

STI Capacity Building for Sustainable Urban Development

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Presentation to UNCSTD

Inter-Sessional Meeting

Lima, Peru

January 7, 2013

Urban STI Challenge

Science

Solve

Technology

Transform

Innovation

Impact

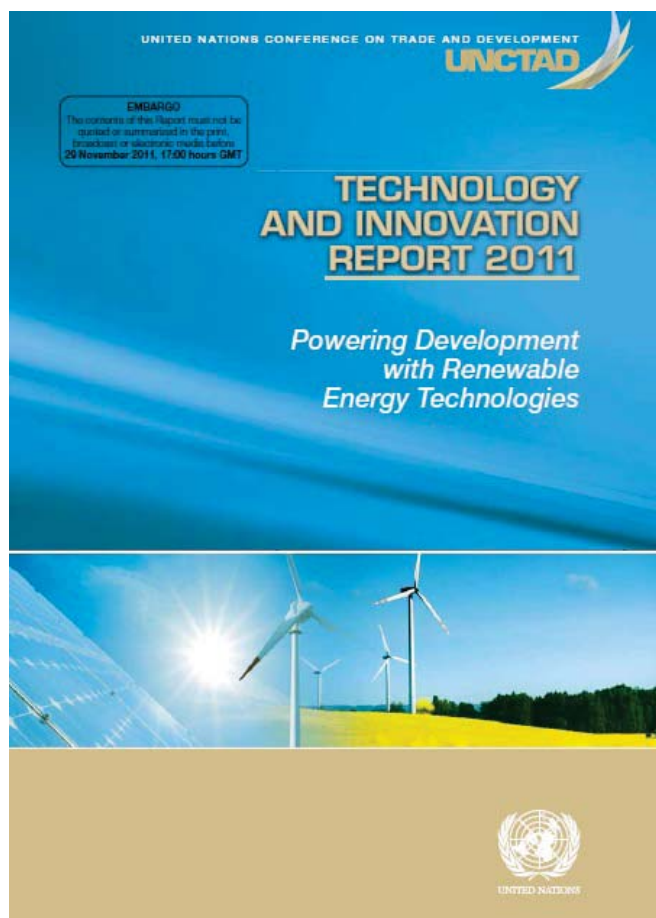
Source: R.A. Mashelkar presentation at World Bank Global Forum, "STI Capacity Building for Sustainable Development, Washington, DC, February 2007"

Rapid urbanization, growth of megacities, and rise of peri-urban areas are inexorable trends



**Only question is whether these trends
are harbingers of disease, crime,
political instability, terrorism,
resource shortages and civil unrest or
opportunities for sustainable
development and technological
advancement via leapfrogging and
retrofitting**

