

WORLD CITIES SUMMIT

Singapore, July 2018

Conference Report

By

Max Hipkins, Mayor

City of Nedlands, Western Australia



WORLD CITIES SUMMIT

Singapore, July 2018

Conference Report

By

Max Hipkins, Mayor

City of Nedlands, Western Australia

Contents

- 1 Introduction
- 2 Program
- 3 Highlights of Speakers' Presentations
- 4 Take Home Messages

Co-located Business Forum - Mastercard

Attachment A

Site Visit - Kampung Admiralty and Khoo Teck Puat Hospital

Attachment B

1. Introduction

The World Cities Summit 2018 was held in conjunction with Singapore International Water Week and CleanEnviro Summit Singapore, 8 – 12 July 2018 at the Sands Expo and Convention Center, Marina Bay Sands, Singapore.

The theme of the summit was "Embracing the Future through Innovation and Collaboration". As well as plenary and concurrent sessions, there were site visits to demonstration projects in Singapore that were considered to be world's best practice.

Over 1,200 delegates attended the Summit, with over 120 mayors and 40 government ministers present. More than 24,000 people in total attended the combined convention and exhibition.

The context for the summit was that 20 per cent of the world's population was urbanised in 1978. The figure had risen to 52 per cent in 2012. Between 2012 and 2014, an additional 100 million people moved to cities from the countryside. By 2050, over 70 per cent of the world population is expected to be living in cities.

The World Cities Summit 2018 clearly demonstrated that all growing cities, whatever their size or level of development, have similar problems:

- infrastructure that cannot keep pace with population growth,
- increasing motor vehicle congestion,
- rising pollution,
- degrading natural systems,
- loss of identity for individuals,
- growing inequality,
- an increasing frequency of extreme climatic events.

These pressures give rise to common needs for economic, social and environmental sustainability, with open and transparent governance, that makes the most of available technology.

Sustainability is now core business for all levels of government – a necessity, not an option. National governments are often slow to take up new ideas. Cities (and mayors) need to show leadership in sustainability and response to climate change, with adaption and mitigation strategies.

This report summarises the content of conference sessions attended. Included are a program of daily events, highlights of speakers' presentations, take home messages and notes from a co-located business forum (*Attachment A*) and site visits (*Attachment B*).

2. Program

	AM	LATE AM	PM	LATE PM	EVENING		
7 JUL SAT	Meeting of the Governors and Mayors of ASEAN Capitals (MGMAC)						
8 JUL SUN	World Cities Summit Young Leaders Symposium By-Invite Only		Site Visit: Our Tampines Hub	Exclusive Networking Night			
			Site Visit: Gillman Barracks				
			Site Visit: Singapore River & Marina Bay				
9 JUL MON	ASEAN Smart Cities Network Inaugural Meeting	World Cities Summit Mayors Forum By-Invite Only			Lee Kuan Yew Prize Award Ceremony & Banquet		
	Singapore International Water Week						
9 JUL MON	Opening Address, Keynote Address and Opening Plenary		Lee Kuan Yew World City Prize and Water Prize Lectures	Lee Kuan Yew World City Prize Forum	Lee Kuan Yew Prize Award Ceremony & Banquet		
			Joint Leaders Forum: Closing the Waste-Water-Energy Loop - Catalysing a Resilient and Sustainable Future				
10 JUL TUES	City Solutions Singapore						
	Thematic Track: Urban Governance Can Good Governance Prepare Cities for Disruptive Innovations?	Thematic Track: Urban Governance Let's Talk about Money - How Will Cities of the Future Be Financed?	World Cities Summit Plenary	Thematic Forum: Shaping Cities through Innovation and Collaboration in Culture	Industry Night at City Solutions Singapore		
	Thematic Track: Planning They Say "Old is Gold" - But is It Really? Urban Regeneration through Integrated Planning	Thematic Track: Planning Can We Create Inclusive Communities through Master Planning?		Thematic Forum: Urban Governance: Singapore's Principles and Approaches			
	Thematic Track: Resilience What Does It Take to Be an Environmentally and Economically Resilient City?	Thematic Track: Resilience Social Resilience - A Critical Component of a Liveable and Sustainable City		Thematic Forum: Building and Growing a Thriving Urban Food Eco-system			
	Thematic Track: Innovation Disruptive Innovations - Bane or Boon for Cities?	Thematic Track: Innovation Does Public-Private-People (3P) Collaboration Yield the Best Social Innovations?		Site Visit: Singapore Botanic Gardens			
	Co-located Events			Site Visit: Bringing Kallang River into Bishan-Ang Mo Kio Park			
	South Asia Business Forum						
	Singapore International Water Week						
	CleanEnviro Summit Singapore						
	Singapore International Transport Congress and Exhibition						
11 JUL WED	City Solutions Singapore						
	Co-located Events						
	Site Visit: Kampung Admiralty & Khoo Teck Puat Hospital						
	China Innovation Forum						
	Singapore International Water Week						
12 JUL THU	CleanEnviro Summit Singapore						
	Singapore International Transport Congress and Exhibition*						
	Singapore International Water Week						

