

# The New York Innovation Economy and the Nanotechnology Cluster: The Role of SUNY

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# SUNY is...

The **largest** comprehensive university system in the United States

Nearly **\$1 billion** in sponsored research

**3.6 million** students, alumni and employees

**80 million** gross square footage

**7,669** degree and certificate programs

**\$19.8 billion** in economic impact

# SUNY's Unmatched Assets



## PEOPLE

468,000 Students  
88,000 faculty and staff  
3 million alumni

## INFRASTRUCTURE

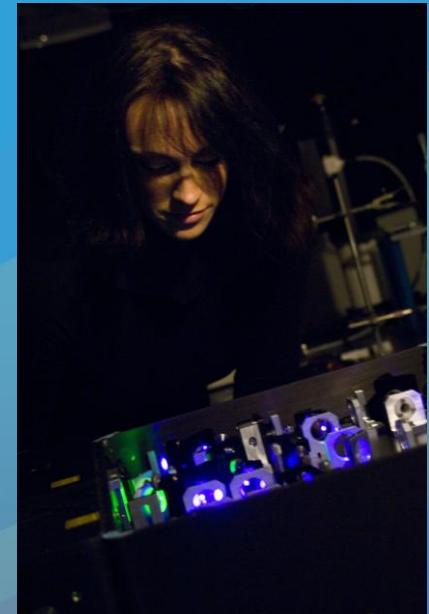
64 Campuses  
6 Centers for Advanced Technology  
8 Centers of Excellence  
17 Incubators

## TECHNOLOGY

Over 1,000 issued patents  
Over 700 active licenses  
72 active startups

# SUNY University at Albany

The College of Nanoscale Science and Engineering (CNSE) of the University at Albany - State University of New York (SUNY) is a global education, research, development and technology deployment resource dedicated to preparing the next generation of scientists and researchers in nanotechnology.





# “Pioneering Innovation to Drive an Educational and Economic Renaissance in New York State”



- 300+ industry partners (electronics, energy, IT, defense & biohealth)
- \$14.5B direct investments and \$28B nanotechnology investments statewide
- Over 3,100 R&D jobs currently on site, rising to 3,700 R&D jobs by 2015
- 2001 to Present: 12,500 jobs created/retained, \$1B wages statewide
- Projected by 2015: 25,000 jobs created/retained, \$2.25B wages statewide

# CNSE and SUNY's Role

- Sponsored Program Administration
- Innovation Support Services
- Affiliated Corporation creation and support
- Infrastructure development & Facility Expansion
- Program Development & Strategic Partnerships
- Financial Support:
  - Lease of space
  - Loan guarantees
  - Cost modeling
  - Service Center Development

# Centers of Excellence

- Leveraging existing research strengths
- Upgraded research and development facilities
- Long term research funding
- Job creation



# Affiliated Corporations

- Achieving goals beyond the reach of SUNY or RF
- Increased flexibility
- Dedicated corporate structure
- Alignment with SUNY mission



# Fuller Road Management Corporation (FRMC)

- Land Lease with SUNY
- Design and construction of facilities
- Financing of construction
- Debt issuance on facility construction- RF as credit tenant
- Provide access to research programs, facilities.
- Facility ownership and operation.
- Direct lease of office space to industry.



# Milestones

Fuller Road  
Management  
Corporation  
(FMRC)  
Incorporated  
– 1993

International  
Venture for  
Nanolithography  
(INVENT)  
Program  
Established –  
2002

NanoFab  
South Facility  
Completed –  
2004

NanoFab  
North Facility  
Completed –  
2005

Computer  
Chip Hybrid  
Integration  
Partnership  
(CHIP)  
Program –  
2009

Global 450  
Consortium  
Established –  
2011



Center for  
Environmental  
Science and  
Technology  
Management  
(CESTM)  
Facility  
Completed –  
1997

SEMATECH  
North – 2003

Center for  
Semiconductor  
Research  
(CSR) – 2005

Institute for  
Nanoelectronics  
Discovery &  
Exploration  
(Index) Program  
– 2006

NanoFab  
East and  
Central  
Facilities  
Completed –  
2009

NanoFab  
Xtension  
(NFX) – target  
completion  
2012

# The Cluster Effect



**SMART SYSTEM TECHNOLOGY & COMMERCIALIZATION CENTER**  
COLLEGE OF NANOSCALE SCIENCE & ENGINEERING



**COLLEGE OF NANOSCALE  
SCIENCE & ENGINEERING**  
UNIVERSITY AT ALBANY State University of New York



# New Ground

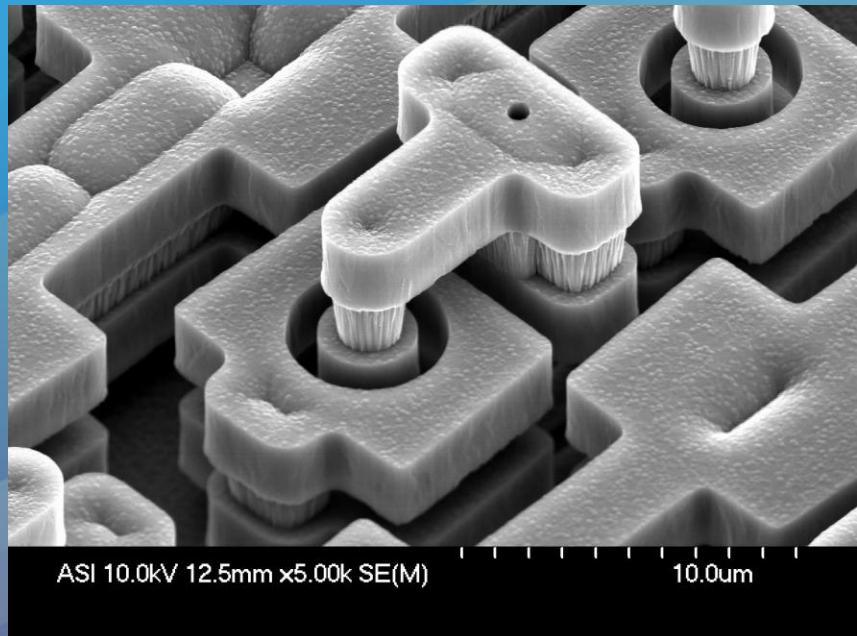
- Infotonics Consolidation
- Fort Schuyler Management Corporation
- Photovoltaic Manufacturing Consortium



