

Commercializing Biometric Technologies

*Arlington, Virginia
September 23-25*

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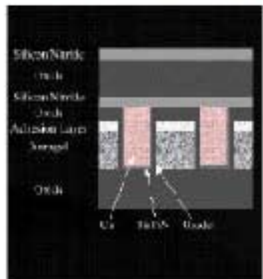
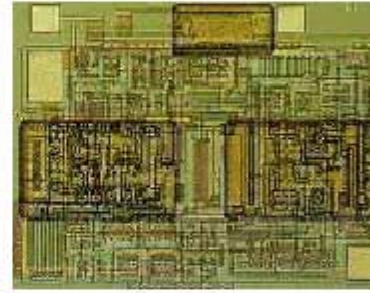
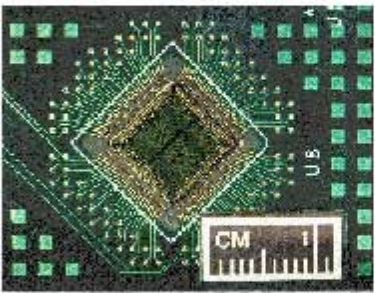
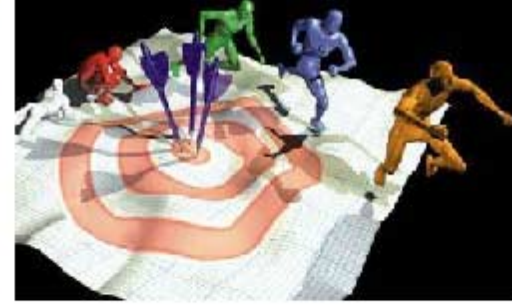
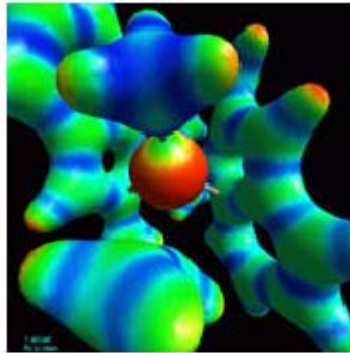
www.atp.nist.gov

1-800-ATP-FUND

ATP's Mission

*To accelerate the development of
innovative technologies for
broad national economic benefit
through
partnerships with the private sector.*

