

### Benchmarking Innovation Policies of Leading Countries

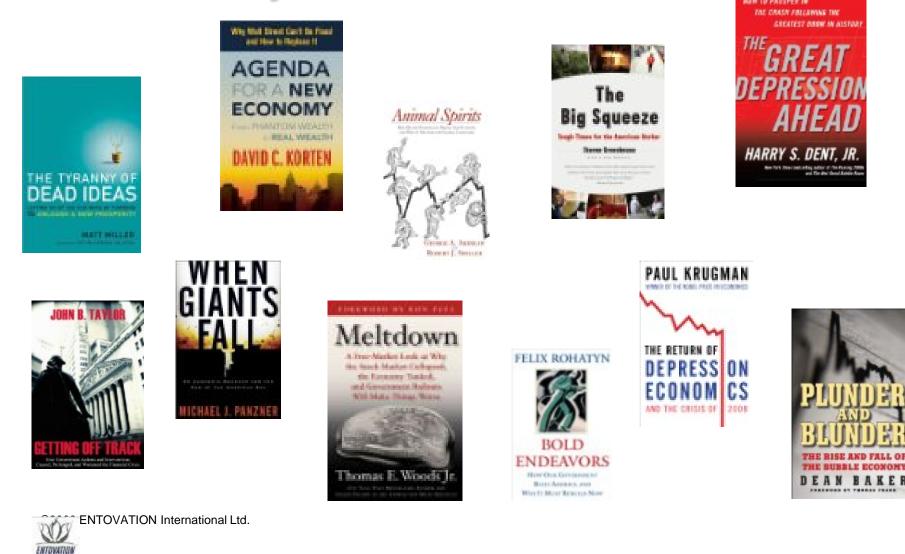
The Information Technology & Innovation Foundation

#### 28 September 2009

Debra M. Amidon Founder and CEO ENTOVATION International Ltd.



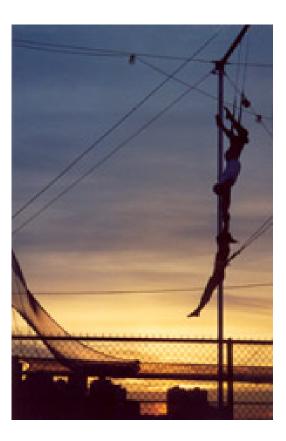
## Today: New Economics Books – Any Good News?!



# Why the Trapeze Parable?



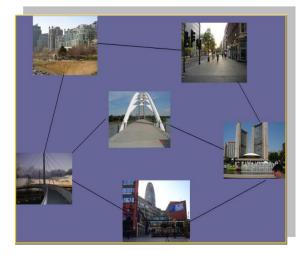




http://video.about.com/adventuretravel/Trapeze-School.htm http://www.newyork.trapezeschool.com



Photos by Bevin Murphy & Carol Hayes





### Welcome to the KIZ World

"Thirty years ago, 80 special economic zones (SEZs) in 30 countries generated barely \$6B in exports and employed about 1M people. Today, 3,000 SEZs operate in 120 countries and account for \$600B+ in exports and 50M in direct jobs."

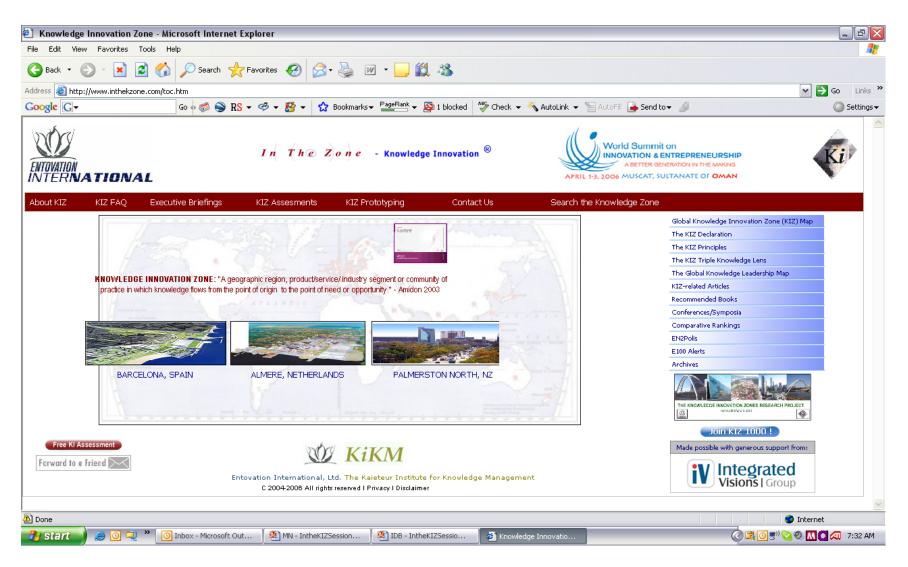
- The World Bank (2006)



