

NEW CAROLINA

south carolina's council on competitiveness



# Regional Innovation Clusters

## September 25 , 2012

## Feel Good about SC's Future

- George Will
- Michael Porter Quote
- Harvard Business School Case Study
- Commerce in 2011
  - \$5 Billion in capital investment
  - 21,000 Jobs
  - Exports equaled imports
- Manufacturing has returned

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# Dr. Michael Porter

- Professor at the Harvard Business School
- World authority on regional/national strategies for competitiveness
- Author of 18 books
- “Most cited business author in the world.”





## Porter's Prioritized Strategy

- Activate and upgrade clusters
- Continue to enhance education and workforce training
- Invest in research and the University system
- Launch internal and external marketing campaigns
- Create an explicit economic development program for distressed areas
- Increase support for start-ups and local firms
- Create new institutions for economic development
- Measure progress in raising prosperity



# ECONOMIC STRATEGIES


- *INNOVATION WITH A SOUTHERN ACCENT*, *Southern Growth Policies Board, 2006*
- *MEASURING PROGRESS IN THE NEW ECONOMY*, *Kauffman Foundation, 2007*
- *REGIONAL COMPETITIVENESS*  
*Milken Institute, Annual*
- *ECONOMIC DEVELOPMENT ADMINISTRATION*  
*Reauthorization, 2009*

## COUNCIL ON COMPETITIVENESS

- Formed in early 2004
- 501 (c) 3 Organization
- Ed Sellers, Former CEO of Blue Cross is still Chairman
- Mission: To raise prosperity
  - Find, birth, build and celebrate clusters
  - Improve the business environment
  - Connect the dots

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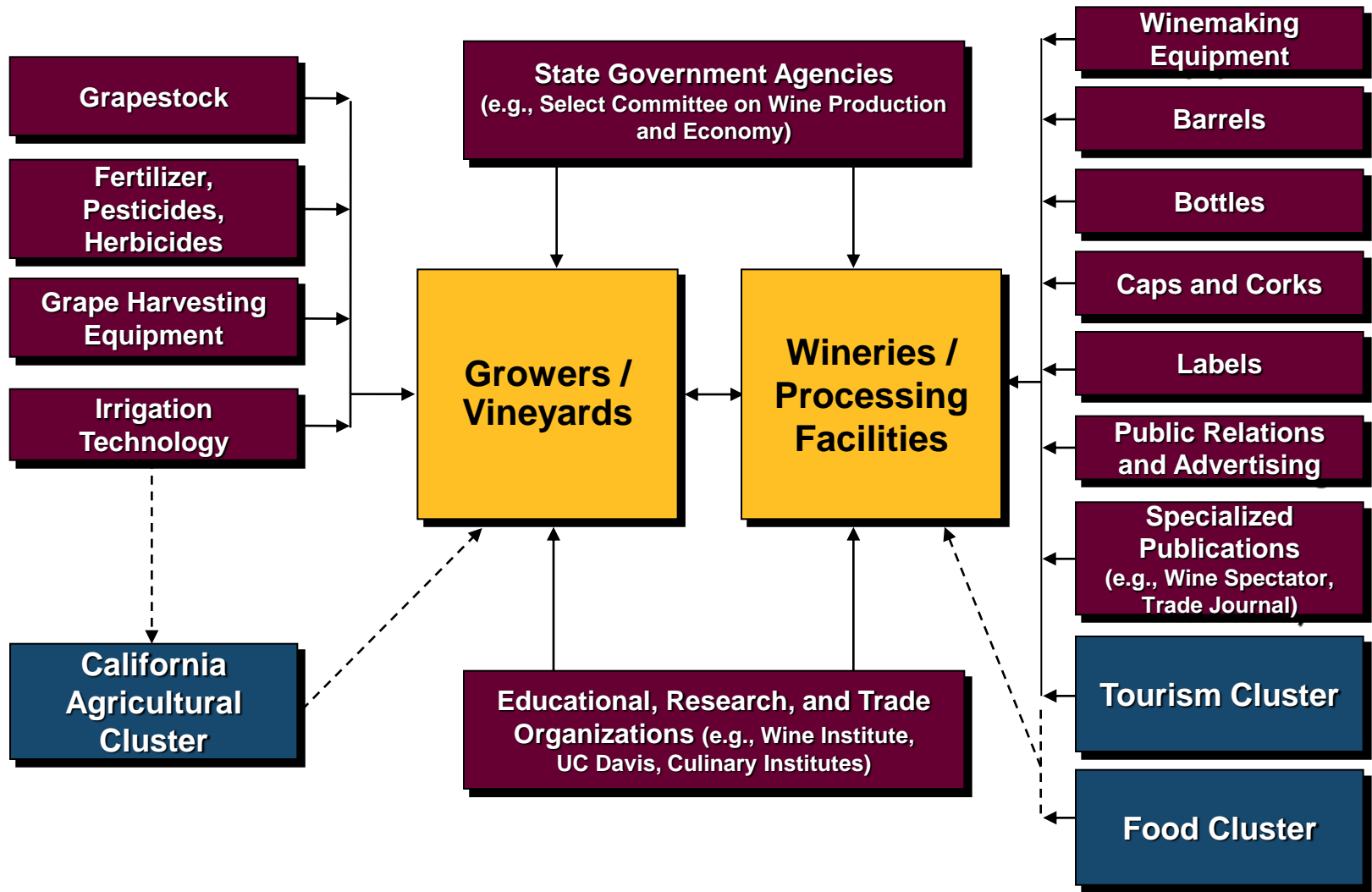


WHAT IN THE WORLD IS A CLUSTER?



