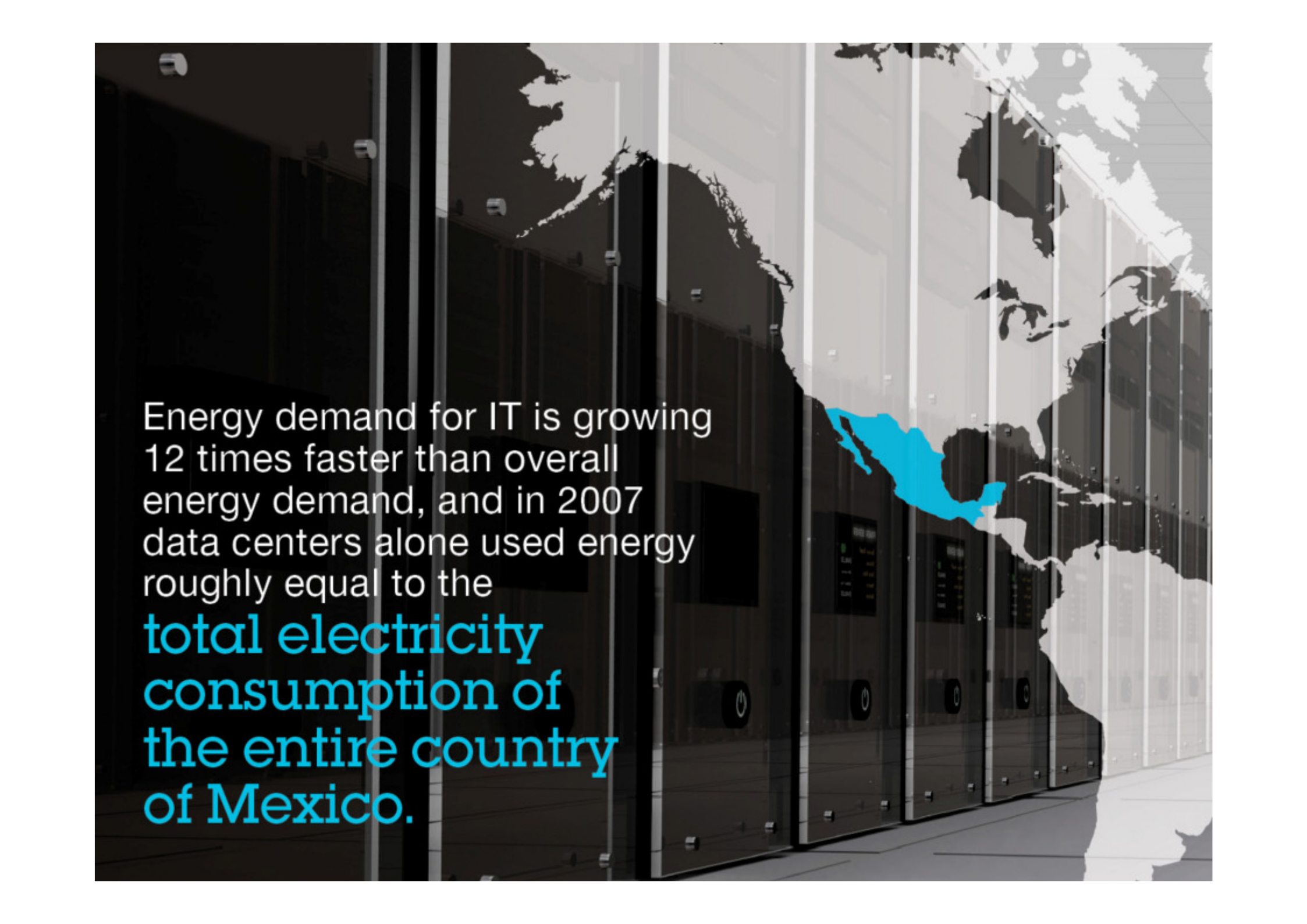# BRINGING A
SMARTER PLANET….to life !