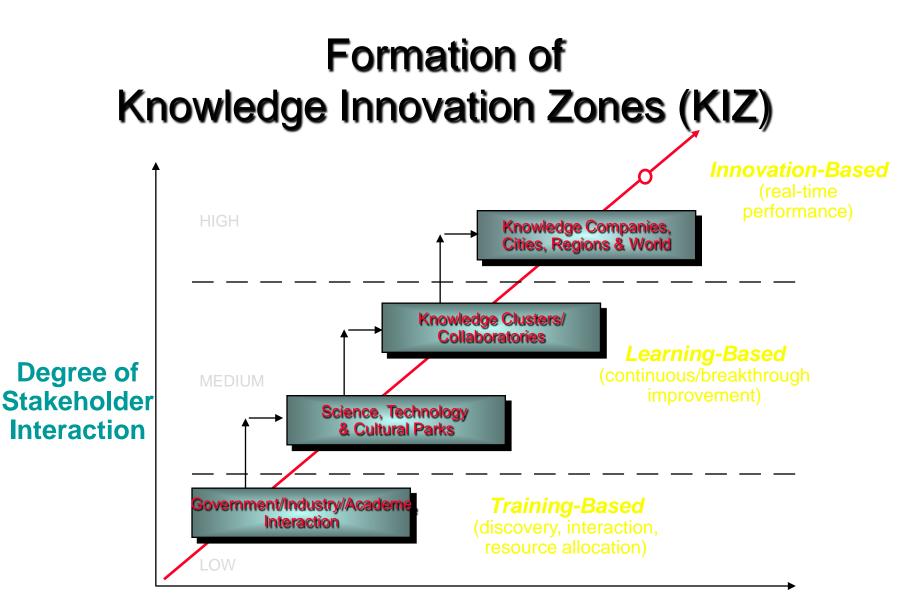
### Explicit Study of KIZ: Phase I – Background











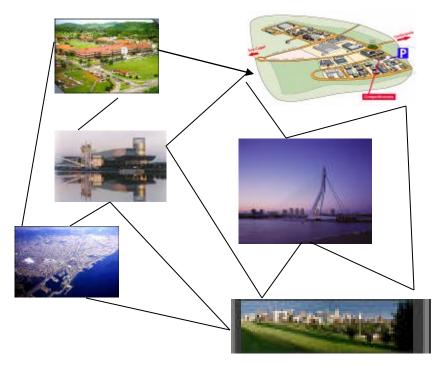
#### **Sustainability Intensity**



# A Knowledge Innovation® Zone (KIZ)

A world-wide phenomenon

- <u>Physical Geography</u> Knowledge Park, Region, Corridor, Internet Village, Innovation Nation...
- Industry Geography Companies, Clusters, Collaboratories
- <u>Cyber</u> Geography Virtual Space



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#### **KNOWLEDGE INNOVATION ZONES – A WORKING TAXONOMY**



A. Knowledge Economy Centric Visions				
Knowledge City	City Of Knowledge	City Of Knowledge Industry	Ideopolis	Knowledge Ring
Knowledge Economy Initiative	Knowledge Society	Knowledge Harbour	Knowledge Port	Knowledge Neighbourhood
Knowledge Village	Knowledge District	Knowledge Estate	Knowledge Town	Knowledge Region
Knowledge Zone	Knowledge Oasis	Knowledge Valley	Knowledge Island	Knowledge Pearl
Intellectual Capital	Knowledge Hub	Knowledge Cluster	Knowledge Capital	Knowledge Metropolis
Knowledge Land	Megalopolis	Megacity	Learning City	Knowledge Nation
Education City	Kognopolis	Knowledge Sector	Knowledge Polis	Knowledge Coast
B. Creative Economy Centric Visions				
City Of Culture	Idea City	Creative City	Creative Region	Creative District
Creative Town	Creative Coast	Creative Cluster	City Of The Arts	
	C. Tec	hno (ICT) Centric V	isions	
Smart City	Smart Community	Intelligent City	Teleport	Telecity
Wired City	Digital City	Electronic City	ICT Park	Science City
Technopolis	Science Park	Info City (Information City)	E-City	Innovation City
New Century City	Knowledge Park	Silicon Valley	Future Polis ( Futuropolis)	Biopolis
Ecocity	Nano City	E-Tropolis	Aerotropolis	
	D. Idealistic & Utopian Visions			
City Of The Future City Of The Next Century "Future" Ville ( eg. Auroraville)			eg. Auroraville)	
	H2PIA			
E. Virtual Knowledge Cities				
Cyber City	Virtual Village	Knowledge Grid	Knowledge Gateway	Virtual Knowledge City
	EN2POLIS			

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# KNOWLEDGE INNOVATION ZONES

