



Global  
Innovation  
Agency

# Welcome

An Introduction from 2thinknow  
Executive Director,  
Christopher Hire.





Let me add this personal welcome to this report. You hold in your hands some of the innovation secrets & methods of the world's great cities – some emerging, some long established.

From Boston to Barcelona to Budapest, from Kyoto to Melbourne to Abu Dhabi, this innovation analysis provides a truly comparative understanding of innovation across global cultures.

2thinknow developed this Innovation Cities Framework to enable the comparison of actual innovation across continents, countries and states.

We are in the adolescent stage of a networked age. An age of networked technology, and as 2008 convulsions suggest, networked markets. This has an air of inevitability, only arrested by a real and present localisation of the world.

A world where an idea can be inspired implemented and marketed spreading out from its nodal origin, like a virus across a network.

This is a much improved, updated and radically redesigned version of the Global Innovation Review 2007 edition. The journey to this report started with my very first research visit to Vienna and Europe in October 2005.

The Innovation Cities Framework, Program & Index have evolved these last incredibly hard and intensive 2 years of effort by 2thinknow.

**The Innovation Cities Index 2009** is the world's largest, most comprehensive rankings of cities by innovation.

The OECD has shown that countries like Korea and Norway that innovate economically out-performed after previous recessions.

Our rankings show which cities - those remarkable engines of economic growth – are outperforming in innovation now across many industries. Of course, these cities must continue pursue innovation.

**City Benchmarking Data Program** gives single view of cities innovation across 31 segments/162 indicators from Arts and Sports, to Education and Industry, to Diplomacy and Economics.

Finally, the overarching **Innovation Cities Framework** – the series of unique models that make this possible – enables cities to change their innovation destiny through strategic planning.

In 2010, we will be working with more cities worldwide to do that, to change their stars by maximising their innovation strengths and excoriating weaknesses.

We live in a competitive regional, continental and global world. And as always, there will be winners and losers, as competition for the finite escalates.

This report, and 2thinknow, aid to build Innovation Cities for the world of today's generation and tomorrow's children.

Keep Innovating,

Christopher Hire  
Executive Director of Innovation



**European Cities dominate as Nexus Innovation Cities.** The top Innovation Cities Vienna, Paris, Amsterdam, Stuttgart, Lyon, Berlin, Frankfurt, Stockholm, Copenhagen and a culturally resurgent Barcelona, among others – are all in Europe.

Each city may have strengths and weaknesses, but the Cultural Assets and interconnected Human Infrastructure of transport, start-ups, logistics and finance are all improving across European Union. Then, there is a massive networked European common market for E.U. goods and services.

Finally, there is a pan-European innovation movement. European cities are doing more on innovation than many others, with less *relative* obstacles than other cities.

**Without innovation reform, United States cities become Back-Slider cities.** Whilst the U.S. is a tremendously creative country, the power of lobbyists and special interests fighting over allocation of the pie, have reduced renewal via new industries.

The ability of citizens with ideas to implement has been reduced by weakened infrastructure and markets – in which favoured monopolies prevent competition.

**A Capitalist New Deal is needed to make the business of business. Again.** We had FDR's new deal, time for real new deal – based on innovation, creative start-ups, enabling citizens to innovate and access to markets. Not crony capitalist monopolies.

**Digital Mobility will give citizens jobs.** The ability to work anywhere via ubiquitous computing grid – smart cities infrastructure – will create new jobs, and choices for cities that choose to advance – such as those in cities of Japan and Sweden.

**Cities that are connected and have Digital Mobility will retain citizens.** People do not leave cities they like just for jobs, if those cities are interconnected and people are digitally mobile. Transport and infrastructure of all types, give citizens the ability to live where they like, and work where they want.

Multi-city jobs happen in Germany. This also gives nations and business greater workforce flexibility, and citizens opportunities, as it creates a large pool of available jobs by connecting zones.