Energy demand for IT is growing 12 times faster than overall energy demand, and in 2007 data centers alone used energy roughly equal to the
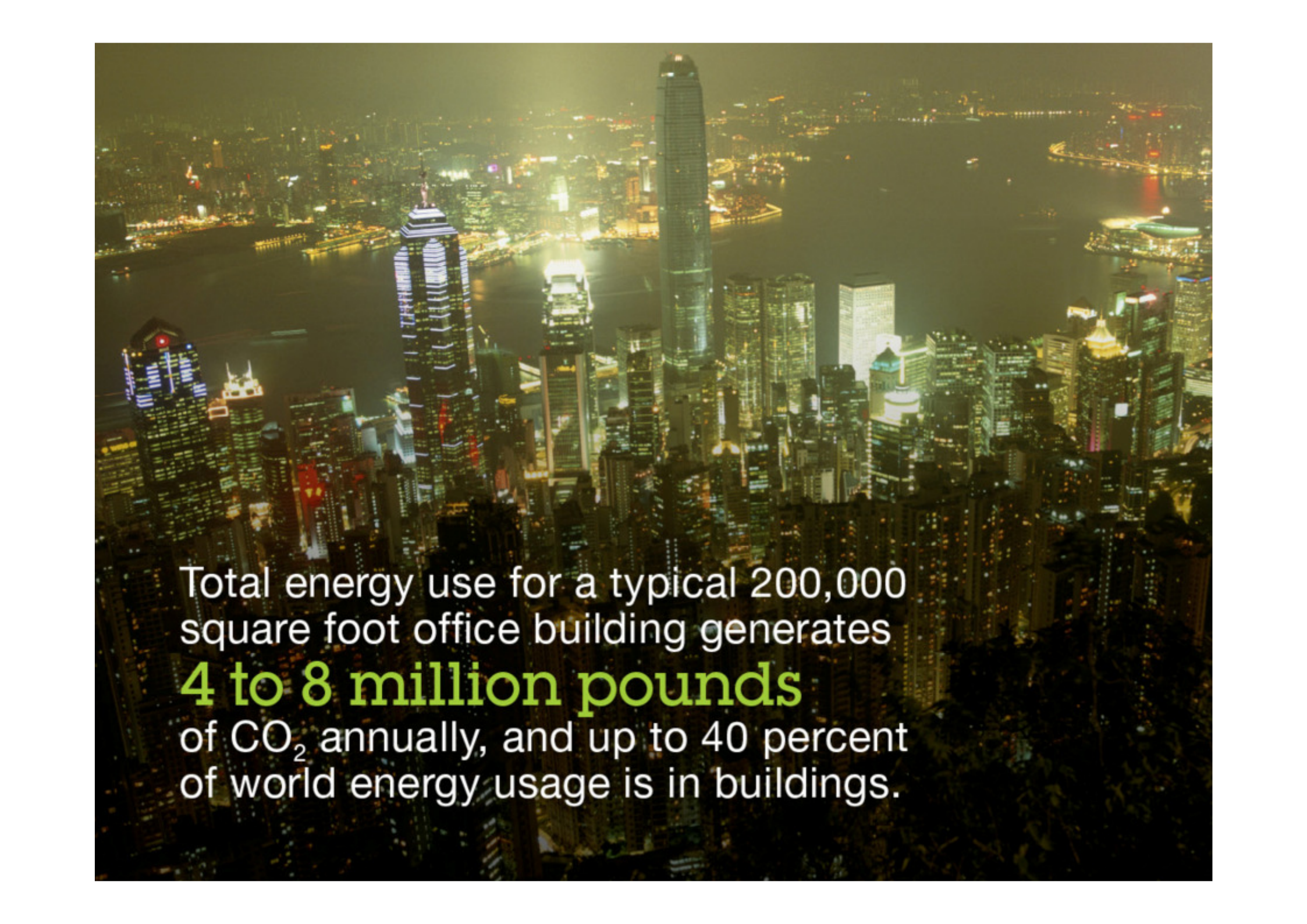
total electricity consumption of the entire country of Mexico.

