

# Developing the 21<sup>st</sup> Century Workforce

## “Aligning Workforce Development & Economic Development”

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# Topics for Today

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- Economic Development (Ecdev) and Workforce Development (Wfdev):
  - Why and how they should align their efforts
- Cluster Driven Economic Growth
  - What is it?
  - What is it in Texas?
  - An illustrative example
  - Developing workforce development strategies to complement cluster-driven economic development strategies.

# Why Ecdev & Wfdev Must Cooperate

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- Rapidly changing external environment
- Ecdev & Wfdev are joined at the hip
  - Business location decisions hinge critically on workforce quantity & quality
  - Job opportunities hinge on high-quality economic growth

# Realities of 21<sup>st</sup> Century Economic Development

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- Change is the only constant
- Commodity production = Volatility & little profit
- Community prosperity depends on companies' productivity and competitiveness
- Cluster thinking is good thinking
- Keys to success:
  - Can-do attitude: "Whatever it takes"
  - Rapid responsiveness
  - Cut the red tape
- They who lag lose

# Realities of America's Rapidly Changing Workplace

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- More “smarts” required in the workplace
  - Wider range of skills & knowledge
  - Ability & eagerness to learn rapidly
- Premium on work ethic & basic skills
  - Reliability, Dependability
  - Reading, Communication, Math skills
- Soft skills
  - Adaptability, Flexibility
  - People skills: Teamwork, Leadership & Customer service
  - Creativity & Initiative

# Economic Development & Workforce Development

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- One is from Venus; The other from Mars
- Differences
  - Objectives
  - Organization
  - Funding
  - Thinking and acting

A decorative graphic consisting of overlapping colored squares (yellow, red, blue) and a black crosshair.

# EDBs: How they think and act

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- Two extremes:
  - Highly Tactical
  - Very Strategic
- Most are somewhere in between

# What Wfdev & Ecdev need to do together

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- Identify SWOT across a broad domain of factors that affect community development.
- Develop “Common Vision” of where we are, how we got here and where we want to go.
- On that basis, formulate an action-oriented Strategy combining economic development, workforce development and education/training
  - Develop community understanding and commitment to support the Strategy
  - Recruit leaders; catalyze action; measure success; follow up
- Who takes the lead here is less important than that it happens!

# Aligning Wfdev & Ecdev: Alternative approaches

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- Degrees of alignment
- One example of productive alignment



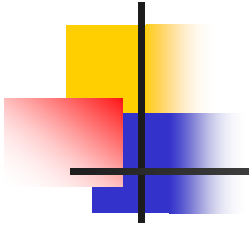
# Degrees of Alignment

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- None: Two solitudes
- Loose: Understand each other's outlook, objectives and priorities
- Mutual support:
  - Interlocking board memberships
  - Joint meetings of boards
  - Staff meetings and collaboration
  - Specific policies & actions designed to reinforce one another
    - EDB works hard to build employer base of companies offering enhanced earnings and career opportunities for workers
    - WDB works hard to build a workforce whose quantity and quality supports economic development objectives
- Merger: One board for both &/or both share a single staff



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# Example:

Aligning Workforce Development  
to a  
Cluster-driven Strategy of  
Economic Development

# Cluster Oriented Economic Development: Topics

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- What is an industry cluster?
- The logic of cluster oriented economic development
- Determining a community's clusters of economic growth
- Clusters in Texas
- Clusters at this TWC Conference
- Workforce development that supports cluster-driven economic development