*Information is accurate at the time of print

LEGEND

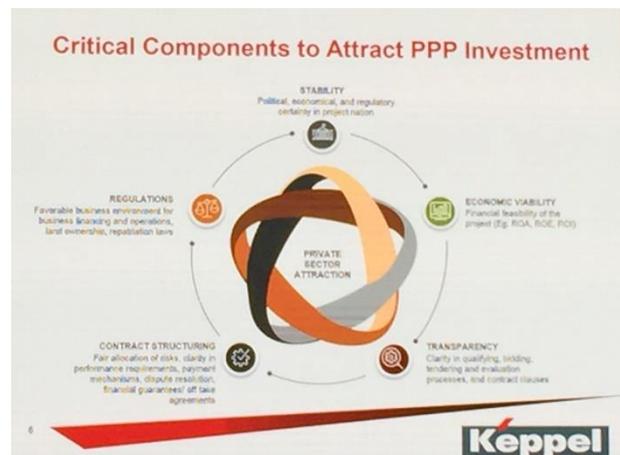
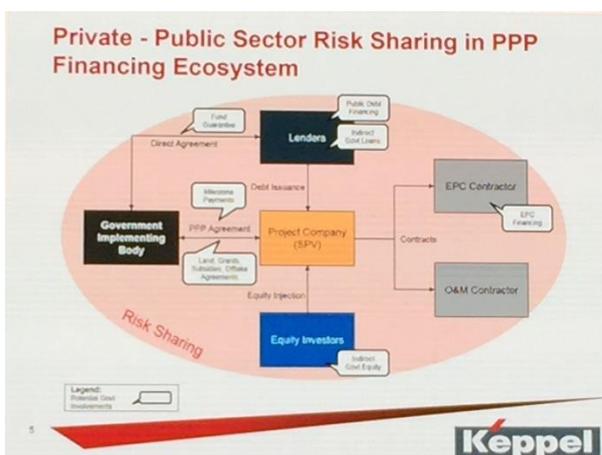
- Joint Programme
- World Cities Summit
- Singapore International Water Week
- CleanEnviro Summit Singapore
- Singapore International Transport Congress and Exhibition

3. Highlights of Speakers' Presentations

Sunday 8 July 2018 - Mayoral Forum



150 leaders from five continents were present at a time of global population change, shifts of capital and evolving local governments. Mayors must be confident and visionary. In Public Private Partnerships (PPPs), don't forget the role of people –it should be PPPPs.



Embrace disruption – it is necessary for sustainability. Use the pricing mechanism. It is important to experiment. Mayors need to understand how and why innovation is necessary – in housing, health care and mobility, as well as services. There are new ways of financing infrastructure. There are often weak governance systems that don't allow local governments to borrow. There are both positives and negatives when population change is the driver. Organise around how new infrastructures are constructed.

Rely on the innovation of the market

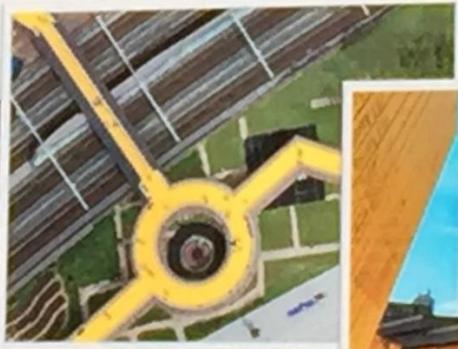
- But don't make it too hard for them
- Provide a bandwidth within demands/desires



Land use planning should be used to create value to capture. How can Mayors help their cities to be investment-ready and have the ability to deliver in the interest of their citizens?

Don't feel obliged to immediately get your wallet out

- The city musn't feel obliged to participate in everything
- Sometimes it's suffices to give room for people and parties



Luchtsingel (crowdfunded)

Monday 9 July 2018 – Opening Address, Plenary and World City Prize

Tharman Shanmugaratnam - Deputy Prime Minister, Singapore

Significant risks are coming together – climate change, population growth, environmental health, etc. They must be addressed or will affect the world. Problems are greatest in the undeveloped countries. Global warming encourages the spread of infectious diseases. Integration of solutions is the way forward – synergies of water, energy and waste eg. waste water treatment plant sludge can be combined with food waste to produce gas. Twenty-six ASEAN cities are working towards the same goal – smart and sustainable cities. Virtual Singapore is a 3D digital twin of the real thing, to be completed this year. It will be used by government initially, then made available to the private sector.



Prof. Tommy Koh – Ambassador-at-Large, Minister of Foreign Affairs, Singapore

2018 is the year of climate action. A carbon tax is being introduced. If we don't protect the environment, we are killing ourselves. Half the world's population is living in cities; over half of those don't have access to clean water and sanitation.

Ranil Wickremesinghe – Prime Minister, Sri Lanka

Singapore has the best quality of life in Asia – women can walk with safety. There is a drift to cities. Cities become highly productive centres – providing services and exporting. Asian cities are ranked at the bottom for quality of life. How to improve this? The Singapore Free Trade Agreement with Sri Lanka will assist.

Opening Plenary – Urban Solutions for a Sustainable Future

Prof. Chan Heng Chee - Ambassador-at-Large, Minister of Foreign Affairs, Singapore

80-90% of the world's population will live in cities by 2050. There will be high consumption of resources, climate change, floods, waste issues.