In 2005, stores in
Japan threw out
enough food to feed
50 million people.

Five of the largest food and beverage companies use **575 billion** liters of water each year, enough to provide for the basic daily needs of every person on the planet.

Total energy use for a typical 200,000 square foot office building generates **4 to 8 million pounds** of CO_2 annually, and up to 40 percent of world energy usage is in buildings.

Retrofitting existing buildings to be more energy efficient typically reduces total energy consumption by 20-50 percent, while new "green" buildings have the potential to reduce energy consumption by 80 percent or more.
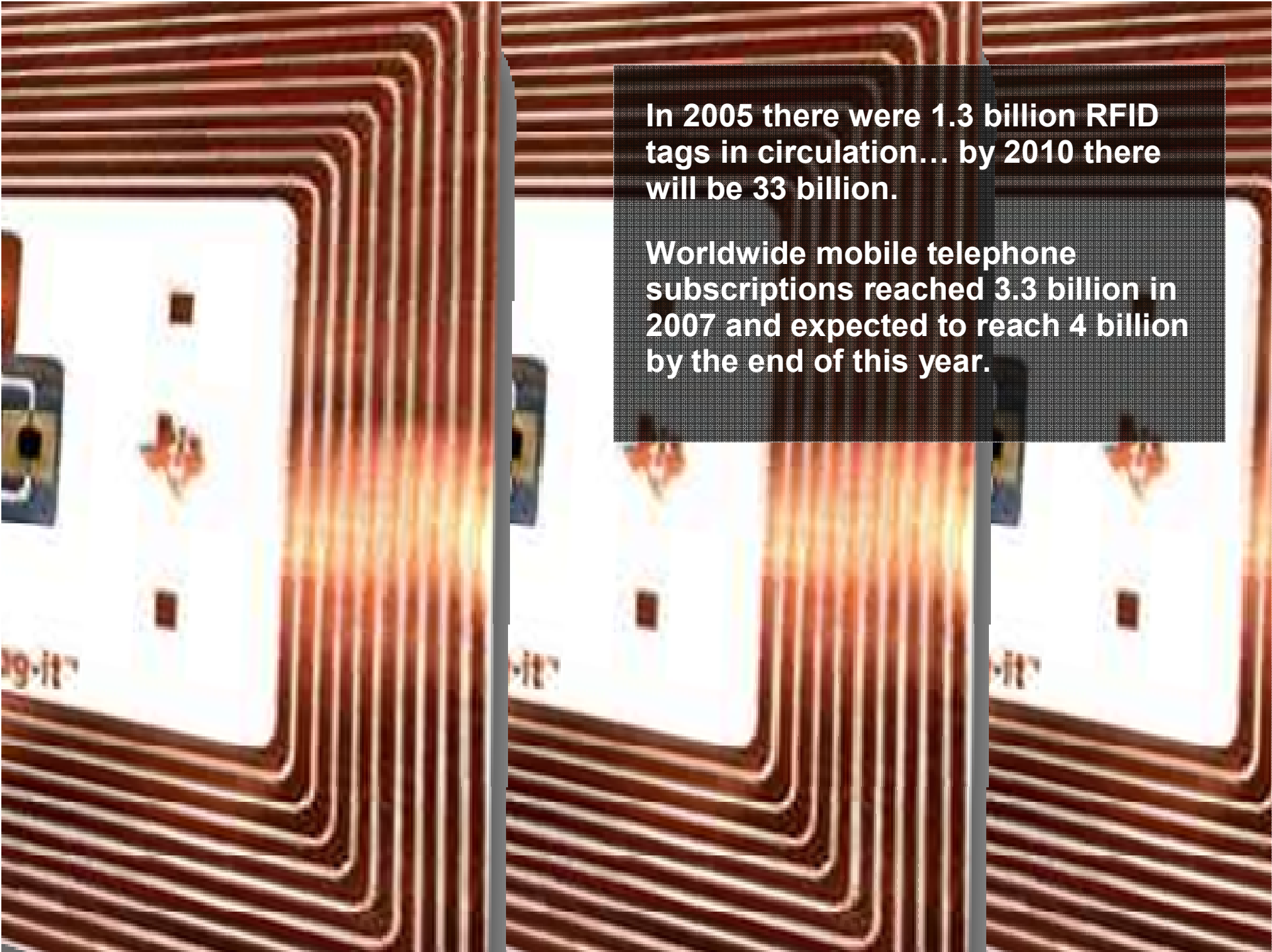
In 2001, there were 60 million transistors for every human on the planet ...