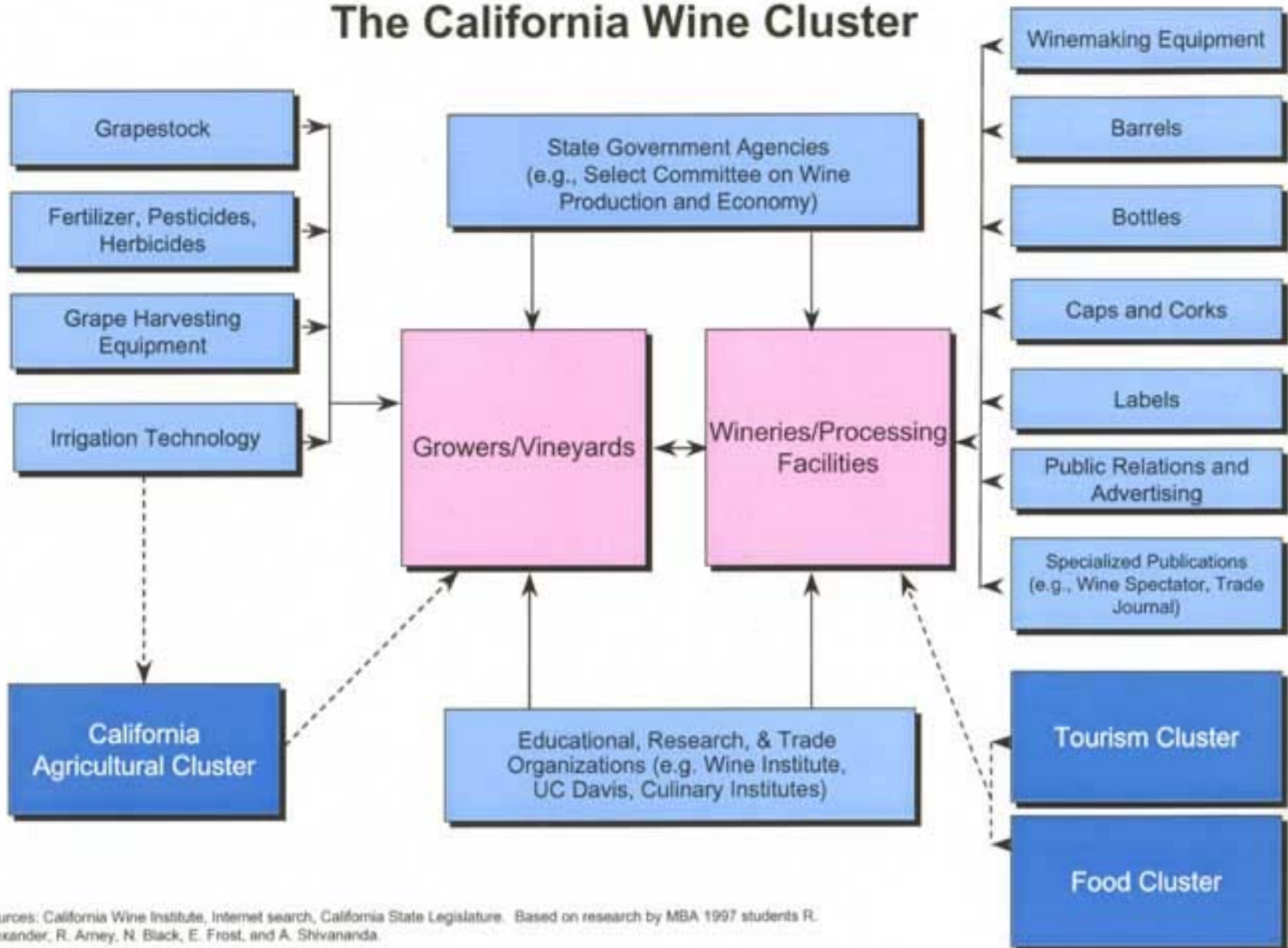


# What is an Industry Cluster?

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- Classical definition:
  - “A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities.” Michael Porter: Harvard University
- Our Addendum:
  - “In a highly interconnected global economy, geographical proximity is not always absolute.”

# The California Wine Cluster



Sources: California Wine Institute, Internet search, California State Legislature. Based on research by MBA 1997 students R. Alexander, R. Arney, N. Black, E. Frost, and A. Shivananda.