# Clusters, Innovation, and Productivity

## The California Wine Cluster



Source: 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

# Why Do Clusters Matter?

## Efficiency, Innovation, and Entrepreneurship

Efficiency

Innovation

Entrepreneurship

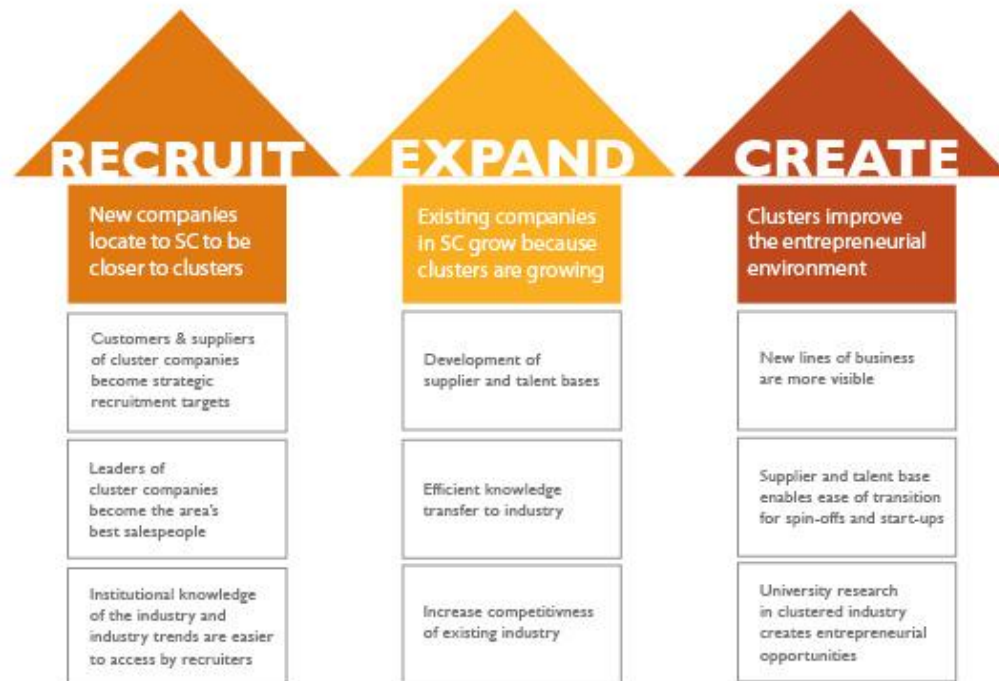


*Competition is fundamentally enhanced by **linkages** across firms, industries, and associated institutions*

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## HOW OUR CLUSTERS WILL ADD VALUE TO SOUTH CAROLINA'S ECONOMIC DEVELOPMENT EFFORTS



## Cluster Overview

- Automotive
- Aviation
- Nuclear
- Transportation, Distribution and Logistics
- Textiles
- Tourism

An aerial photograph of the BMW Spartanburg plant. The main building is a large, white, rectangular structure with a flat roof. To the left, there is a circular building with a white exterior and a dark interior. In the foreground, there is a large parking lot filled with cars. The surrounding area includes green fields, some trees, and a road. The text "BMW Spartanburg" is overlaid in white in the center of the image.

# BMW Spartanburg

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## Automotive Cluster

- 7 OEMs
- 341 Manufacturing Plants
- 1530 Companies

Source: South Carolina's Council on Competitiveness

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CU-ICAR's vision is to be the premier automotive and motorsports research and educational facility in the world.

**BMW IT  
Research Center**

**Carroll A. Campbell  
Graduate Engineering  
Center**

CLEMSON UNIVERSITY INTERNATIONAL CENTER FOR AUTOMOTIVE RESEARCH



**BMW  
Manufacturing  
Corporation**

**Greenville Tech  
Spartanburg Tech  
Tri County Tech**

## Rock Stars



- Dr. Tom Kurfess
- BMW Endowed Chair in Automotive Manufacturing
- Director, Center for Automotive Research
- “Automation is the key to competitiveness”



## Tire Companies

- Michelin - North American HQ & Major Research Facility
- Announced in 2012
  - Michelin - \$750 mm and 500 jobs
  - Bridgestone - \$1 billion and 2000 jobs
  - Continental - \$1 billion and 1200 jobs



## Endowed Chairs

- Recruiting World Class Talent to the State
- 49 Centers of Excellence
- 41 Endowed Chairs
- Endowment \$2 to \$5 million each
- Must be matched \$1 for \$1 with private funds
- To date, \$200 million in state funds has been matched with \$1.2 billion in outside funds
- Endowed Chairs have created 7000 jobs