Which Future Will Prevail?: STI Capacity Building Holds the Key



**Commission on Science and Technology for Development
2012-2013 Inter-sessional panel
7-9 January 2013
Lima, Peru**

Issues Paper on

**Science, Technology and Innovation for Sustainable Cities
and Peri-Urban Communities**

ADVANCE UNEDITED VERSION

Prepared by the UNCTAD Secretariat

Innovation Equation

Velocity of Knowledge +

Velocity of Capital +

Absorptive Capacity +

Rate of Diffusion =

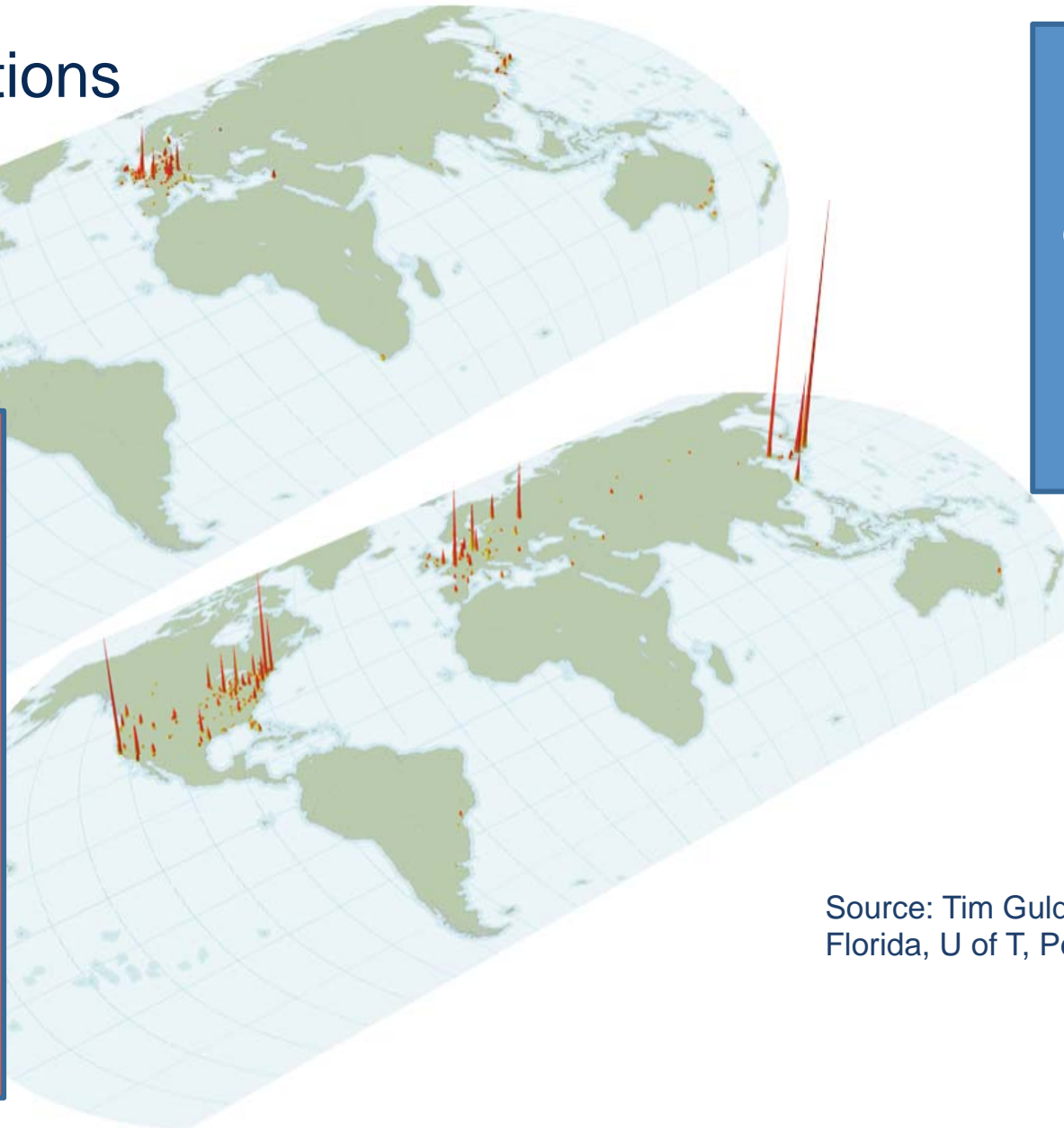
Pace of innovation

**There is no choice. The world is moving fast...
with or without you.**



The World of Innovation is Spiky....

Scientific publications



Talent is everywhere but opportunity is localized. Challenge is to harness global talent to local problems.

What is our niche or place in the global value chain?

Patents

Source: Tim Gulden, UMD, Richard Florida, U of T, Pekka Himanen, HIIT

***“No Matter Who You
Are, Most of the
Smartest People Work
for Someone Else”***

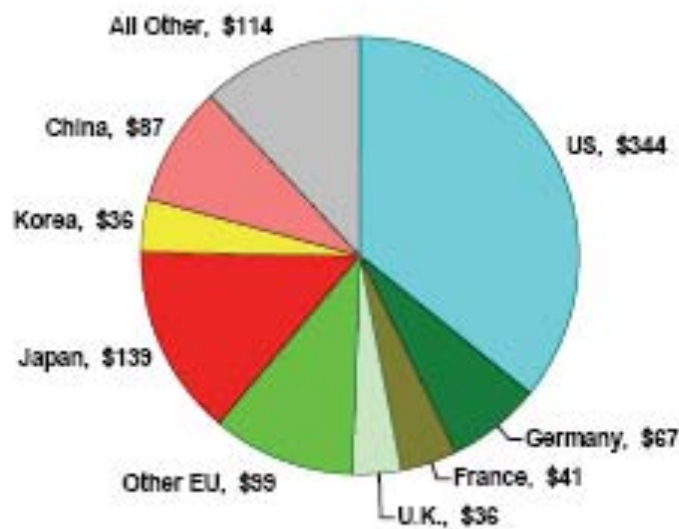
Joy's Law, attributed to Sun Microsystems co-founder Bill Joy

