



IBM FORUM 06

Results through Innovation



# Global Innovation Outlook 2.0

Notes from IBM's Global  
Innovation Outlook Conference

what makes you \*  
special?



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# Katrina Troughton

Managing Director

IBM New Zealand Ltd

what makes you \*  
special?

# Agenda



- Why innovation matters
- What is GIO?
- What came out of GIO?
  - The overall approach
  - Focus areas





## IBMers Value



Dedication to every client's success.

Innovation that matters—for our company and for the world.

Trust and personal responsibility in all relationships.





# Enterprise pressures and opportunities

commoditization pressures

new/increased competition

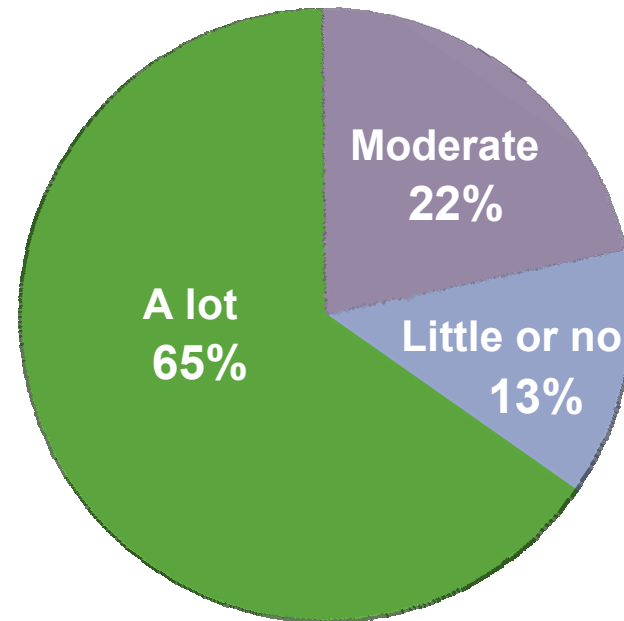
global market opportunities

adjacent market opportunities

global volatility & disruption

competing business models

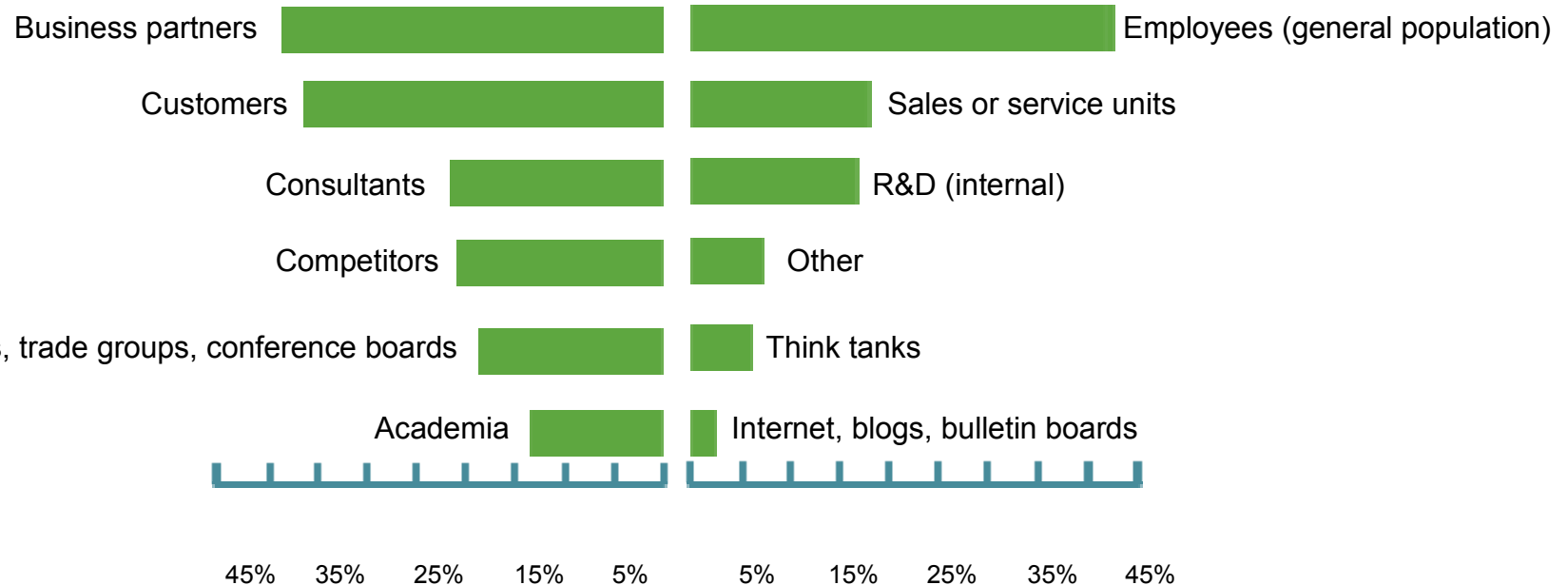
CEOs: Extent of fundamental change needed over next two years