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787 First Flight Highlights

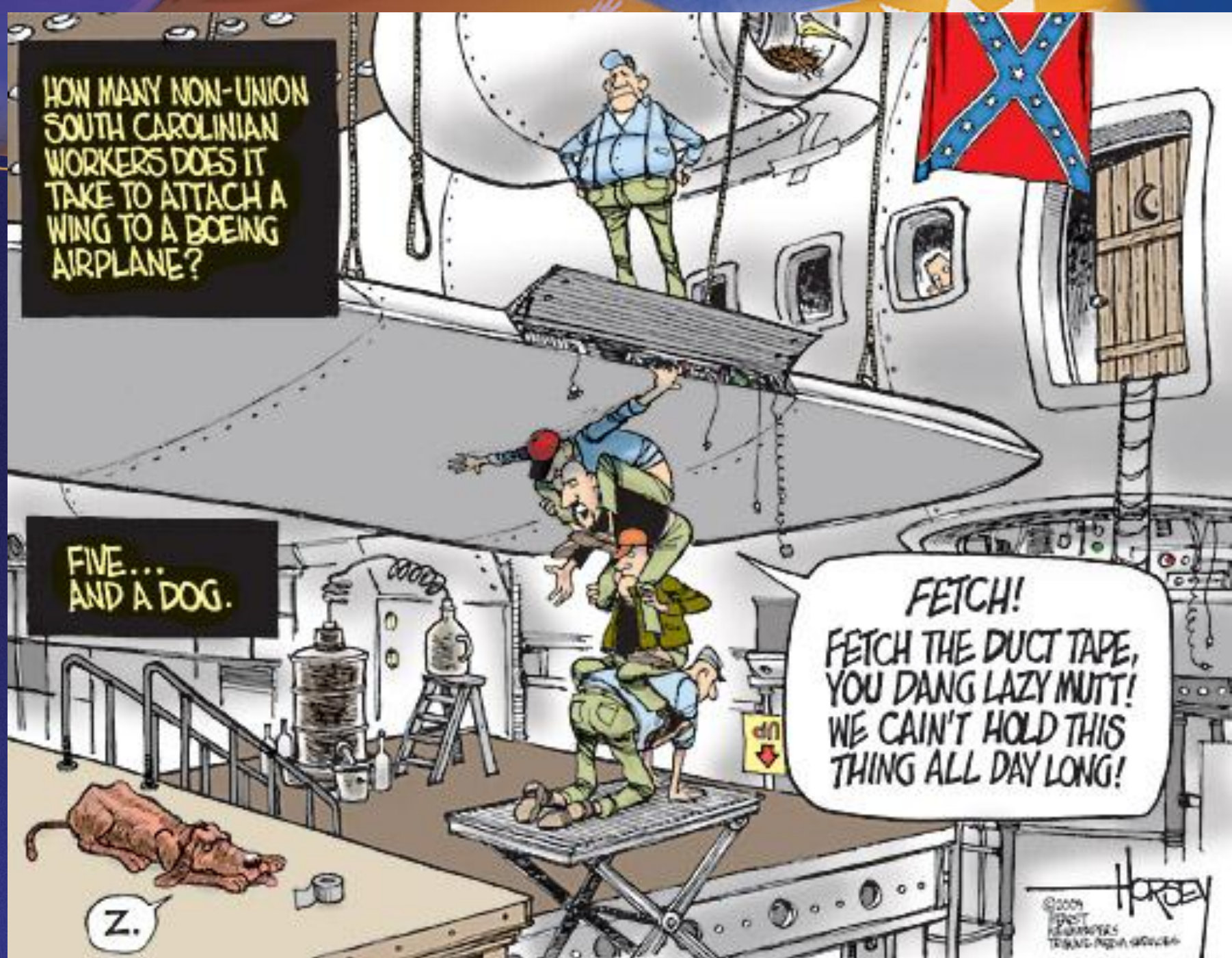
HOW MANY NON-UNION  
SOUTH CAROLINIAN  
WORKERS DOES IT  
TAKE TO ATTACH A  
WING TO A BOEING  
AIRPLANE?

FIVE...  
AND A DOG.

FETCH!  
FETCH THE DUCT TAPE,  
YOU DANG LAZY MUTT!  
WE CAIN'T HOLD THIS  
THING ALL DAY LONG!

Z.

©2008  
EAST  
LEADERSHIP  
TRAINING MEDIA GROUP  
HORSEY



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# Boeing Rollout of 787



# Boeing



- 2.6 MW of solar panels on the roof (18,000 panels)
- Clear span for two 787's side by side.