Advanced Technology Program



Bridging the Gap Between the Laboratory and the Marketplace

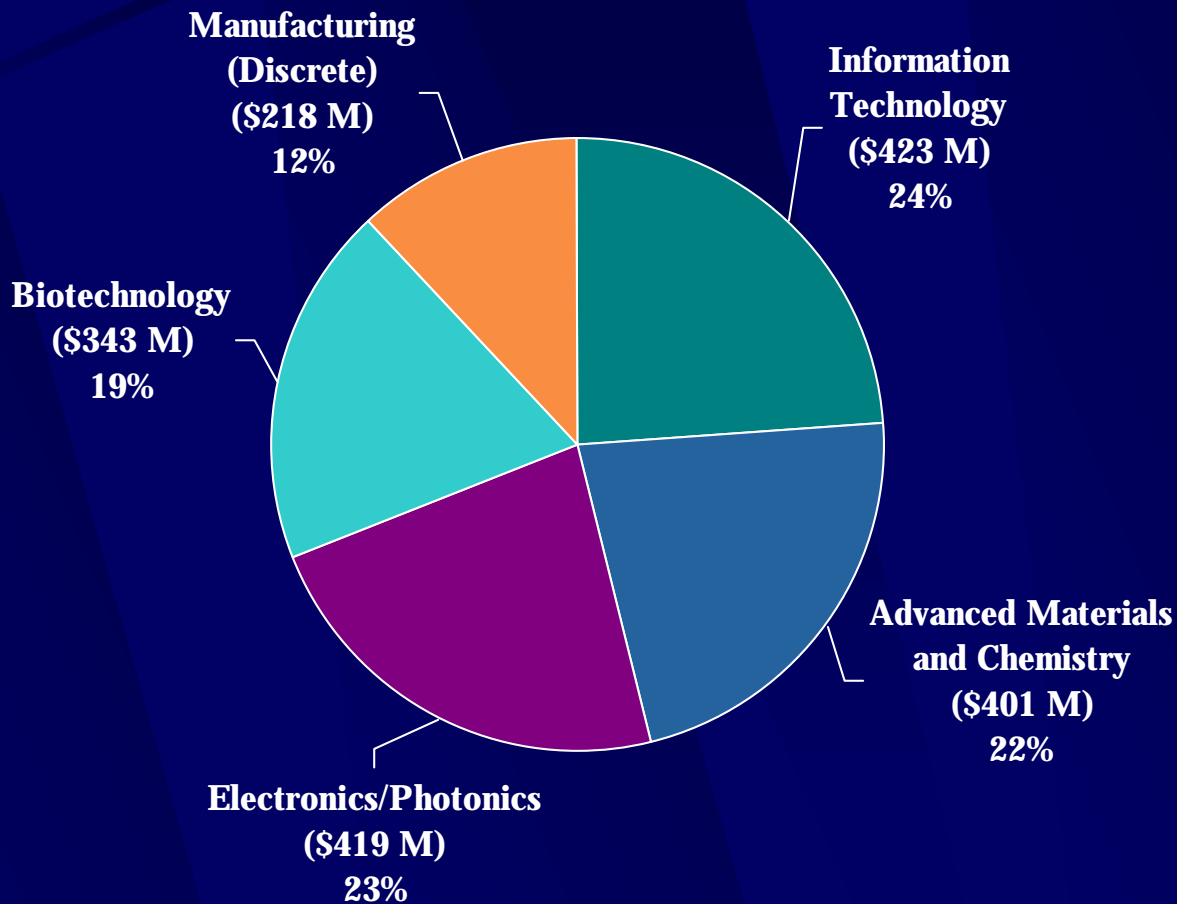
A Decade of Innovation

- 4,696 proposals submitted to 42 competitions, requesting \$10.1B from ATP
- 581 projects awarded with 1250 participants and an equal number of subcontractors
- 185 joint ventures and 396 single applicants
- \$3.6 billion of high-risk research funded
 - ATP Share = \$1.8 billion
 - Industry Share = \$1.8 billion
- Small businesses are thriving
 - 61% of projects led by small businesses
- Over 150 universities participate
- Nearly 25 national laboratories participate

FY2001 Competition Results

- *261 Proposals Submitted*
- *71 Semifinalists Selected*
- *59 Awards*
 - *13 Joint Ventures*
 - *46 Single Companies*
 - *\$164 M ATP Funds; \$122 M Industry Funds*
 - *\$2.8M average award size*

581 ATP Awards by Technology Area (As a Percent of \$1,804 M Awarded)



42 Competitions (1990-September 30, 2001)

Homeland Security Initiatives

- **Create Smart Borders**
 - Face, Finger and Iris Recognition
- **Combat Fraudulent Travel Documents**
 - Face, Finger and Iris Recognition
- **Increase Security of Shipping Containers**
 - Biometric Signature
- **Intensify International Law Enforcement**
 - Need to identify first
- **Expand Protection of Infrastructure**

Biometric Technologies

- Fingerprint recognition
- Face recognition
- Speaker recognition
- Iris texture, retinal pattern
- Hand and finger geometry,
- Palm and vein patterns, knuckle contour
- Dynamic/static handwritten signature
- Keystroke dynamics

Face Recognition Systems

- Live Face
 - Face in the crowd
 - Facial alteration
 - Partial face
 - Environment
- Mug-shot & Profile
- 3D Face Recognition
- Infrared Images