… by 2010 there will be 1 billion transistors per human…

… each costing 1/10 millionth of a cent.

Every gas and electricity meter in the UK is being replaced with a smart meter by 2020. By this time, the industry will be processing over 450 billion meter readings per year - 1.2 billion reads per day.

In 2005 there were 1.3 billion RFID tags in circulation… by 2010 there will be 33 billion.
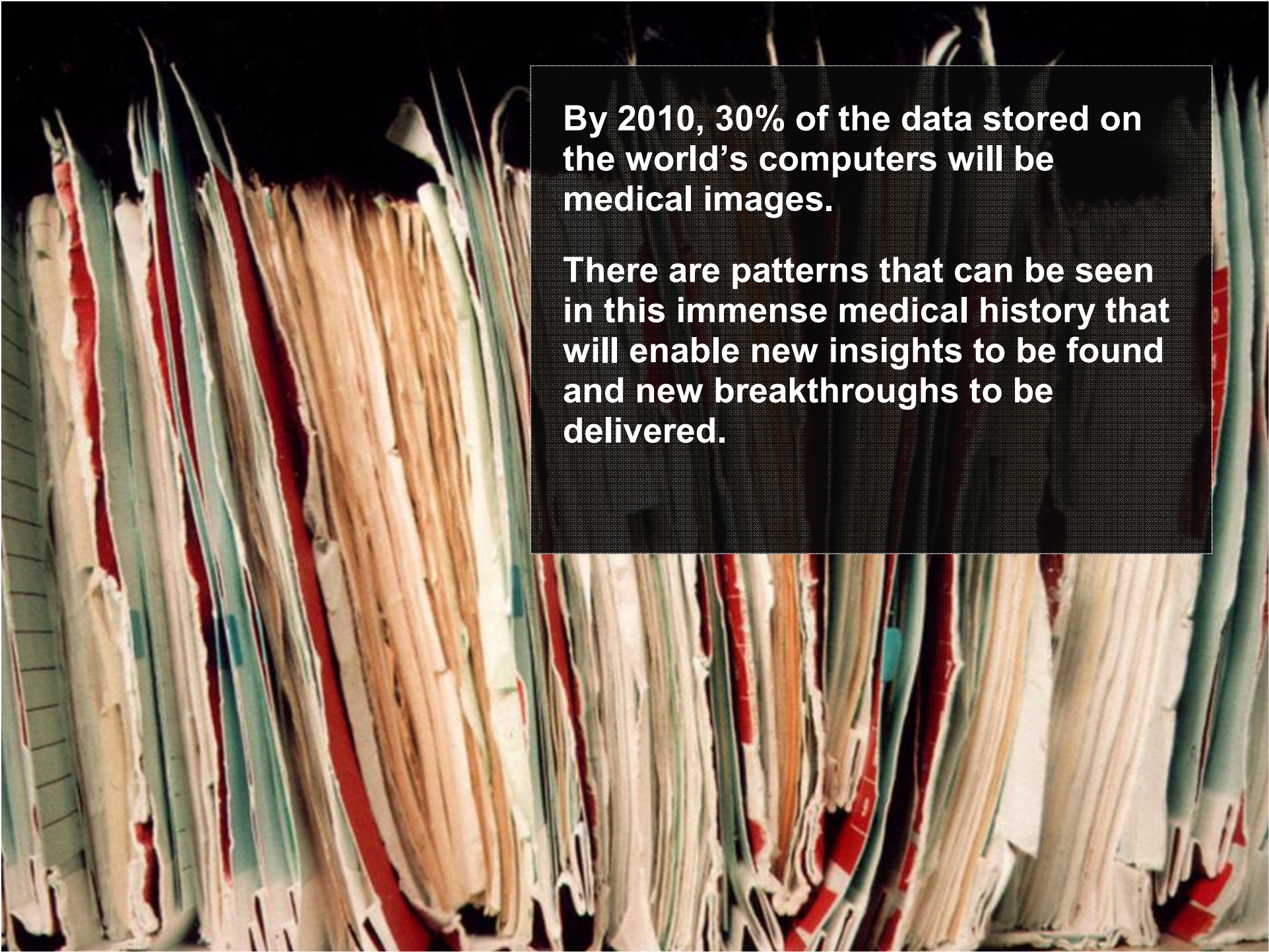
Worldwide mobile telephone subscriptions reached 3.3 billion in 2007 and expected to reach 4 billion by the end of this year.

