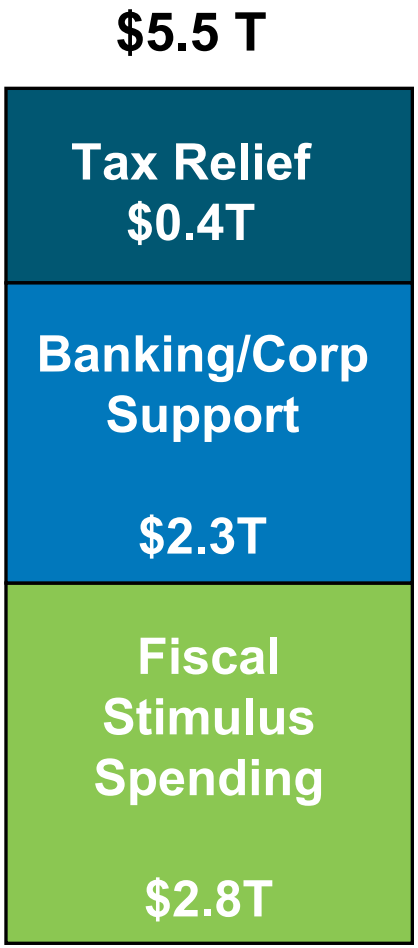
Current Economic Recovery Spending Totals $5.5T ($2.8T in Fiscal Stimulus Spending)



Source: IBM Analysis, May 2009

Key Countries

China	$940B
USA	$860B
Japan	$160B
Germany	$90B
S. Korea	$80B
Italy	$50B
Brazil	$40B

Examples of Stimulus Spending

- Energy
- Healthcare
- Transportation Infrastructure
- Education
- Science/Technology
  - Broadband
  - University Research Facilities
- Banking
- Government
  - Water Resources
  - Public Safety
  - Environmental Cleanup

A look at the U.S. Fiscal Stimulus program

The state of the economy calls for action…bold and swift… and we will act… to create new jobs… to lay a new foundation for growth. We will build the roads and bridges, the electric grids and digital lines… we will restore science to its rightful place, and wield technology's wonders to raise health care's quality and lower its cost. We will harness the sun and the winds and the soil to fuel our cars and run our factories. And we will transform our schools and colleges and universities to meet the demands of a new age. …

We will work tirelessly to lessen the nuclear threat, and roll back the specter of a warming planet.

…the world has changed, and we must change with it.

American Recovery and Reinvestment Act (ARRA)

- Preserve and create jobs and promote economic recovery
- Assist those most impacted by the recession
- Provide investments needed to increase economic efficiency by spurring technological advances
- Invest in transportation, environmental protection and other infrastructure that will provide long-term economic benefits
- Stabilize state and local government budgets
- Preference for quick start activities (use it or lose it)

Digital infrastructure investments will impact more positively on jobs, productivity, and innovation than traditional physical infrastructure spend

US Study	Investment	Total Jobs	Jobs in Small Businesses
Broadband	$10 billion	498,000	262,050
Health IT	$10 billion	212,000	121,675
Smart Grid	$10 billion	239,000	140,500
Total	**$30 billion**	**949,000**	**524,225**

Source: Robert D. Atkinson, Daniel Castro and Stephen J. Ezell; *The Digital Road to Recovery: A Stimulus Plan to Create Jobs, Boost Productivity and Revitalize America*; The Information Technology & Innovation Foundation, January 2009.

Australia - Economic Benefits of Intelligent Technologies Report

- **Electricity**
  - $3.2B in smart grid over 10 years
  - Lower electricity use by 4%
  - Create 17,600 jobs

- **Irrigation – Murray-Darling Basin**
  - Reduce water use by 15%
  - Create 800 jobs

- **Health**
  - $6.3B in electronic health records
  - Create 12,000 jobs

- **Transport**
  - Intelligent transportation technologies
  - Create 30,000 jobs over

- **Broadband**
  - Create 33,000 jobs by 2011

China – IBM Institute for Business Value Report

	Invest	Jobs
• Smarter Grid	RMB 25B	374,800
• Healthcare	RMB 25B	354,300
• Broadband	RMB 50B	840,100
Total	RMB 100B	1,569,200