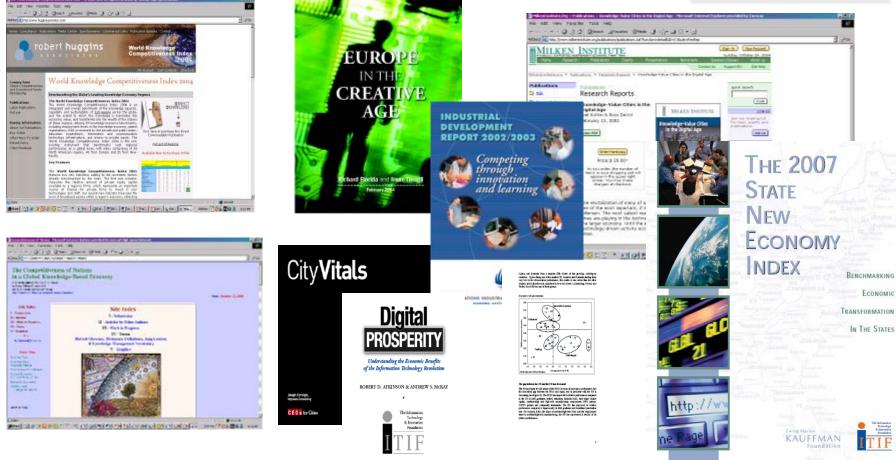




# Some KIZs are better than others...



#### www.inthekzone.com

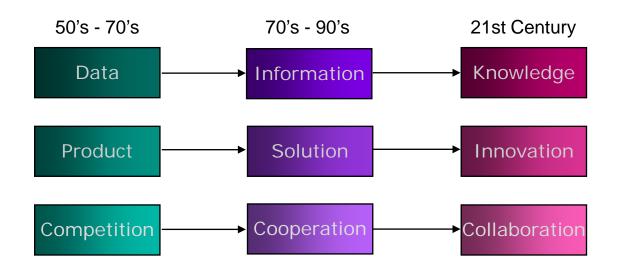


March 2007

See Handout for specific examples...

# 3 Laws of Knowledge Dynamics







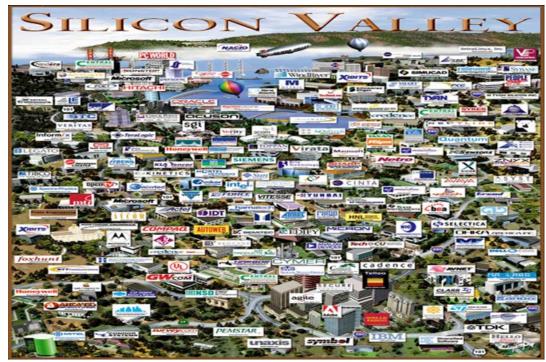
Innovation Value is created when knowledge moves from origin to the point of highest need or opportunity.

**Collaboration** for mutual leverage provides best utilization of tangible and intangible resources.

ENTOVATION International Ltd.

#### ENTOVATION

### Feature: US



SAN JOSE IS THE WORLD'S **MOST KNOWLEDGE COMPETITIVE ECONOMY**" World Knowledge Competitiveness Index (WKCI) - published by Robert Huggins Associates



#### Research Technology Park









#### **IDEAS Boston**



The Boston History Collaborative

The Innovation Odyssey - 400 Years

The Boston Foundation

The Boston Indicators Report

- Creativity and Innovation: Bridge to the Future
- The Wisdom of our Choices Indicators of Progress, Change and Sustainability
- The Massachusetts Technology Collaborative 2003 Indicators

Metro Future

The Boston Historical Society 'Venture Philanthropy'

The Colleges of Worcester Consortium's Intellectual Capital Impact Study







Thinking Globally/Acting Locally A Regional Wake-Up Call A Summary of the Boston Indicators Report







### Feature: Europe

ENTOWATION





# Feature: Africa

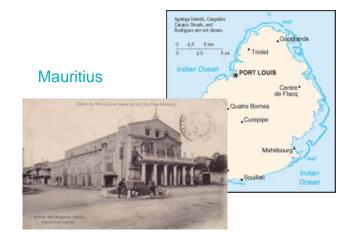
"Progress through partnership. Progress through people."



### Knowledge economy initiatives – is South Africa on board?

"In today's knowledge-driven economy, countries can no longer depend on natural resources alone to be globally competitive. Rather, the knowledge and resourcefulness of its people and its rate of innovation as a fundamental source of economic growth is what sets a country apart."





Scheduled to be the 1<sup>st</sup> wireless country in the world.



### Feature: Asia



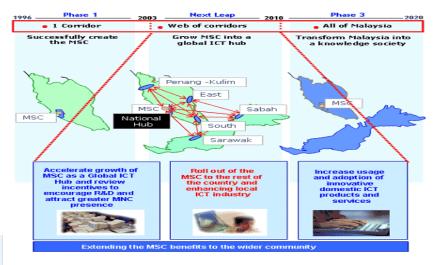
#### Yokohama: A City With Its Eyes on the Future



Yokohama has been one of Japan's most important international ports ever since it opened 140 years ago. Today, the city is using its convenient location in the Tokyo metropolitan area, its historical assets and its geographical advantages to aim for new commercial and cultural heights.

Minato Mirai 21, the heart of this cosmopolitan business center, is taking a leading role as Yokohama proceeds toward the 21st century.

