

# Overview of Current RSL Landscape



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# The Landscape of RSL's has and is changing



- This is a great time to be a Regional, State or Local Nano Initiative!
- In the first decade of Nanotechnology Initiatives much has been accomplished and more resources are available to our nano researchers and companies than ever before.
- Nano research leads us to great discoveries **nearly every day** and the knowledge of nanotechnology grows by leaps and bounds and knows no geographical boundaries.

# If you have seen one Regional, State, or Local Nanotech Initiative....



- RSL's are defined by the communities that support them and no two are exactly alike.
- Some RSL's survived during the great recession...and some faded away.
- Those Initiatives that survived did so through local/state funding and support.
- Even those Initiatives that faded away left many nano companies still viable.
- Many RSL's have morphed into something different than what they began as.

# Research Infrastructure Resources Abound



- An extensive research infrastructure created by the NNI includes over 80 research centers and networks supported by the National Science Foundation.
- Five research facilities at Department of Energy Laboratories.
  - Sandia/Los Alamos
  - Brookhaven
  - Argonne
  - Lawrence Berkley
  - Oak Ridge

# RSL Resources



- The Nanotechnology Characterization Laboratory of the National Institute of Health.'
- The National Institutes of Standard and Testing's CNST NanoFab.
- Many Department of Defense laboratories.
- The 2010 NNI research plan included over \$280 million for research on Instrumentation, Metrology and Standards.
- \$197 million for new major research facilities and acquisition of instrumentation.
- 2012 SBIR Re-authorization

# But What About Resources for RSLs



- From the beginning RSL's have requested some matching funds to support RSL's.
- In 2006 and 2009, the "ask" was stated time and again, "help us, help our companies and our country."
- An answer seemed to come that, while it is difficult for the government to fund individual States and Local Initiatives, it might be possible for funding to Multi-State or Regional Initiatives.
- Within months, States began to work toward forming Regional Initiatives.

# Regional Initiatives Are Initiated



- Oklahoma, New Mexico, Colorado, Texas, and Arizona formed the Southwest Nanotech Consortium.
- Pennsylvania, New Jersey, and Delaware formed the Mid Atlantic Nanotech Alliance.
- The Alliance for Nanohealth: Partnering for Medicine formed in 2008.
- Numerous meetings, conferences and collaborations were initiated but...
- **No federal funding ever surfaced** and the Regional Initiatives wither on the vine.

# A National Resource: The NanoBusiness Association



The NanoBusiness Alliance, now the National NanoBusiness Association, led by Vincent Caprio, focuses on Nano issues on a national scale and gives Nano companies and RSL's a voice to the media and in Washington.



# The Current Landscape of RSL Models



- **1. The State Government Investment Model**
  - The Oregon Nanoscience and Microtechnologies Institute – ONMI
  - New York-Albany -\$50 million in seed \$ generated \$3B in private investment
  - Ohio- Nortech and Nano Network of OHIO, Ohio voters extended billion dollar commitment to 2016
  - North Dakota- Dept of Commerce, sets Centers of Excellence
  - Pennsylvania- Pa Nanotech Institute (501c3) and PANanoMaterials Commercialization Ctr-provides grants for companies to commercialize nano products.
  - Texas- Texas Emerging Technology fund



- **2. The Government Organization Model**
  - Oklahoma- Okla. Nano Initiative \$1.5 to \$2M annually for nano commercialization, Nano Educ. Initiative, Nano Camps
  - South Dakota- recruiting nano companies
  - North Carolina- Dept of Commerce support
- **3. The Single-Goal Model**
  - Nanotechnology Foundation of Texas- completed goal- shut down
- **4. The volunteer and Business Association Model**
  - Arizona- Arizona Nano Cluster – All funded by local nano companies -no state funds
  - Colorado- Initially funded by local nano companies, no longer operational as an initiative.

# A Snap shot of a few RSL's



- North Carolina- NC Nanonet; Center for Integrated Nanobiotechnology
- Kentucky- KY NanoNet&EPSCOR funding nano research
- New Mexico- Two Fed labs, no formal state initiative
- West Virginia- WV Nanotech Institute, morphing to include more than nano
- Hawaii- seeking to help nano companies and researchers
- National NanoManufacturing Network
- Washington (state ) Tech Center
- Mississippi Technology Alliance
- Illinois Nano Cluster
- Indiana -Brick Nanotechnology Ctr

# What do RSL's Need?



- Funding
- To communicate better with each other and the public
- To get together more often (not just every 3 years or when we are manning a booth at a trade show)
- To collaborate more at: RSL, company, and researcher levels
- To improve technology transfer from Federal labs and Universities
- To get young minds into nanotechnology
- What are your ideas?

# Getting Kids into Nano!

## Oklahoma Nanotechnology Education Initiative

[www.oknano.com](http://www.oknano.com)

- “Nanotechnology for Students” (also on youtube)
- Virtual products showcase
- Researcher and nano company databases
- Links to nano activities and lesson plans



# The RSL Landscape is growing/morphing



- It's important to realize
  - how far we have come in all things nano,
  - that it is not too late to get your state involved in nano,
  - that the body of nano research is growing exponentially,
  - that the equipment we need to operate at the nanoscale is getting better and better,
  - that companies are utilizing nanotechnology to make new, improved, (often disruptive) commercial products,
  - that jobs are being created,
  - and most importantly...**this is still just the beginning!**



- Thank You!