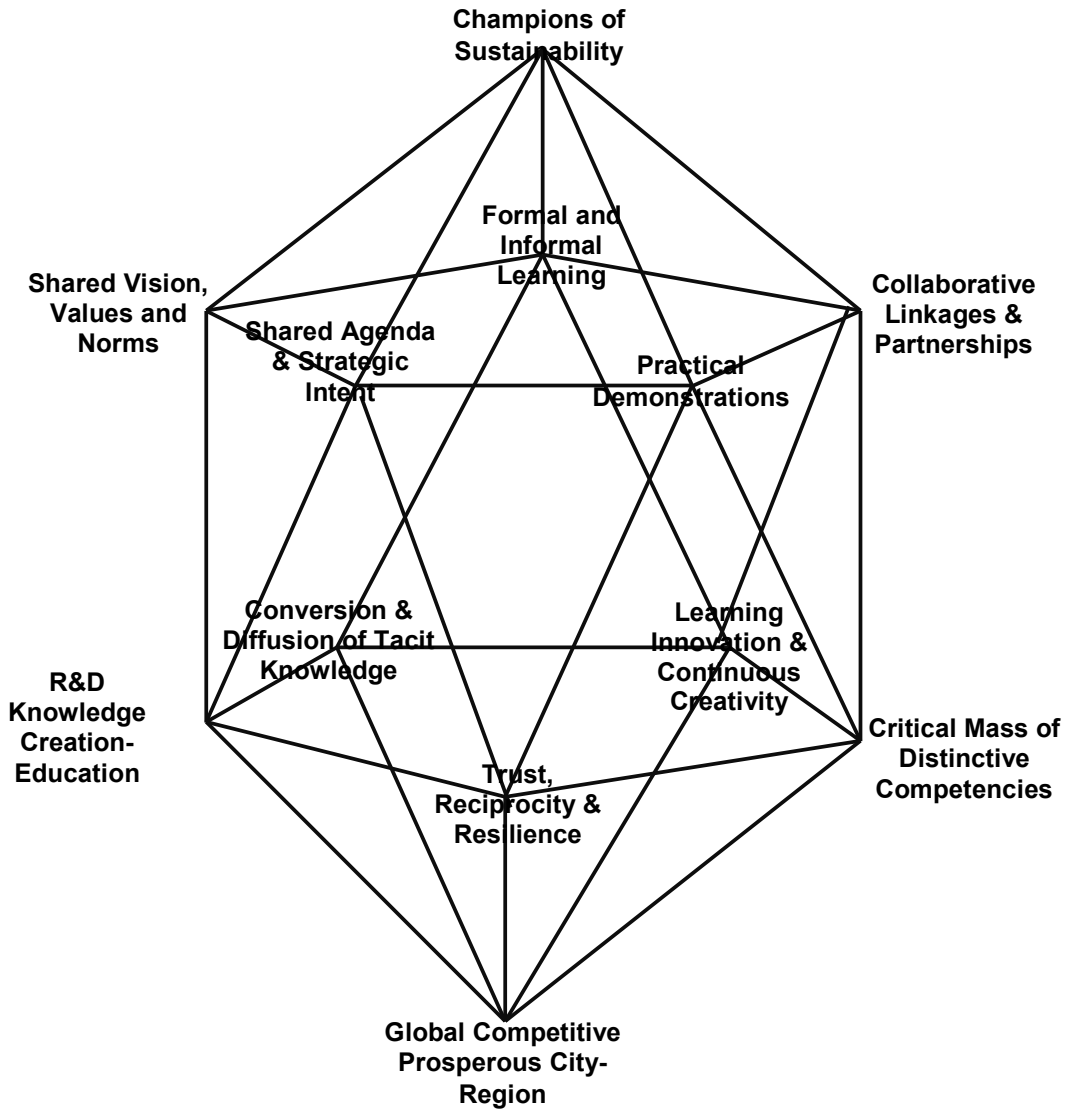


**Centre for Excellence in Tropical Design  
Knowledge Networked Clusters © CDET 2004**

**The Underlying Conceptual Model**

Andrew McEwen: Manager Economic Development City of Thuringowa



## A Centre for Excellence in Tropical Design: Sustainability and Innovation

Developing a prosperous and sustainable city-region in the 21<sup>st</sup> Century requires both increasing the knowledge intensity of the economy and its resource efficiency (O'hame, Porter, Hawkins & Lovins). Cities, regions and communities need not only to capitalize on their unique competencies and IP, but they also crucially need to drive down the cost of doing business across the value chain by radically increasing resource efficiency, if they wish to remain globally competitive.