#### Malaysia Innovation Corridor



#### Incheon, South Korea – Virtual Models





#### Island City – Fukuowa, Asia and the rest of the world

#### Island City - a model city of the future

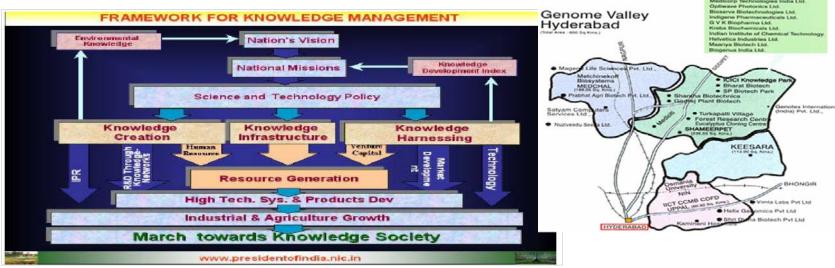
When it is completed, Island City will be a frontise city linking Fukuoka, Asia and rest of the world. As well as providing a superior bring environment, it will facilitate the concentration of industries with high growth potential such as health care, medicine and welfare, and advanced TI. These industries will not only support future generations, but also existing industries. At Island City, solutions to the diverse challenges and trends being faced by Japanese and international society will be proposed, making the most of cutting-edge technologies and knowledge. Island City will offer a vibrant 21st century urban environment.



# Feature: India

"The Commission will advise the Prime Minister on matters relating to institutions of knowledge production, knowledge use and knowledge dissemination. The mandate of the Commission is to *sharpen India's 'knowledge edge'.* 

MindTree IN THE MEDIA





ENTOWATION

"Tomorrow's societies will be knowledge societies. Tomorrow's markets will be knowledge markets. Tomorrow's wars will be fought not by the conventional weapons. They will be fought in the knowledge markets with the new weapons called information and knowledge." - R. A. Mashelkar, Economics of Knowledge

Confluence

Win in the flat world Find out how at Confluence 2006



# Feature: Down Under

Desert Knowledge Australia





Building networks and partnerships across Australia to create and economic and socially sustainable future.

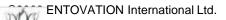
A national research network linking local and indigenous and local knowledge with science and education to improve desert livelihoods.