# What is a Cluster-Driven Development Strategy?

- A comprehensive strategy designed to build greater community competitiveness by:
  - **Identifying** and **targeting** existing and potential clusters of economic strength and competitiveness;
  - Determining the **weakest components** in the targeted clusters' networks of mutual support;
  - **Focusing** developmental resources on strengthening all components of the targeted clusters' networks;
  - Devoting special attention to **strengthening the weakest components** so as to enhance the

# Cluster Culture Grows in Texas

## Just a few examples

- Governor Perry's Cluster Initiative: Five regional cluster panels -- Dallas-Fort Worth, Houston, Austin-San Antonio, Lubbock and Amarillo  
[http://www.governor.state.tx.us/divisions/press/initiatives/Industry\\_Cluster/Industry\\_Cluster\\_SP/](http://www.governor.state.tx.us/divisions/press/initiatives/Industry_Cluster/Industry_Cluster_SP/)
- Texas Our Texas, Dr. Ray Perryman, 2002,  
[http://www.txed.state.tx.us/TxEDpress/Texas\\_Our\\_Texas.pdf](http://www.txed.state.tx.us/TxEDpress/Texas_Our_Texas.pdf)
- SB 275, 2003 called for the development of strategies to strengthen the competitiveness of key industry clusters
- DFW Regional Workforce Leadership Council: 2004,  
<http://www.arlingtontx.com/secure/downloads/D848DF70C010FBF998397CE7037DFBF1/RWLC2004AnnualReport.pdf>
- Texas Regional Outlook: Texas Comptroller of Public Accounts, 2002, 13 Regions <http://www.window.state.tx.us/ecodata/regional/>
- Talking Tech in Texas: Meredith M. Walker, Dallas Federal Reserve Bank, 2000 <http://www.dallasfed.org/research/indepth/2000/id0002.pdf>



# Texas Newly Defined Clusters

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- Embraced by Governor Perry & the TWC
- The Clusters:
  - Advanced technologies and manufacturing;
  - Aerospace and defense;
  - Biotechnology and life sciences;
  - Information and computer technology;
  - Petroleum refining and chemical products;
  - Energy.

# Actions to Implement Texas' Cluster-driven Growth Strategy

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- **Allocating state and federal workforce dollars to targeted occupations within target clusters.**
  - Directing infrastructure funding to the regions and locations where weaknesses exist.
  - Targeting secondary and higher education funding into subjects and curricula with the most relevance to the target clusters.
  - Targeting research and development funding to areas and institutions that foster the growth of the cluster.
  - Allocating adequate marketing resources to recruit new employers domestically and internationally.

# What are my community's economic clusters?

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- Those defined by Texas Economic Development (TxED)?
- Those previously defined by local economic development entities?
- As newly defined by the local workforce board possibly collaborating with local economic development entities?
- Otherwise determined?

# Clusters at this TWC Conference

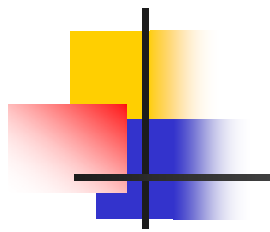
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- Thursday, 10:30 Grapevine Ballroom C
  - “Impact of Regional Clusters on the Economy”
  - Dr. Ray Perryman
- Thursday, 3:45 Grapevine Ballroom C
  - Super Session
  - “Competitive Clusters for Regional Economic Development in Texas”
  - Commissioner Lehman facilitating
  - Richard Seline