No Matter How Technologically Sophisticated A Country Is, Most of the Important Things Are Invented Elsewhere

Networks and PPPs needed to discover:

- What is important
- Who are the customers
- What is the problem
- Why customers want it
- How to produce it
- Who else is in the market
- What is the relevant IP

Shares of Total World R&D, 2007*



Total World R&D = U.S. \$962 billion**

* World = OECD members plus Argentina, China, Romania, Israel, Russia, Singapore, Slovenia, South Africa, Taiwan. 2007 or most recent year available.

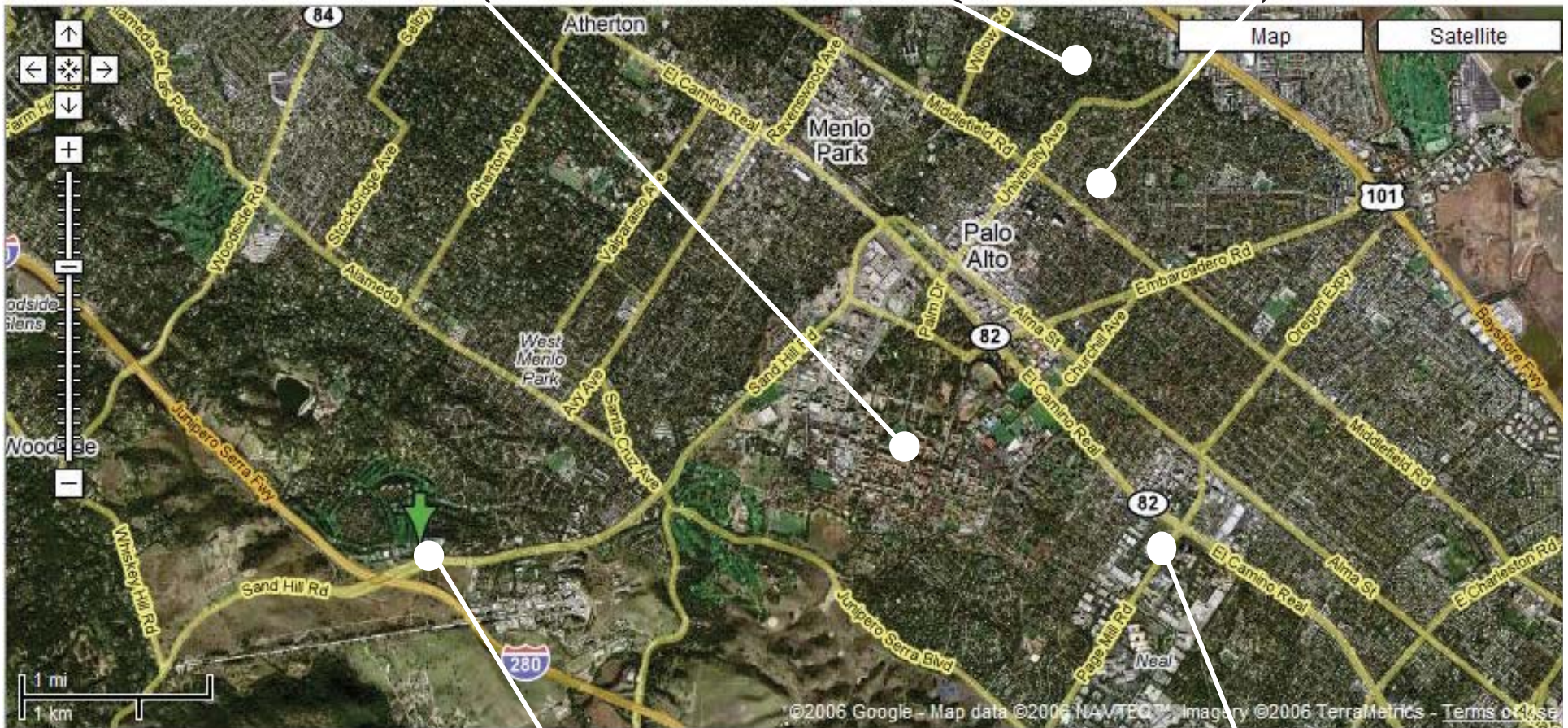
Source: OECD, Main Science and Technology Indicators, 2008. 2007 data or latest year available. ** - calculated using purchasing power parities. AUGUST '08 © 2008 AAAS