Dr Kristalina Georgeieva – CEO, The World Bank Group

There is a need for policies and institutions that deliver. In 1964 she worked with a Public Utilities Board on a water supply project to allow a city to grow and make it attractive for private investment. There are nine million people per annum dying from urban pollution. Cities consume 60 – 80% of energy, where one in four live in slums. We should build climate consciousness and work on multipliers. Slum up-grades and job creation are major priorities for the World Bank.

Zhuang Guotal – Vice-Minister, Ministry of Ecology and Environment, China

As China develops it cannot produce more waste – this is not sustainable. There is a need for improved regulations for ecological system building, also safety building. This was why Ecology was added to the name of the Ministry. Environmental tax laws are needed to protect soils, air and water. Beijing air quality is improving. There is a civilian awareness program, resulting in shared bikes, odd and even days for cars. People were against it at first but now see the improvement. China is sharing good solutions from around the world.

Shri Nara Chandrababu Naidu – Chief Minister, Andhra Pradesh

We are living in exciting times – we can get things done in in real time with the internet of Things. India has problems but is moving quickly with the supply of water, building roads, adopting renewable energy, green buildings, electric vehicles, new pesticides. Technology must be used to minimise the use of resources.

Steven Demetriou – CEO, Jacobs

Problems everywhere are similar but the solutions differ. Must start with a vision. Synergies are where water, energy and waste intersect. We have never been better equipped to provide innovative solutions.

Bernard Charles – CEO Dassault Systems

Get inspiration from other sectors to master complexity, so all stakeholders see the same thing. The goal is to represent the city so accurately that all can see how it works. A city is less complex than the human body.

Park Won Soon – Mayor, Seoul

We shape the city and the city shapes us. Citizens come first.



Prof. Rita Colwell – University of Maryland, USA
 Rising temperatures will increase disease risks
 Global impact of waterborne diseases.
 Whole genome sequencing will assist in combatting risks

4. WHOLE GENOME SEQUENCING

THE IMPORTANCE OF STRAIN-LEVEL IDENTIFICATION

Lactobacillus casei species

STRAIN 1 STRAIN 2 STRAIN 3

Wisconsin Cheese Beer DanActive

E. coli

Is it commensal? Or a pathogen?

Vitamin K

Vitamin B12

Colonization Barrier Effect Against Pathogens

Hemorrhagic enteritis

CONCLUSION

- Globally, at least 2 billion people use a drinking water source contaminated with human waste. Contaminated water can transmit diseases such as diarrhoea, cholera, dysentery, typhoid, and polio. Contaminated drinking water is estimated to cause 502 000 diarrhoeal deaths each year.
- By 2025, half of the world's population will be living in water-stressed areas.
- The discovery of:
 1. VBNC: Bacteria can be alive and still cause harm even though they cannot be cultured
 2. Vibrio bacteria can survive outside the human host and occur naturally in the aquatic environment
 3. A critical link between climate change and disease
- Has contributed towards the revolution of the fight against waterborne diseases, with:
 1. **Molecular techniques:** Creating a paradigm shift in water quality surveillance by providing rapid, accurate identification of ALL microorganisms in all types of water.
 2. **Satellite Sensors and Predictive Models:** Provides sufficient lead time for effective intervention and prevention against a potential outbreak.
 3. **Sari Cloth as Water Filter:** Bringing effective and practical solutions for access to safe water directly to the community
 4. **Whole Genome Sequencing:** Established the lineage of bacteria and determined the harm they can cause to humans

Lee Kuan Yew World City Prize Forum

The World City prize is awarded where there is:

1. Individual identity of districts
2. Working with people and the private sector
3. Valued inclusion – a conducive environment for all religions, age groups, etc

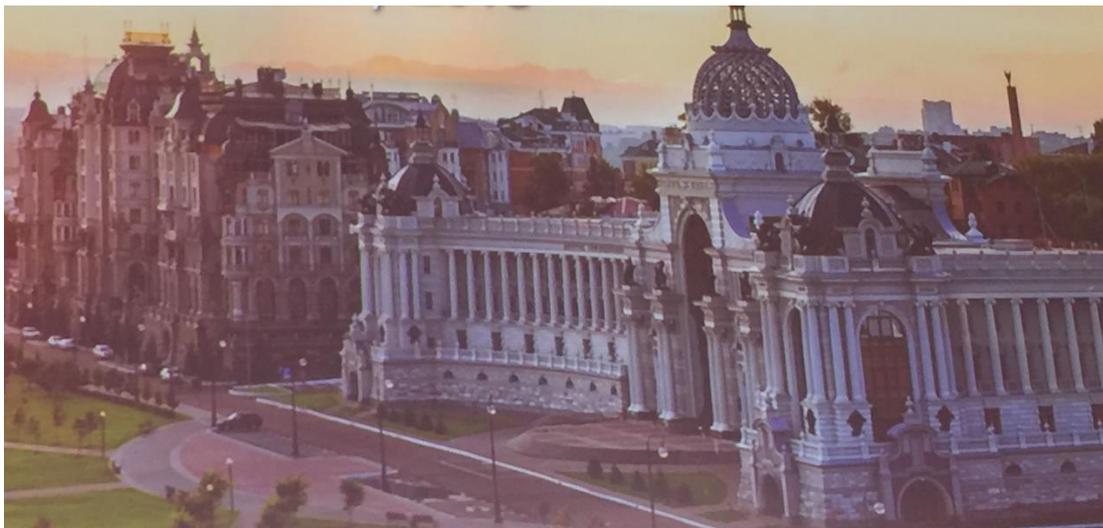
Cities gaining a Special Mention are Hamburg, Kazan, Surabaya, Tokyo