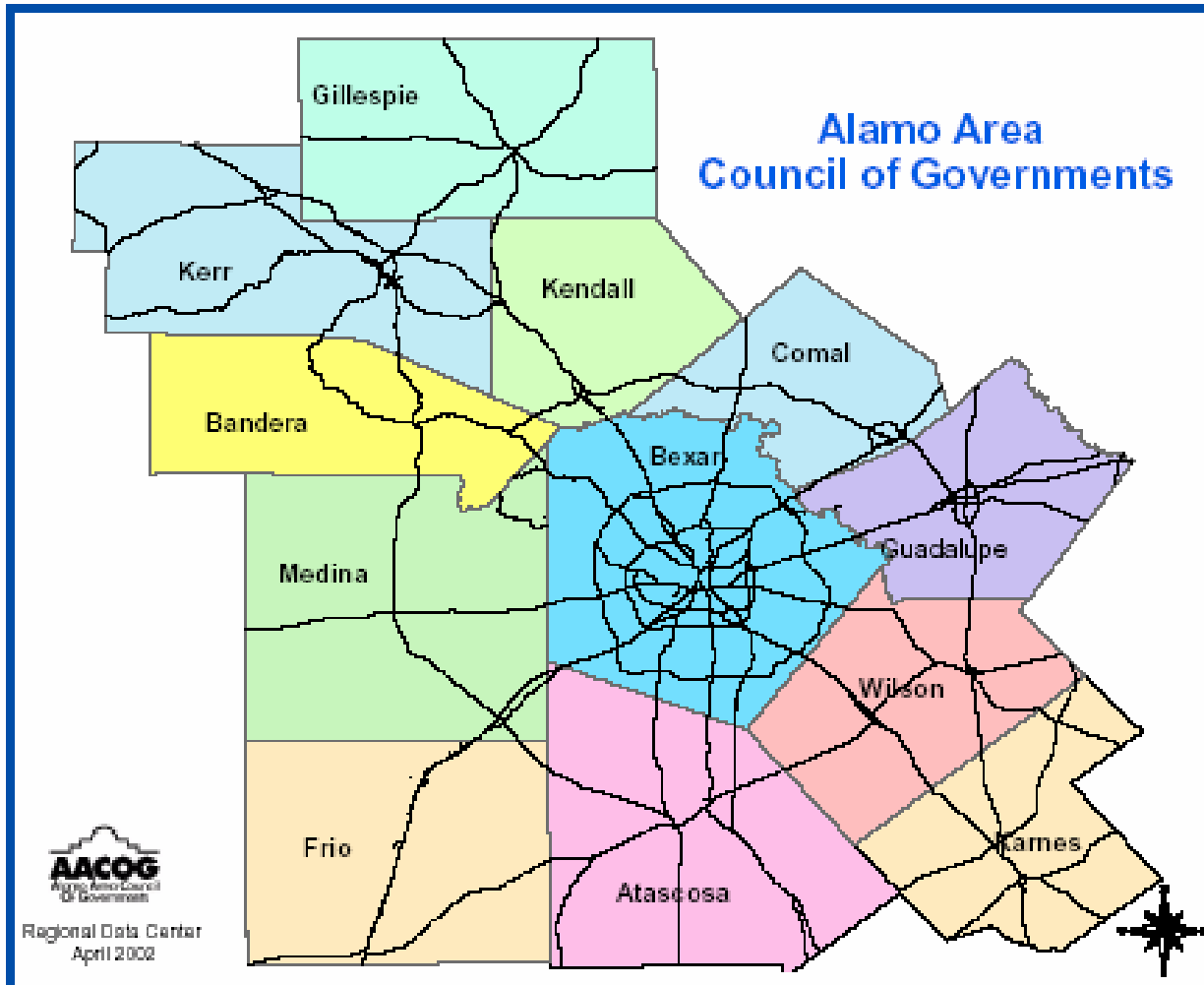
# Workforce Implications of Cluster-driven Strategy

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- Example: Alamo Area
  - One cluster: Emerging Biotech & Medical



# Alamo Area COG



# Alamo Clusters

(Per the Perryman Group)

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- Emerging Biotechnology & Medical
- Information Services
- Corporate Headquarters
- Business Services
- Tourism
- Distribution, Transportation, & Logistics
- Heavy Construction
- Transportation Equipment
- Agriculture and Food

# Biotech & Medical

## What's inside?

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- Biomedical Products
- Biotechnology & Pharmaceuticals
- Medical Services

# Biomedical Products Sub-Cluster

## What's in it?

<b>NAICS</b>	<b>Industry Description</b>
339111	Laboratory apparatus & furniture manufacturing
334516	Analytical laboratory instrument manufacturing
339314	Optical instruments & lenses manufacturing
339112	Surgical & medical instruments manufacturing
339114	Dental equipment & supplies manufacturing
334517	Irradiation apparatus manufacturing
384510	Electromedical equipment & electrotherapeutic apparatus manufacturing
339115	Ophthalmic goods manufacturing
423450	Medical & hospital equipment & supplies wholesalers

# Biotechnology & Pharmaceuticals Sub-Cluster

## What's in it?

### Industry Description

Medicinal chemicals & botanical products

Pharmaceutical Preparations

Diagnostic substances

Biological products excluding diagnostic

Commercial physical research (60%)

Noncommercial research organizations

Drugs, proprietaries, & sundries

Testing laboratories

Industrial inorganic chemicals, nec.