Department of Informatization, Research, State Information Center

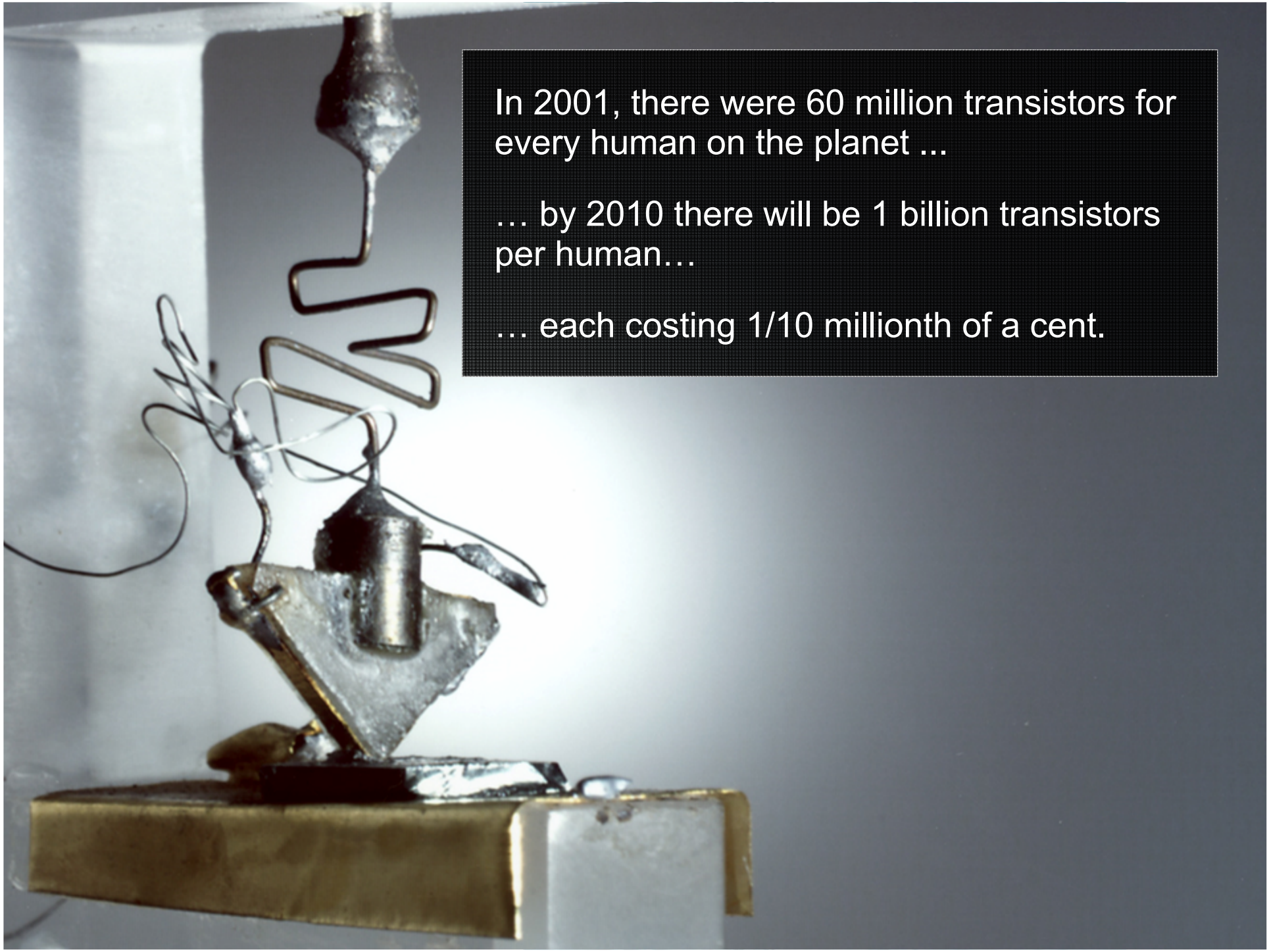
This mandate for change and investment is a mandate for smart.