Prof. Jurgen Bruns-Berentelg – CEO, Hafen City, Hamburg

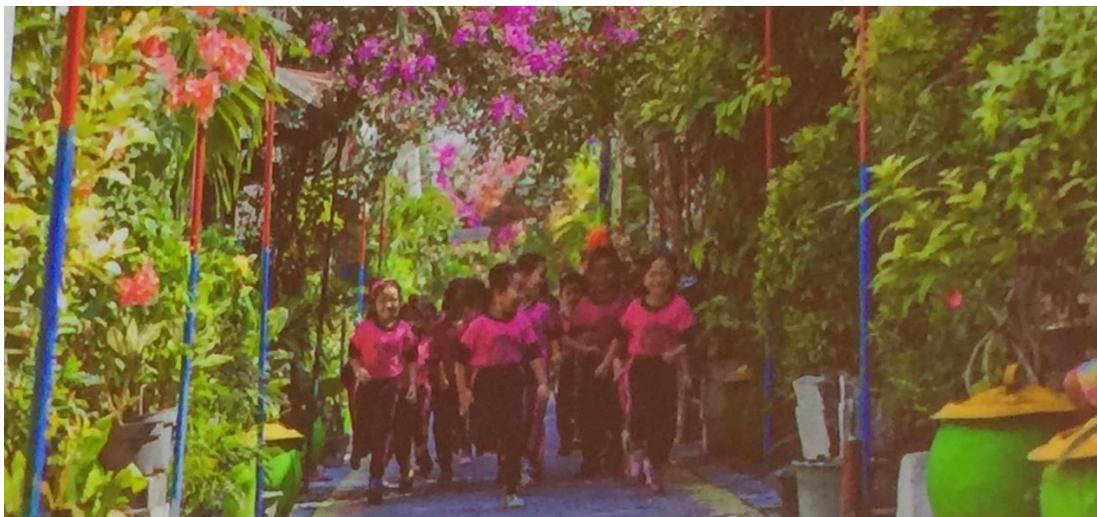
Hamburg is Germany's second largest city, 880 years old, with its harbour 100km from the sea and a tidal difference of 3m. Population is 1.8 million. It has a water-related identity; research is important. It has green spaces in the centre, above freeways. How to repurpose spaces and reduce environmental risk? Energy transformation and sustainability; mobility transformation – shared cars (only 0.4 car spaces /dwelling unit required), generation of solar power own consumption. What kind of jobs are required for social integration?

Ilsur Metshin – Mayor, Kazan, Russia

Kazan is the Russian Sports Capital, with a population of 1,200,000, 1,300 sports facilities, 35 universities. It is a UNERCO World Heritage site.



Kazan



Surabaya

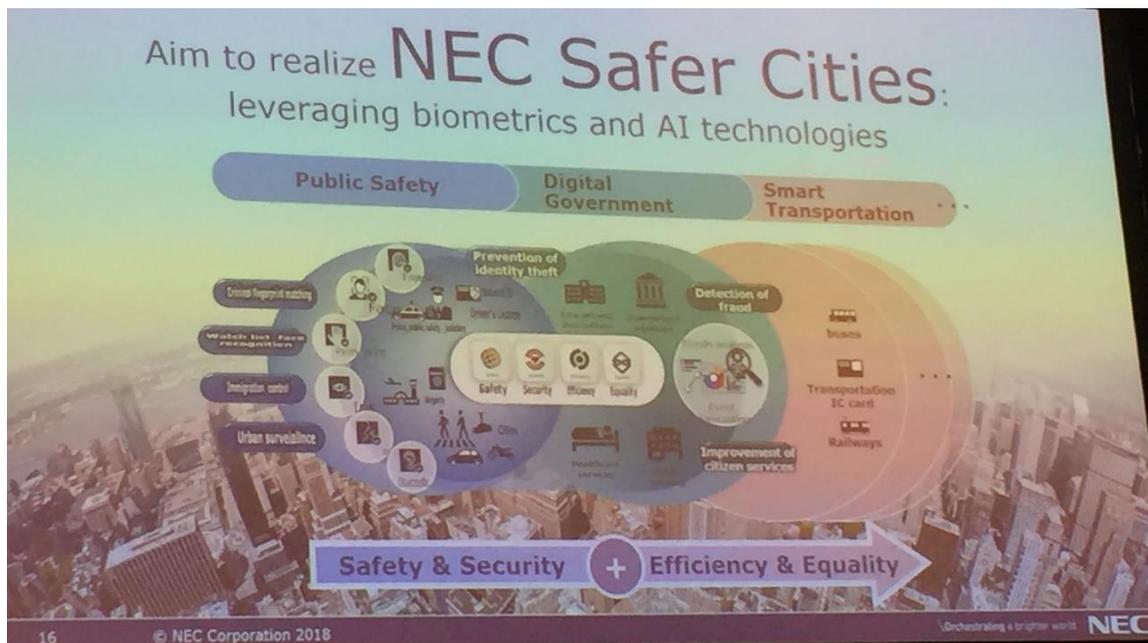
Tuesday 10 July 2018 World Cities Summit Thematic Tracks - INNOVATION

Harriet Green – Head of Asia-Pacific, IBM

Cities are disrupted or disrupting – is this a boon or bane? IBM has initiated skill-based programs to address issues and skill shortages. There is a new model of post-secondary education that doesn't require qualifications, based on block-chain – a technology powerful in the right hands. With open data comes responsibility. All need to re-learn and re-skill.