More than 14 million UK households (56%) now have broadband internet access.

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."

By 2010, 30% of the data stored on the world's computers will be medical images.

There are patterns that can be seen in this immense medical history that will enable new insights to be found and new breakthroughs to be delivered.

In the UK, 31 million cars complete 61 billion journeys each year.

Road congestion costs the UK economy an estimated £7-8 billion per year.

Transport is the fastest growing source of carbon emissions, with road transport alone accounting for 26% of all UK emissions.

45% of cars driving in Manhattan are looking for a parking space!

Source: Department for Transport

One in four lorries on the roads in UK and Europe are empty

Only 3% of short distance delivery journeys have a backload

The average life span for a UK citizen is estimated is reduced by 8 months because of our poor air quality.
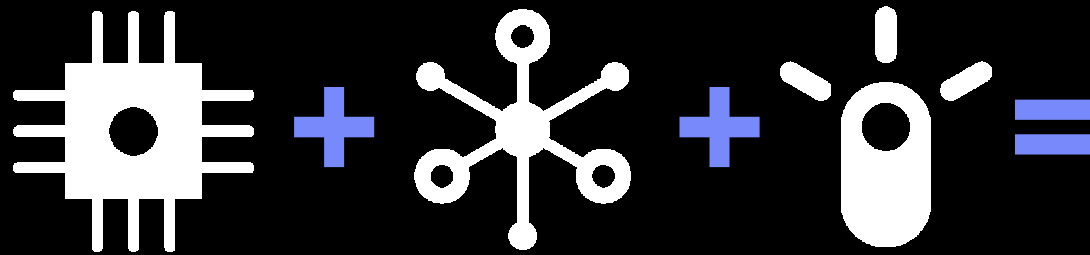
Source: Transporean / bbc.co.uk

One third of all food purchased in the UK, consumers throw away.

76% of apples consumed in the UK come from overseas, on average traveling 3,700 miles to reach us.