# New Forms of Collaboration

## CEOs: Sources of new ideas and innovation



*“We have...today a lot more capability and innovation in the [competitive] marketplace...than we [could] try to create on our own.”*

IBM Institute for Business Value, CEO Study 2006





# What is GIO?

- A cultural innovation for IBM
  - A more consultative approach to to determine emerging trends in business and technology:

## Before GIO:

In-house forecasting  
Some client dialogues  
Formal market research

## After GIO

Plus dialogues with...

- Academics and university leaders
- Business partners
- Clients
- Government officials
- Independent thought leaders
- Industry analysts and consultants
- NGOs and citizen interest groups
- Venture capitalists





# What is GIO?

- A worldwide conversation about the changing nature of innovation
- Examines the opportunities emerging at the intersection of technology, business and society
- uses an open, multidisciplinary approach





# What is GIO?

- GIO 1.0 (2004)
  - 10 meetings across 3 continents,
  - more than 100 leaders, from business, academia, government, and other organisations
  - joined with IBM's top researchers and consultants
  - to examine three areas:
    - The future of healthcare
    - The relationship between government and its citizens
    - The intersection of work and life.





# What is GIO?

For GIO 2.0 (2005/06):

- 248 thought leaders
- from nearly three dozen countries and regions
- representing 178 organisations
- gathered on four continents
- for 15 “deep dive” sessions
- to discuss three focus areas
- and the emerging trends, challenges and opportunities that affect business and society.







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Steve Bonnici

Managing Director

Urgent Couriers Limited



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# My background

- Formed Urgent Couriers 1989
- Introduced Sustainability to the organisation in 1998
- Joined NZBCSD 2000
- Exec member since 2001
- Published SDR 2001
- Took part in GRI taskforce 04/05 to compile transport and logistics sector supplement





# Focus areas:

1. The future of the enterprise
2. Transportation 
3. The environment



# What actually happened



- Sharing of experiences
- Diversity of ideas
- Range of issues based on country of origin
- A free for all of thought and ideas
- Questioning the status quo