Dr Katsumi Emura – Exec. Vice president, NEC Corporation

Society is human centred. The cyber world can simulate the real world in real time. Social values must be protected – safety, security, efficiency, equality. NEC's Safer City Projects.



Amit Jain – Head of Asia-Pacific, UBER

Uber is now in over 600 cities, as an alternative to car ownership. It uses over one billion cars and avoids cities allocating parking spaces. Cars are only used 5% of the time and they are the biggest investment people make, after a house. How to get from A to B multi-modal is the key. Uber has invested in autonomous driving. The technology is first applied to commercial applications because it is expensive. The future is 3D movement point to point.

Martin Haese – Lord Mayor, Adelaide, Entrepreneur

Adelaide welcomes disruption; ask what are the benefits, otherwise why are we doing it? The City aims to be carbon neutral by 2025. How to embrace change? Technology is a great leveller. Cities need to be entrepreneurial, competitive, co-operative. How to be competitive? – with a digital data network. Automation changes everything – it changes the future, gives young and old freedom. Adelaide tested driverless vehicles two years ago. It has an Economic Signboard, with open source data.

Didier Holleaux – Exec Vice President, ENGIE

There is a boom in air-conditioning that puts heat into the atmosphere – a bane. Air taxis are a bane for all above the ground floor. Not all that is smart is good for cities. Traffic management to enable less time and energy to be spent travelling improves the quality of life. The middle class is growing and asking for more a/c. Engie advocates a holistic approach, which is more efficient. A bane for one city may be a boon for another. Find individual solutions. Human services will always be in demand.

Paul Michael Scanlan – Chief Technology Officer. Huawei Technology (Australian living in China)
Start with connecting. Cars are made of metal to protect people; if there are no crashes (with driverless vehicles), they could be lightweight.

3D printing – its future will change logistics, won't need to move materials around. With better access to information, we will change what we do (jobs).

How to balance between moving swiftly to adopt new innovations and getting citizen feedback? There is no alternative but to move swiftly, with faster feedback. Think and act in new ways. Trust is important – if government is not trusted and cannot convey the benefits, problems will result. Conversation must be managed and transition managed. Take time to explain to save time later. Policy is lagging behind technological innovation and growing. Bring entrepreneurial companies together to show government how things could work. Test new technologies in advance of adoption. Need to give people options - they may not exercise them but you have to present alternatives. A collaborative atmosphere is needed to give trust in government. Government needs to explain why things are being done. Accountability must be shared.

Arron Wood – Deputy Lord Mayor, Melbourne

To Public Private Partnerships (PPPs) should be added procurement.

Melbourne is the fastest growing city in Australia, in the top 5 of the OECD. It is aiming for 25% renewable energy use by 2020, 40% by 2025. Off-site energy generation must come into play for more than that. The City is in a group which includes the major banks and Melbourne Zoo for group purchasing of energy from an 80 megawatt wind farm in regional Victoria. It is part of a three year program to achieve a 10-year buying contract to supply 3-4% of a renewable program. There is a renewable energy procurement buying guide. As much as possible people manage the technical specifications of the City's open data policy. 50 data sets are being released p.a.

Nasima Razmyar – Deputy Mayor, Helsinki

Helsinki aims to be the most functional city in the world. It has the highest happiness ranking and is high in other rankings. Kalasatama Innovation District, Innovators Club. The vision is "One more hour a day".

David Wallerstein – Chief Exploration Officer, Tencent (based in Palo Alto, US)

Tencent in top ten companies in the world, with 40,000 people, looking for a breakthrough for all humanity, like fertilizer. It is difficult for start-ups to engage with cities (unlike games development, where it is relatively easy). They won't be able to implement improvement in air pollution through smart phones – to do this must engage with people. Who do start-ups engage with? There is no clear contact point. Entrepreneurs (men) are from Mars; cities (woman) are from Venus – bureaucratic processes. What do cities need? Match start-ups with cities – they may have something cities don't even know they need. Every city should have a contact point, a person and/or webpage to stimulate ideas on problem-solving and challenges.

Dr Goh Eng Lim – Chief Technology Officer, Hewlett Packard

Robotic route management for security patrols, water sampling, waste collection, mail delivery. Also health tracking by DCNE, University of Bonn. Haze, pollution, sand storms - most cities have one or more of these. If they can these be lifted a few metres it would improve quality of life in cities. Unlock savings with monetisation of data but must be curated.



Robotic Night Watchman



Robotic Water Sampling

Harry Fam – Exec, Vice President, Mastercard

No city is ready for its coming population growth. When a city starts to tackle a problem, it starts with ground zero. Start with the last best solution. Resist doing something different. How to unlock value in existing infrastructure. One third of cities have no access to finance. Half the world's population have no access to finance. Partnerships are an undeveloped area. City possible – what are the big global challenges? - people being brought together. There is a need for global development hubs to tackle different problems. Investments in future models should be light on capital, more on operational expenditure. One third of air pollution is produced by people driving around looking for a car space. A third of energy is devoted to street-lighting. It is not always efficient to build shiny new things. Include the community as part of the solution. Interoperability. Insights – citizens should have the right of access. Innovative partnerships. There needs to be sharper articulation of the problem statement.