Industrial organic chemicals, nec.

Chemical preparations nec.

# Medical Services Sub-Cluster

## What's in it?

### **Industry Description**

Medical equipment rental

Offices & clinics of doctors of medicine

Offices & clinics of dentists

Offices & clinics of optometrists

Offices & clinics of podiatrists

Offices & clinics of health practitioners, nec.

Skilled nursing care facilities

Intermediate care facilities

General medical & surgical hospitals

Psychiatric hospitals

Specialty hospitals except psychiatric

Medical laboratories

Dental laboratories

Kidney dialysis centers

Specialty outpatient facilities, nec.

Health & allied services, nec.

# Employment Concentration Coefficient Of Industry "i" in Area "j"

- The quotient defined as  
The share of total employment in area "j"  
that is concentrated in industry "j"  
**Divided by**  
The share of total employment in the  
United States that is concentrated in  
industry "j"
- Multiplied by 100

# Meaning of the Employment Concentration Coefficient

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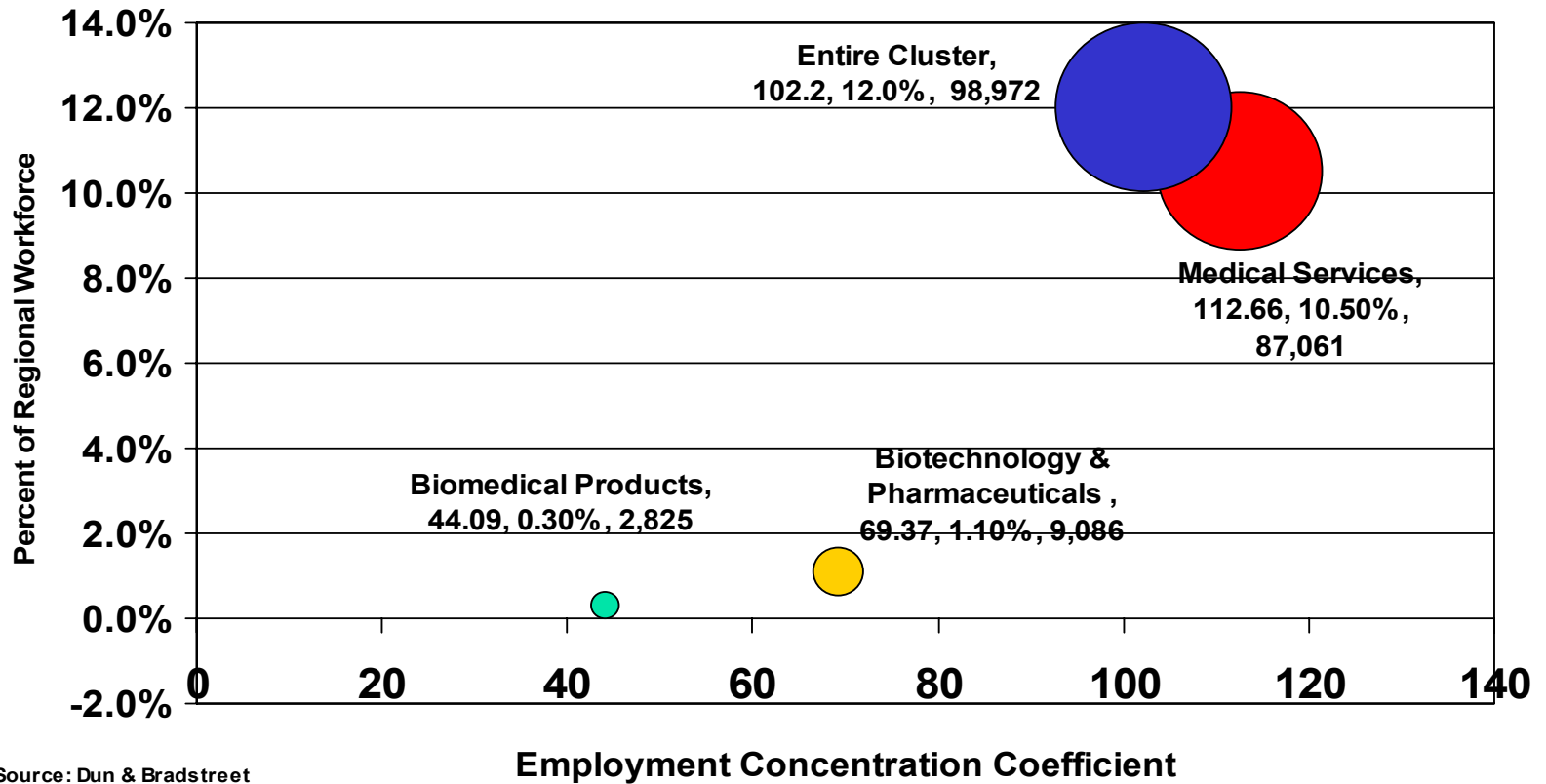
- If the ECC is 100, the industry's share of local employees is the same as the industry's share nationally;
- A ECC greater than 100 means the industry employs a greater share of the local workforce than the industry employs nationally;
- A ECC between 85 and 115 is considered close enough to 100 that it is not significant.