# NUCLEAR CLUSTER

## Anchors

Duke

SCANA

Progress Energy

Santee Cooper

Savannah River Site

## Suppliers

Shaw

Areva

Westinghouse

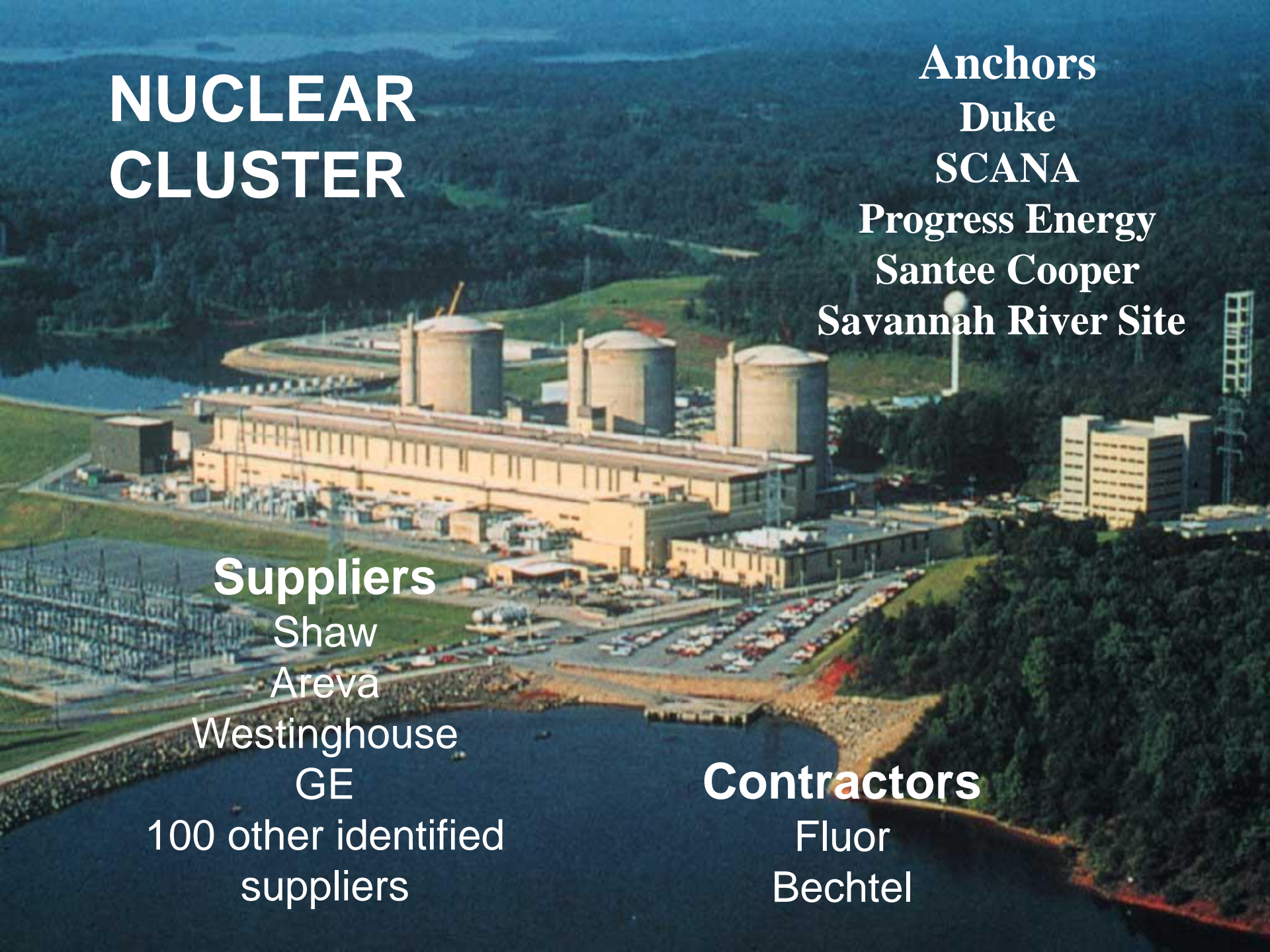
GE

100 other identified  
suppliers

## Contractors

Fluor

Bechtel

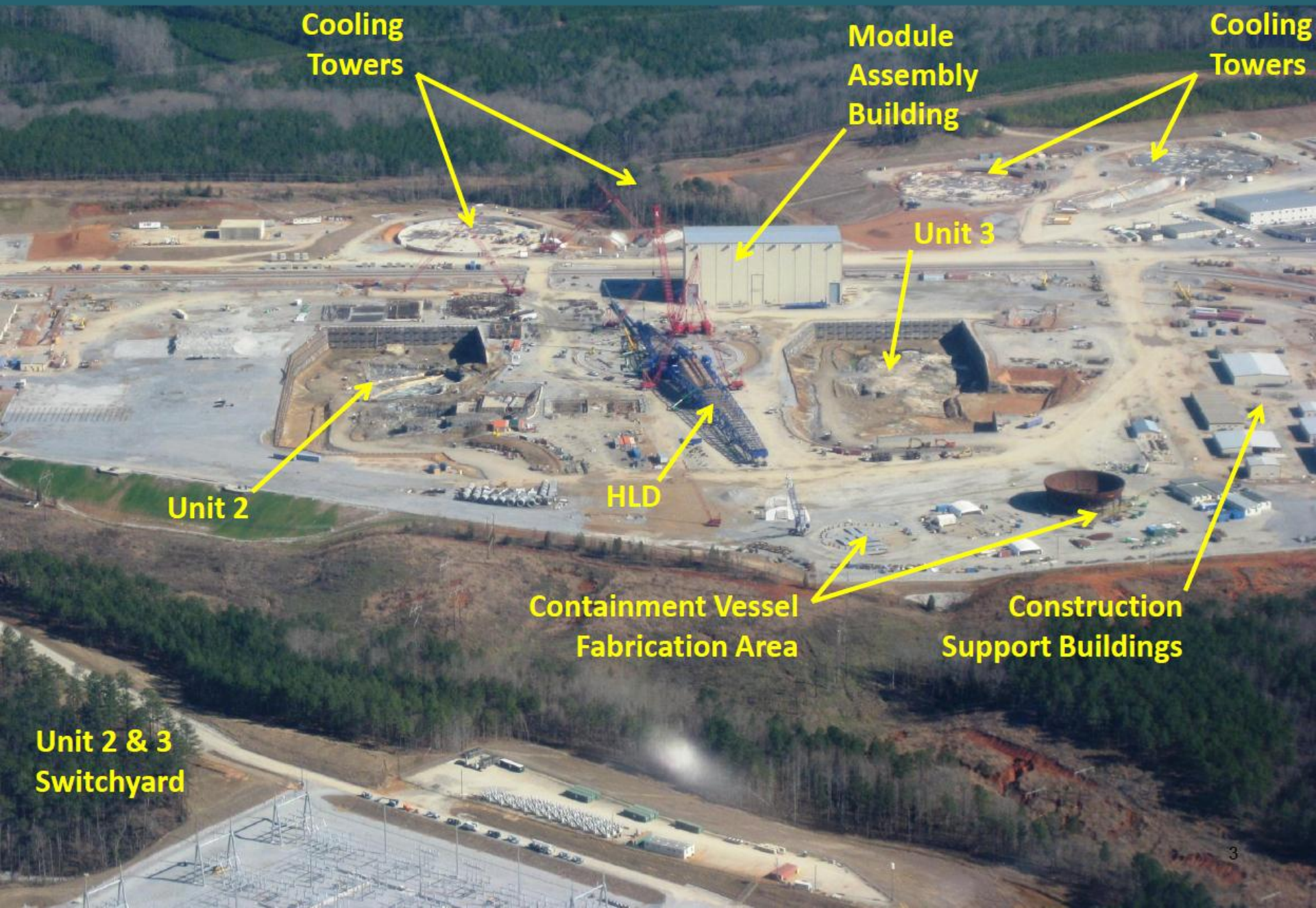


## Carolinas Nuclear industry

- 12 Current Plants
- 11% of the total nuclear power in US
- Seven Proposed Plants
  - 2 Duke Energy (Cherokee County - SC)
  - 2 SCE&G/Santee Cooper (Jenkinsville, SC) (**License Approved**)
  - 1 Progress (Raleigh)
  - 2 Southern (Augusta) (**License Approved**)
- Total investment of \$35 billion



# VCS Units 2 & 3 – March 2012



# BIGGE Heavy Lift Derrick (HLD)



# BIGGE Derrick

- Can lift 7500 tons
- 560 ft boom
- Buried 6000 ton counterweight