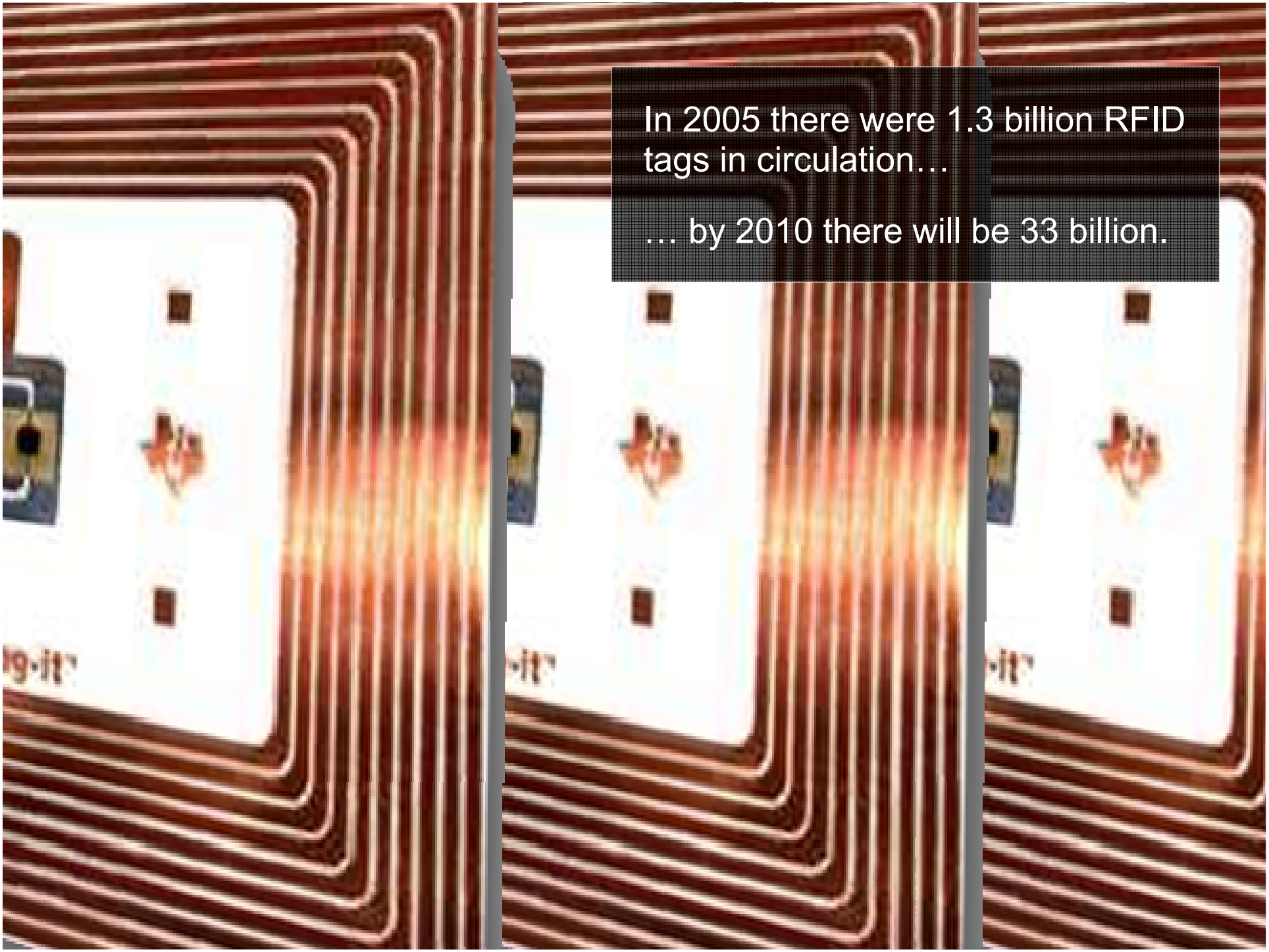
We know the world is becoming smaller… and flatter.

