

# **Developing Knowledge Parks: The Building Blocks**

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# The presentation

- Four parts:
  - The concept
  - The building blocks
  - Selected cases
  - Beyond national borders: Regional cooperation

# **1. The concept**

# What are knowledge corridors?

- ...Special areas which provide an attractive environment to investors, firms, corporations, and knowledge-based institutions and citizens to attract them to promote new technologies and high value-added businesses
- Or
- .....Virtual networks of firms, corporations, and knowledge-based institutions, think tanks, and citizens with long term collaborations for knowledge creation, sharing and transfer
- The presentation *essentially* focuses on the former.

# How are they different from knowledge parks?

- Knowledge corridors are technology clusters, just as knowledge parks but,
  - they are spread over large areas encompassing knowledge parks, universities, higher education institutions, research centers, and clusters of knowledge-based industries providing high value-added services.
  - They facilitate the process of innovation and conversion of knowledge into wealth
- They themselves are the key building block in the development of knowledge-based economy

# Nomenclature

- Knowledge corridors (New England)
- Science and technology corridors (China)
- Technology and Research Corridors (Illinois)
- High tech corridors (Florida)
- And, so on...

# Taxonomy

- By type
  - Physical
  - Virtual
- By Authority:
  - Top down
    - Central government (China, Malaysia)
    - Regional government (New England)
  - Bottom up
    - Knowledge actors (Florida)
- By objective
  - Regional development
  - R&D and innovation development in high tech industries
  - Industry centric development
- By Geography
  - National
  - International