Leading edge and global best practice dictates that the pattern of adaptive responses must change to meet the needs and requirements of the networked society (Manual Castells). This is difficult for many people and organizations, because it implies a fundamental changing in paradigms and modus operandi (Barker, Mertens). Being competitive in the 21<sup>st</sup> Century requires differ forms of leadership, organization and webs of relationships. Strengthening globalisation, the shift to a knowledge economy & demands for sustainability requires a shift in thinking (paradigms) and practice:

<b>From</b>	<b>To</b>
Low knowledge intensity	High knowledge intensity
Education and skills	Continuous learning and innovation
High energy intensity	Low energy intensity
Unsustainable design & living	Sustainable design and living
Commodity exports	Knowledge and service exports
Manufacturing and services	Services, learning and culture
Structured silos & boundaries	Collaborative partnerships & networks

The model underlying the centre assumes that there are *champions of sustainability principles*, who operate outside of narrow corporate self interests for the wider social good. They are the guardians or stewards (Black, Chappell) of constructive change and innovation, who coalesce as a critical minimum core of people and organizations around *a genuinely shared vision, values and norms*. They typically represent all walks of life, business, commercial, community, government and academia. Typically such processes are informal and occur through time, so that mutual understanding and respect can develop. They cannot be imposed or controlled by one level of government or one sector or another.

Through time, a commitment to a share vision allows for *a shared agenda and strategic intent* to develop. The concept of the centre and its agenda grew out of critical collaborations between people, who grew to trust each other based on a shared commitment to the primacy of principles of sustainability. In this context, trust cannot be

demanded, it has to be earned (Fukuyama). Key to the successful emergence of the network cluster is in the short terms *developing practical demonstration* projects or as Ifor Ffowcs Williams characterizes picking the low fruit, these will be typically across sectors and bear fruit for all respective partners

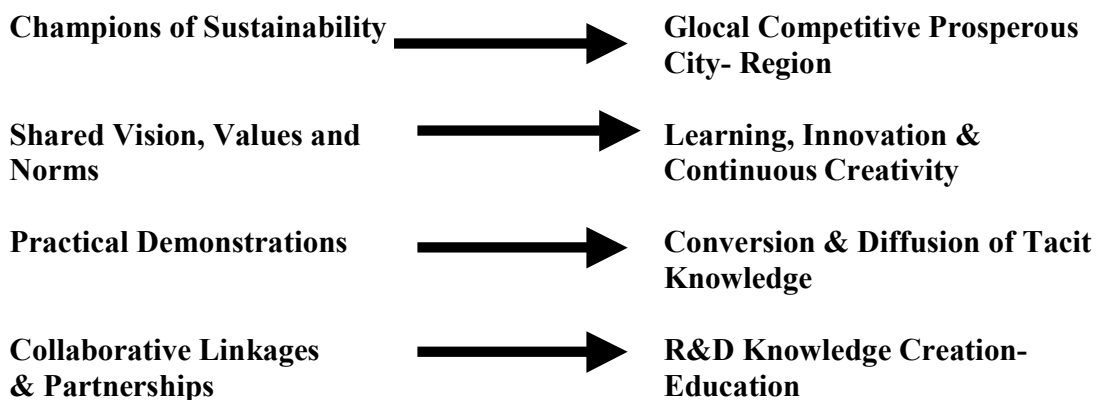
Such processes *form increasingly dense and strong partnerships, collaborations and linkages* between organizations, people and sectors that transcend narrow agendas, organization politics and dysfunctional turf wars (Maynard & Mertens). Such webs or relationships open up broad avenues for *formal and informal learning* that are critical for innovation and sustainability. Being in the “*flow*”, being spontaneous, humorous and creative in such situations generates *high levels of trust, reciprocity and resilience*. *The underlying mindset is one of “abundance” as distinct to a “scarcity” mentality.*

Such partnership allow for a *R&D agenda and knowledge creation process* to emerge from practical collaborations, problems solving and novel thinking. A shared research agenda informed by practical problems and a field of relationships embracing diverse perspective in turn affects the quality of education. The free cross flow of information through a dense series of networks and relationships allows, as in Silicon Valley a *rapid conversion and diffusion of new tacit knowledge that emerges from practical ingenuity*. This two way flow from research institutes to practitioner and from practitioners to research and learning bodies allows for a *process of learning, continuous innovation and creativity*, which is at the core of today and tomorrow’s global competitiveness.

With the shared vision and strategic intent’s trajectory (Hamel and Prahalad) a *critical mass of distinctive competencies* can emerge that allow for the development of a *globally prosperous and sustainability City-region*.