Source: www.lovefoodhatewaste.com
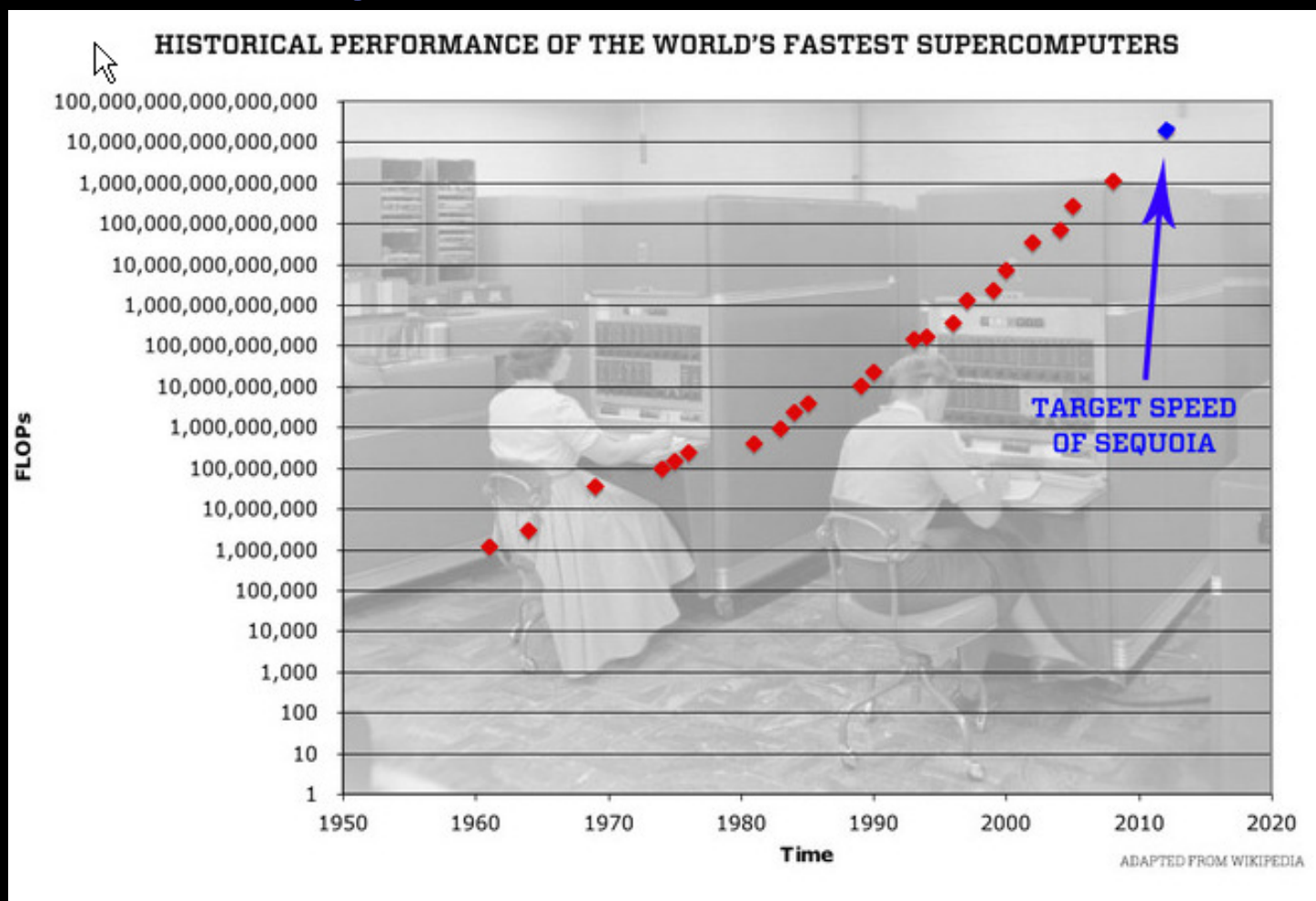
IBM

The world needs to get smarter…

A smarter planet: Is about thinking and acting in new ways to make our systems more efficient, productive and responsive.
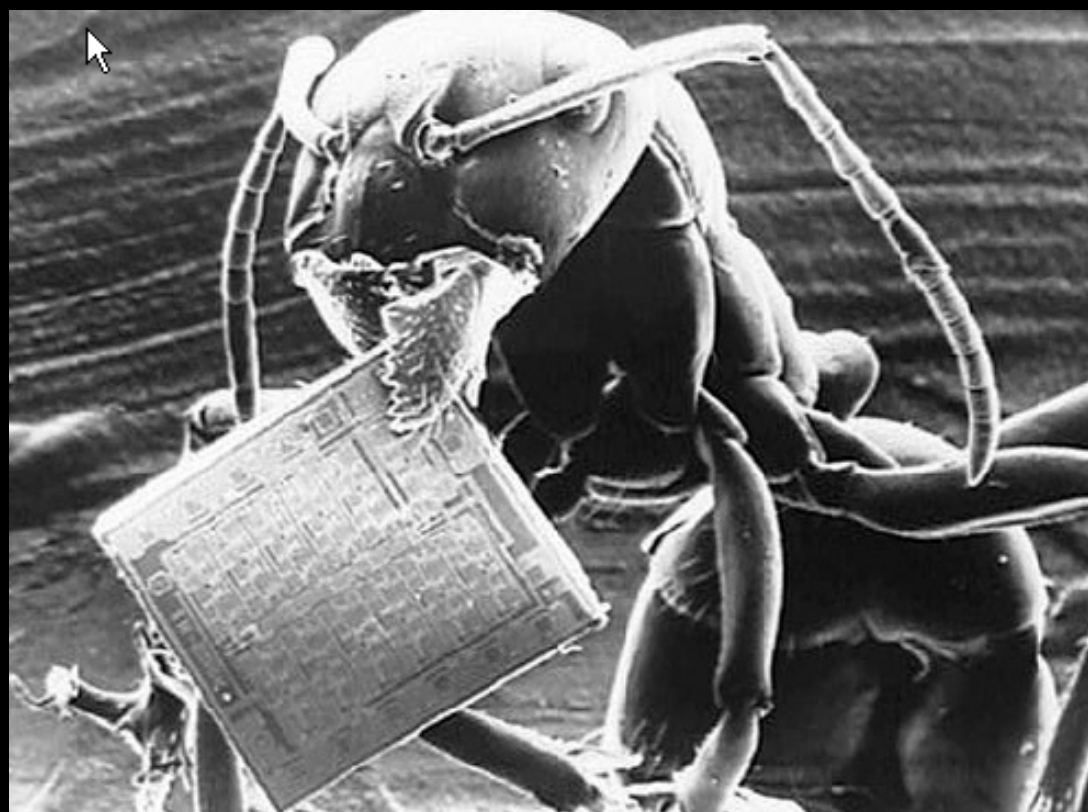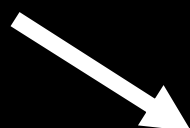
A smarter planet …..

But why now ?

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Building a smarter world:
Growth of computing power

HISTORICAL PERFORMANCE OF THE WORLD'S FASTEST SUPERCOMPUTERS

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Building a smarter world:
Chips in everything

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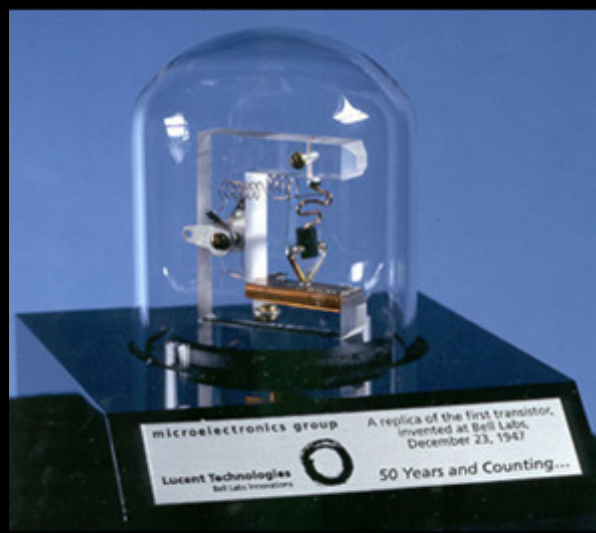
Building a smarter world:
Internet – connecting everything

IBM

Building a smarter world …..