#### New Zealand: Catching the Knowledge Wave





ENTOWATION

# Feature: Middle East

Done S



#### **Dubai Knowledge Village**



#### Knowledge Oasis Muscat (KOM) - Oman



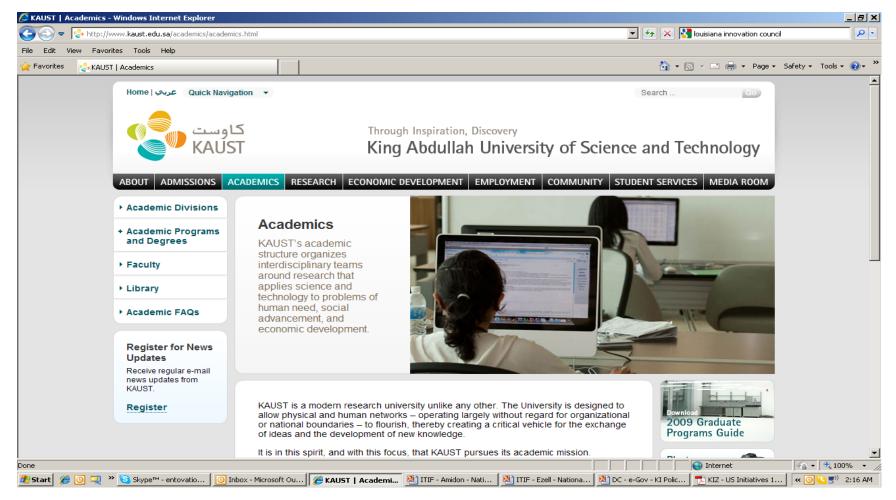


#### Abu Dhabi - CERT





## KAUST



# National Innovation Ecology



# External Indicators Inventory

Figure # Examples Of	What They Measure	Knowledge	Knowledge	Knowledge
Available Statistical	what they measure	Economy &	Society,	Organization,
Sources		Business	Community.	Infrastructure.
opurces		Dusiness	& Culture	& Environmen
Indicators		Where They C		
World Economic	<ul> <li>Global Competitiveness</li> </ul>			-
Forum	ReportIndex	-	IT	-
	• Network Readiness			
	Reports			
United Nations	<ul> <li>Millennium Goals</li> </ul>		-	
UNIDO	<ul> <li>Statistical Databases</li> <li>Competitive Industrial</li> </ul>		<u> </u>	
UNIDO	Performance (CIP) index	-		
World Bank	<ul> <li>Knowledge Assessment</li> </ul>	_	_	_
WORK DALL	Methodology (KAM)	-	•	•
OECD	<ul> <li>Science, Technology, &amp;</li> </ul>			-
	Industry	-		-
	Scoreboard			
UNESCO	<ul> <li>Report On The Knowledge</li> </ul>			
	Society		-	
	<ul> <li>Cultural statistics</li> </ul>			
Millen Institute	<ul> <li>Various Reports</li> </ul>	-		
Robert Huggins	<ul> <li>WKCI -World Knowledge</li> </ul>	-		
Associates Booz Allen	Competitiveness Index © Global Innovation 1 000			
Hamilton	CHOCAI IMMOVATION 1,000	-		•
Regional Indexes	• eg. The Silicon Valley	_		_
regional months	Index	-		•
Country Statistical	○ eg. Statistics Canada	_	I_	-
Agencies		-	-	-
City Annual	o eg. Boston Foundation	-		
Reports	Indicators	-	-	-
	Terento			
	Melbourne			
European Union	•Trend Chart-Innovation	-	-	•
	Policy in Europe ©European Innovation			
EUROSTAT	Scoreboard			
	OVarious Euro-Indicators			
IMD Business	<ul> <li>World Competitiveness</li> </ul>	-		
School (Lausanne)	Yearbook	-		
WIPO - World	<ul> <li>Industrial Property</li> </ul>			
Intellectual	Statistics	_		_
Property				
Organization				
ipIQ The Economist	<ul> <li>The Patent Scorecard</li> <li>Innovation Awards</li> </ul>	-		-
The Economist	o minovation Awards	•		•
- Intelligence Unit	<ul> <li>Quality Of Life Index</li> </ul>			
Compiled by Bryan Davis				

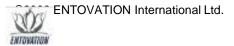
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## External Indicators Inventory (cont'd)

Figure # Examples Of	What They Measure	Knowledge	Knowledge	Variable
Available Statistical	what they Measure			Knowledge
		Economy &	Society,	Organization,
Sources		Business	Community,	Infrastructure,
Indicators		111	& Culture	& Environmen
Mercer Human	<ul> <li>(1) 10 (1) 001 (1)</li> </ul>	waere taey t	an ne septieu	
	<ul> <li>Global Quality Of Living</li> </ul>	-		•
Resource Consulting	Reports/Survey			
International Living	<ul> <li>Quality Of Life Ranking</li> </ul>	-	-	-
Cultural Initiatives	<ul> <li>Creative Community</li> </ul>			
Silicon Valley	Index			
Richard Florida	<ul> <li>Creativity Index</li> </ul>	-	-	-
USA	<ul> <li>Digital Cities Survey</li> </ul>			
Center For Digital				-
Government				
W2i	<ul> <li>W2i Wireless</li> </ul>			
	Communities Best Practices			
	Awards			
Intelligent	<ul> <li>Intelligent Communities</li> </ul>			
Community Forum	&			-
	Smart 21 Awards			
Anholt-GMI	<ul> <li>Nation Brands Index</li> </ul>			-
		-		-
Global 100	<ul> <li>Top Most Sustainable</li> </ul>			
	Corporations In The World			
Competitiveness	<b>Various Countries Reports</b>	-		
Councils		-		
New Economy	<ul> <li>The New Economy Index</li> </ul>	_		
Index	· · · · · · · · · · · · · · · · · · ·	-		
TNS-Global	<ul> <li>Clobal Reputation Survey</li> </ul>	-		
FORTUNE/Roper	<ul> <li>Corporate Reputation.</li> </ul>			
i out on things	Index	-		
A.T. Kearney FDI	o FDI Confidence Index	_	_	_
Confidence Index	o ror continence inter	-	•	•
The International	<ul> <li>Sustainability Indicators</li> </ul>	_	_	_
Sustainability	- containating ministions	-	•	•
Indicators Network				
Global Reporting	<ul> <li>Sustainability Indicators</li> </ul>			
Giotal Reporting Initiative	<ul> <li>auramatinity mutcators</li> </ul>			
Madar Research	a Report On The Arch			
Madar Research	<ul> <li>Report On The Arab Knowledge Economy</li> </ul>	•	•	•
ITU - International	<ul> <li>Statistics &amp; Analysis</li> </ul>			-
Telecommunications				
Union International Labour	a West & French			
	<ul> <li>World Employment</li> </ul>	-	-	
Organization (ILO)	Report			
	<ul> <li>Global Employment</li> </ul>			
	Trends			
	<ul> <li>Labour Market Indicators</li> </ul>			
World Trade	<ul> <li>Annual International</li> </ul>	-		
Organization	Trade statistics			
World Tourism	<ul> <li>Woeld Tourism statistics</li> </ul>			
Organization		_	_	

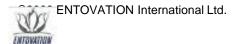
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#### THE TRIPLE KNOWLEDGE LENS MODEL



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### KIZ Findings: Knowledge-Based ECONOMY

Human Capital

- The KIZ Phenomenon is growing rapidly
- A dynamic and fast-growing <u>new market-space</u>
- KIZ company, country, and virtual have the potential to deliver superior <u>economic development and growth</u>.
- KIZ should become a greater <u>strategic priority</u> now.
- Regions are becoming major <u>KIZ hubs</u> in the expanding global economy.
- There is a real need for <u>performance measures</u>.
- There exists a problematic understanding and leadership gap.
- There is a significant <u>risk of failure</u> to realize targeted KIZ goals.
- To be more successful, leaders and stakeholders must adopt the right <u>KIZ mind-frame</u>.