**Food supply and water supply are the single biggest issues.** Representing the largest risk to urban and regional development, degradation of water supplies and constant reductions in quality of fresh food consumed – in some cities replaced by factory-farmed agriculture – run the risk of bringing back pre-1950 health problems, and creating new problems globally. Some cities could become Back-Slider Cities.



**South American Cities must be like Curitiba and Buenos Aires.** Far less the urban planners paradise than commonly supposed, Curitiba has However, improve economic infrastructure within their culturally rich city, and is a poster-child for transit and human solutions. Buenos Aires has a rich cultural life. Along with issues of public safety, these must be developed section-by-section by South American cities.

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**> THE TAKE-AWAY > LOCAL INNOVATION.**

Does a city have the local infrastructure to implement ideas? Does a city develop grand plans that are not implemented? The grand plan is the death of most cities, instead what is needed is local change and innovation. Local community responses in regional towns, and city suburbs.

All cities are network nodes comprised of smaller nodes, overlapping circles connected.

Small Example: Market gardens of vegetables and fruit in the bottom of slum housing towers, a small node decrease crime rates and increase community within the building. Small examples, common-sense community innovation eventually show-up in aggregate numbers.

Another example: Boston's Back Streets program integrating commercial and industrial properties into the community, rather than creating housing blocks with no jobs.

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## Asia Cities.

**Asian Cities need to develop cultural diversity.** Asian cities can be surprisingly homogenous, and lack well developed Cultural Assets. Sometimes this stems from long periods as a non-democratic republic or areas developed in a 1960s State Nationalist approach. Growing commercial cities should develop their own cultures - and attempt fusion with global cultures - as excellent Cultural Assets.

**Developing Asian Cities and Environment.** Developing Asia will need to develop leading Environmental responses at local city level. Command-and-control will not control local pollution, as has been proven. Specifically, centralised rulings will not create decentralised action at the local community level. New methods are needed.

**Japan cities must reform innovation.** The central planning and family corporation approach is endemic to Japan, but as Japanese people open their doors to more creativity, there will need to be reforms that enable citizens to innovate. Our view, is that competition with Chinese cities will force Japanese cities to reform. Japanese cities have an existing mobility and broadband advantage in their city networks. A world of inter-linked local innovation communities will assist Japan's mid-size cities.

**Chinese cities should address equity, to prevent social unrest.** Whilst culture is a strong aspect of China, the issue of economic development is for many respected

## Asia 16 Index.

A smaller Index due to dynamism and rapid change through higher growth - drawn from 43 Asian cities - these are key innovation cities in Asia.

Restriction of information and lack of free data limits the long-term innovation performance of some Asian cities in our view, although there is the short-term potential of positive news.

- 1 Tokyo
- 2 Melbourne
- 3 Sydney
- 4 Kyoto
- 5 Singapore
- 6 Kobe
- 7 Hong Kong
- 8 Shanghai
- 9 Osaka
- 10 Seoul
- 11 Kuala Lumpur
- 12 Wellington
- 13 Nagoya
- 14 Auckland
- 15 Bangalore
- 16 Beijing

Source: 2thinknow innovation  
Cities Asia Index 2009.



China analysts tied to jobs and equitable wealth for Chinese citizens. China is a vast land, and a world of networked innovation will need an approach that provides a ladder for Chinese cities to climb – not based around solely consumption.

**Australia needs infrastructure and to ‘back itself’.** Australia has often implemented new thinking from overseas ahead of homegrown solutions, and is place in a world where it is 2% of most markets. Elements of an Innovation Action Plan for Australia are proposed in an accompanying paper – available from the online resources section of the website [see page 9 for web address].

The broad points are: National broadband, funding start-up clusters through an innovative scheme with correct incentives, fast-rail mobility to revive urban and regional Australia and reduce urban crowding, increased rail infrastructure spending, reduced freight/passenger line sharing, port improvement, national skilling programs and more local initiatives – increased focus on regional Australian centres.

In short, for Australia it is about overcoming the tyranny of distance.