Intellectual
Property

Management

Strategic

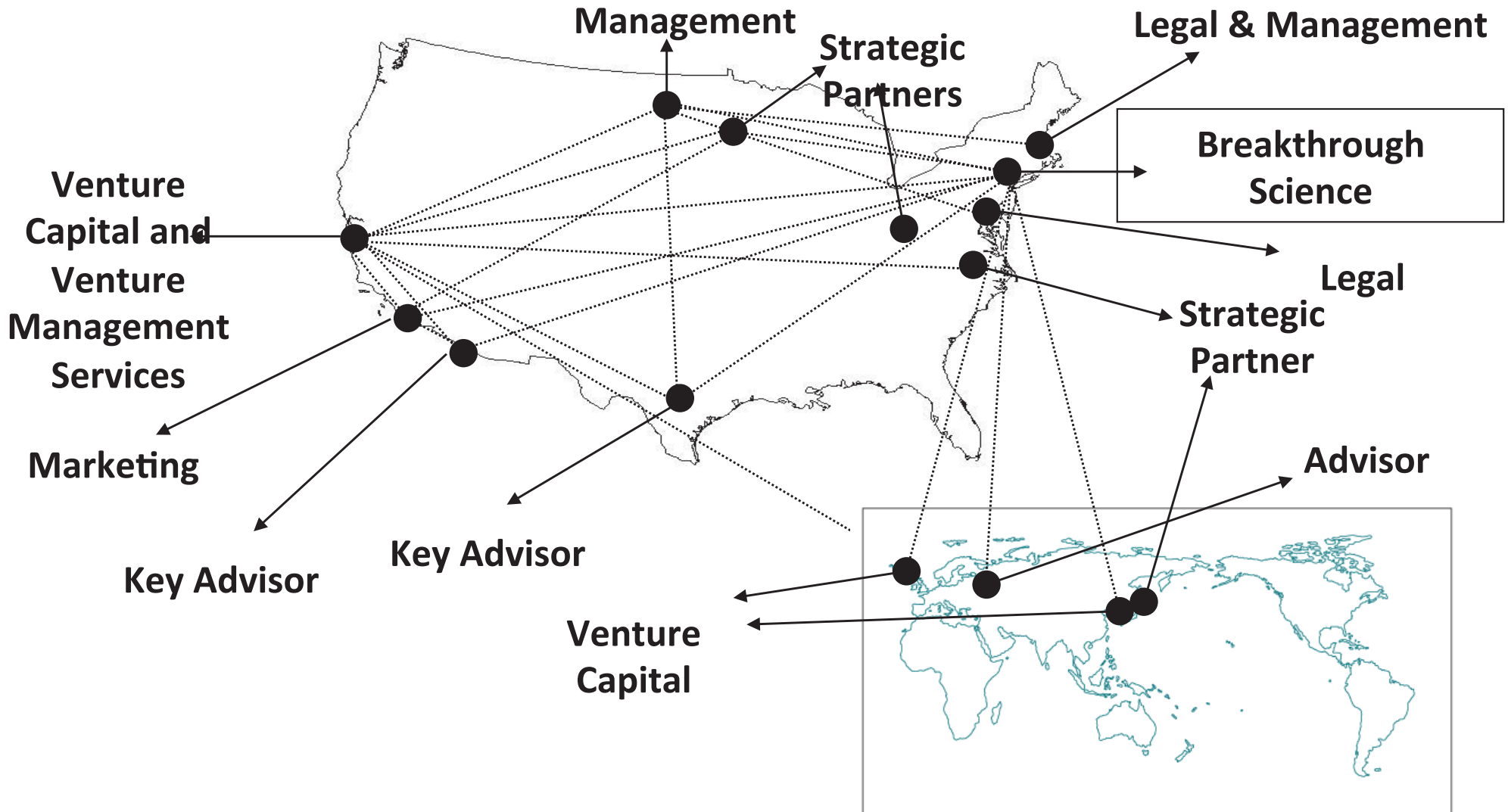


Venture Capital

Legal

**The Classical Startup: Sand Hill Road
Physical Proximity is Critical**

Contemporary Example...from T2VC



Global Connections and Linkages Trump Physical Proximity

**Connect Globally
to Develop Locally**





HOW?