In short pursuing global preeminence in sustainable tropical design and innovation involves a cultural shift (Gunderson & C. S. Holling), which embraces fierce collaborations, intense competition and a commitment to Dr Ell yards Quadruple Bottom Line (Social, economic, cultural and environmental)

### **Key relationships in the model**



**Formal and Informal Learning**



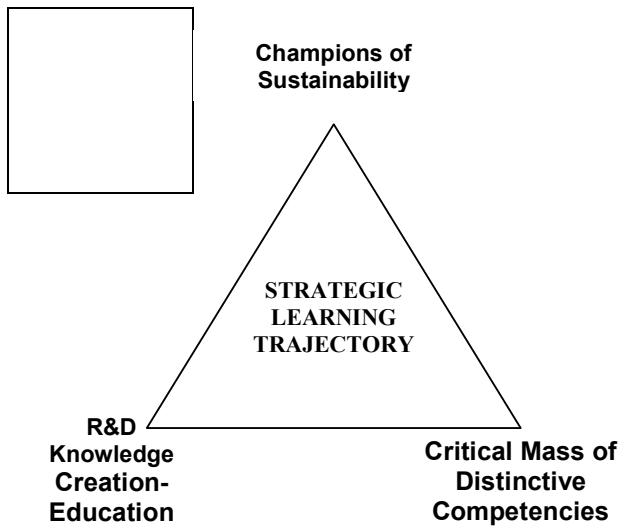
**Trust, Reciprocity & Resilience**

**Shared Agenda and Strategic Intent**



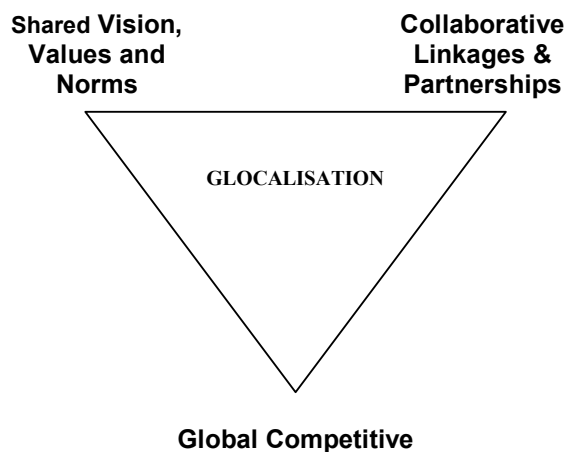
**Learning, Innovation and Continuous Creativity**

Structural Relationships-Triads.



### **STRATEGIC LEARNING TRAJECTORY**

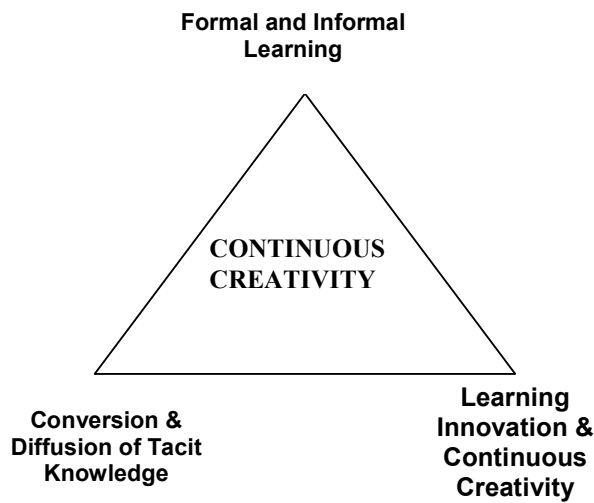
The drive passion and energy of the champions of sustainability strategically work collaboratively with stakeholder to devise the *research agenda* from which the critical mass of distinctive competencies can emerge.



### **GLOCALISATION**

The development of a genuinely shared vision, values and norms provides the basis for the establishment of Collaborative Linkages & Partnerships, which are at the core of the networked clusters.

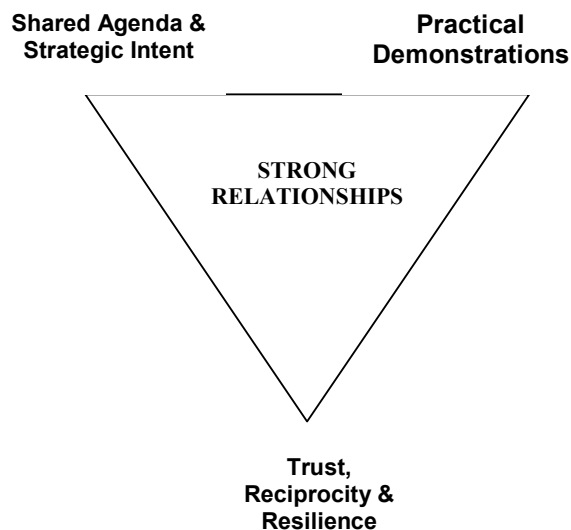
The work of O’Riordan et al, argues that this is the critical precondition for cities-regions to take control of their own agenda and to operate competitively in a global economy. The combination of local vital culture of adaptation, resilience and flexibility in a global economy is defined contemporarily as a process of *glocalisation*.