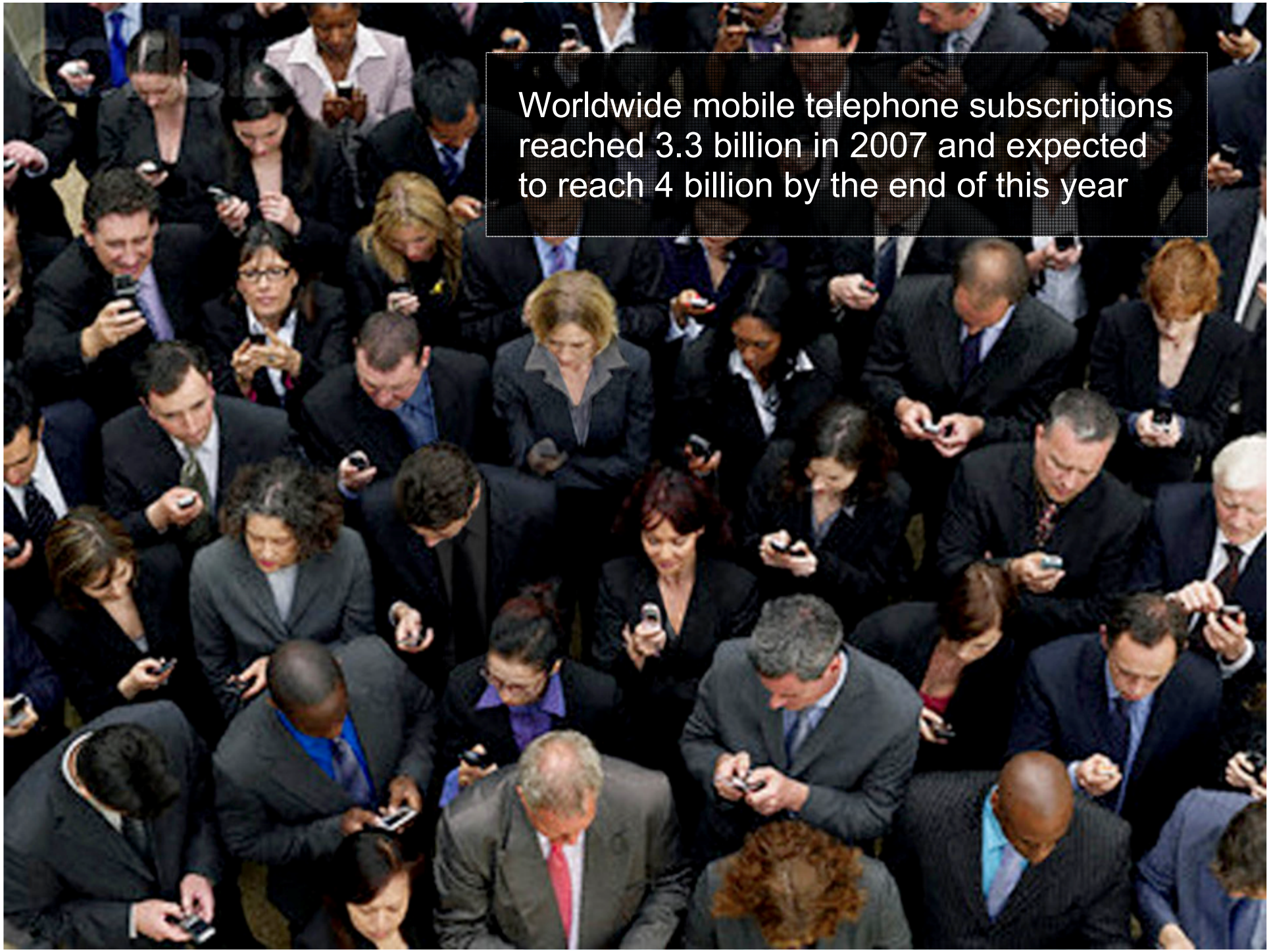
Something else is going on that may ultimately have a greater impact on business and society.

The world is about to become ***smarter***.