**New Zealand needs to extend film into local Innovation Clusters.** Large nation-building initiatives have largely failed in New Zealand; in reality, the country should embrace its small size, strong communities, time zone position and creative approaches to problems. In addition better global connections and even better branding must be developed. Branding focuses on tourism, and needs to be driven by creativity. New Zealand cities have some of the infrastructure to perform well in Asia.

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**> THE TAKE-AWAY > BEFORE YOU INVEST IN CITIES**

Is a city diverse in Cultural Assets to inspire ideas? What creative Innovation Clusters does the city have – fine arts, film, music, sports, festivals? Is this a unique innovation Advantage, and how does it interact with other cities in the region. Cultural Assets are critical to inspiration for all artists and creatives around the world. Sydney, Melbourne, Kyoto do well here.

On the other hand, can a creative idea actually be implemented in a city? Asian cities like Singapore, Hong Kong, Seoul and Kobe are rapidly challenging developed U.S. cities. In some innovation segments, Asian cities are now out-performing even some European cities. Australian and N.Z. cities must compete with Asian and European cities on infrastructure, although on political transparency, and Government Australian cities are generally ahead.

Finally, is the city connected to large or specialised markets? Does it suffer a distance issue, or is this mitigated by another key strength? Does the city out-perform in global markets? Is the city a single-product or industry dependency, or a balanced entity? Why will the city last?

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## City Reading.

Charles Landry in *The Creative City* explains the value of Cultural Assets to a city. Landry touches also on infrastructure value.

Coupled with Francisco Carrillo's *Knowledge Cities*. The European Union have also published some related papers in a similar vein.

Richard Florida's works focus on competition between cities.

Joel Kotkin's *The City* is an excellent grounding in the history of cities from a comparable global view of cosmopolitanism.

City history is given context in Geoffrey Blainey's *Short History of the World* as well. Jared Diamond and Niall Ferguson give social perspectives on cities.

Most urban planners suggest Jane Jacobs work, for a grounding in some issues, read alongside Andres Duany work on urban sprawl. *The Endless City* is a good resource.

We draw a lot on actual city case studies as well.

What our work does in turn the most useful of these ideas into a practical Innovation Cities™ Framework.

## Cities: 3 Factors.

When applying innovation to cities this can be understood as 3 factors that are emerging in a variety of models. Markets are neglected in most models.

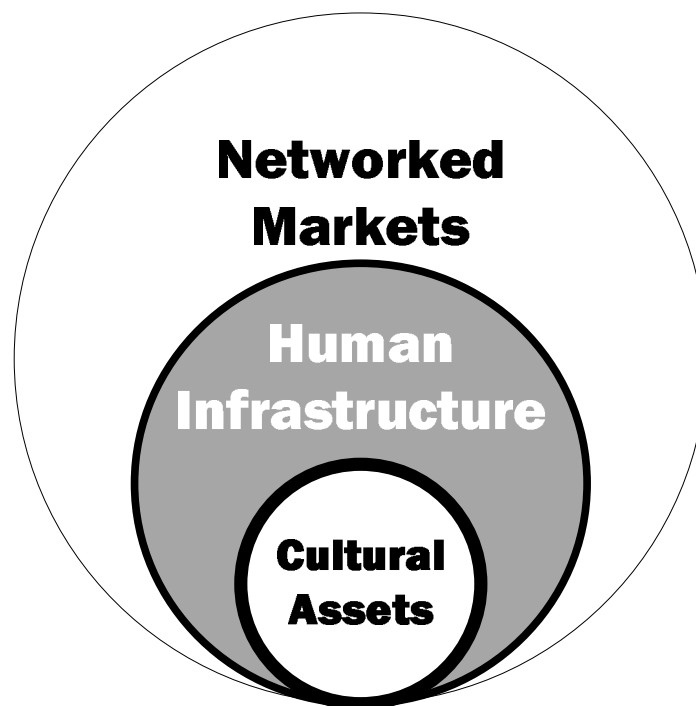


Figure 3 - The loop model applied to city innovation measurement.

