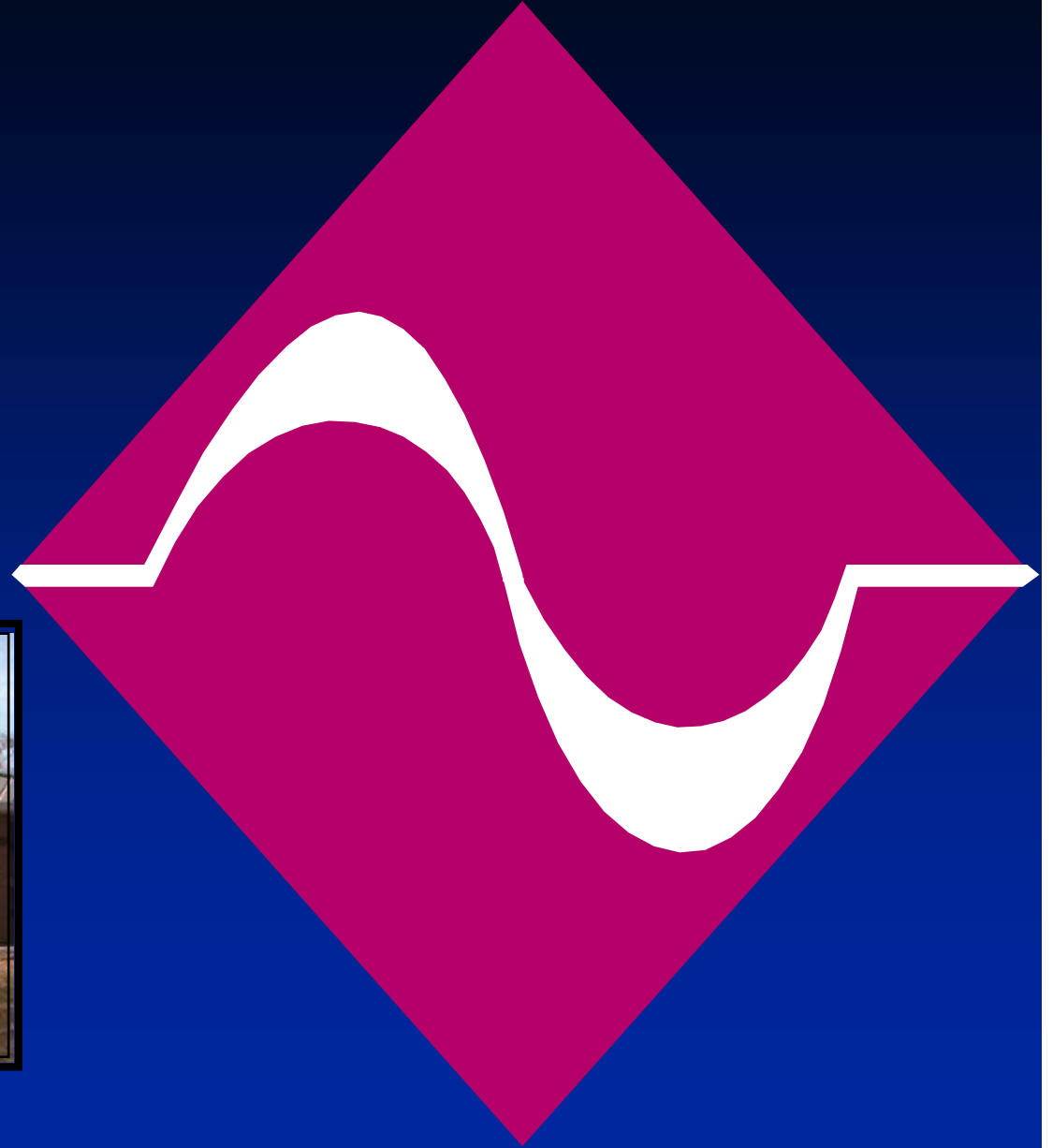




**ETAC - A CENTER  
OF EXCELLENCE FOR  
SMALL BUSINESS  
MANUFACTURERS**



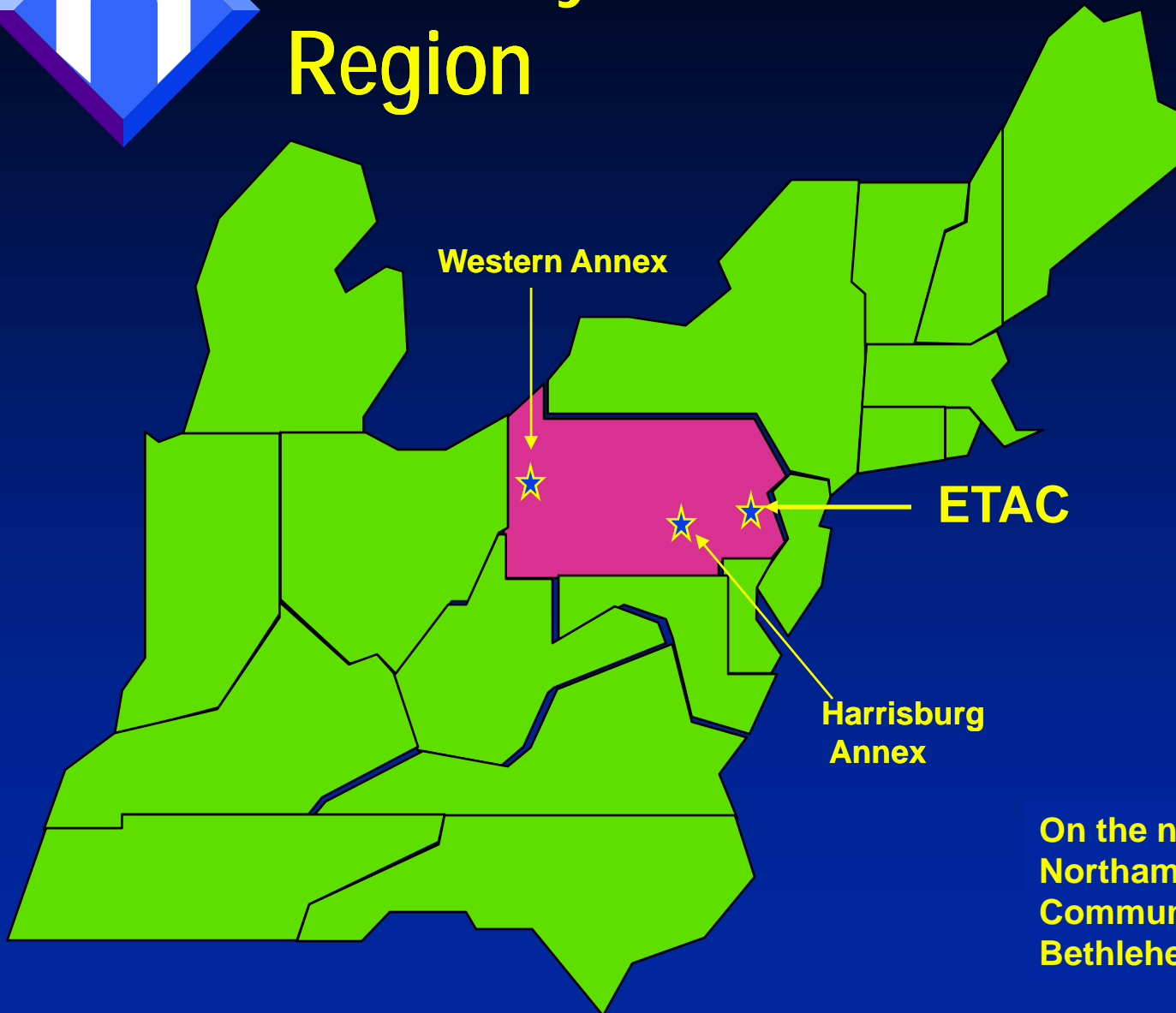


# Mission

- ❖ ETAC helps manufacturers:
  - Improve existing processes
  - Develop new products & processes
  - Reduce costs and increase competitiveness
  - Address environmental and energy issues
  
- ❖ ETAC utilizes:
  - Manufacturing Technologies
  - Environmental Technologies
  - Energy Technologies
  - Emerging Technologies



# Centrally Located in Northeast Region



On the north campus of  
Northampton  
Community College,  
Bethlehem, PA



# About the Center

## ❖ Staff:

- 16 Permanent Staff + Outside Consultants
- Mostly Advanced Degrees in Science & Engineering
- All Have Worked Extensively in Industry

## ❖ Facilities:

- 18,000 Square Feet at 5 Locations

## ❖ Equipment:

- \$5M in State-of-the-Art Equipment

## ❖ History:

- In 14+ Years ETAC has helped nearly 1000 companies in all SIC Codes Throughout the Country. Over 80% of these companies are small businesses.



## Industries Served

- Wood Products
- Metal Fabrication
- Plastics/Composites
- Food
- Chemicals
- Aerospace
- Printing
- Textiles
- Automotive
- All NAIC System Codes



# Sources of Funding

- Manufacturers
- Energy Companies
- Commonwealth of PA:
  - DCED/Ben Franklin Technology Centers
  - Manufacturing & Industrial Resource Centers
  - DEP/Air Quality/ Energy & Tech Development
  - DOE/Workforce Development
  - Other/PENNTAP
  - WEDNET
- Federal sources
  - NIST/IRCs
  - DOD
  - DOE
  - EPA



# DEP Partnership

## ❖ Air Quality Grants:

- 10 Years
- Helped 900 Companies
- Reduced 55,000 Tons VOC Emissions
- Reduced 200,000 Tons CO2 Emissions
- Realized \$8 Million Cost Savings
- Conducted E-Beam VOC Destruction Project