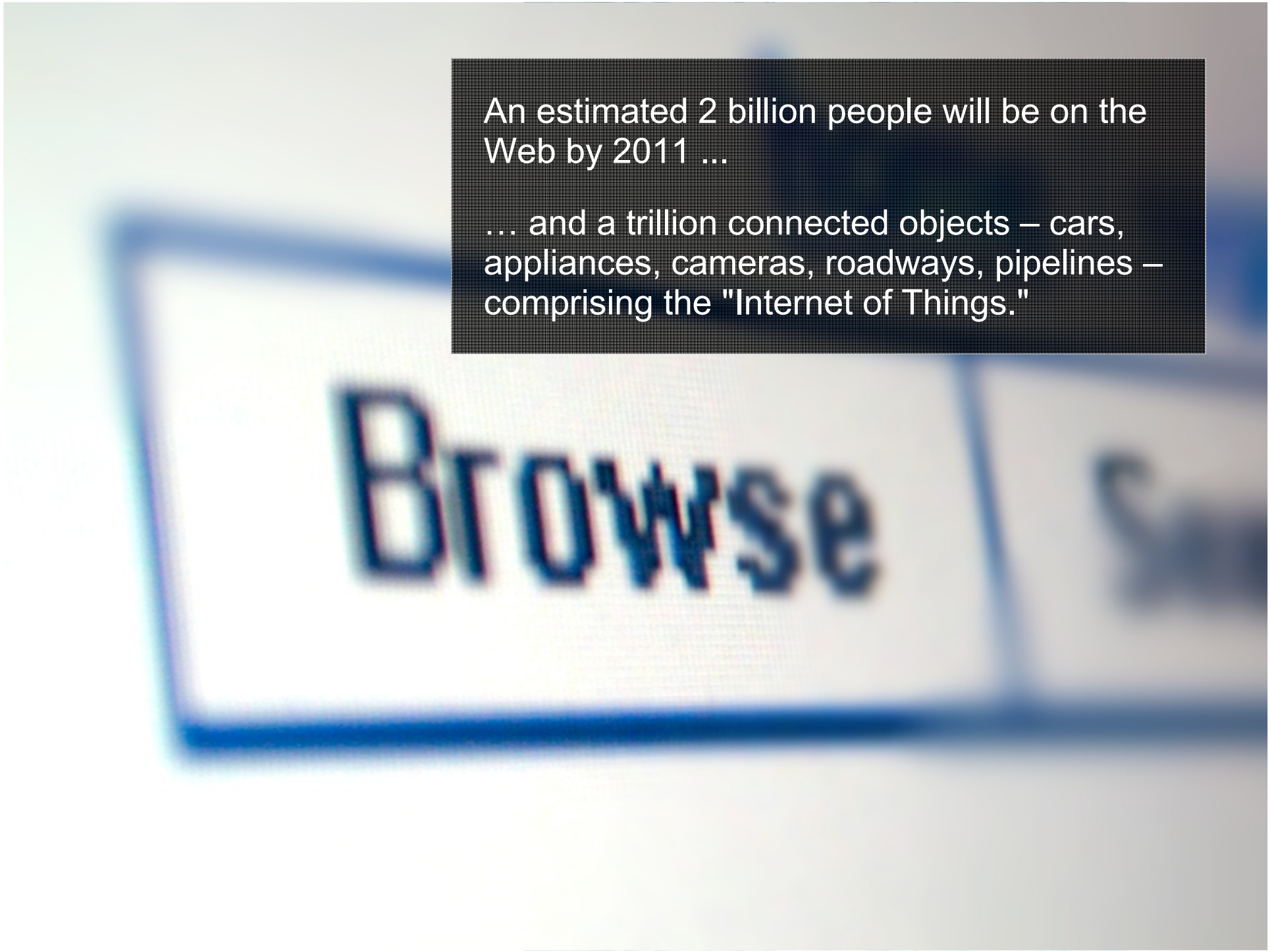
This is quite literally about how the world works… the world's infrastructure is becoming intelligent.


In 2001, there were 60 million transistors for every human on the planet ...
… by 2010 there will be 1 billion transistors per human…
… each costing 1/10 millionth of a cent.