### Cultural Assets

Literally the culture of a city, measured by arts communities, civic organizations, museums, music events, galleries, political protests, books, media, availability of information, sports participation and other factors.

### Human infrastructure

Infrastructure of mass transit, finance, universities, hospitals, commerce, start-ups, healthcare, telecommunications.

### Networked markets

Geography, economics such as exports and imports, market size, geo-political

factors, diplomacy. A measure of a cities power and linkages in global markets.

### The 3 Factors in a Framework

In the Innovation Cities™ Framework these 3 factors are broken down into 31 segments further broken down into 162 Innovation Indicators in the Framework.

These represent the default indicators that give the fullest understanding of innovation in the greatest number of cities. In innovation analysis, 2thinknow can add, remove or substitute indicators in the Innovation Cities Framework.



# 31 Segments.

These 31 segments cover a variety of industry and social sectors of a city. We use the segments to create a broad-based snapshot of a city's innovation potential.

## Cultural Assets

- ☐ Architecture
- ☐ Arts
- ☐ Business
- ☐ Environment & Nature
- ☐ Fashion
- ☐ Food
- ☐ History
- ☐ Information
- ☐ Music
- ☐ People
- ☐ Spirituality
- ☐ Sports

## Infrastructure Assets

- ☐ Basics
- ☐ Commerce
- ☐ Cultural Exchange
- ☐ Education
- ☐ Government
- ☐ Health
- ☐ Industry
- ☐ Labour
- ☐ Law
- ☐ Logistics
- ☐ Mobility
- ☐ Public Safety
- ☐ Retail
- ☐ Start-Ups
- ☐ Technology & Communications

## Networked Markets

- ☐ Diplomacy
- ☐ Economics
- ☐ Geography
- ☐ Military

The selection of these 31 segments examines broad themes in both cities industry selection and cultural development. Segments are designed so that no city can be perfect. In city benchmarking, factor scores for *out-performance* are around 80%.

The default 162 Innovation Indicators are discussed in detail shortly, as well as the meaning of the 31 segments.

Cities can use this framework to measure against and utilise for an Innovation Plan to improve their performance. It is critical to identify improvements aligned with a city.

## Modularity, Flexibility.

From year-to-year, we are able to change the Innovation Indicators, work with a larger or smaller subset –or redefine what constitutes performance.

This modular flexible Innovation Cities framework [ICF] allows cities to add or remove indicators on a by-client basis. For example, a land-locked country could exclude ports, and add additional criteria relating to diplomacy (a strong requirement for countries with no port).

## Economics.

“Economics started out with goal of helping people maximize their utility – their satisfaction, subjective wellbeing or happiness, call it what you will.

“It went astray when it decided that, since utility was impossible to measure, it would cut to the chase and concentrate simply on helping societies maximize their production and consumption of goods and services.

Ross Gittins. Gittinomics

## Economic Reading Roll.

Starting with Adam Smith, and working through Locke, Montesquieu, Hume and sheds light on economics and cities. (As well as social issues).

Current leading economic authors such as Hernando De Soto, John R. Talbott, Jeffrey Sachs, John Kay, Paul Krugman, Joseph Stiglitz, J.K. Galbraith and others positively inform views of cities economic development.





## Innovation Indicators.

Informing this is the concept of Kaplan & Norton's Key Performance indicators and Balanced Scorecards. Also, Porter's Five Forces and Kotter's change concepts.

The numerous Kaplan & Norton books and related Harvard business Review articles are worth reading on their own.

## Comparing Methods & Rankings.

Mercer and the Economist Intelligence Unit use similar methods to rank liveability or sustainability.

Our 3 factor model aligns with and includes these :

- ☐ *Creative Cities* aligns to Cultural Assets
- ☐ *Liveability* aligns to part of Cultural Assets and Human Infrastructure
- ☐ *Sustainable Cities* touches on elements of each factor, although it minimises business.