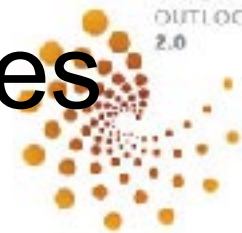
# Transportation Discussion Points



1. Mega-Urban Centres & Smart Traffic Management
2. The Connected Vehicle
3. Customs Ports and Border Controls



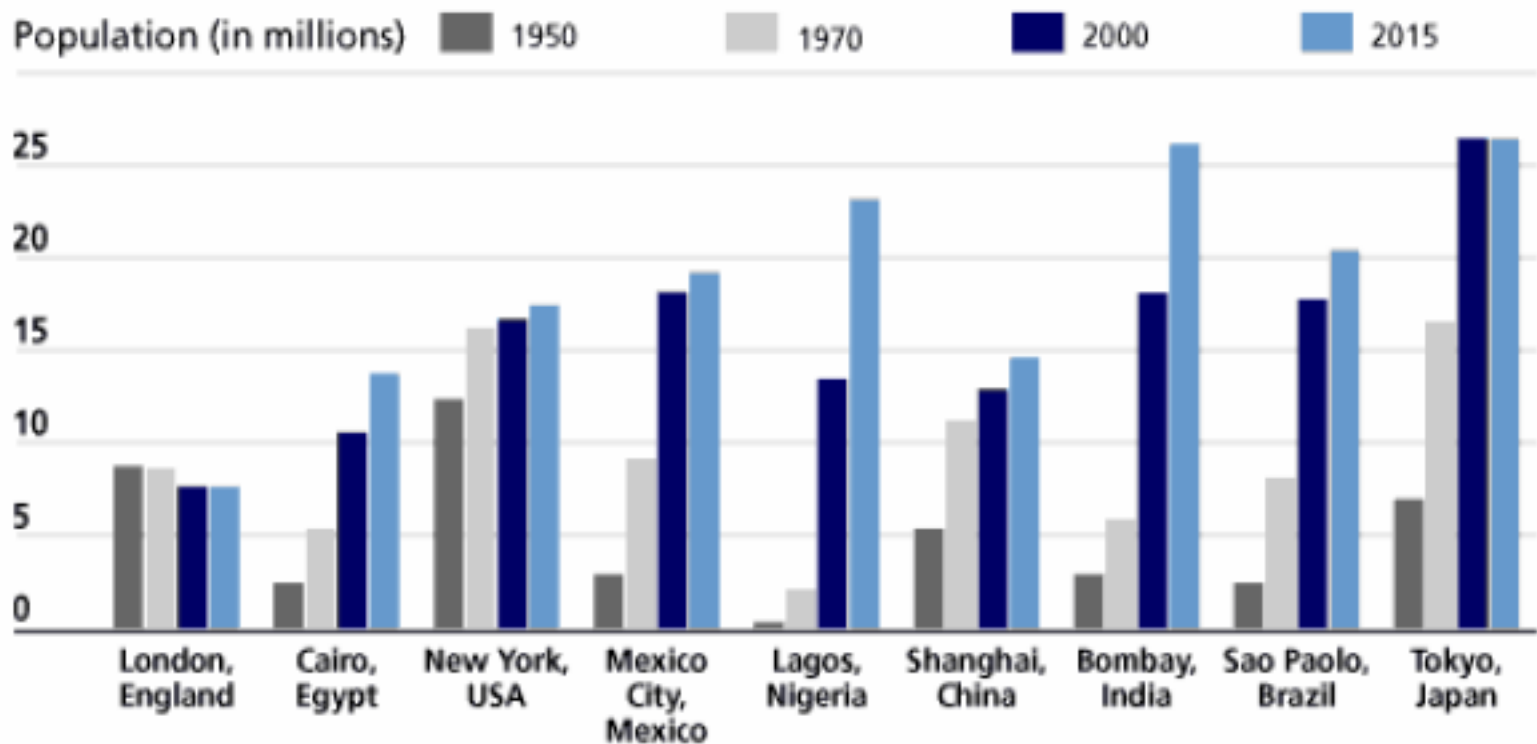
# Background Mega-Urban Centres



- 24 urban areas with population of 10m plus
- **1950, 8 mega-cities.**
- **2001, 41 mega-cities**
- **2010, 59 mega-cities, 48 in less developed countries**
- **2005 800m cars - 2020 1.07b by - 2050 3.25b in**
- U.S. population grew 20% 1982 to 2001, Time Americans spent in traffic jumped 236%—from 16 to 47 hours per week



# Background Mega-Urban Centres



# Questions Mega-Urban Centres

- How does the management of the flow of people, vehicles and goods differ between emerging markets and developed countries?
- Are there alternatives to fees to reduce congestion?
- Must the Paradigm of “free” access to congested areas be rethought?
- Will congestion result in changes to ownership models for vehicles?
- How do we make time stuck in traffic more constructive?
- Are emerging markets destined to make the same mistakes as the western world?

# Background The Connected Vehicle

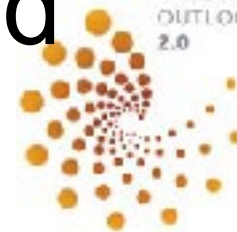


- Modern cars contain;
  - 100 electric control units
  - Up to 35m lines of code
- Daimler Chrysler state 90% of innovation in vehicles is in electronics
- Auto makers spend 2-3b annually to fix software problems
- By 2007 there will have been a 30 fold increase in the use of SatNav technology in vehicles from 2000
- The first 777 sold in 1996 had 4m lines of software the, the airbus 380 is expected to have 1b lines of code when released

# Questions The Connected Vehicle

- Where does the opportunity lie to change the relationship with the car?
- How will manufacturers adjust their value propositions to exploit new communications and information technology?
- What new functionality will emerge in the eco-system around the vehicle?
- What could the new vehicle paradigm look like?
- What are the next-generation breakthroughs that technology will enable around the driver/passenger experience?

# Background Customs Ports and Border Controls



- Large container ship 6000 TEUs 40000 documents
- 2004 25m shipments arrived in USA ports
- 40% of world exports transported by Air
- China's exports grew 35% in 2003 & 2004
- LA port takes up to 1 week to unload a ship
- US ratio of inventory to GDP declined from 25-15% since 1980 due to improved logistics



# Questions Customs Ports and Border Controls



- Will port efficiency become a competitive advantage for nations?
- What impact will port congestion have on global supply chains, inventory and location of manufacturing?
- Are border controls standardised Internationally for efficiency?
- If not what needs to change?
- Does increased demand for security need to cause further delays?