# Filtering and prioritizing the area's clusters

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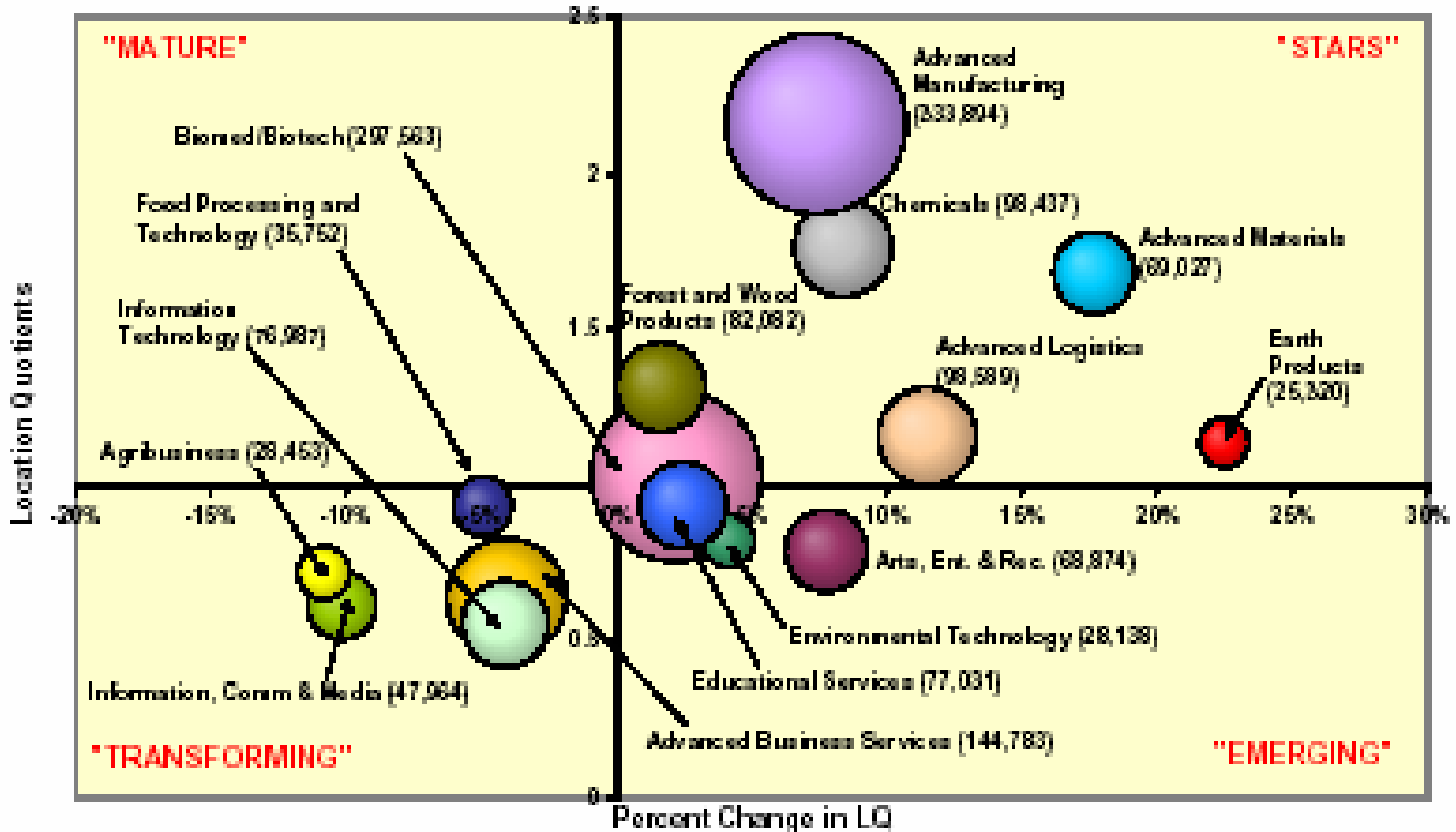
- Increases in employment;
- ECC in excess of 100;
- Employment increases as a result of local competitive advantages;
- Increases in payroll per employee.