2012

GLOBAL
INNOVATION
SUMMIT

CULTIVATING INNOVATION ECOSYSTEMS

Cultivating Innovation Ecosystems
July 16-18, 2012 – Silicon Valley, Calif.

GIS 1

July 16-18, 2012

www.innosummit.com

GIS 2

January 12-14, 2014

San Jose, California

Silicon Valley

GIS 2: Possible Topics

- Frugal innovation systems
- Crowd funding/ community investment trusts
- Mobilizing pension and sovereign wealth funds
- The role of public policy in fostering innovation ecosystems
- Urbanization and Innovation
- Harnessing the power of diaspora linkages.
- Leveraging human nature to foster the building of innovation ecosystems.

A New Paradigm of Economic Growth

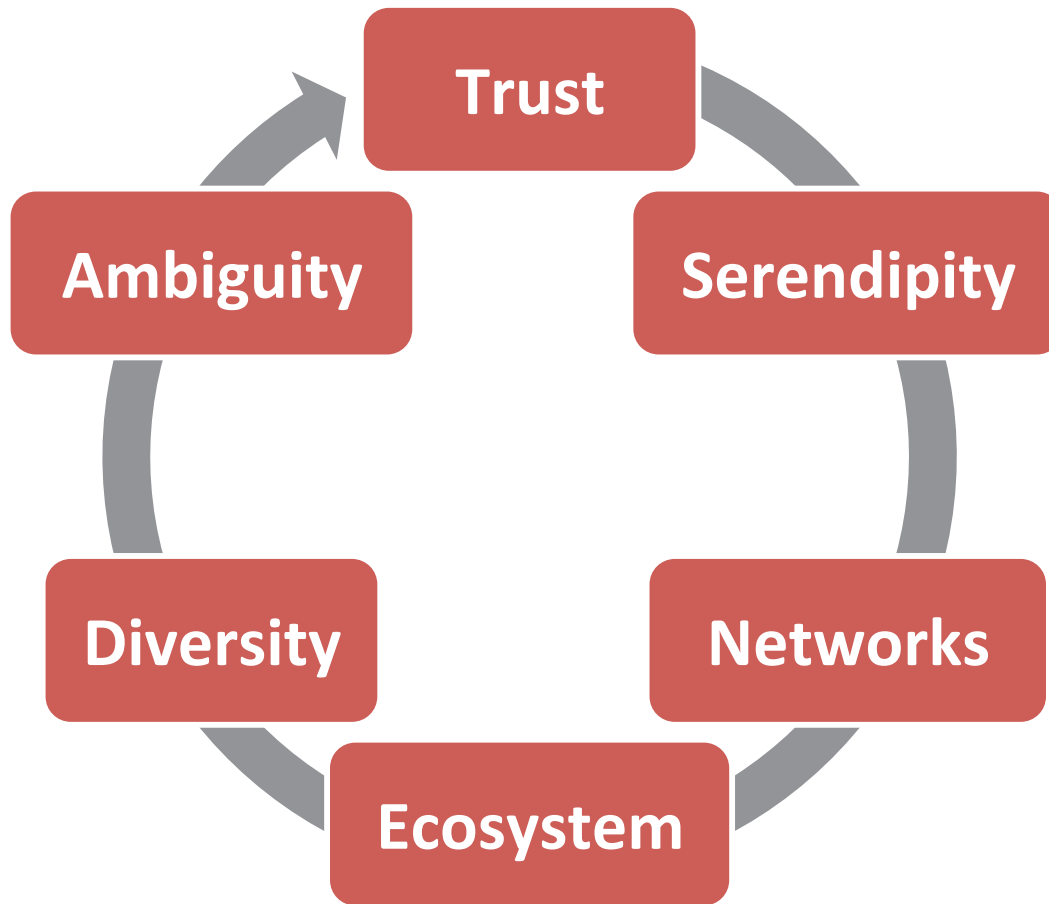
Plantation



Rain Forest



Lessons of the Rainforest



**Trust,
relationships
and linkages
are more
important
than money,
programs,
and buildings**

The Ecosystem

Entrepreneurs

Ideas & Inventions

Money

Talent

Government

Coaches & Mentors

Trade and Industry
Organizations

Academia & Research

Education &
Workforce Development

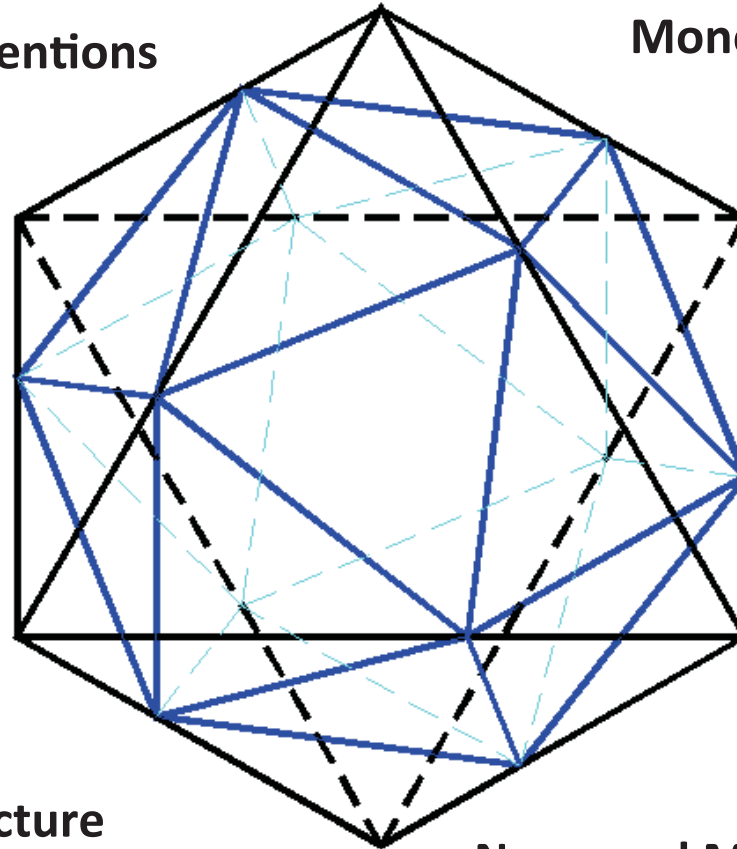
Business Support
Services

Real Estate &
Business Infrastructure

Access to Global Markets
& Supply Chains

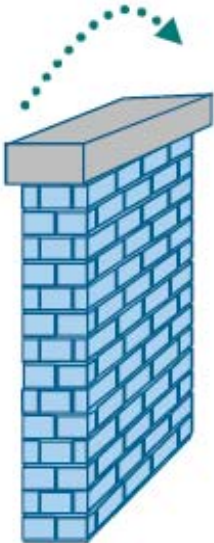
News and Media Outlets

Culture, Societal Values, Role Models, Rule of Law