## 2. The building blocks





# Building blocks: A Framework



# The key constituents

## Knowledge structures

Academic institutions of higher learning, Innovation Centres and labs,

Think tanks, Civil society and other social scientists

High value business entities, Startups, incubators, accelerators

Business service providers

## Financial markets

Banks

Other credit institutions

Venture capitalists

Equity funds and markets

## Labour markets

Availability of skilled labour

Advanced Training institutes

Vocational education institutes

Employment exchanges career guidance councils, employment policies,

# Supporting structures

## Logistics and connectivity

Airports

Express highways

City transport

IT infrastructure

## Social Infrastructure

Residential complexes

Entertainment and relaxation facilities

Schools and health facilities

Hotels and guest houses

## Regional planners and government

Regional economic development bodies

Regional government with budget provisions

Legal Framework

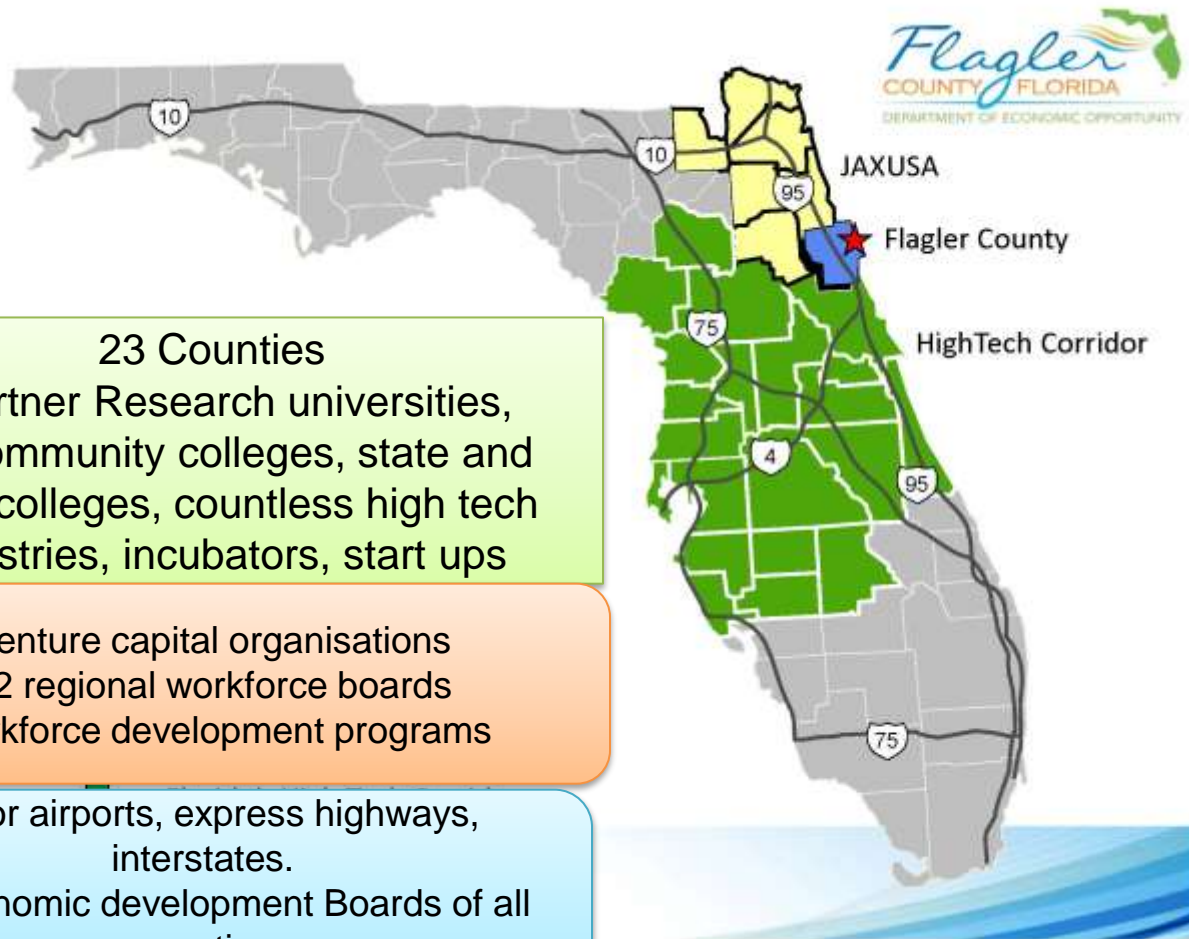
Incentives

## 3. Case studies

# Florida's high tech corridor

- Bottom up approach
  - Initiated by three universities: University of Central Florida (UCF), the University of South Florida (USF) and the University of Florida (UF)
- Regional development approach
  - Objective is to promote regional development by supporting research, marketing, workforce and entrepreneurship.

# Florida's high tech corridor



23 Counties

3 partner Research universities,  
14 Community colleges, state and  
other colleges, countless high tech  
industries, incubators, start ups

Venture capital organisations  
12 regional workforce boards  
Workforce development programs

Major airports, express highways,  
interstates.  
20 Economic development Boards of all  
counties  
Well developed city planning

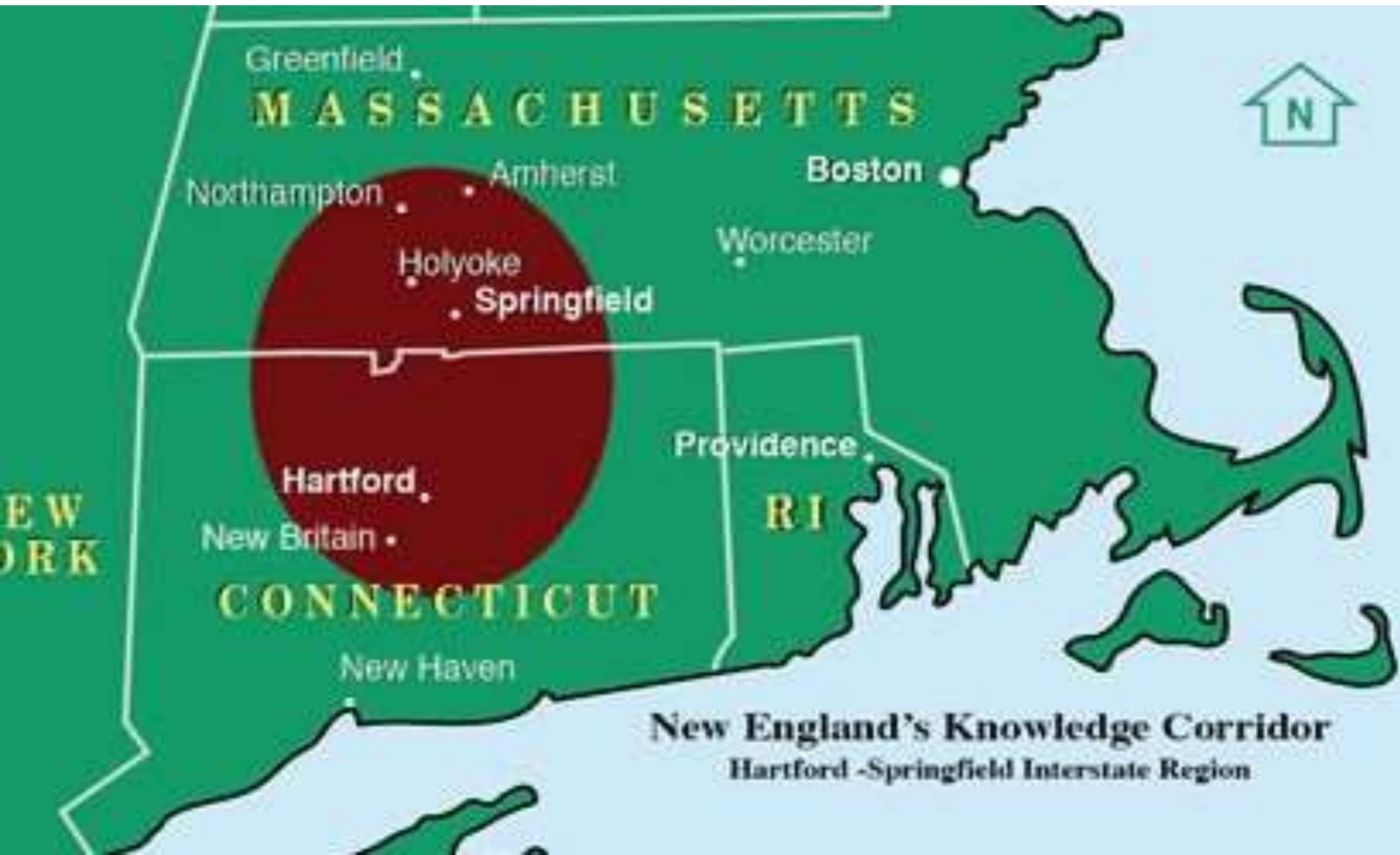
- Governance
  - The Florida High Tech Corridor Council (FHTCC) represented by knowledge institutions
  - Participation of regional authorities and economic development organizations