In 2005 there were 1.3 billion RFID tags in circulation…
… by 2010 there will be 33 billion.


Worldwide mobile telephone subscriptions reached 3.3 billion in 2007 and expected to reach 4 billion by the end of this year

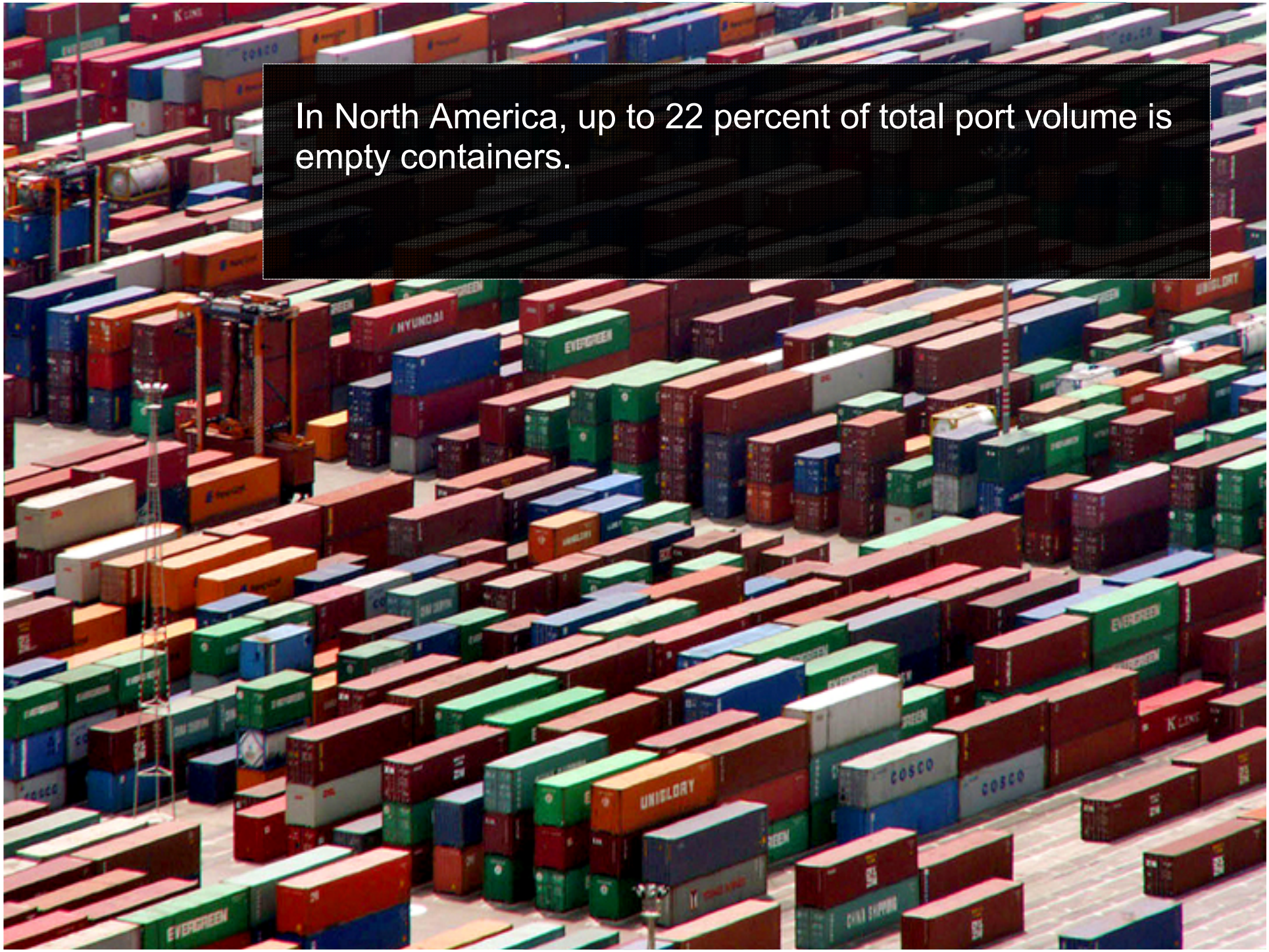
One billion camera phones were sold in 2007, up from 450 million in 2006 …
3G devices growing 30% annually.

