



WV Coalition for Technology Based Economic Development

WV Economic Development Council
January 30, 2008



Economic Benefits of Expanding West Virginia's Technology-Based Economy

- New Jobs, Higher Incomes
- New and Expanded Businesses
- Innovation-led business growth
- Increased participation in global market
- Attract and Retain educated workforce



What is TBED

- Business that apply technology in traditional or innovative settings such as
 - Clean Coal
 - Mine Safety
 - Biometric Identification
 - Aerospace Production



More TBED in WV

- University or Federal/Private Laboratory technological advances
 - Environmental remediation (i.e. water quality, reclamation)
 - Construction/ Manufacturing materials advances
 - New products: robots, games, weapons
 - Pharmaceuticals



Who is moving TBED in WV?

- Public agencies, Private companies, Universities, Non-profit development organizations, federal agencies
- Newly formed: WV Coalition for Technology Based Economic Development (TBED)



National Energy Technology Laboratory



WVHTC
FOUNDATION™

WV TBED ORGANIZATIONS





Important steps

- Identify existing strengths and weaknesses
- Identify strategies with highest impact and reach
- Engage existing organizations and businesses to champion strategies
- Measure and document changes



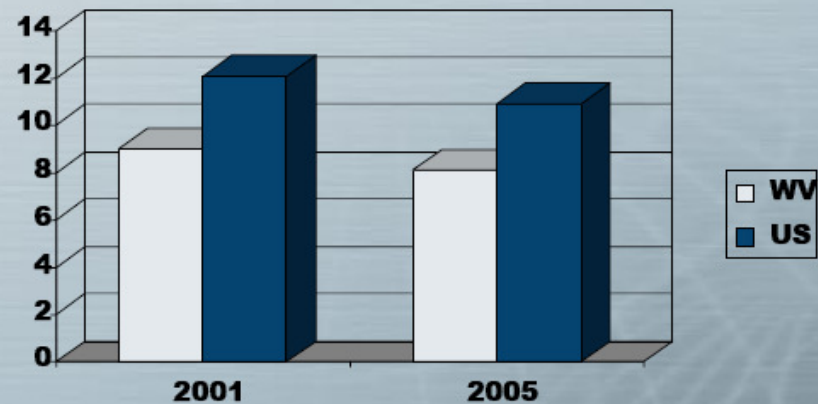
Battelle Report

- Gap Analysis
 - Quantitative and Qualitative Analysis
 - Strengths and Weaknesses
-
- For use as a tool in development of the WV TBED Blueprint.

WV has yet to reach critical mass in the size of its technology industry base

- In 2005, 8.1 % of WV private sector employment was in high technology industries compared to 10.9% for the nation
- However, high tech employment declined at a slightly lower rate between 2001 and 2005 than did the nation's – 8.5% as compared to 8.7%
- High technology employment is 26 percent less concentrated in WV than it is nationally – LQ of 0.74 unchanged between 2001 and 2005.

Percent of total employment found in high tech industries, WV and US, 2001 and 2005



Source: US Bureau of Labor Statistics and Battelle Calculations

Strengths

- Presence of a large number of non-profit and federal research institutions
 - National Energy Technology Laboratory
 - FBI Criminal Justice Information Services Division
 - NASA Independent Verification and Validation Facility
 - National Institute for Occupational Safety and Health
 - DoD Biometrics Fusion Center
 - National Biometrics Security Project
 - Rahall Transportation Institute
 - MU Forensic Science Center
 - WVHTF
 - NTTC
- Growing research base at WVU, Marshall, WV State University and Wheeling Jesuit, beginning to generate spin-off companies
 - MU – Vandalia, Progenis and Mist
 - WVU – Protea, Choosy Kids
- Growing technology sector, particularly in North Central WV
 - Concentration of high tech workers as measured by Location Quotient grew from 0.84 in 2001 to 1.04 in 2005 in the I 79 corridor

Strengths (cont.)



