



Organic Electronics Technologies: A New ATP Interest Area

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Organic Electronics Technologies Workshop
November 18, 1998 Sheraton Gateway Hotel, Atlanta, GA



Organic Electronics Technologies

WELCOME AND WORKSHOP GOALS

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The \$66,000,000 Question



**What is ATP to
Someone in
Organic
Electronics?**

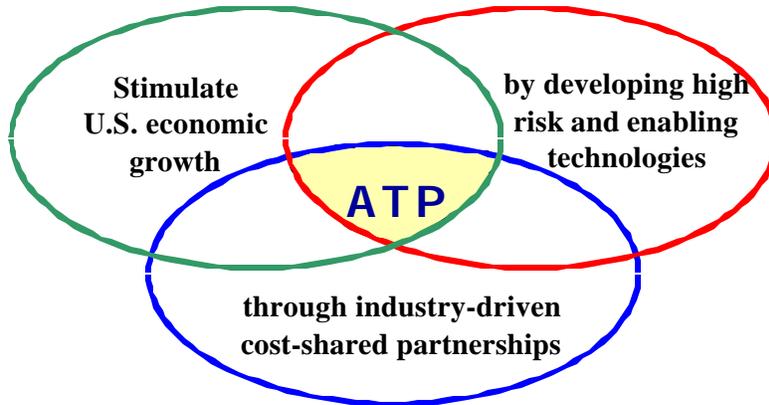
ATP's Motivation

- Engage U.S. industry in exploring appropriate opportunities for partnerships with ATP.
- Concentrate on technologies and R&D problems key to the future of U.S. industry economic growth.



What is the ATP?

ATP's Mission ...

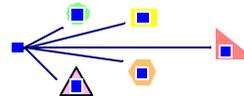
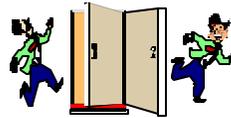


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What are Enabling Technologies?

- **Pathbreaking technology**
 - ✓ Opens up new possibilities
 - ✓ Revolutionary in nature
- **Infrastructural technology**
 - ✓ Supports R&D, production and business of an entire industry
- **Multi-use technology**
 - ✓ Many distinct applications



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FY99 Budgets and Updates

✓ ATP's budget increases from \$192.5 M in FY98 to \$203.5 M in FY99

✓ \$66 M (first year \$) for new 1999 ATP awards leverages \$350 - \$450 M in new research!

✓ FY99 competition means the sky's the limit!
No \$ limit for any single ATP technical area.

✓ ATP mid-way through major overhaul

- ✓ accelerated planning
- ✓ new pre-proposal process
- ✓ new balance of selection criteria
- ✓ technology specific boards

✓ Industry free to plan, declare own initiatives, and propose key investments needing ATP partnerships

✓ Leadership → Awards



What Does ATP Look For?



- High technical risk R&D problems w/sound technical approaches
- Ideas that tackle industry's most critical technical problems
- R&D that does not duplicate what industry could otherwise do on its own



- High economic benefit to the U.S.
- Results that enhance U.S. competitiveness
- Technology that lays the foundation for products, goods or services in 3-5 years or beyond



What is Organic Electronics?

Technologies, base and infrastructure, for the utilization of high value added organic electronic materials and their associated devices or assemblies, which participate in the function of diverse electrical or optical subsystems, within future electronics products.*

Working Definition

- *Launching point for industry's input and guidance.*
- *Industry responsible for the final definition and scope.*

* electronic materials, by design, interact with electromagnetic fields or, by design, be nearly transparent or non-interacting

Workshop Goals

Day's End Success Means ...

- *Assisting industry in competing in ATP's FY 1999 competition!*
 - ✓ Identify some of the technological factors and business potentials that affect utilization of organic electronics technologies within future commercial products
 - ✓ Home-in on *ATP Sweet Spots* - R&D topics appropriate for industry-ATP partnerships
 - ✓ Guide ATP in establishing its priorities in Organic Electronics Technologies
 - ✓ Opportunity to form partnerships

... and not to identify or promote any specific technical plan or proposal



Proposed Approach

Our Working Taxonomy

- *Based upon the function of devices/assemblies within electronic subsystems*
 - ▶ Imaging
 - ▶ Logic
 - ▶ Memory
 - ▶ Interconnection
 - ▶ Power
 - ▶ Display, Illumination
 - ▶ Field Protection, Confinement
 - ▶ Sensors
 - ▶ ??
- *Considers a diverse array of technical opportunities*
- *Requires distillation by industry to arrive at ATP Sweet Spots*
- *Filters applied by industry leading to focused industry-government strategy*



Today's Tasks

Consider ...

Future Opportunities

Developments in OET

Most Critical Technical Problems

Focus on ...

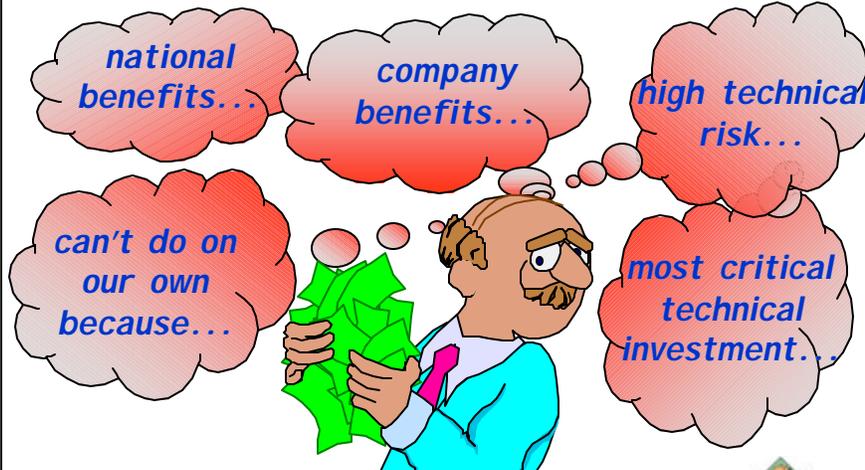
Apply ATP Filters

Identify ATP Sweet Spots

Deliver the tools industry needs to compete



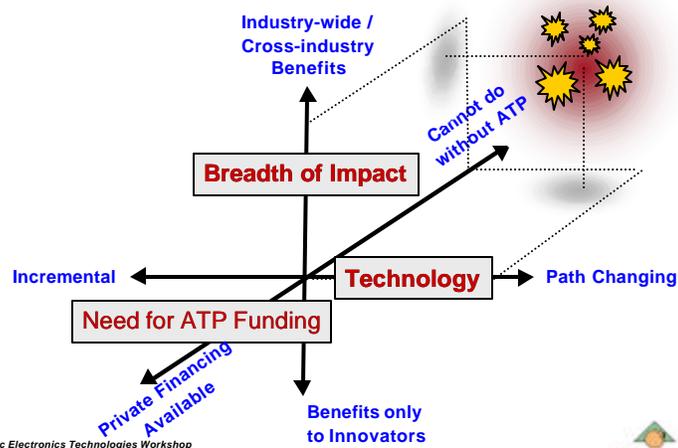
Targeting the Sweet Spots



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The ATP Sweet Spot



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