## **CONTINUOUS CREATIVITY**

Novel ideas and radical breakthrough thinking came from inspired intuition, which is fueled by a context of formal and informal learning, the rapid and widespread conversions and diffusion of tacit knowledge in explicit knowledge (Ikujiro Nonaka and Hirotaka Takeuchi).

Such operational cultures form an environment within which learning, innovation and continuous creativity abound. (Hamel)



## **STRONG RELATIONSHIPS**

Well functioning knowledge industry networked clusters develop a shared agenda and a strategic intent with stretch goals (Hamel and Prahalad) that drive their direction. Practical demonstrations cement strong working relationships, which build trust and reciprocity and resilience into their operations.

The overall process reinforce strong relationships, which underpin the flexibility, adaptability and resourcefulness of the network.

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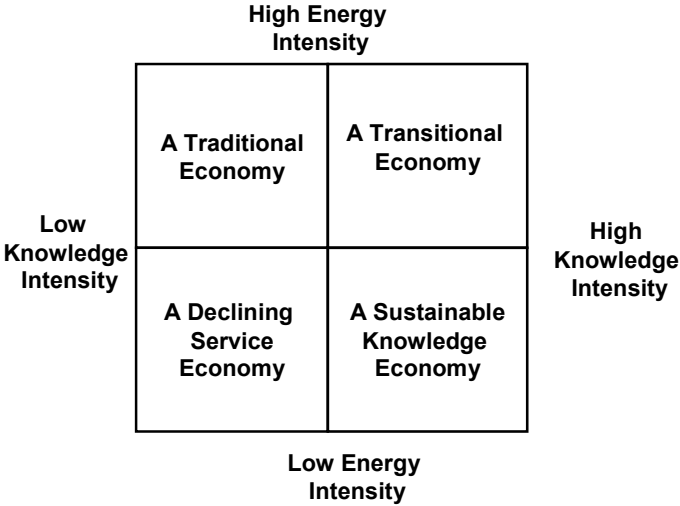
*Building Sustainable Global  
Competitive Advantage by  
Getting to the future first!*

“The role of knowledge network  
clusters in scenarios for future  
global competitiveness”

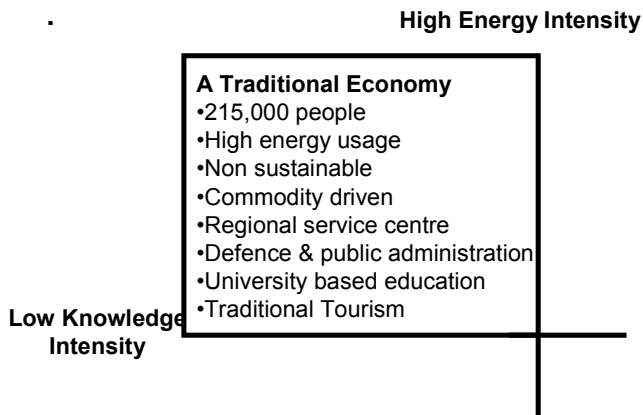
Andrew McEwen  
Manger Economic Development  
City of Thuringowa

**Presentation to the Launch of a Vision Statement for a Centre of excellence in tropical design and  
Innovation 2/12/2004, South bank Townsville**

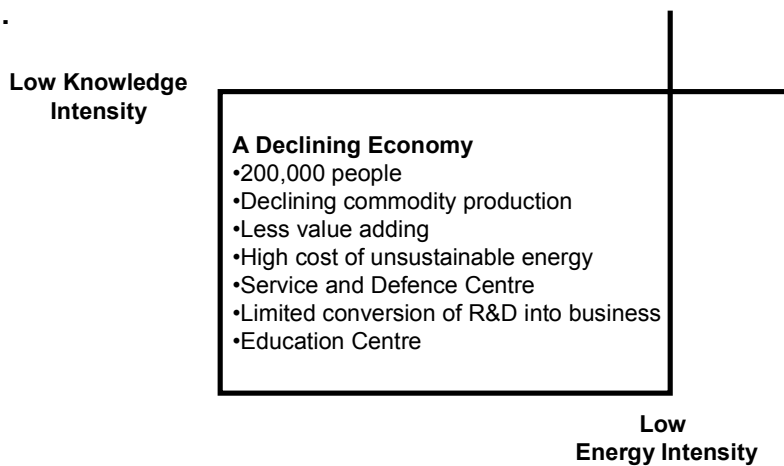
# Four Scenarios for the Twin Cities for 2015