# Size & ECC of the Biotech/Medical Cluster, Alamo COG, 2004



Source: Dun & Bradstreet

# Clusters in four quadrants (Indiana example)



# From Clusters to Critical Occupations and Skills

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- Obtain, for each cluster, the Occupational Staffing Patterns by 3-digit SIC (or more detailed, if possible)  
<http://www.tracer2.com/cgi/dataanalysis/AreaSelection.asp?tableName=Iomatrix>
- Use staffing patterns and O\*NET to identify & target critically important occupations (by SOC code) and critical skill sets in the cluster.
- Conduct supply/demand analysis of those targeted occupations and skill sets.
  - Identify gaps between supply and demand (“critical skills shortages”)
  - Determine root causes of existing & impending shortages
  - Develop solutions to attack those root causes

# Workforce Development Supporting Cluster-driven Economic Development: A quick summary

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- The Sequence:
  - Determine Clusters
  - Determine Critical Occupations & Skills
  - Conduct demand/supply analysis to determine shortage or gaps
  - Develop solutions to address gaps
  - Workforce efforts focused on critical occupations & skills shortages



# Thanks very much!

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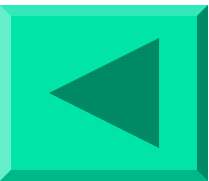
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# Tactical

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- Short time horizon
- Goal: Increase tax base; Jobs, any kind of jobs
- “Zero sum” outlook: Neighbors are competitors; what they gain we lose
- Function: Industrial attraction/recruitment
- Reactive & Opportunistic:
  - Answer the phone; tell `em how great we are; show `em our industrial park; get `em a tax abatement
  - “Shoot whatever flies; Claim whatever falls”