- Heaviest lift ~1700 tons
- Load testing ongoing



## Carolinas Nuclear Cluster

- **Mapping Supply Chain**
- Supplier Conferences (8)
- Carolinas Energy Institute
- Crafting position papers (water, high and low level potential nuclear fuels, **Fukushima**)
- Newsletters and Publications, including **Energize**
- Technical Conferences - SMR
- Workforce Initiatives
  - **SBA Grant - \$600 K/Yr for two years**
  - Technical Colleges - grants for workforce

# Economic Impact of SC Nuclear Industry - Current

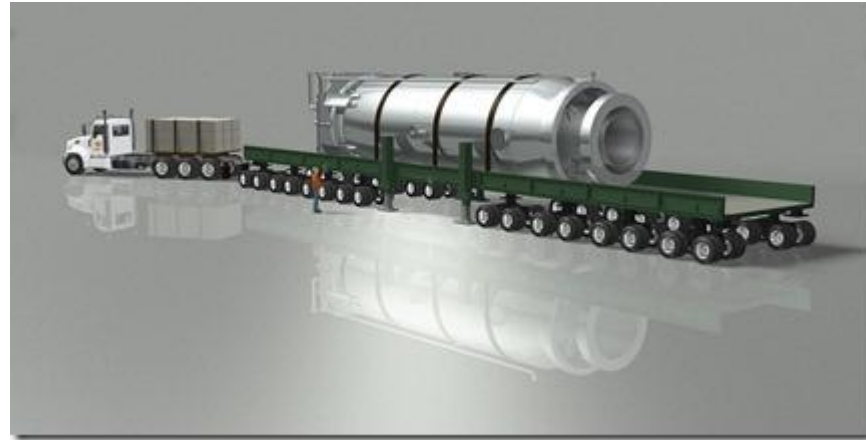
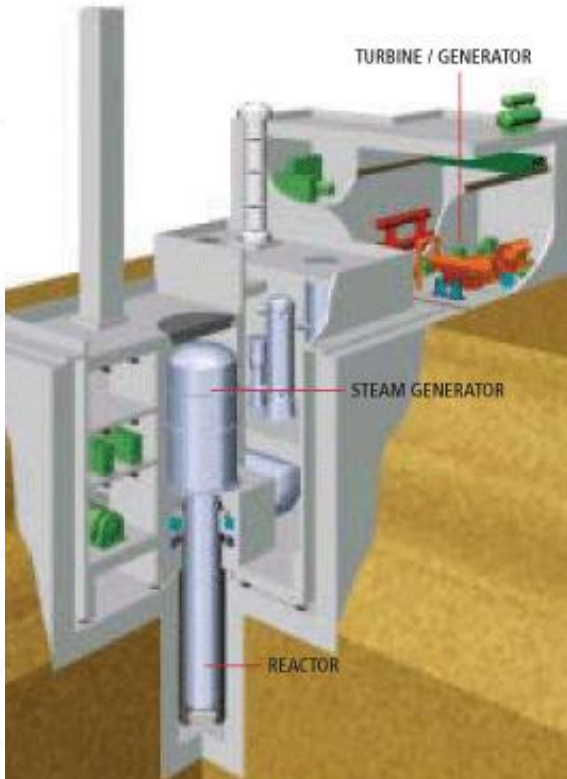
- SC
  - Direct Jobs = 15,000 now
  - Direct Labor Income = \$1.3 Billion
  - State and Local Tax Revenues = \$.5 Billion
  - Current Average Wage = \$78,000/year