## Four Possible Scenarios for 2025 “Business as usual”

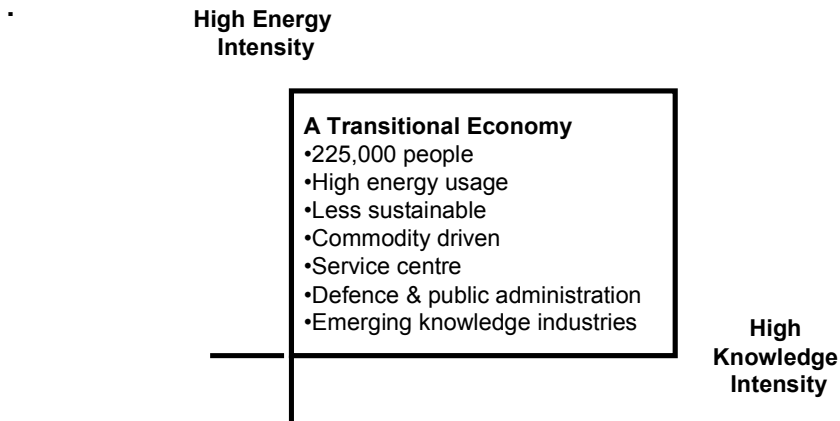


## Four Possible Scenarios for 2025 “Loss of adaptability & flexibility”

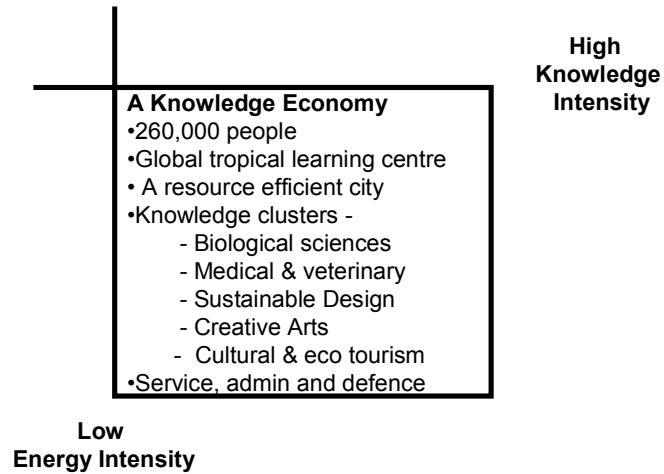


# Four Possible Scenarios for 2025

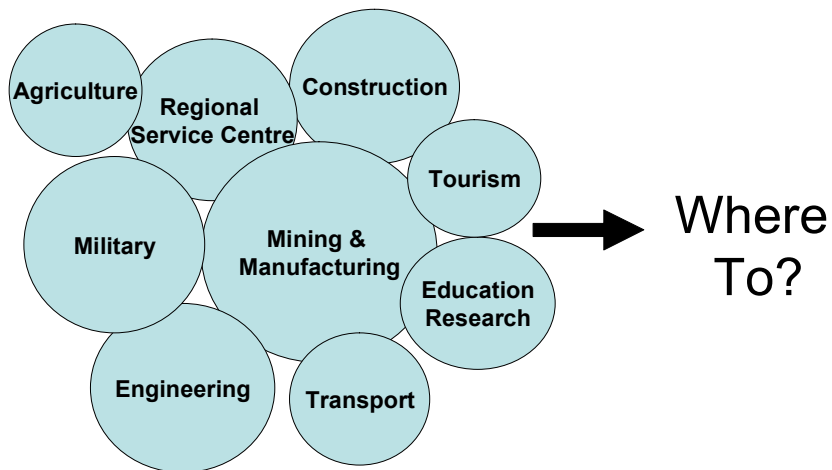
## “Something Different Emerging”