Putting a value on what is green

IBM

Building a smarter world:
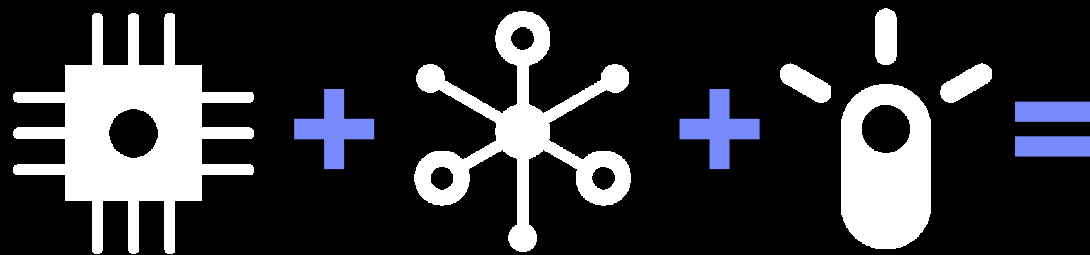## Huge forces coming together

Green = Value

Transistors in
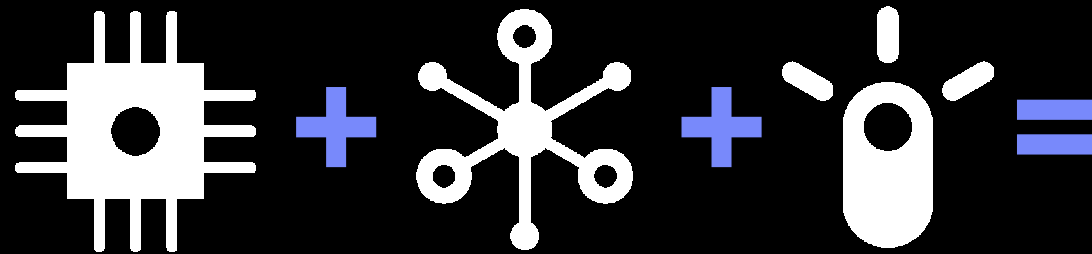Everything

Computing Power =
Intelligence

Telecommunications
= Internet

IBM

Putting it in terms of a smarter planet

Instrumented **+** Interconnected **+** Intelligence **=** Smart

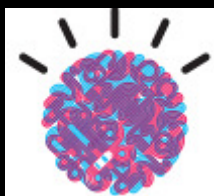# What else do we need to create a smarter planet ?

A smarter planet: Also requires imagination and foresight.

A smarter planet will be conceived and built by brilliant minds, creative thinking using world class technology and systems, partners and clients.

What is the opportunity?   What wouldn't you do?

Bringing a smarter planet to life

Smarter traffic
Help cut traffic jams, reduce emissions, increase use of public transport.

Smarter power
Change energy consumption patterns, manage loads better, preserve our environment.

Smarter money
Build a safer, more transparent and intelligent financial system .

Smarter food
Improve the quality and reduce the cost and environmental impact of what we eat.

Safer citizens
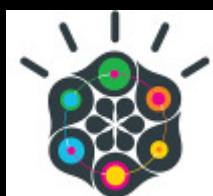Analyse crime patterns and CCTV and improve emergency response and border controls

Smarter cities
Address congestion, pollution, health, safety, sustainability, energy use and water management.

Smart shopping
Use intelligence to eliminate inefficiency and waste and better serve the empowered consumer

Smarter oil
As we move toward a renewable future, shape our hydrocarbon present to be more efficient, affordable and protective of the environment

Smarter water
Monitor, measure and analyze water ecosystems, and provide a single, reliable, up-to-the minute and actionable view of water use.

Smarter communications
Build smart networks which can identify instrumented things and collect relevant data from them.

Smarter healthcare
Improve research, diagnosis and treatment of serious illnesses.

Becoming smart:
Interesting reading

Smart article   CNN Money