Bridging the Gap Between the Laboratory and the Marketplace

Supporting Technologies for Semiconductor Lithography

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ATP is part of NIST

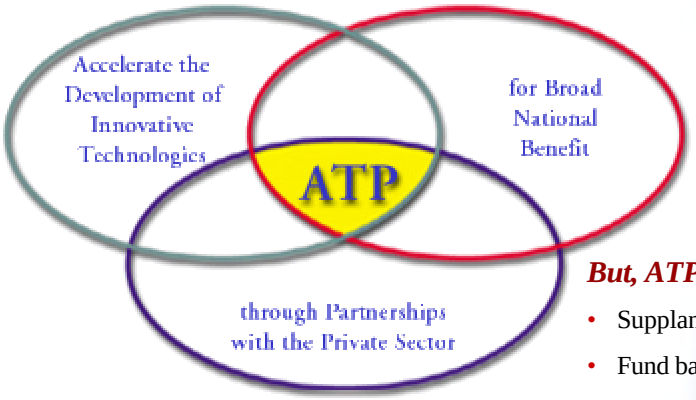
NIST Mission:
Strengthen the U.S. economy and improve the quality of life by working with industry to develop and apply technology, measurements, and standards.

Helping America Measure Up

- **3300 employees**
- **$760 million budget**
- **1200 industrial partners**
- **2000 field agents**
- **1550 guest researchers**
- **$1.4 billion co-funding of industry R&D**
- **national measurement standards**

To Tackle the R&D Challenges of the 21st Century

ATP Mission . . .



But, ATP does NOT…

- Supplant private capital
- Fund basic research
- Fund product development

Our Offices

- Chemistry and Life Sciences
  - Linda Schilling (301) 975-2887
    - linda.schilling@nist.gov
- **Electronics and Photonics**
  - **Philip Perconti (301) 975-4263**
    - **philip.perconti@nist.gov**
- Information Technology and Applications
  - Harris Liebergot (301) 975-5196
    - harris.liebergot@nist.gov
- Economic Assessment
  - Rosalie Ruegg (301) 975-6135
    - rosalie.ruegg@nist.gov

Electronics & Photonics Technology Office (EPTO)

Working with American companies to fill the gap between the laboratory and the marketplace through early stage investment in new ideas and new technologies in electronics and photonics

- ***Focused on supporting projects in:***
  - **Microelectronics**
  - **Optoelectronics & Optics technology**
  - **Power technologies**
  - **RF electronics**
  - **Organic electronics**
  - **Manufacturing**

EPTO Project Relationships with Industry

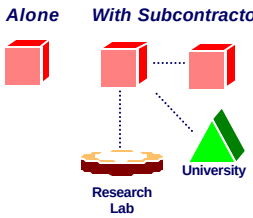
- ***Development***
  - Support industry efforts to define high-risk, innovative projects
  - Explore highest priority technical opportunities and barriers with American industry
  - Enable greater understanding of ATP criteria & objectives through education and outreach
- ***Selection***
  - Main group responsible for evaluating and recommending electronics & photonics proposals that best meet ATP criteria
- ***Management***
  - Collaborate with companies to ensure project success
  - Government's technical & business representatives
    - monitor project technical and business progress against agreed milestones and expenditures

EPTO Staff

- Optolectronics & Optics Technology
  - Phil Perconti,Carlos Grinspon,Tom Lettieri
- Power Technologies
  - Gerald Caesar, Frank Power
- Microelectronics
  - Purabi Mazumdar, John Albers, Michael Schen
- RF Electronics
  - Elissa Sobolewski, Barbara Bird
- Organic Electronics
  - Michael Schen, Barbara Bird
- Manufacturing
  - Gerald Caesar, Purabi Mazumdar, Phil Perconti, Frank Power, Michael Schen