### KIZ Findings: Knowledge-Based SOCIETY

Relationship Capital

KNOWLEDGE COMMUNITY, CULTURE, AND SOCIETY

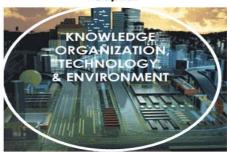


- Explosion of KIZ company and country business development <u>incubators and accelerators</u>.
- <u>Knowledge entrepreneurs</u> need to know how to manage intangibles, knowledge-based design, business models, markets and IP.
- <u>Real Estate-driven KIZ</u> need a more balanced KIZ analysis and planning to be successful.
- <u>Every business</u> is now a knowledge-driven business
- <u>KIZ clustering</u> talent, teams, and technology have greater potential to spur economic growth.
- <u>Creative arts and culture</u> are now powerful economic drivers, not just a not-for-profit market niche.
- An abundant and infinite economy opens <u>vast new spaces</u> for value and wealth-creation.
- Present measuring indicators, accounting systems, heritage assets are in serious need of improvement.



### KIZ Findings: Knowledge-Based INFRASTRUCTURE





- Web 2.0 including widespread use of media and personal networks – exploded the use of intranets and extranets providing increased <u>stakeholder interaction.</u>
- There is a growing importance on place branding.
- <u>ICT is a means</u>, not an end; now intimately coupled with innovation.
- Open innovation has become the standard.
- Artfully <u>re-creating our urban landscape</u> has major economic benefits given the migration to cities.
- <u>Sustainability reporting</u> has had an impact on environmental initiatives and the wide acceptance thereof.
- Accelerated use of <u>mobile communications</u> has leveled the economic playing field.
- Social Network Analysis (SNA) has emerged as one of the most important tools of the Knowledge Economy for the public and private sectors.
- The era of the globalization of the individual has arrived.



### Knowledge Innovation -

### A Chinese cornerstone...



# Knowledge Innovation® in the mainstream of India...

NASSCOM" National Association of Software and Service Companies

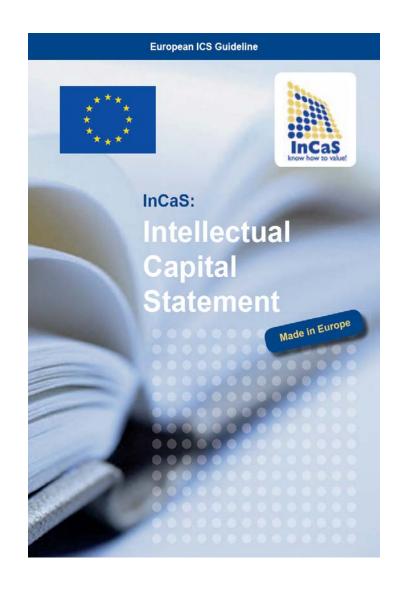
- Indian IT-ITES industry has grown at a <u>CAGR of over 28 per cent</u> since FY 1999-2000; industry's contribution to the national GDP has risen from 1.9 per cent in FY 1999-2000 to a projected 4.8 per cent in the current fiscal.
- ✓ <u>IT-ITES exports</u> from India grew from USD 13.3 billion in FY 2003-04 to <u>USD 18.2</u> <u>billion in FY 2004-05</u>.
- ✓ India's <u>stock of foreign exchange earnings</u> risen from USD 5.8 billion in FY1990-91 to <u>USD139 billion in January 2006</u>.
- ✓ <u>Americas and Europe</u> remain the key markets, accounting for over <u>90 per cent of</u> <u>IT-ITES exports</u>.

ICAP Starshit NET LHI

"To stay in lead and increase India's

share in the global market, the Indian government and IT/BPO industry need to focus on moving up the value chain by cultivating deep and enduring innovation across three dimensions -

- a) Business model innovation;
- b) Knowledge innovation; and
- c) Ecosystem innovation.



"Knowledge and Innovation have already become the major competitive advantages of many companies...

Intellectual capital (IC) forms the basis for high quality products and services as well as for organizational innovations."

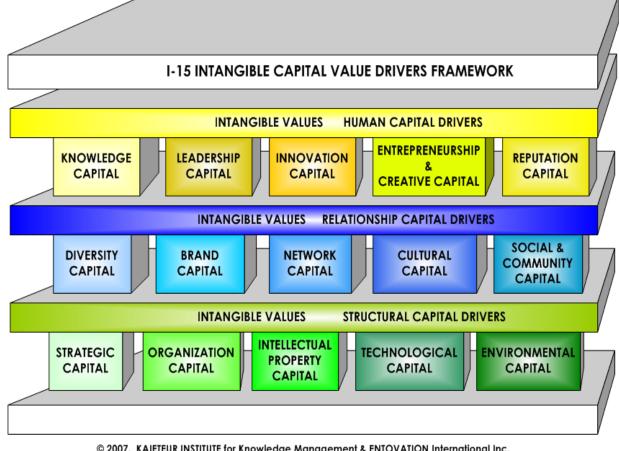
- Strengthen the competitiveness and innovation potential of European organizations by systematically activating their IC.