## ❖ Energy & Technology Deployment:

- Conducted Training for DEP Staff
- Joint USDOE Project for Energy Courses

## ❖ SBO:

- Represented on ETAC Advisory Committee
- Conducted Over 30 P2E2 Assessments
- Conducted Workshops for Small Businesses



# Manufacturing Technology Focus Areas

- Coatings & Inks
- Process Heating
- Materials Science
- Life Science



## Coatings & Inks

- New Formulations (Soy-Based Inks, etc.)
- Radiation Curing (UV, Ebeam, etc.)
- Driven by Performance, Sustainability & New Applications
- Formed CIRI (Coatings & Ink Research Center)





## Life Sciences

- Pasteurization, Sterilization & Packaging
- Food, Pharmaceutical, Medical Applications
- Driven by State & Regional Funding
- PA Food Manufacturers Consortium & PSU



# Food

**Application: Electron Beam  
Pasteurization**

**Company: Food Processor**

**Problem: Limited shelf-life of  
fresh vegetables**

**Solution: Use electron beam to  
reduce microbial load on  
surfaces**

**Benefits:**

- **Significantly increased  
shelf-life**
- **Extended customer  
base area**





# Environmental Technologies

- Pollution Prevention & Air Quality Improvement
- Vortex Technology (Tornado-in-a-Can)
- Driven by Health Concerns & Regulatory Laws
- Implementation
  - DEP Small Manufacturing Business Grants
  - DEP/DCED Air Quality Grants
  - Outreach Programs



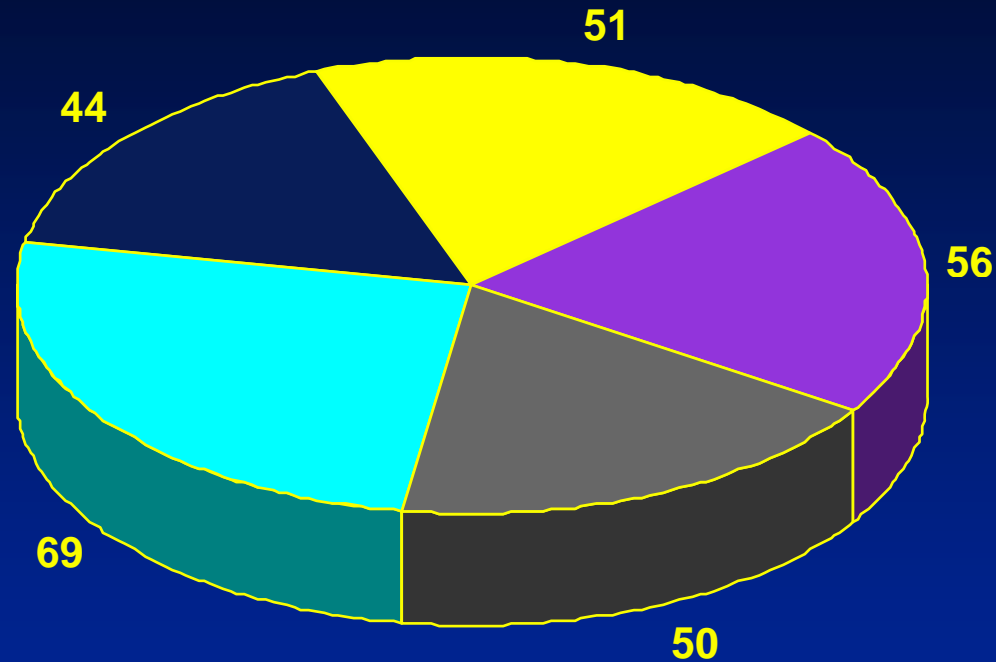


# Energy Technologies

- Plant Energy Assessments
- Energy Management Programs/Courses
- Driven by Skyrocketing Energy Costs
- Implementation
  - Formation of Energy Management Institute
  - Distance Learning Courses
  - Partnerships with PENNTAP, MRC, GATF
  - Alternative Energy Demonstration Center



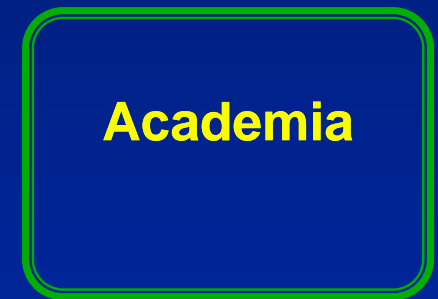
## *Typical Results (AEE Survey)*



■ 0-5%   ■ 6-10%   ■ 11-15%   ■ 16-25%   ■ >25%

*270 EMs surveyed, 52 of the programs in first two years of implementation*

# Network to Serve Customers



**MANUFACTURING  
CUSTOMERS**