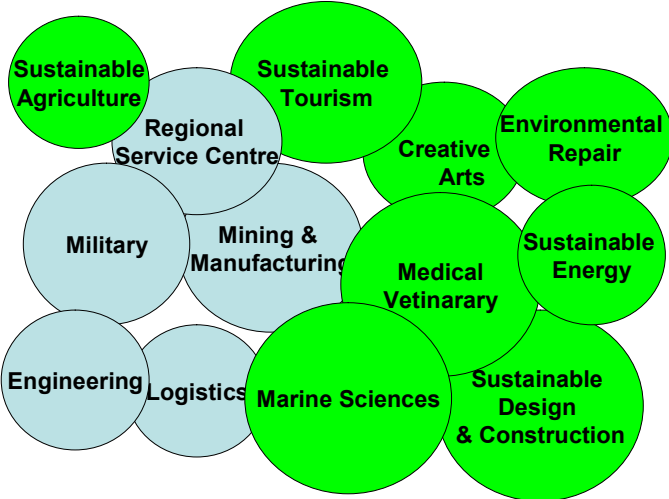
## Four Scenarios for the Twin Cities for 2025 “A Globally Competitive Learning Tropical City”



## *2004 industry agglomerations*



*2015 globally networked  
sustainable knowledge clusters*



# Success factors for regional economies in Australia

National Economics 2004

- Creativity & knowledge industries (3.6% VS -2.1%)
- Educational role (2.3% vs. - 1.4)
- Non retail dominance (+1.6 vs. -3.1%)
- Supply chain role (QNI, Transport Logistics) (1.5% VS -3.6%)
- Population Growth (1% VS -6.1%)

## Challenges for globally of competitiveness cities and businesses

- Critical *turbulence* & power of futures thinking
- Hypa competition – Hypa collaboration
- Third wave globalisation
- Continuous innovation as the strategic baseline
- Continuous creativity fundamental 0.68% QGDP
- Dominant Asian GDP > GDP USA
- De-massification of the economy
- Resource efficiency as a key competitive advantage

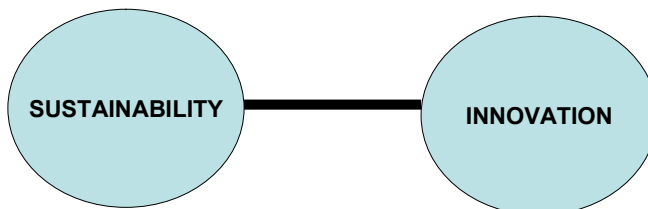


## 2010-2025 business opportunities

### The Twin Opportunities of Sustainability and Knowledge Economy

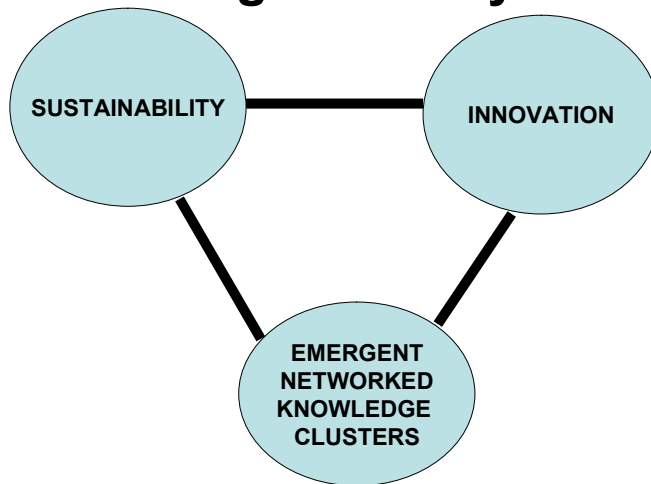
- Smart city transport
- People efficient buildings and communities
- Resource efficient infrastructure
- Retrofitting buildings (\$300m p.a.)
- Energy efficiency
- Socially & cultural capital formation
- Cost effective business infrastructure