# Economic Impact of the Nuclear Industry - Future

- SC Future jobs
  - Construction Peak = 3800 jobs each site
  - Operations Phase = 12,400 new jobs
  - **70% of existing technical workforce will be eligible for retirement in 2014**

## Other Nuclear Initiatives

- **Mixed Oxide Facility at SRS - \$1.6 billion investment**
- **Small Modular Reactors**
  - **Fluor and NuScale are partners**
  - **Congress authorized \$450 million for two SMR grants**
  - **Reactors 25 MW to 250 MW**
  - **Will fit on a railcar**
  - **Can be shipped to remote parts of the planet through the Port of Charleston**



***Economic Development...***  
***SMR Innovation***



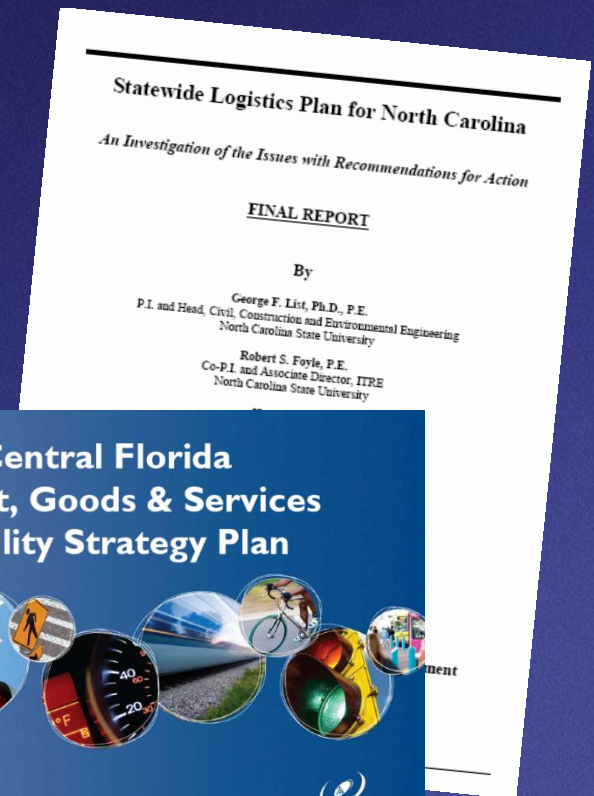
# Transportation, Distribution and Logistics



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## sc MUST prepare for 2014



## Transportation Plan

- Interstate Plan
- Ports Plan
- Statewide Corridor Plan
- Statewide Freight Plan
- Statewide Rail Plan
- Revenues/Needs Gap Analysis
- Options to Close the Gap

## Transportation

- TDL Council to implement recommendations
- Inland port in Greer
  - Lead to BMW near airport
  - Will take 25,000 to 50,000 trucks per day off I-26
  - Huge economic driver



IF TEXTILES & APPAREL  
ARE DEAD IN  
SOUTH CAROLINA...

810 INNOVATIVE  
COMPANIES  
REFUSE TO LISTEN.

\$21.9 billion economic  
impact proves it.