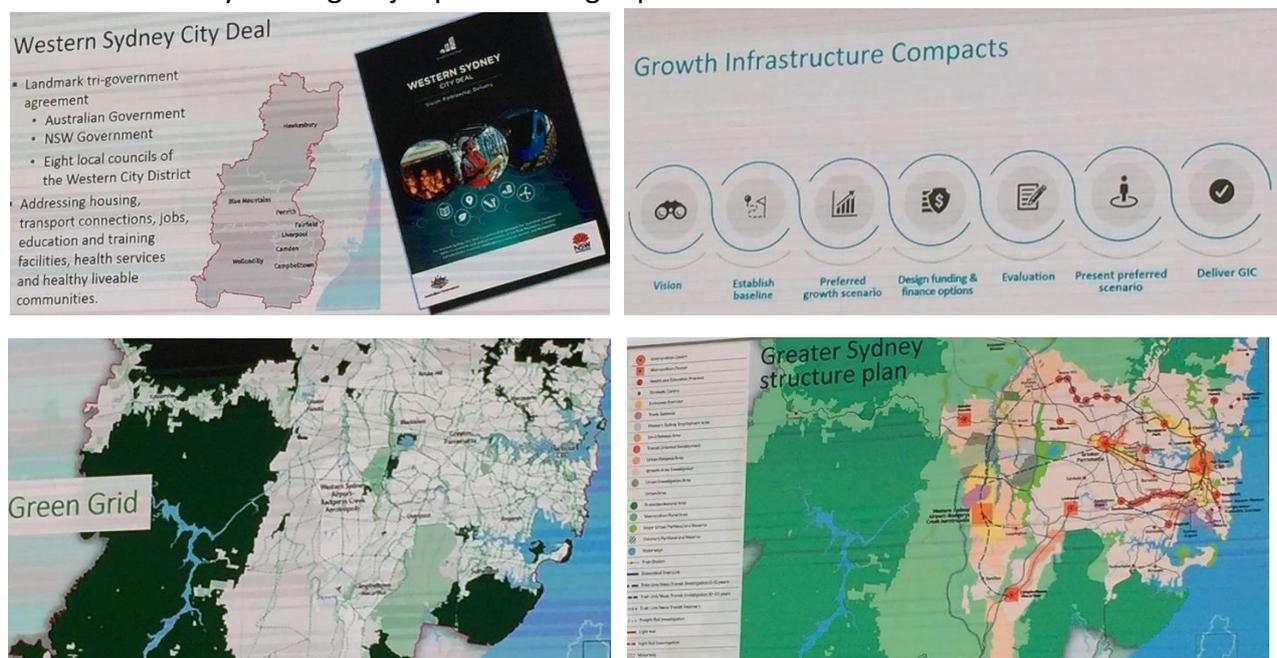
Dr Frank Rijsberman – Director General, Global Green Growth Institute

In cities the largest risk factor is air pollution. Low income families have the longest commuting times, resulting in higher exposure to air pollution. There are opportunities for decentralising and democratising energy and water. There is leapfrogging with mobile phones and mobile payments. There is a Green Airport at Ruanda – accredited with social engagement. Air quality at schools is posted on the web.

Closing Plenary – Is Collaboration the Panacea for Liveable & Sustainable Cities of the Future

Lucy Turnbull – Chief Commissioner, Greater Sydney Commission

The Commission was created to address fragmentation in the way Sydney was planned. There is high population growth through migration. There is strong support for Sydney as one big metropolis but a three cities. There is the desire to lift the half-hour journey to work from 50% to 70%. The Western City Deal – follows the British model of liveability and sustainability. Collaboration Areas in the central section where there is high growth: much investment in infrastructure; finding a pathway to deliver; identifying priorities and sequencing
Green Grid – ways linking major parks through sports facilities.

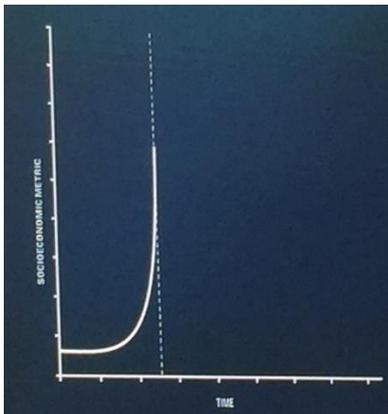
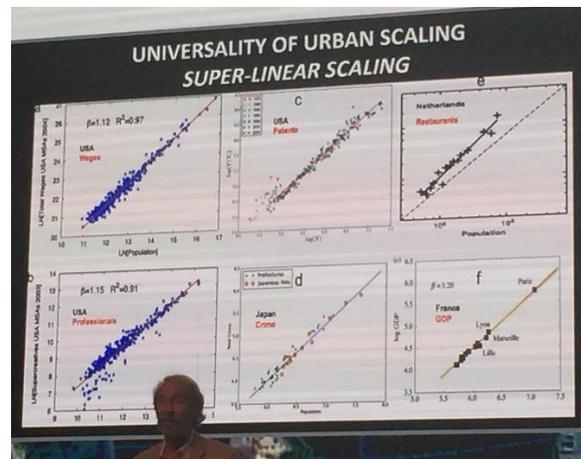
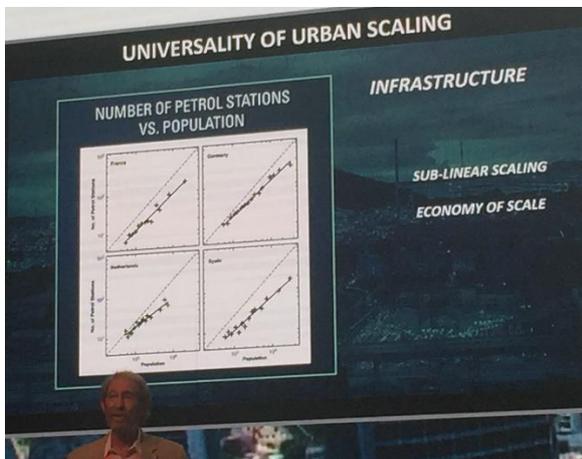