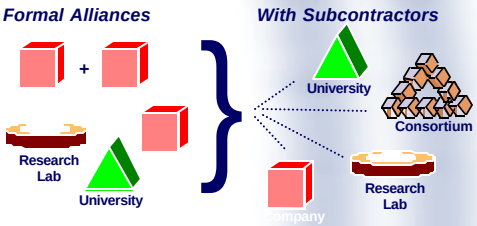
ATP Eligibility

SINGLE COMPANIES



- For-profit company
- 3-year time limit
- $2M award cap
- Company pays indirect costs
- Large companies cost share >60% of project cost

JOINT VENTURES

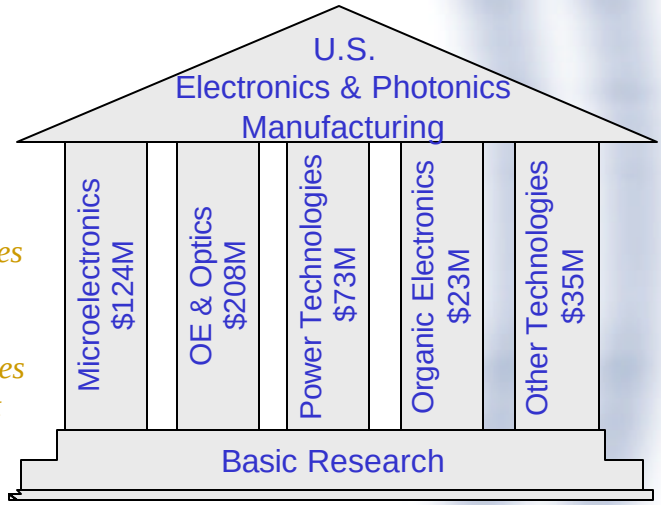


- At least 2 for-profit companies
- 5-year time limit
- No limit on award amount
- Industry share >50% total cost

- Intellectual property is owned by the for-profit companies
- ATP encourages teaming arrangements - most projects involve alliances

EPTO Current Funding

EPTO: Collaborating with American companies to strengthen our Electronics & Photonics industries for national benefit

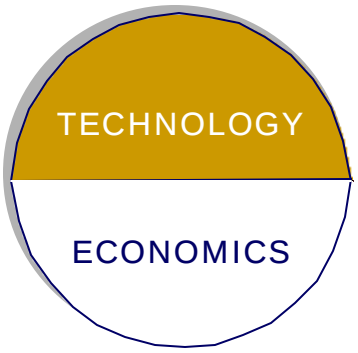


FY 2000 Competition

- Budget by Congress still pending
  - competition announcement anticipated soon
- Continuous pre-proposal evaluation
- Technology specific source evaluation boards
  - **Electronics**
  - Biotechnology
  - Information Technology
  - Chemistry and Materials
  - Manufacturing

ATP Criteria

Critical Elements of a Proposal ...



- **Scientific and Technological Merit (50%)**
  - ✓ Innovations in the Technology
  - ✓ High Technical Risk & Feasibility
  - ✓ Quality of R&D Plan
- **Broad-Based Economic Benefits (50%)**
  - ✓ Economic Benefits
  - ✓ Need for ATP Funding
  - ✓ Pathway to Economic Benefits

What's Next?

Industry Leadership is Essential!

- Use every opportunity to discusss, plan, and distill your ideas
- When doubt or questions arise, call EPTO
- Send us your pre-proposals for evaluation and feedback
- Begin your proposal planning NOW!

Getting Started

Proposal Development the ATP Way ...

- Identify an opportunity
- Identify technical barriers to realizing the opportunity
- Relate technical barriers to specific R&D objectives
- Plan research to eliminate barriers
  - ✓ Innovative
  - ✓ Coherent
  - ✓ Feasible
  - ✓ Integrated
- Present details of R&D plan
- Develop commercialization strategy
  - ✓ Target Applications
  - ✓ Plan for broader diffusion

Pre-Proposals

Year-round submission ...

- Written feedback in approximately 2 weeks
- Pre-proposals can be submitted twice
- 4 pages plus cover
- 5 questions on technical and economic merit