# Collaborations and initiatives of the Council

- Workforce development programs developed by the Council
- Collaboration between Corridor community colleges and universities
- Tech-CAMPs for math, science, technology and career teaching professionals and students throughout the Corridor.
- Career Expo to start a pipeline of talent from outside the Corridor through a one-of-a-kind national conference
- Partnership with companies on research projects in sectors ranging from Agri-technology to Sustainable Energy.
- Marketing jointly with government, and public and private EDOs



# New England's Knowledge corridors



# New England's corridor: Regional partnership approach

- ..... an interstate partnership of regional economic development, planning, business, tourism and educational institutions
- .....Comprising the Hartford, Springfield and New Haven metro areas and is centered on seven counties.

# Guangzhou- Shenzhen -Dongguan Science & Technology Innovation Corridor



# GZ-SZ Science & Technology Innovation Corridor: Innovation development approach:

- In 2017, the Guangzhou- Shenzhen -Dongguan Science and Technology Innovation Corridor was established with provincial governments including it in their official planning (A top down approach)
- The three cities are home to over 60% of the high-tech enterprises in the province and R&D activities. In 2016, Guangzhou saw 250,000 new patents licensed and 20,000 international patent applications.
- With a total area accounting for 15% of the Pearl River Delta, Guangzhou, Shenzhen and Dongguan yield about 60% of the region's GDP.
- The corridor will be the nation's major innovation engine driving innovations in Pearl River Delta and also in the Guangdong-Hong Kong-Macao Greater Bay Area.

# Industrial development approach: Malaysia's Multimedia Super Corridor (MSC)

- Development of *Multimedia* and communications products, solutions, services and; research and development.
- Launched in 1996 was to develop an area measuring about 15km by 40km into a multimedia hub, encompassing the Kuala Lumpur City Centre, Putrajaya and the Kuala Lumpur International Airport.
- Presently, it has expanded to include the entire Klang Valley (Kuala Lumpur & its suburb).



1996-2003

2004-2010

3,241 active MSC  
Malaysia Status  
companies, a total of  
RM47.1 billion in  
revenue generated and  
167,044 jobs created



2011-

# A legal framework: MSC Malaysia Bill of Guarantees (BoGs)

- MSC Malaysia Status companies (institutes of higher learning, high tech companies, incubators, start ups are eligible for attractive incentives, rights and privileges under the BOGs
- The BoGs are a set of incentives, rights, and privileges conducive to the development of these companies
- The Government has drafted 10 BoGs that supplement MSC Status companies

Beyond national borders



# From Economic corridors to knowledge corridors: New regional cooperation

- Virtual knowledge corridors
  - Exchange programs
  - Research collaborations
  - Cross country networks of think tanks
  - Civil society knowledge networks-collections of institutions varying in scale, goals, reach and geography, but connected through flows of resources, ideas and knowledge with academic and professional institutes to create and disseminate knowledge. ( caveats)
- Cross border physical knowledge corridors
  - Six economic corridors in CAREC: Can any of them be leveraged to shift to knowledge corridors??

THANK YOU