Peter Bakker – President, World Business Council for Sustainable Development

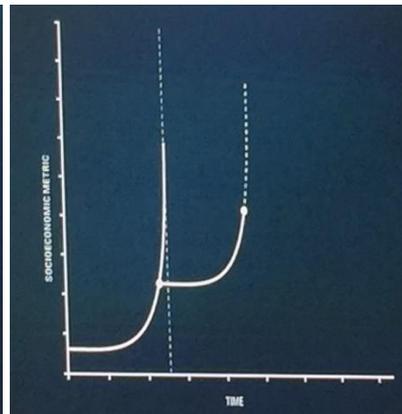
There is a gap between government, business and civil society – much more dialogue is needed. Economics have to change – cities plus mobility, etc. Models for engagement – city-by-city; scale up; strategic partner cities; multi-city dialogue. Innovative urban solutions – low emission economy partnerships (LEEPs); SiMPLify; transforming Urban Mobility (TuM); Factor 10 – solutions to plastic waste and recycling. We need to work together at a strategic level. Companies (eg. Oil) are changing their name to attract staff to promote innovation.



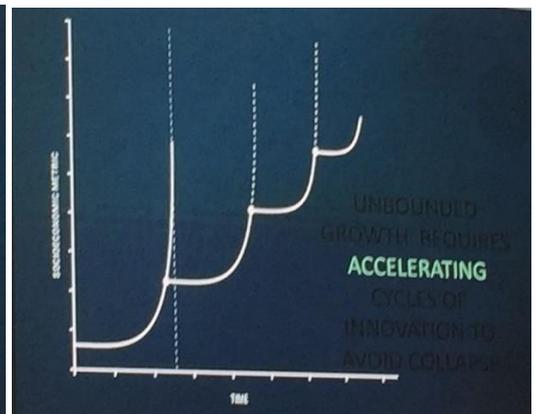
Prof. Geoffrey West – Past President, Science Steering Committee, Santa Fe institute. USA Cities have to be viewed in an holistic way. We need to develop a science for understanding cities. The economics of scale shows 15% fewer gas stations are needed as cities grow, but more social services are needed as crime increases 15%. Must consider both physical and social networks. Growth is open-ended but cities must continually re-invent themselves.



City growth



Reinvention



Accelerating reinvention

4. Take Home Messages

- No city is ready for its coming population growth
- Problems everywhere are similar but the solutions differ
- Both physical and social infrastructure must be expanded concurrently
- Citizens come first and social values must be protected – safety, security, efficiency, equality
- Human services will always be in demand
- Conversation must be managed and transition managed
- Technology is a great leveller
- Include the community as part of the solution
- Preserve individual identity of city districts
- Encourage urban food production, even at high densities
- If we don't protect the environment, we are killing ourselves
- We should build climate consciousness
- Water borne diseases have the potential for global impact
- Cities must be greener, if only to restrain rising temperatures
- Mayors must be confident and visionary - start with a vision
- Embrace disruption
- It is important to experiment
- Automation changes everything – it changes the future
- Virtual reality 3D models are useful planning tools
- With open data comes responsibility
- Mayors need to help their cities to be investment-ready
- There are new ways of financing – eg. group purchasing, Public Private Partnerships (PPPs)
- Land use planning should be used to create value to capture
- Technology must be used to minimise the use of resources
- Producing more waste is not sustainable – emphasise sharing, reuse and recycling
- Synergies are where water, energy and waste intersect
- We have never been better equipped to provide innovative solutions.
- We are living in exciting times

Co-located Business Forum

Attachment A

Sarah Quinlan – Senior Vice President, Mastercard

160 million transactions per hour at Mastercard, excluding cash withdrawals.

When analysing spending data people get too detailed, too fast – stay at the macro scale.

The world is looking better. Everyone has a cell-phone and know their purchasing power.

China will self-focus. US is powering ahead with 70% employed in small business. Experiences are being focused upon – trips with family. Who does what? Behaviour is repeated. Wall Street people travel for fine dining and sports events. Data measures economic health.