# Infotonics Consolidation

## Smart Systems Technology and Commercialization Center (STC)

- Former Infotonics Center of Excellence in Rochester, NY focused on Microelectromechanical Systems (MEMS) technology
- Broad industry partnerships to develop commercialization pathways
- DOD contractor
- Secure facility



# Fort Schuyler Management Corporation (FSMC)

## FSMC – Marcy NanoCenter at SUNYIT

- Partnership with Mohawk Valley EDGE
- FSMC development – Center for Advanced Technology (CAT) and Computer Chip Commercialization Center (Quad C) on campus
- Continued industry partnership coupled with academic excellence



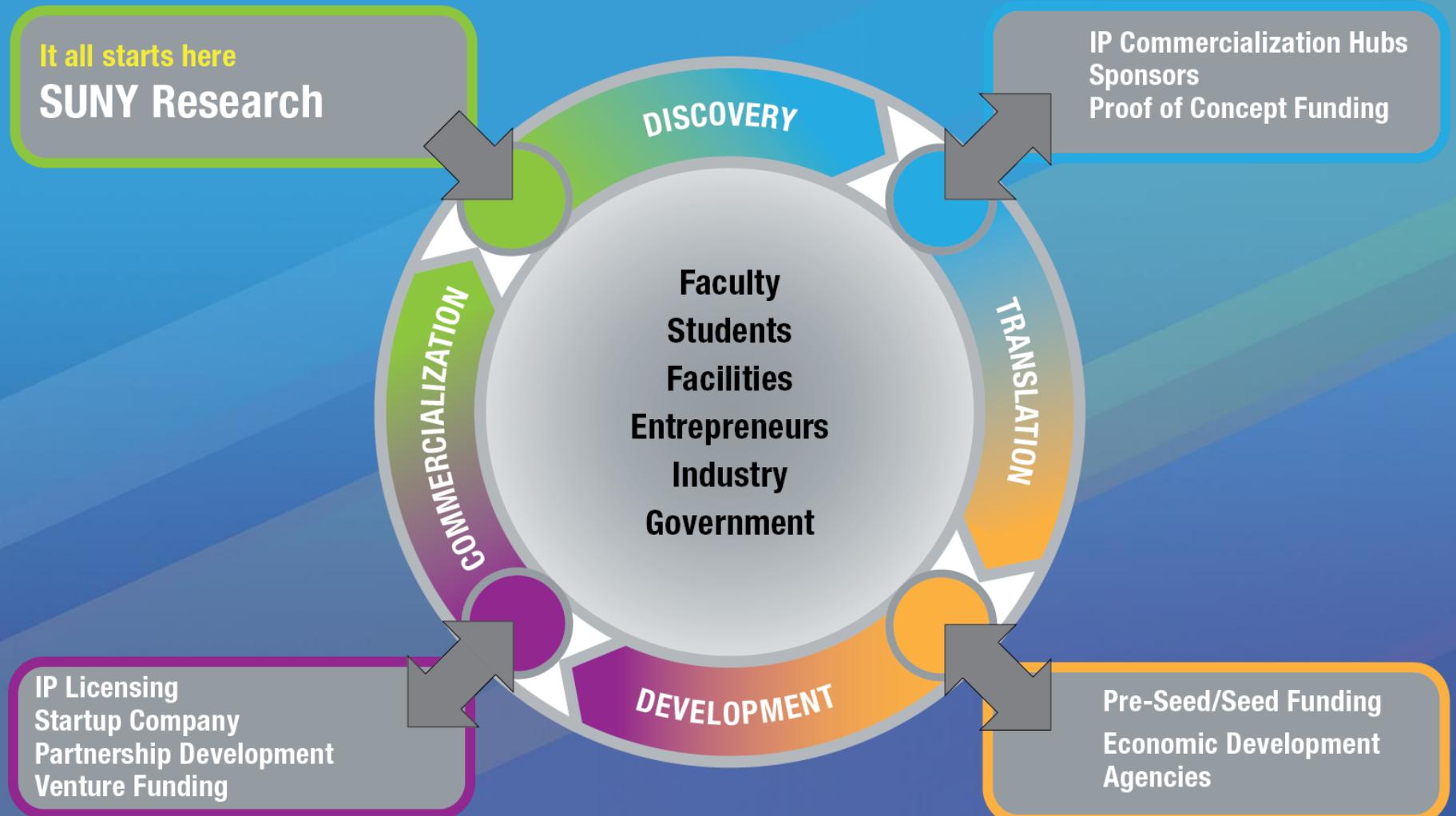
# Photovoltaic Manufacturing Consortium (PVMC)

## PVMC, Inc.

- Develop industry standards for solar industry
- Transition from crystal silicates to Copper-Indium-Gallium-Selenide (CIGS)
- Improve industrial efficiency
- Provide vehicle for property interest by Department of Energy



# Innovation Ecosystem



# People, Infrastructure, Technology



**“You have an outstanding university. Now I want what’s happening in Albany to happen across the country.”**