# Results Transportation



- Grow, but with flow
- Headlights into the system
- Playing “leapfrog” to move forward
- New paths for public transportation
- Services on the go
- Shoring up shipping





## Grow, but with flow

*“It’s puzzling—should we try to facilitate greater mobility or try to contain demand for transportation? On one hand, you’ve got to deal with congestion and on the other, there are the aspirations and expectations of the people in these developing nations. That’s where our biggest dilemma lies.”*

*P. Srinivasa Raghavan  
Harita Infoserve Ltd.  
India*





## Headlights into the system

*At a time when the mobility of ideas is so unfettered, why is the mobility of people and freight so constrained? Several participants wondered whether the lessons learned from the virtual transfer of information can be applied to aspects of physical movement. For example, the way in which packet-switching technology optimizes systems for the best overall speed of data transfer could hold clues to how highway traffic might be approached. Of course, people, unlike individual packets of data, have minds and wills of their own. And therein may lie the crux of the challenge.*



## Playing “leapfrog” to move forward



*Customizing a shared vehicle? Participants see the potential for a car-sharing model in which a chip-enabled key not only unlocks the door to any car in a fleet but also contains crucial information about your preferences—from driving patterns to music choices to billing information. This kind of personalization might afford drivers a sense of ownership while still containing overall demand for private cars.*

*China, which currently has **20 million cars** on the road, predicts that that number will rise to **140 million** in 2020.*

*Source: China Daily*





# New paths for public transportation

## ***What's slowing down adoption of electronic transit passes?***

*Many people cite privacy concerns as a major disincentive. In the U.S. and Europe, in particular, many citizens are wary of giving governments easier ways to track a person's movement. Ultimately, participants stress the importance of building trust into the system—providing reassurances about the security of the information captured. And perhaps even more important, individuals are only willing to trade off privacy when they see clear value, including ease and convenience. (Think credit cards and shopper loyalty programs.)*

*"If you have travel on demand, it basically means that everything is interconnected—you say to your PDA where you want to go, and what your preferences are, and then the system will tell you what form of transit and what routes are best at that time, the fastest way to go, the cheapest way, and the most convenient."*

*Eric Vas Tata Motors Ltd. India*

***Can one size fit many?*** *Many participants bemoan the dearth of common standards for the world's public transportation systems—almost every urban area seems to have its own, proprietary approach. True, variations in topography, population density and climate make the adoption of one global standard seemingly impossible. But might it be possible to develop a set of "urban archetypes"—perhaps a half-dozen city types (e.g., low density/flat, high-density/hilly, coastal port city, riverside)—and then design common transportation solutions for those city types? It may be too difficult to retrofit existing mega-urban centres, but there's considerable appeal for the mega-cities proliferating in the developing world. Standards bodies, such as those that helped develop the Internet, could facilitate such endeavours—perhaps more effectively than government officials, many of whom are out of office before their public works projects reach completion.*





## Services on the go

***Open platforms for vehicles?*** Most GIO participants think the adoption of a common platform for development of in-vehicle services would be essential to drive innovation. While many of the manufacturers that participated in GIO discussions agree, each also suggests that there already is one—their own—and that all others just need to follow their lead. In some ways, this thinking is reminiscent of the proprietary approaches that plagued the IT industry for so many years. Further collaboration and open-minded approaches to establishing such platforms will be needed to speed real innovation.





## Shoring up shipping

Average number of  
container ships usually  
waiting to dock at the Port  
of Los Angeles each day:

# 30

Source: The Economist

Average number of days  
it takes a ship to dock,  
unload its cargo and leave:

# 7

Source: The Economist

Average cost per day for  
a ship to sit at anchor waiting  
to be unloaded:

# \$50,000

Source: The Economist

### **Could virtual borders alleviate congestion?**

*At the first GIO, participants suggested that nations may come to define themselves more on the basis of unique services and resources than on traditional notions of geography. That idea could have provocative implications for port authorities and customs bodies that were originally established to collect tariffs. As their role shifts to facilitating commerce and ensuring security, might customs functions be accomplished virtually? Given today's technology capabilities, nothing prevents packages and containers from clearing customs hundreds of miles inland, where space is more plentiful.*

### **Could delays at the world's ports reignite local manufacturing and trade?**

*Quite possibly. While better logistics in shipping originally gave rise to the idea of assembly from raw materials from all over the world, new inefficiencies and spiraling costs associated with shipping could boost intra-regional trade (by land or air) over the next 10-15 years. Shipping problems might result in more customization and a build-to-order model increasing on the local level. Eastern Europe and South America, in particular, could emerge as larger manufacturing economies.*





# Closing thoughts

*It's kind of a make it or break it point in humankind. When our grandchildren's generation sits down and looks back, they'll say either we took the initiative and we solved it, or we lost it. I think the time is really right for business and society to get together and address these issues.*

*Johan Rockstrom, Stockholm Environment Institute, Sweden*

*"We hope the GIO provokes and stimulates new approaches and new thinking by all it touches. And that, ultimately, is why, rather than protect these insights as state secrets, we actively share them with as wide an audience as we can."*

*IBM*





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Thank You



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