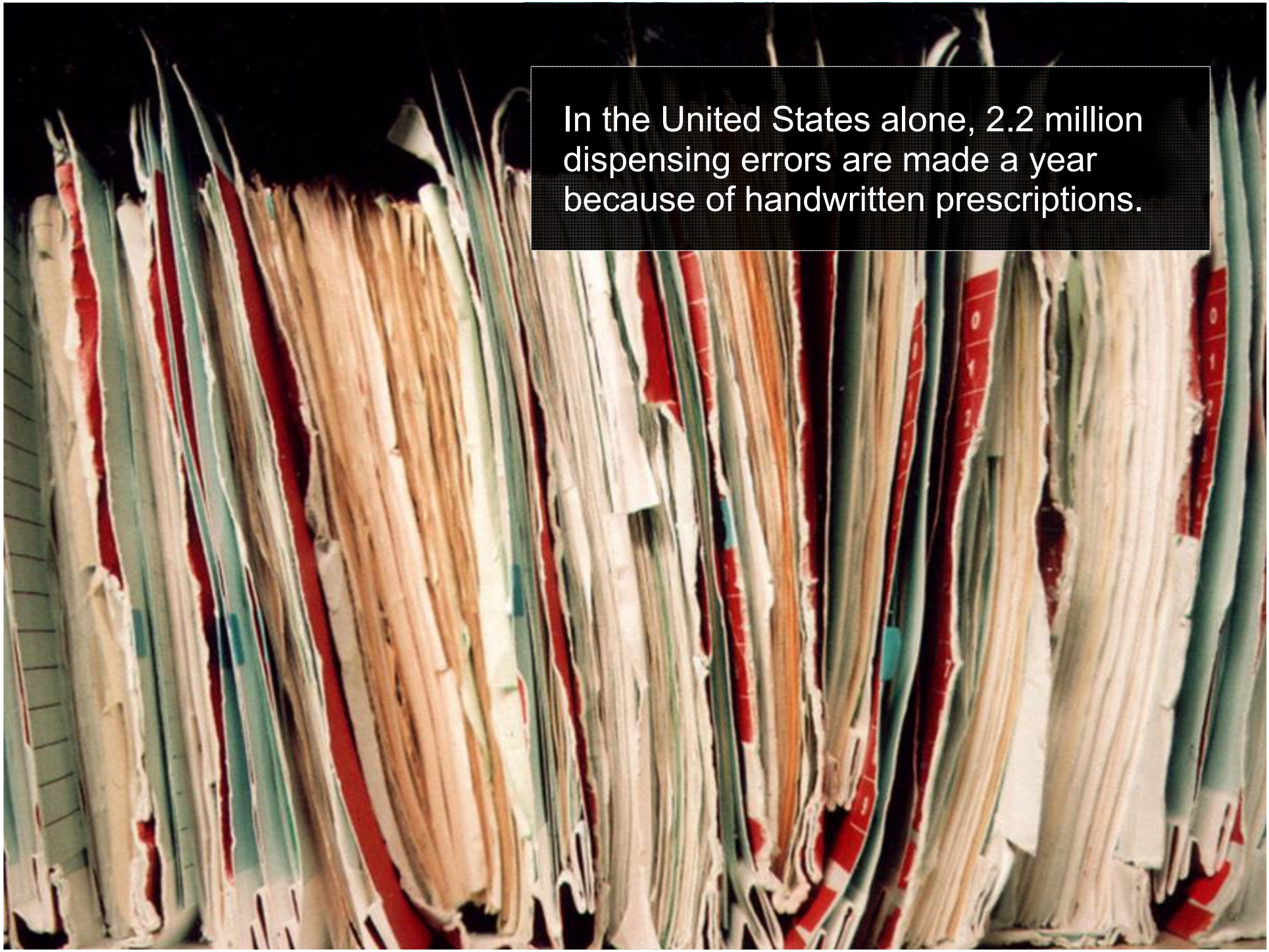

An estimated 2 billion people will be on the Web by 2011 ...
… and a trillion connected objects – cars, appliances, cameras, roadways, pipelines – comprising the "Internet of Things."
Browse

The reason we will all begin to transform our systems, operations, enterprises and personal lives to take advantage of a smart planet isn't just because we can.

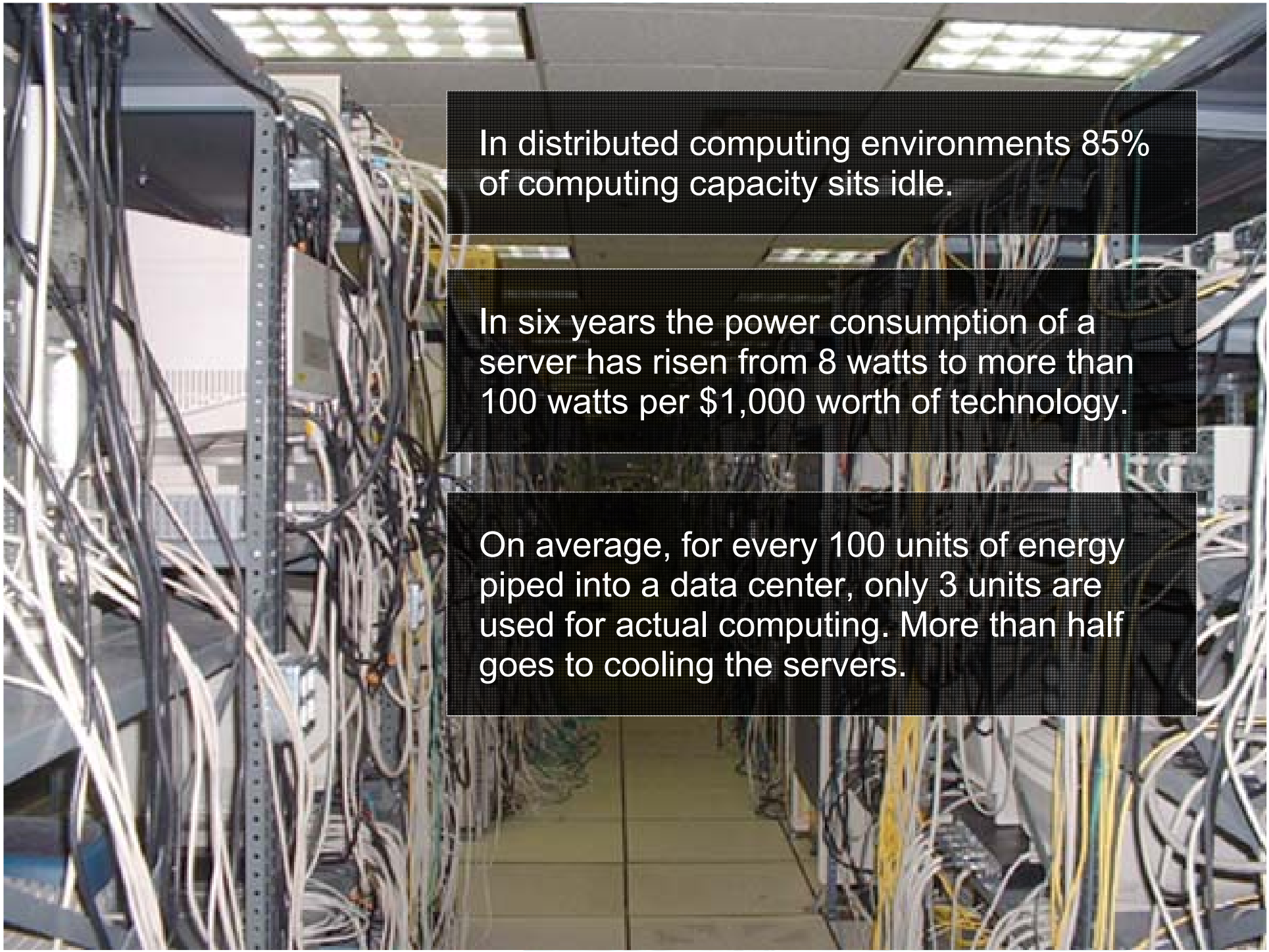
It's because we must.