## Core Propositions

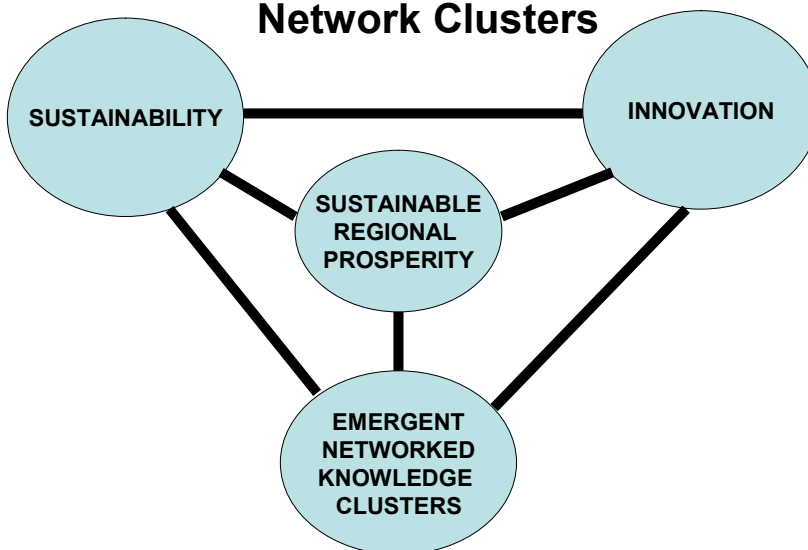


- *Intrinsically linked*
- *Are global emergent knowledge industries*
- *Are critical for global competitiveness*
- *The Entry cost for 21<sup>st</sup> century industry*
- *Productivity & innovation = Competitiveness*

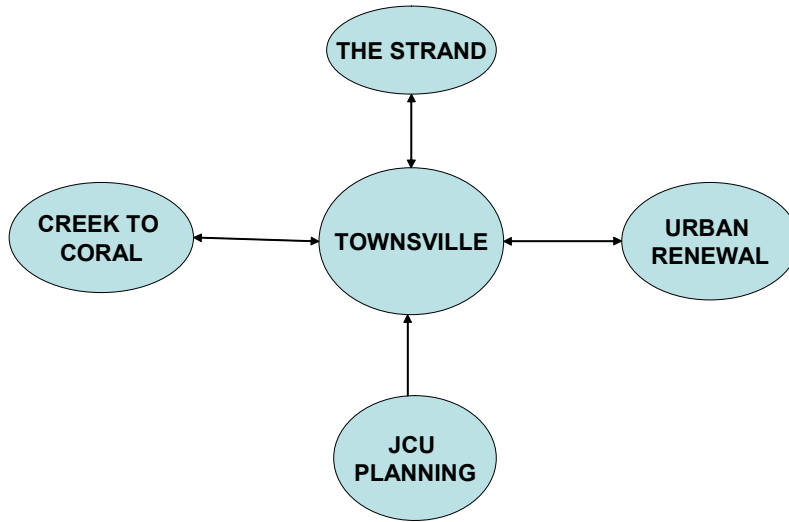
**Are linked and are the basis for  
the emergence of networked  
knowledge industry clusters**



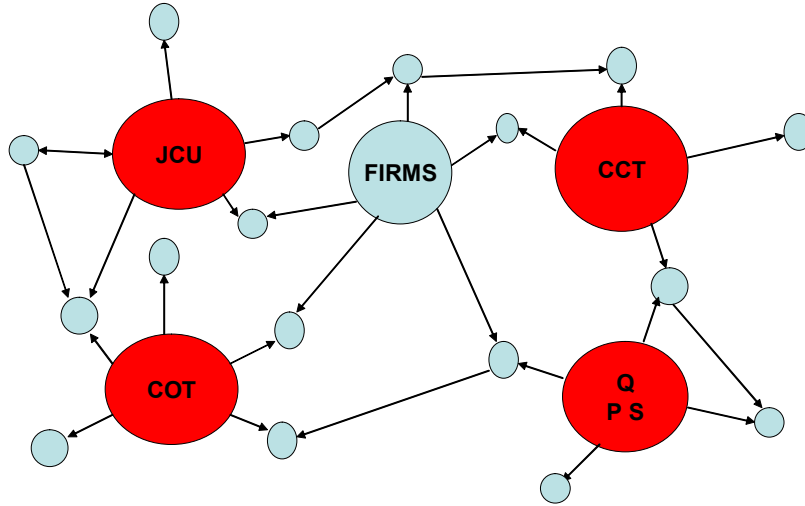
**Prosperity is linked to Sustainable  
Innovation and Emergent Knowledge  
Network Clusters**