- Establish IC Statement as an important and valuable management tool in a Knowledge-driven economy.

- Integrate and consolidate individual national approaches on ICaS on a European Level.

"Backbone of the European Economy"

## KIZ P7 Blueprint: Performance



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Smart Communities	http://www.smartcommunities.org/
[San Diego, CA]	
San Gabriel Economic Partnership	http://www.valleyconnect.com/index.aspx
[Irwindale, CA.]	
Cultural Initiatives Silicon Valley	http://www.ci-sv.org/pdf/Index-2005.pdf
[San Jose, CA]	
Chicago Metropolis 2020	http://www.chicagometropolis2020.org/
[Chicago, Illinois]	
Kansas Bioscience Authority	http://www.kansasbioauthority.org
[Olathe, Kansas]	
Louisiana Innovation Council	http://gov.louisiana.gov/assets/docs/2009EOLouisianaInn
[Baton Rouge, LA]	ovationCouncil.pdf
Maine Executive Office of Innovation [Augusta, Maine]	http://www.maineinnovation.com/about_us/default.asp
Imagine Nations Group	http://www.imaginenations.org/Home.aspx
[Pasadena, Maryland]	
Boston World Partnerships [Boston, MA]	http://www.bostonworldpartnerships.com/
Boston Indicators Project [Boston, MA]	http://www.bostonindicators.org/IndicatorsProject/Content. aspx?id=602



John Adams Innovation Institute [Westborough, MA]	http://www.masstech.org/institute2009/index.html
Initiative for a New Economy [Boston, MA]	http://www.initiativeforaneweconomy.com/about_us.html
Innovation Valley [Haverhill, MA]	http://www.ivalley.org/
Michigan Smart Zones [Lansing, MI]	http://www.michigan.org/medc/smartzones/program/
<b>Michigan Future Inc.</b> [Ann Arbor, MI]	http://www.michiganfuture.org/
Capital City Bioscience Corporation [St. Paul, MN]	http://www.stpaulbioscience.com/
Mississippi Technology Alliance [Ridgeland, MI]	http://www.technologyalliance.ms/index.php
Nebraska Innovation Technology Alliance [Lincoln, NE]	http://www.nizc.org/
Nebraska Innovation Park [Lincoln, NE]	http://www.unl.edu/ucomm/chancllr/nipark/
Hartford-Springfield Knowledge Corridor [CT and MA]	http://www.hartfordspringfield.com/



New England Futures	http://www.newenglandfutures.org
[Montpelier, VT]	<u>map.//www.newenglandratares.org</u>
New Jersey Innovation Zones	http://www.njeda.com/web/Aspx_pg/Templates/Pic_Text.a
[Camden, Newark, and New Brunswick, NJ]	<pre>spx?Doc_Id=137&amp;menuid=777&amp;topid=718&amp;levelid=5∣ id=730</pre>
Technology Valley	http://www.techvalley.org/
[Albany, NY]	
Buffalo Regional Knowledge Network	http://rkn.buffalo.edu
[Buffalo, NY]	
Buffalo-Niagra Enterprise	http://rkn.buffalo.edu
The Levin Institute – Globalization 101	http://www.globalization101.org/contact
[New York, NY]	
Research Triangle Park	http://www.researchtriangle.org
Research Triangle Park Foundation	http://www.rtp.org/main/index.php
Research Triangle Institute [NC]	http://www.rti.org
HASTAC – Duke University	http://www.hastac.org
[Raleigh, NC}	
Semiconductor Research Corporation	http://www.src.org/
[Raleigh, NC]	
Ohio Third Frontier Project [Columbus, OH]	http://www.ohio3rdfrontier.org/index.asp



Akron Biomedical Corridor	http://www.akronbiomedicalcorridor.com
[Akron, OH]	
Institute For Open Economic Development Networks [Cleveland, OH]	http://www.i-open.org
Keystone Innovation Zones [Harrisburg, PA]	http://www.harrisburgregionalchamber.org/business/kiz/ab out_kiz.asp
<b>Great Valley Technology Alliance</b> (GVTA) [Wilkes-Barre, PA]	http://www.greatvalleyalliance.com/great_valley.html
Business Innovation Factory [Providence, RI]	http://www.businessinnovationfactory.com
2010 Initiative [Pierre, SD]	http://www.2010initiative.com
Technology Gateway [St. Louis. MI]	http://www.technologygateway.org/about_us.asp
Knoxville-Oak Ridge Region – Innovation Valley [Knoxville, TN]	http://www.innovationvalleypartners.com/
Institute for Capital and Creativity (IC2); Austin Technology Incubator (ATI); Austin Human Capital; Austin Angel Network	http://www.ic2.utexas.edu/ http://www.ati.utexas.edu/ http://www.austinhumancapital.com/index.html http://angelinvestinginaustin.blogspot.com/
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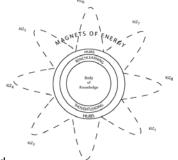