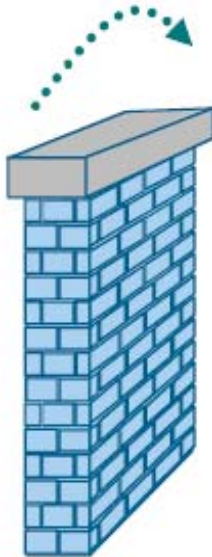


But despite modern technology, barriers to effective connections are high

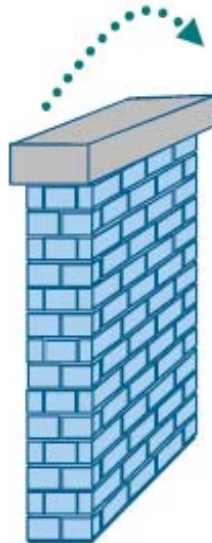
Lack of role models



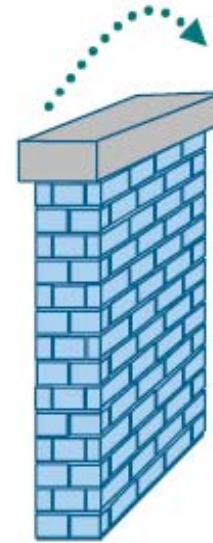
Lack of trust



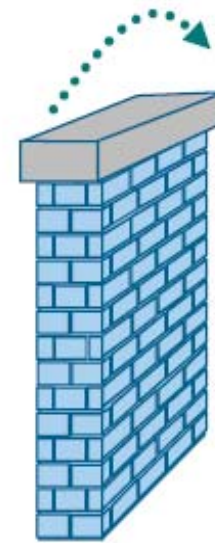
Limited management expertise



Limited access to smart capital

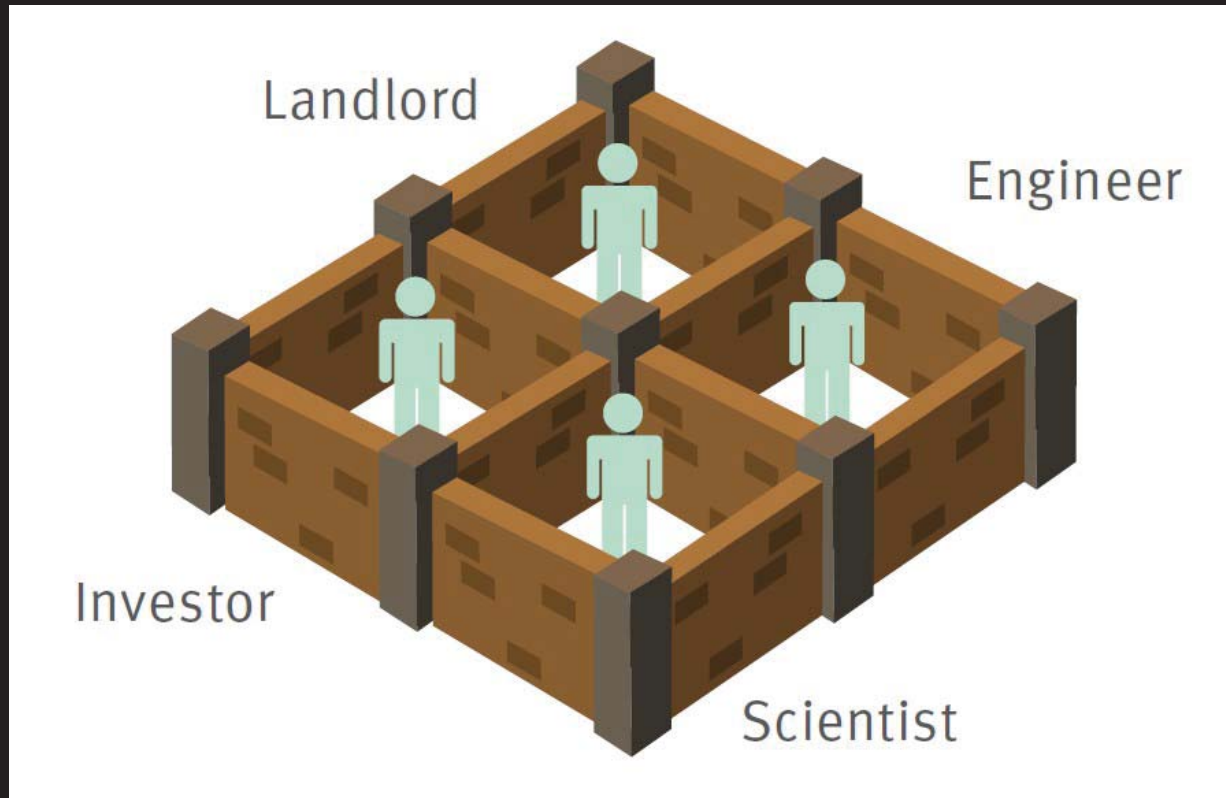


Lack of contacts and mentors



People and institutions remain isolated in silos of excellence and this inhibits innovative development

And real human beings are separated
... by geography, culture, language, social networks, and
lack of trust.