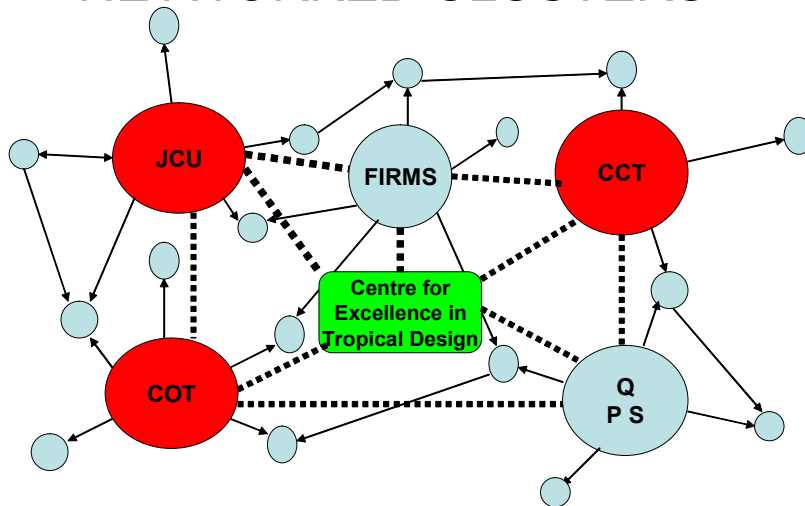
# LEARNING HUBS



# LEARNING NETWORKS



# KNOWLEDGE INDUSTRY NETWORKED CLUSTERS



## Competitive Advantage of Knowledge Industry Networks

- Provide for a distributed network of hubs of learning and innovation
- Provide focus for a shared strategic intent
- Generate & share intellectual capital
- Provide process for continuous innovation
- Provide a focus for competitiveness
- Develop distinctive global competencies
- Commercialise and export global services

### **Properties of emergent knowledge network clusters**

- Multi nodal networks with high level of linkage and connections both locally & globally.
- Have high levels of trust and reciprocity based on shared vision and strategic intent and co-operative projects.
- Organised through formal and informal partnerships, collaborations & strategic alliances.
- Enjoy a free flow of information across networks with high levels of conversion and diffusion of tacit knowledge into organised learning and practice.
- Cuts across traditional boundaries and includes financial, business, community, government and educational organisations.

## Building Industry Cluster Networks

- Based on practical first steps that generate trust & reciprocity
- Partnerships & cross sectorial networking
- Targeted research agenda
- Growing technical & management capacity
- From continuous improvement to continuous Innovation systems
- Generation of new business start ups

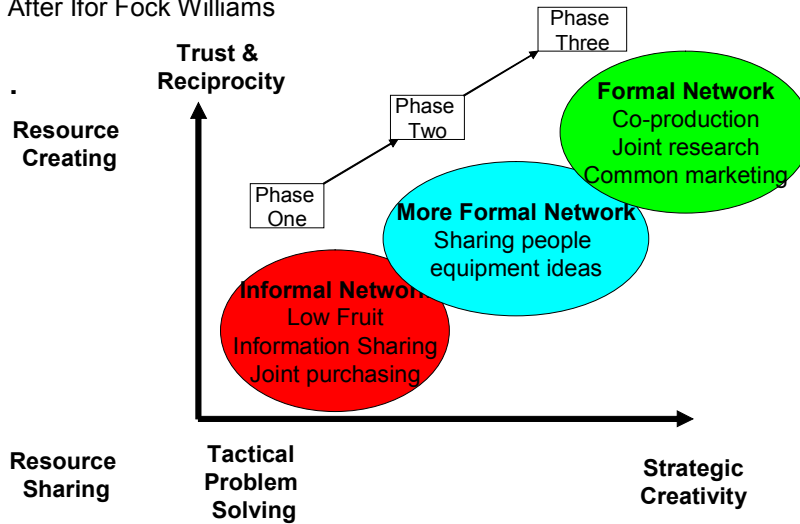
## Collaborations & Partnerships for Successful Innovation

“.....in developing a culture of innovation, a fourth dimension is required, which is collaboration and cooperation between industry, business, universities and research organisations and Government.

“Innovation Direction for Queensland”  
(P 15, 2001, Queensland Innovation Council)

# Cluster Navigators © 2004

After Ifor Fock Williams



## Third Wave Networked Clusters

© Ecolore Pty Ltd 2003

Industrial Clusters	Post Industrial	Knowledge Economy
Aggregation	Co-opetition	Networked Creativity
Industrial Place	Consortium	Cross Sectorial Networks
Alfred Marshall	Michael Porter	Manuel Castells
National-International	Globalised World	Glocalised World
Scale & Efficiency	Competitive Rivalry and Co-operation	Continuous Creativity

# Future Proofing

- How *we model* the world *is what we see and do!*
- If we see the future as a continuation of the present, we will arrive at the future unprepared.
- If we establish a genuinely shared preferred future based on emerging models of the new economy, we will arrive prepared and prosperous
- The choice is between envisioning future options or betting that the future is no different from now.
- Being successful in the 21<sup>st</sup> Century for cities and business is about flexibility, adaptability and resourcefulness

## Michael Porter Harvard University

*“Paradoxically, the enduring competitive advantage in a global economy lie increasingly in local things – knowledge, relationships, and motivation that distant rivals cannot match”*

*“Clusters and the New Economics of Competition”  
Harvard Business Review November-December 1998*