U.S. CPG companies and retailers lose $40 billion annually due to inefficient supply chains.


In North America, up to 22 percent of total port volume is empty containers.


In the United States alone, 2.2 million dispensing errors are made a year because of handwritten prescriptions.

The U.S. healthcare system loses more than
$100 billion a year to fraud.


In distributed computing environments 85% of computing capacity sits idle.
In six years the power consumption of a server has risen from 8 watts to more than 100 watts per $1,000 worth of technology.
On average, for every 100 units of energy piped into a data center, only 3 units are used for actual computing. More than half goes to cooling the servers.

We've thought about IT as the world of data centers, software, PCs, routers, bandwidth.

We've thought about infrastructure as the world of buildings, factories, hospitals, roads, pipelines.

Those worlds are converging.

We're confident that the world can become smarter. We're building it with our clients.

A SMARTER PLANET

INSTRUMENTED

INTERCONNECTED

INTELLIGENT

PEOPLE

COMPANIES, INSTITUTIONS, INDUSTRIES

MAN-MADE SYSTEMS

NATURE'S SYSTEMS

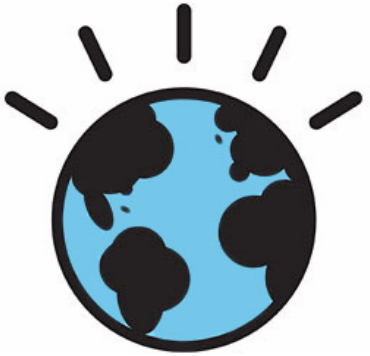
IBM

Stimulus Programs

Restoring the financial health of the global economy

- Financial Services
- Energy & Utilities
- Automotive
- Transportation
- Telecommunications
- Government
- Education
- Healthcare

Smarter Planet



Innovation that can improve the way we work and live

Smarter Government – Smarter Cities

Strengthening national security and public safety

NYPD Crime Information Warehouse: Gives officers mobile access to:

- more than 120 million criminal complaints, arrests and 911 records
- 5 million criminal records, parole files and photographs.

Ensuring a sustainable environment.

Stockholm, Sweden: An intelligent toll system in the city center resulted in:

- 20% less traffic
- 40% lower emissions
- 40,000 additional users of the public transportation system.

Smarter Healthcare

Optimizing best healthcare practices.

University of Pittsburgh Medical Center:
Used virtualization to
- increase its processing capacity by 150%
- reduce its number of physical servers by 67%
- Save $30 million in capital and operating costs.

Delivering excellent, individualized health and care experiences.

Shanghai First People's Hospital:
Developed a reliable identity repository to eliminate duplicate and erroneous data, aggregating a patient's historical care information and improving care through the sharing of trusted information.

Creating new healthcare service models and markets.

Smarter Energy and Utilities

Transforming the grid.

Empowering the consumer.

Reducing greenhouse gas emissions.

Pacific Northwest National Laboratory: Used intelligent measurement devices, smart appliances and a virtual marketplace to help manage stress in the electric grid, achieving:

- 50% reduction in short-term peak electricity distribution loads
- 15% reduction in overall peak loads.

Energie Baden-Württemberg: Offers residential customers smart appliances and meters that enable them to adjust electricity consumption based on price—reducing waste and easing peak loads.

We've only just begun to uncover what is possible on a smarter planet.

- The world will continue to become smaller, flatter and smarter.
- There's no better time to start building a smarter government AND a smarter society - one focused on lasting transformation in the industries and systems on which we all depend.