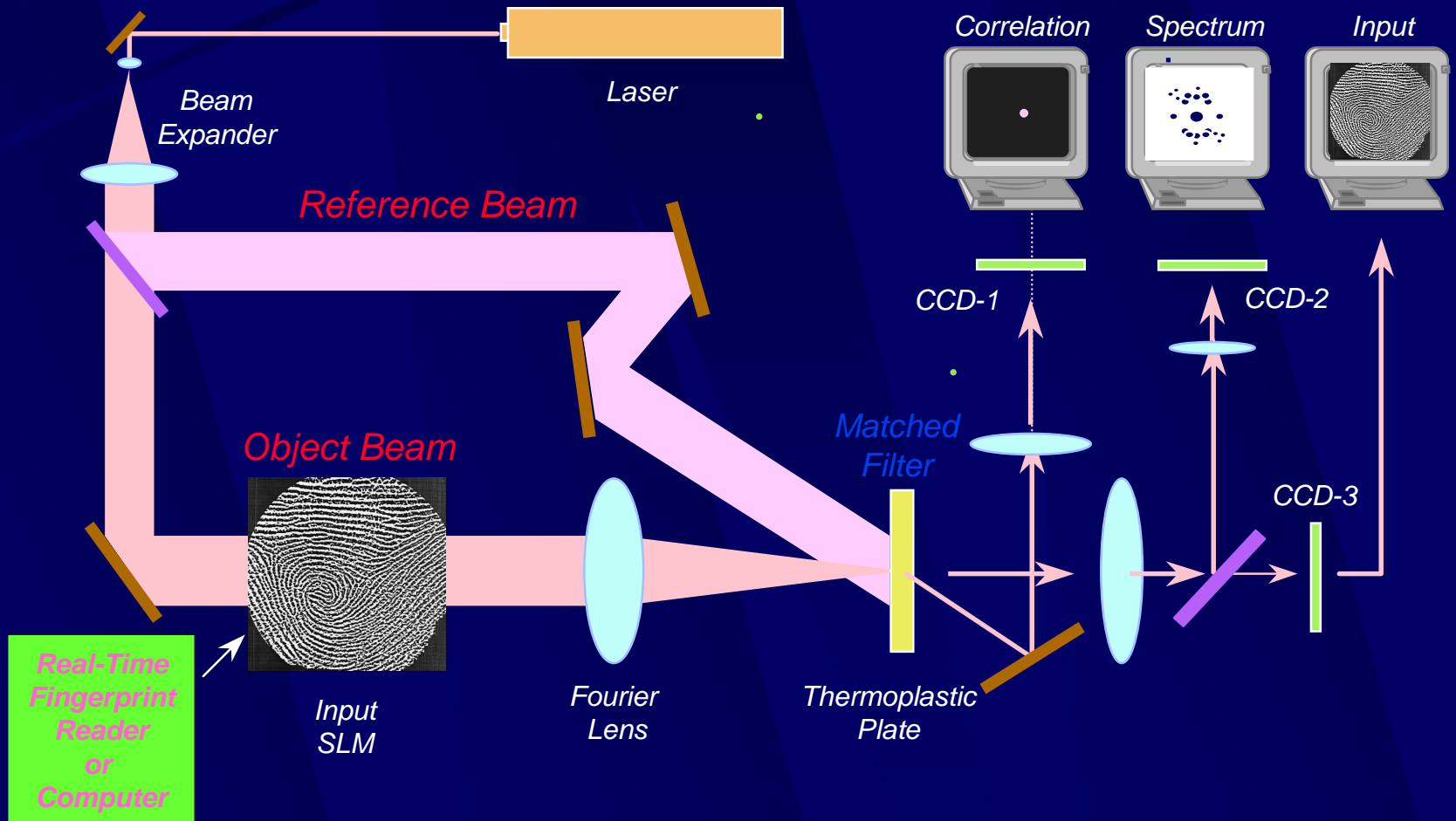


Finger Print Systems

- Classification
 - Finger Print Images
 - Partial fingerprint
- Recognition
 - Minutiae Detection
 - Neural Networks
- Finger Print Scan
- Latent Finger Print



Optical Pattern Recognition



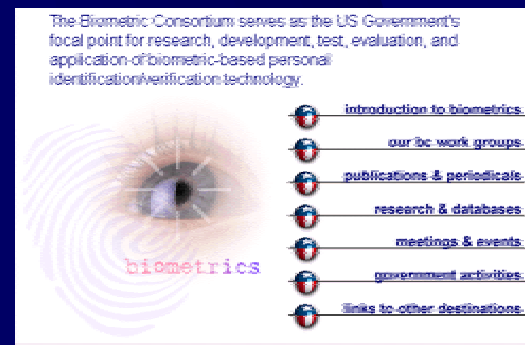
Speaker Verification

- Can be used at a workstation or over telephone lines.
- Requires only a microphone and a personal computer with sound card.
- Built-in liveness testing.
- Real time and simple.
- Not pervasive
- High Cost



Iris Recognition

- Identifies people by the patterns in the iris of the eye.
- The iris of each eye is absolutely unique.
- No two irises have been found to be alike in their mathematical detail, even among identical twins.
- Distance
- Environment



Smart Cards with Biometric

- European market: (80%)
 - mobile phones
 - access to public transportation
 - banking
 - Security
- US market :
 - A large part of the market will be driven by computer-based applications and Security.
 - ID Cards, Travel Documents

What Can ATP Do for You?

- Create Sustainable Technical Advantage
 - **we share in the risk of high-payoff research**
 - **you direct the research goals**
 - **ATP commits approx. \$1,000,000 per year per project**
- You Own the Intellectual Property Rights
- Encourage Integration of Business and Technical Planning
- Gain Recognition Within Industrial and Financial Sectors
 - **an ATP award will attract attention from investors, strategic partners, potential customers, and others**

What Can You Do for ATP?

- What technological developments must occur to support your vision?

Share your vision of the future of Biometric Systems.

- Where can federal government funding make the greatest difference and why?

Key Issues for Which We Solicit Your Input

- Good technical ideas
- Potential for Strong U.S. Economic Impact
- Strong Industry Commitment to Participate
- Opportunity for ATP to Make a Major Difference

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