FABRIC

APPAREL

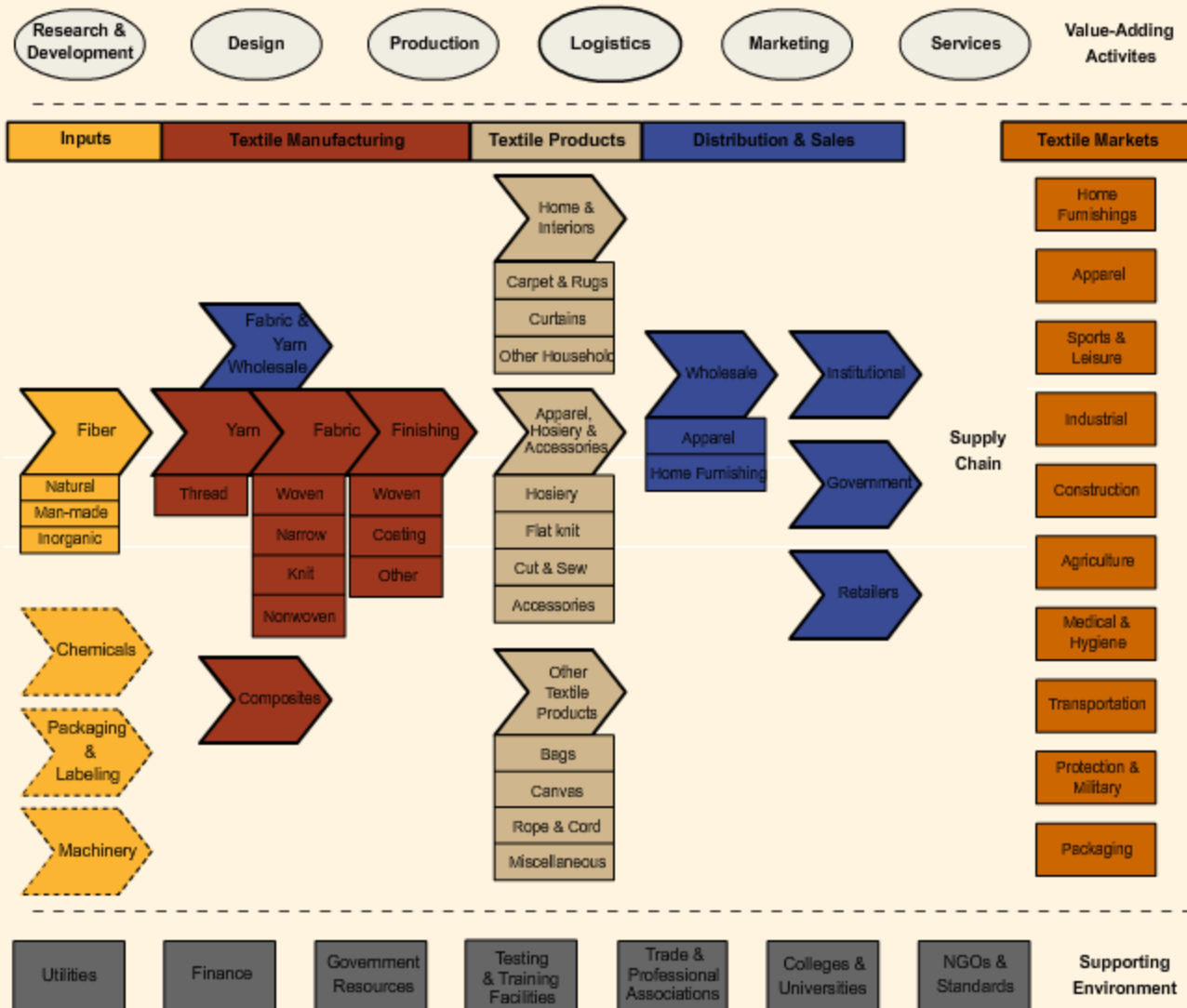
FIBER

CHEMICAL

YARN

COMPOSITES

Welcome to the SC Textile Connect Value Chain!



Research Value Chain  
Events  
News  
Trade Data  
Publications

FAQ's

Doing Business in South Carolina

COMPANY LOGIN

Create Company Login Account

Quicklinks

Events:

**Dec 01 - 05, 2008**  
Nonwovens Manufacturing Process Fundamentals

**Dec 09 - 11, 2008**  
Filtration 2008

**Dec 09 - 11, 2008**  
American Association of Textile Chemists and Colorists (AATCC) Textile Technician Certification - Modules 1 and 2

**Jan 15 - 17, 2009**



**“South Carolina tourism is a  
flower waiting to bloom.”**

Michael MacNulty  
Tourism Development International



**300,000 acres of permanently  
protected open area**



A scenic landscape photograph of a large, calm blue lake. The foreground is dominated by trees with vibrant autumn foliage in shades of orange, red, and yellow. The lake's surface is a deep, clear blue, reflecting the sky. In the distance, a range of rolling mountains is visible under a bright blue sky filled with scattered white and grey clouds. The overall atmosphere is peaceful and picturesque, typical of a fall day in a mountainous region.

181,000 acres of lakes on the  
West Coast of South Carolina

# An Ocean on the East Coast



Cultural and Historical Resources

## Tourism Cluster Accomplishments

- Comprehensive plans for each of eight tourism regions
- Destination specific marketing funding model. Two dollars of local money is matched by \$1 of State money. Thirty four states have now adopted the model.
- Beginnings of a national marketing program