We use similar scoring methods to Mercer & Economist.

# 162 Indicators.

Each of the 31 segments is assigned a number of Innovation indicators. Each Innovation Indicator is a data point banded from 0 to 5. In 2009, there are 162 Innovation Indicators by default. These 162 Indicators following cover a broad-based view of innovation, useful to reporting on cities – by segment.

Critical to this is measuring what is important, not just what is easy. There are three steps to indicators: selection, scoring and improvement.

Although we keep to many traditional economic indicators – such as GDP per capita (PPP) and infant mortality rate to indicate basic development, we also examine difficult soft indicators across arts, food, music, transport and sports.

Business has long successfully recognized the need to measure soft indicators across silos within a large enterprise. We have applied these insights (see sidebar) to developing the framework for measuring cities.

### Selection of indicators

We selected a default set of indicators that encompassed many of the theoretical observations outlined in books on cities and development, as well as incorporating some used in the better city rankings – Mercer, EIU, MasterCard.

For the need to measure soft indicators we use a few approaches – attempt to measure a property (e.g. frequency of service) and/or measure a defined Cultural Asset of item of Infrastructure.

When measuring markets we use statistics, coupled with scoring

guidelines – the 2009 abbreviated scoring guidelines are available as a downloadable PDF on website [see p9].

### Scoring Indicators: Banding

All of the 162 Innovation Indicators are banded 0 to 5 using the following key:

5= Out-Performance

4=Above benchmark

3=Competitive

2=Below benchmark

1=Under-performance

0= Fail.

Our scoring data [City Benchmarking Data] on each city is available for purchase, as is a self-assessment tool, to allow you to measure your own city.

### Improvement Planning

You can use the Innovation Cities Framework to assess cities, or have 2thinknow provide the analysis.

Once performance is measured, it is necessary to create an Innovation plan to change the status quo. 2thinknow have additional innovation models similar to those from business, but developed to suit the city environment.





## Resources

### Please contact us anytime.

The 2thinknow website is  
[www.2thinknow.com](http://www.2thinknow.com).

Resources on the Innovation City  
Program & Index can be found at  
[www.innovation-cities.com](http://www.innovation-cities.com)

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Current Social Media  
[www.2thinknow.com/social/](http://www.2thinknow.com/social/)

### Analysis, Data, Advisory

Copies of this report, or Custom Analysis  
can be purchased from 2thinknow.

City Benchmarking Data is being made  
available gradually for purchase of  
detailed benchmarking of any of the 256  
cities on 162 innovation indicators, as  
Single-City or Comparative-City Data-sets.

Advisory services available via phone or  
in-person in many cities based on  
availability of analysts.

### About the Author.

Christopher Hire is Executive Director of  
Innovation and founder of 2thinknow.  
Based in Melbourne, Australia.

Hire developed 2thinknow Innovation  
Models, and authored the Global  
Innovation Review 2007 Annual.  
Previously he consulted/trained in data  
analysis (developing KPI, finance, HR,  
dashboards and other solutions) &  
presentation for over 350 organizations, in  
Government, NGOs & large companies.

Hire is available for a limited number of  
speeches, workshops & conferences.

### Acknowledgements

The Innovation Cities Models and  
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Christopher Hire in Europe in 2005.

A report of this nature is always more  
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online names but too many to count!]

## Our Office.



Our (small) shared office is hosted  
in the top-floor of this building.  
120 Collins St, Melbourne.

Surrounded by retail, coffee, food  
& uber-cool wine bars downstairs.

### Was your idea (or a colleagues') in this report?

If in the Innovation Indicators you  
feel we missed an attribution –  
easy to do in the mammoth  
amount of reading – please do let  
us know. We'd ask, of course, you  
also always attribute Innovation  
Cities to 2thinknow. Also, if you'd  
like to get in touch about your  
idea, simply email us any time.

\*If we have quoted your work and  
ideas, please get in touch. Let us  
know what you think!