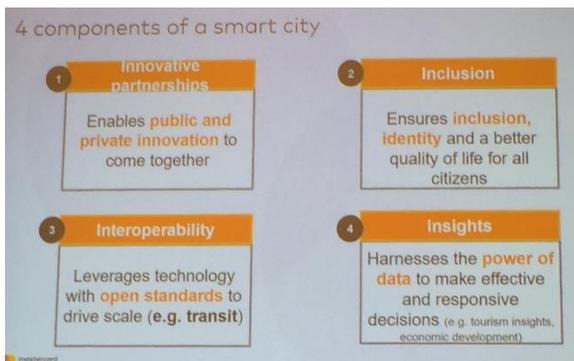
Foreign investment comes from tourism after the third visit. What markets do you market to?

Barcelona – US travellers didn't go in September – how do you even this out? How does Madrid get the rub off?

Brits no longer going to Australia after Brexit – they are travelling closer to home.

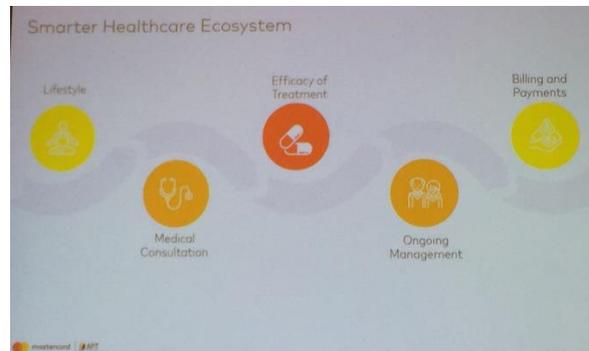
Everyone wants to attract more tourists and expand their spending. Make transport connections so it is easier to go – increase long haul flights to more destinations.

What do travellers want to know and how often? Use data and measure to more things forward. A dynamic strategy is required.



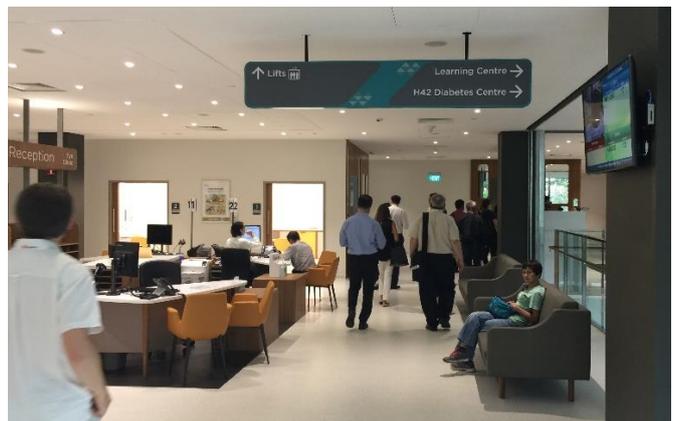
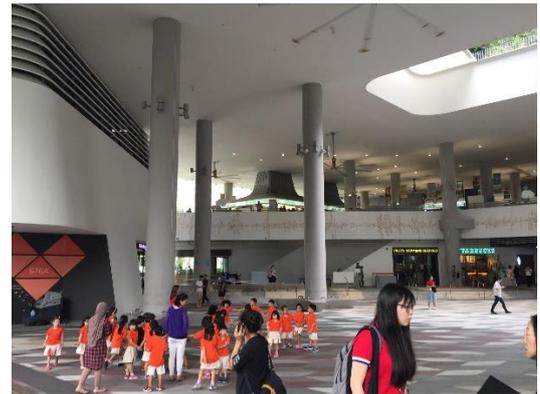
Mr Fope – Vice President Client Services Mastercard

Mastercard Healthcare Solutions – incremental innovation – how to reduce waiting times, improve client satisfaction, etc.



Kampung Admiralty

Kampung Admiralty is Singapore's flagship "vertical village" on a compact 2.2 ac (8980 m²) site, which opened in 2017. It comprises shops, 104 retirement units, a medical centre, active-ageing hub, a childcare centre, public communal spaces, and rooftop vegetable and community gardens. The bio-retention basin located at the medical centre provides a calm and therapeutic environment for patients while also functioning as a system to harvest, cleanse and recycle rainwater. The site is extensively landscaped. WOHA Architects



Khoo Teck Puat Hospital

Khoo Teck Puat Hospital with 660 beds officially opened in 2010. Spanning over 8.6 acres (3.5 hectares) in the Yishun Central Area, it overlooks a lake that is integrated with the design. Elements of form, space and landscape are tied to the goal of human well-being to create a healing environment. The heart of the development is the green court, which is some 2°C cooler than spaces just outside the hospital. Designed to be 'forest-like', it includes water features with aquatic species and plants that attract birds and butterflies. The greenery cascades to upper levels of the buildings, creating the impression of architecture that is deeply enmeshed in a garden. Balconies with scented plants bring the experience to the patient's bedside, literally. The total surface area of horizontal and vertical greenery combined is almost four times the size of the land that the hospital sits on. As a proportion of total floor area, blue-green spaces account for 18%. Forty percent of all such spaces are publicly accessible. Engagement of the community-at-large has been a priority. Residents living nearby enjoy the hospital's public spaces alongside patients and staff. This has led to the activation of these spaces with community programmes such as line dancing, tai chi and Zumba. Volunteers – mostly retirees – tend to rooftop gardens alongside KTPH staff. Produce from this farm finds its way to the hospital kitchens; some is sold to cover costs.