- Highly productive workforce/strong college graduates
- Quality of life that is attractive to many people
- Entrepreneurial support infrastructure getting stronger
 - Innova, Advantage Valley's Entrepreneurial League System
 - WVU, WVHTF and CAZ Incubators
 - More opportunities for networking, e.g. Entrepreneurial Forum (Eastern Panhandle)
 - Knowledgeable service providers
- Increased focus on technology transfer and commercialization at WVU and MU

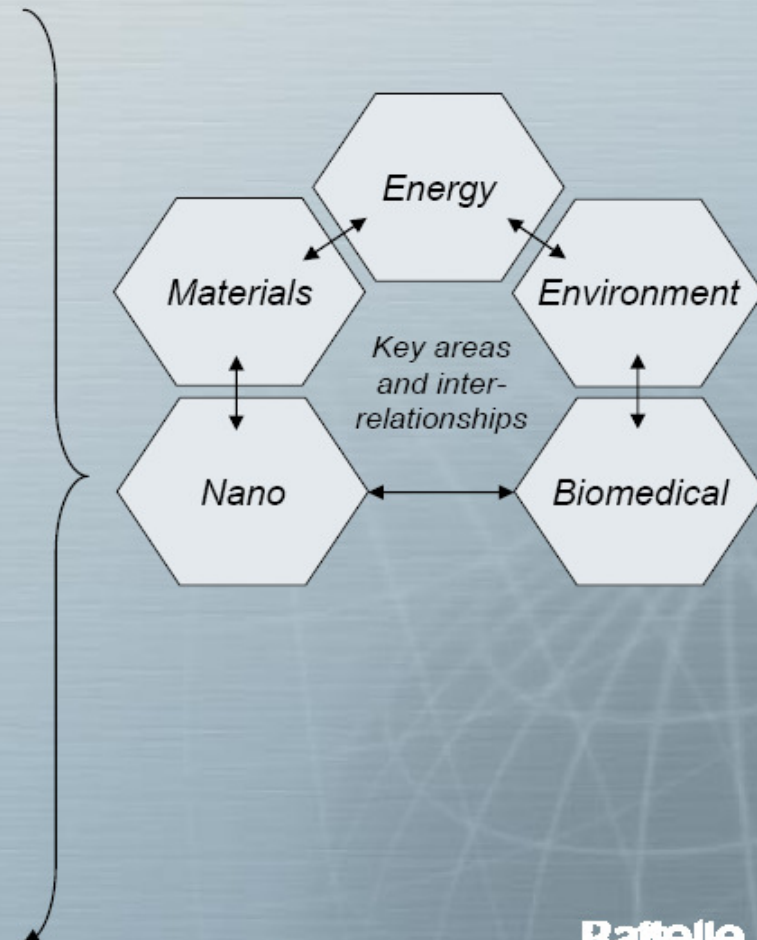
Qualitative, Interview-Identified Strengths

- Majority of interviews cited following core R&D strength areas:

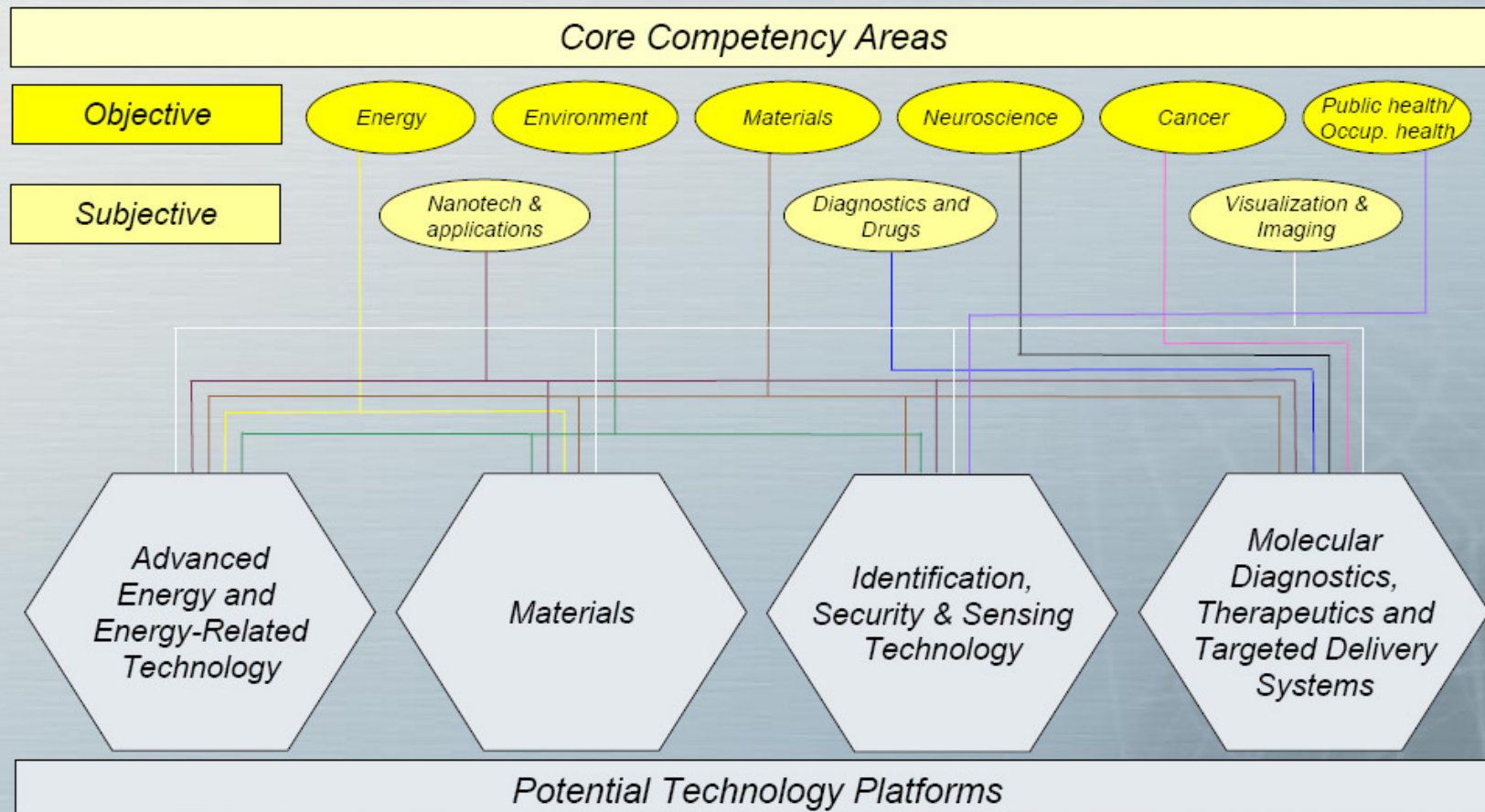
- **Energy**
- **Nanoscience** (incorporating biometrics)
- **Materials Science**
- **Environmental sciences**
- **Health sciences**
 - Neuroscience
 - Cancer

- Additional areas noted:

- Forensics
- GIS
- Health Sciences
 - Cardiovascular
 - Infectious Diseases
 - Public Health
 - Obesity and Diabetes
 - Respiratory Diseases



Core Competencies to Platforms





Is TBED Important locally?

Yes!! Traditional industries have technology needs, often need help in matching research to need.

Yes!! Production, education, training, placement of skilled workforce. Workforce isn't only "PhDs in white coats" but technologists, software developers, lab technicians, etc.



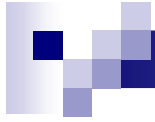
Important locally?

- Location for technology applications and new businesses , not only urban or university cities but also smaller communities.
- Entrepreneurs grow in the tech based economy... an objective for most local development



How can you participate?

- WV Coalition for TBED will have membership opportunities
- Keep aware of TBED policies and developments that affect your region
- Support expansion of technology infrastructure, science education, facilities, etc.
- Collaborate and network with TBED organizations



Questions?