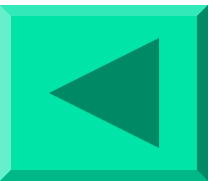




# Strategic

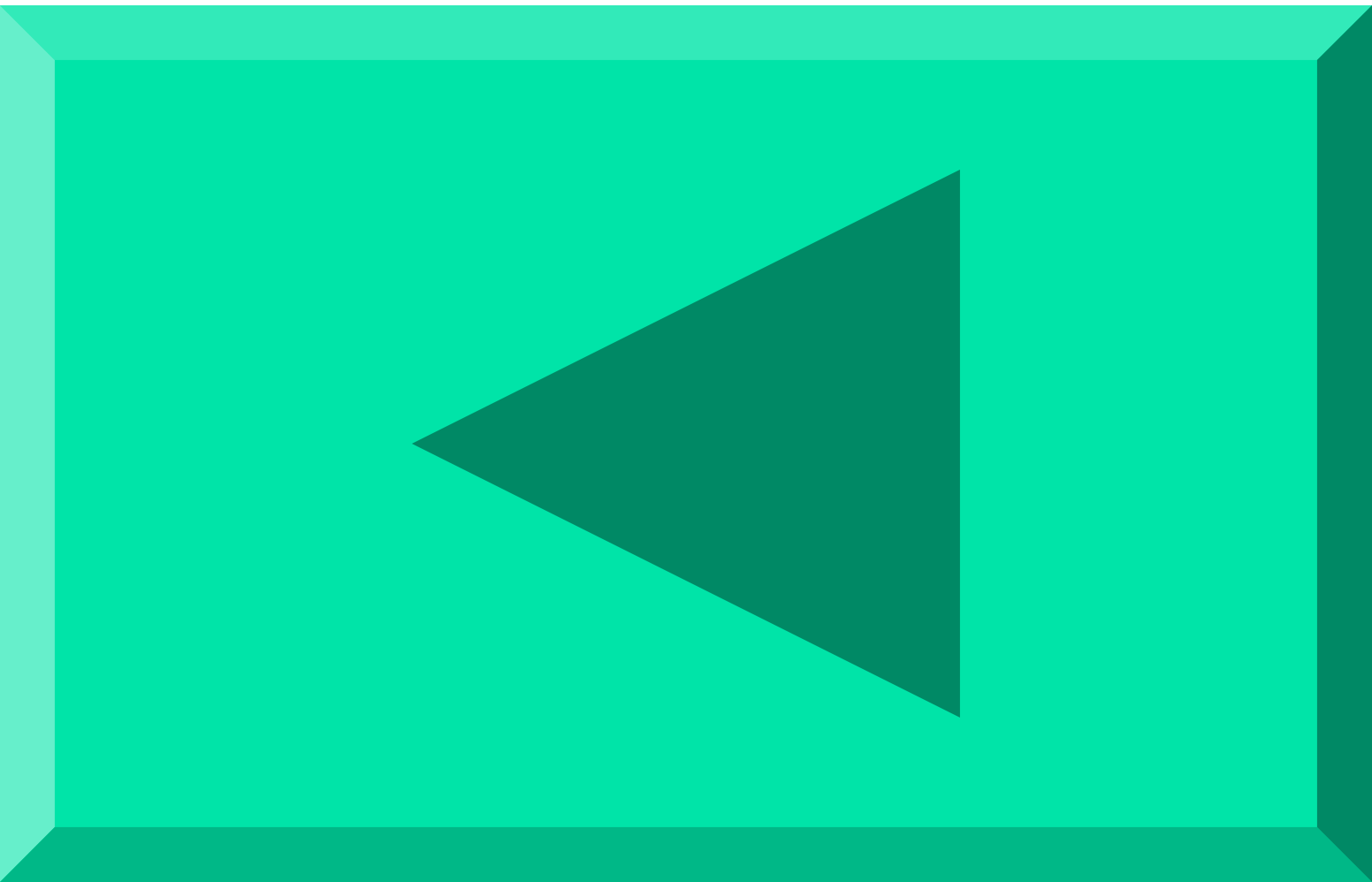
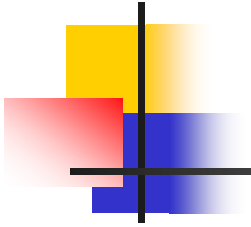
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- Long time horizon
- Goal: Enhance community's ability to produce wealth & offer good jobs
- "Positive sum" outlook: Neighbors can be allies; we all can win
- Functions: Create environment to:
  - Support existing businesses by helping make them more competitive;
  - Attract/recruit new businesses that support existing businesses and offer high quality jobs;
  - Nurture local entrepreneurs
- Proactive, Systematic and Operational



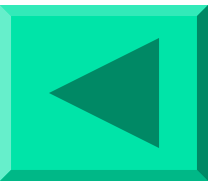


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# The External Environment is Changing Rapidly

- Technological innovation: Rapid & accelerating pace
- Globalization
  - Integration of our national and regional economies into the world economy
  - Rapid economic rise of very populous and previously stagnant nations
- Ever fiercer competition
- Structural change of the U.S. economy
  - Goods production to services
  - From services to the "Knowledge Economy"
- Demographic change
  - Most of the world's workforce growth coming outside developed nations
  - Rapid change of U.S. domestic population
- Evolving social institutions, values & attitudes





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