Innovation Research Park [VA]	http://www.irpodu.com/aboutpark/
Washington State Innovation Zone projects	http://www.governor.wa.gov/priorities/economy/innovation
Prosperity Partnership [Seattle, WA]	http://www.prosperitypartnership.org/index.htm
Wisconsin Technology Council - Vision 2020 [Madison, WI]	www.wisconsintechnologycouncil.com

# How to prototype solutions?

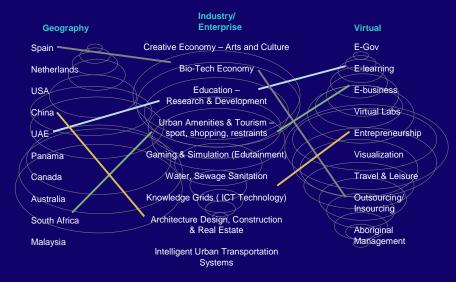
### Knowledge Innovation<sup>®</sup> Zones

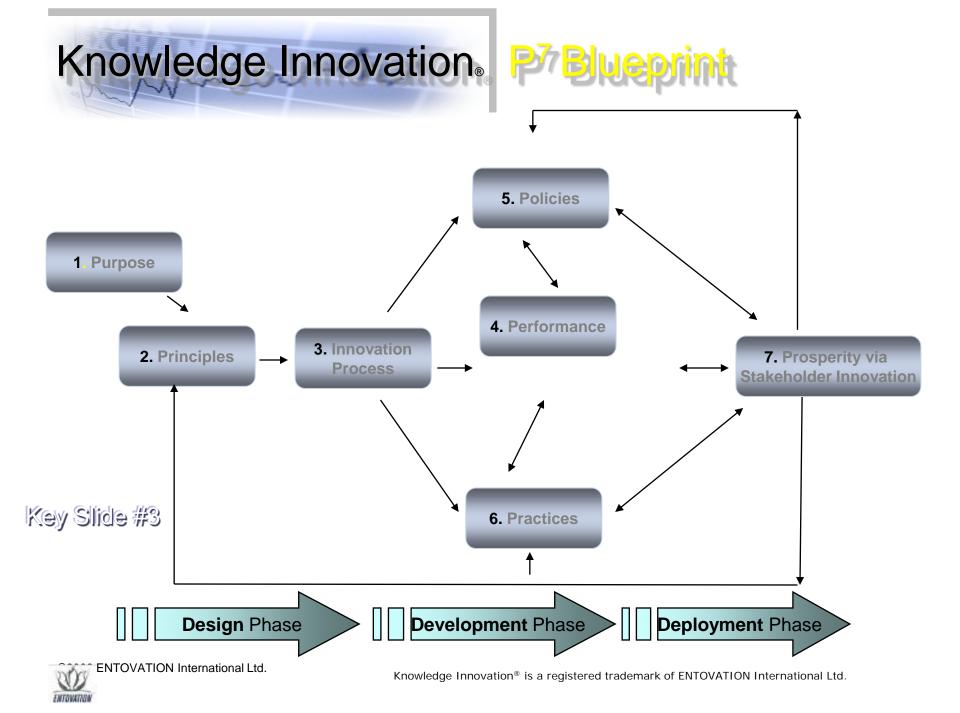




#### **Knowledge Innovation**®

KIZ Prototyping Arena - Sample





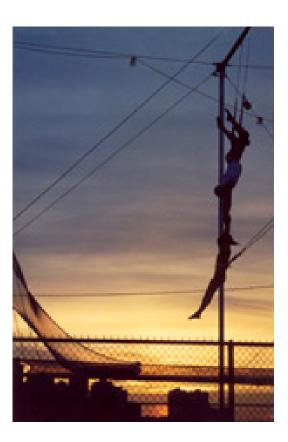
# P<sup>7</sup> KIZ Recommendations

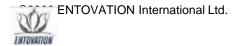
- <u>Purpose</u>: Ground your intent in the context of global trends ideally according to an Knowledge-based Economy, Society and Infrastructure.
- Principles: Examine the foundations of vision, values and standards based upon the most accurate analysis of standards to emulate.
- **Process:** Perform a systematic gap analysis of the relative strengths and weakness of the enterprise resulting in an integrated knowledge strategy and projects to affect high-performance.
- Performance: Understanding which drivers and influencing variables are most germane and - if established - would yield expected results, and to put the plan in motion.
- Policies: Visit existing policies to stimulate more effective the knowledgebased economic and financial policies to foster human and technical communications across boundaries and result in more efficient and effective innovation practices.
- Practices: Establish bench-learning, (i.e., learn from the best), to transfer those insights into the leadership and to be able to map and visualize the knowledge innovation gained.
- <u>Prosperity</u>: Create mechanisms to ensure constant iteration of new products and services to meet constituent needs while maintaining an innovative competitive positioning.

## **Questions?**











"Better overall performance comes when executives, managers and professionals can actively build upon another's competencies, building trusting and dynamic relationships where their creative and innovative ideas flow freely."

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