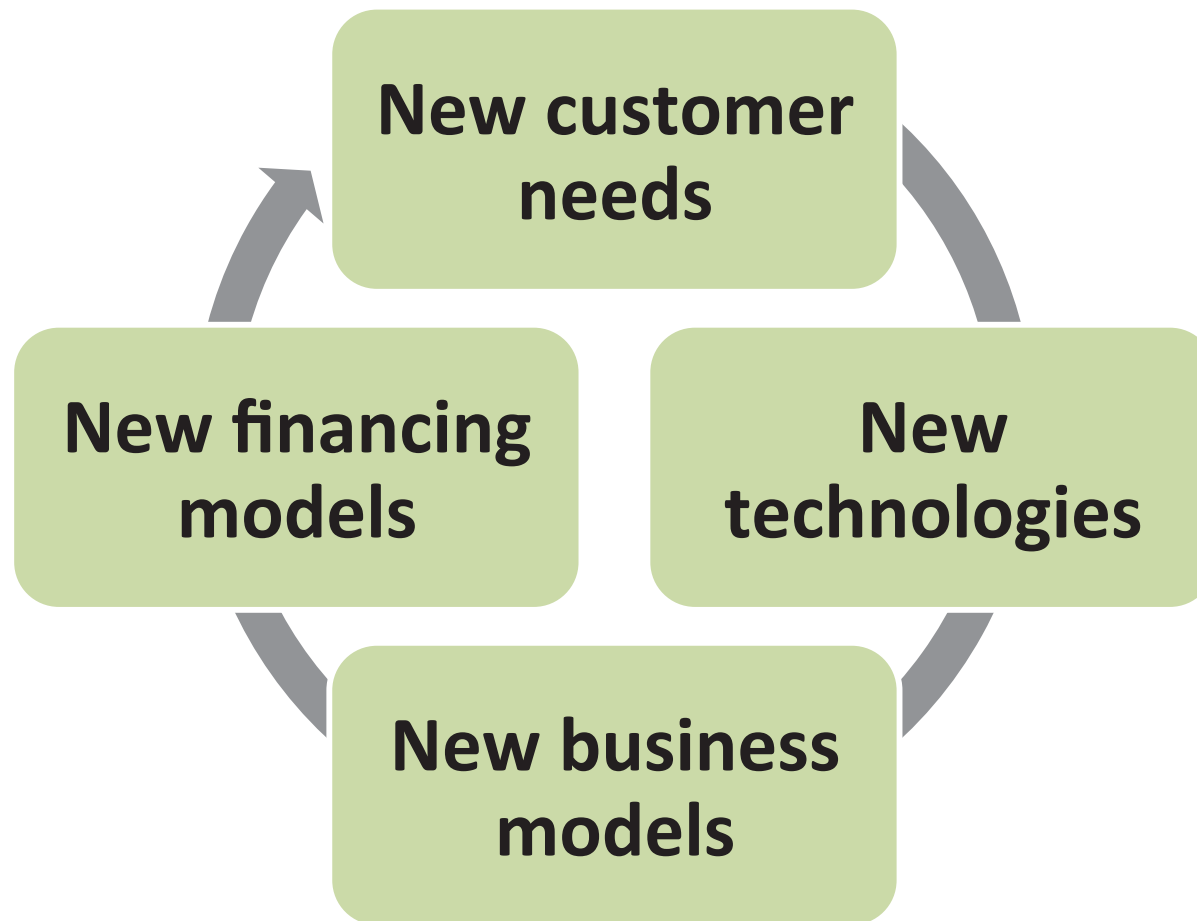
Premises of Little Rock Accord

- **Rising income and population in emerging markets will lead to unsustainable resource shortages – water, air, food, energy, and health care – if existing consumption patterns remain the same**
- **Sustainability requires new approaches to meeting basic needs → greater opportunities for innovation – e.g., scaling up scaling down**
- **Finance, especially from pension and sovereign wealth funds, should be mobilized “to profitably deploy existing technologies”**

Broken Circuits

- Journey of a thousand miles begins with a single step – and ends with the last mile
- Technology doesn't solve problems unless it moves from inventor to beneficiary
- Pilot projects don't solve problems unless they are scaled up
- Money doesn't solve problems if it doesn't scale up successful pilots and move technical solutions to beneficiaries
- Patent holders/inventors/entrepreneurs/foundations can't solve global problems if they work in one location

Opportunities From Rapid Urbanization and Mega-Cities



Brave new world for those with the imagination and agility to seize the opportunity

**VISION WITHOUT
IMPLEMENTATION IS
HALLUCINATION**



THANK YOU

Alfred Watkins

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Summit**

**Senior Advisor, Global Technology
Deployment Initiative**

and

P80 Group Foundation