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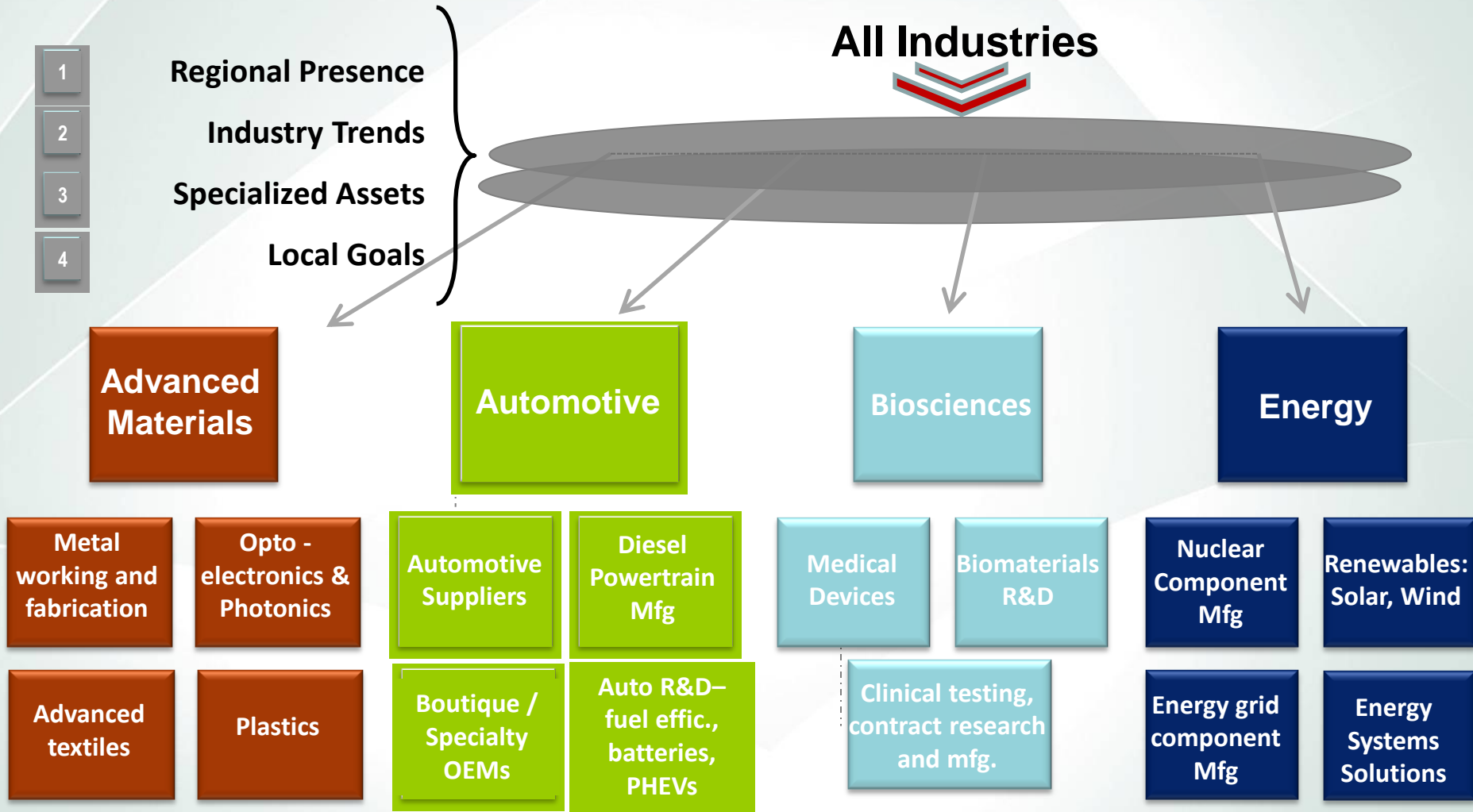
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FIND, BIRTH, BUILD & CELEBRATE CLUSTERS

**Clusters  
are  
regional**



# Target Industry Study: Identified Target Clusters





## **Clean Energy**

**Fuel Cells  
Nuclear**



## **Healthcare & Health Sciences**

**Ultrasound  
Senior Smart**



## **Informatics & Analytics**

**Insurance Technology  
Health Information Technology**



## **Transportation, Distribution, and Logistics**



## INDUSTRIES AND COMPETENCIES

The Charleston region's future economic development targets consist of four vertical industries and five competencies.

The Opportunity Next Strategy will offer recommendations for growing the vertical industries and enhancing the region's five competencies.

*Vertical Industry Targets*

	Advanced Security & IT	Aerospace	Biomedical	Wind Energy
<i>Competency Targets</i>				
Advanced Materials		✓	✓	✓
Drive Train & Power Systems		✓		✓
Software	✓	✓	✓	✓
Creative Design	✓	✓	✓	✓
Logistics	✓	✓	✓	✓

## Startups - Current Initiatives

*Garry Powers, Chair*

- Portal on SC Commerce Website
- State Innovation Plan
- Capital Markets Plan
  
- SC Launch
  - Invested up to \$200,000/company in 193 companies
  - Led to \$170,000,000 in follow-up investment

# SC/ISRAEL TRADE MISSION

## 26 Member Team



## Lessons Learned

- Need a well-known Champion, preferably from the Big Dog companies
- Need half time paid staff for every cluster
- Look for low hanging fruit. Early successes are important for generating momentum
- Rotate leadership to engage more companies
- Research initiatives are a significant cluster asset

## Lessons Learned

- Cluster committees should focus on more than one strategy. If the legislative initiative fails, there are other strategies.
- Ultimate success is aligning State Economic Development Strategy with Porter recommendations.
- SC has 22 cluster committees. Each has their own personality, objectives and benefits to member companies. Don't try to make them all the same.

## Assets

- Strong technical college system
- Leadership in the research universities which is committed to economic development
- Good highway system and the port of Charleston
- Technology assets (SRNL, SPAWAR, Milliken, Michelin, etc.)
- Bridge of international connections - 276 companies from 26 countries in the upstate
- Water
- Weather
- Natural and cultural amenities

A photograph of two rock climbers on a steep, dark rock face. The sky is a clear, bright blue. In the background, there are rolling hills and mountains with some autumn-colored foliage. The overall scene is one of outdoor adventure and challenge.

*“It is a marathon, not a sprint.”*

**Dr. Michael Porter**

**[www.newcarolina.org](http://www.newcarolina.org)**

NO LOITERING  
IN REST AREA

