

# **INL Technology Transfer: Nurturing Idaho's Future**

**Senate and House of Representatives  
State of Idaho  
Biotechnology Task Force  
September 29, 2005**

**Ray Barnes, Director  
Technology Transfer and Commercialization**

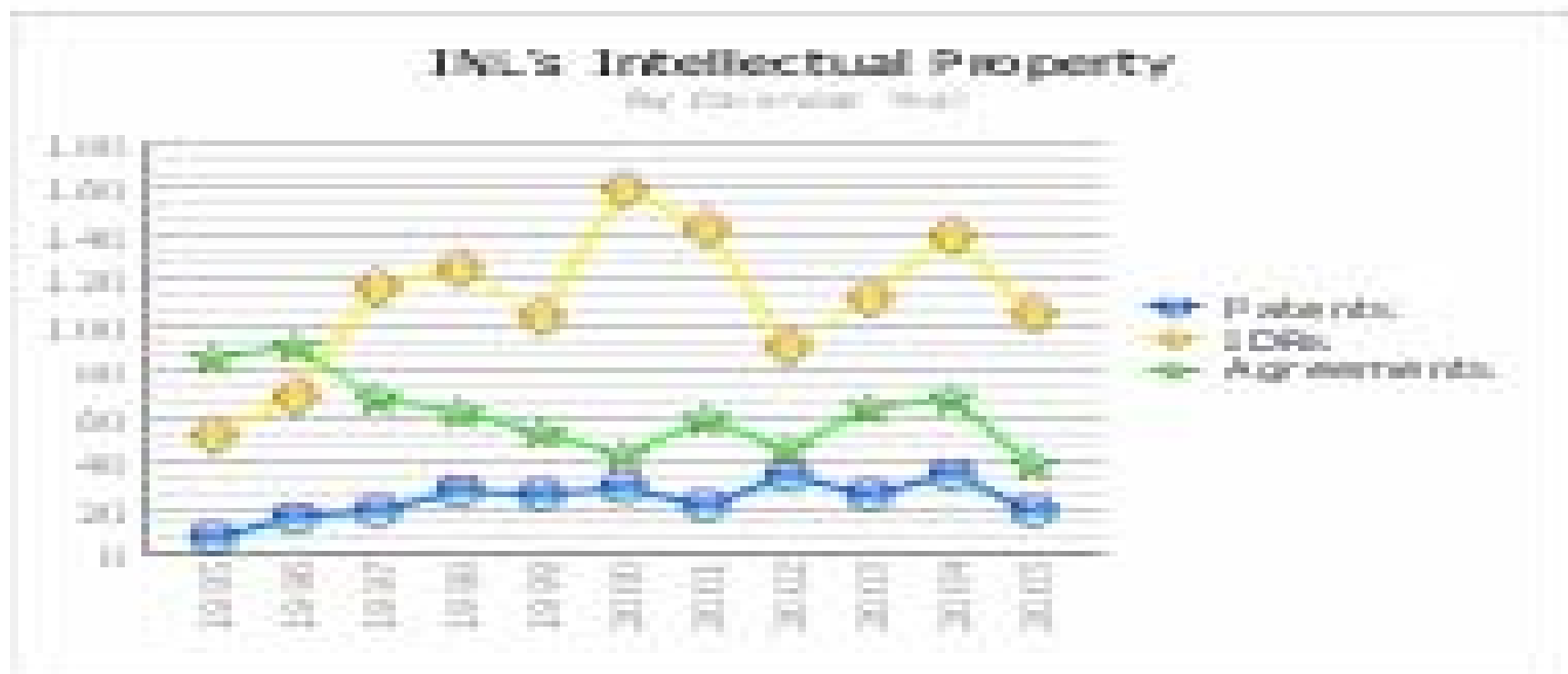
# TECHNOLOGY TRANSFER



**Statutory mandate to ensure knowledge, facilities and/or capabilities developed under federal R&D funding are made available to ensure that the U.S. taxpayer and industry benefit from research done at national laboratories**

- Strengthen U.S. industrial competitiveness**
- Fulfill one of the ‘Six Critical Attributes’ of INL**
- Strategic/Programmatic development**
- Complete Federal R&D “investment” cycle by creating the ROI**





# Technology Partnership Tools



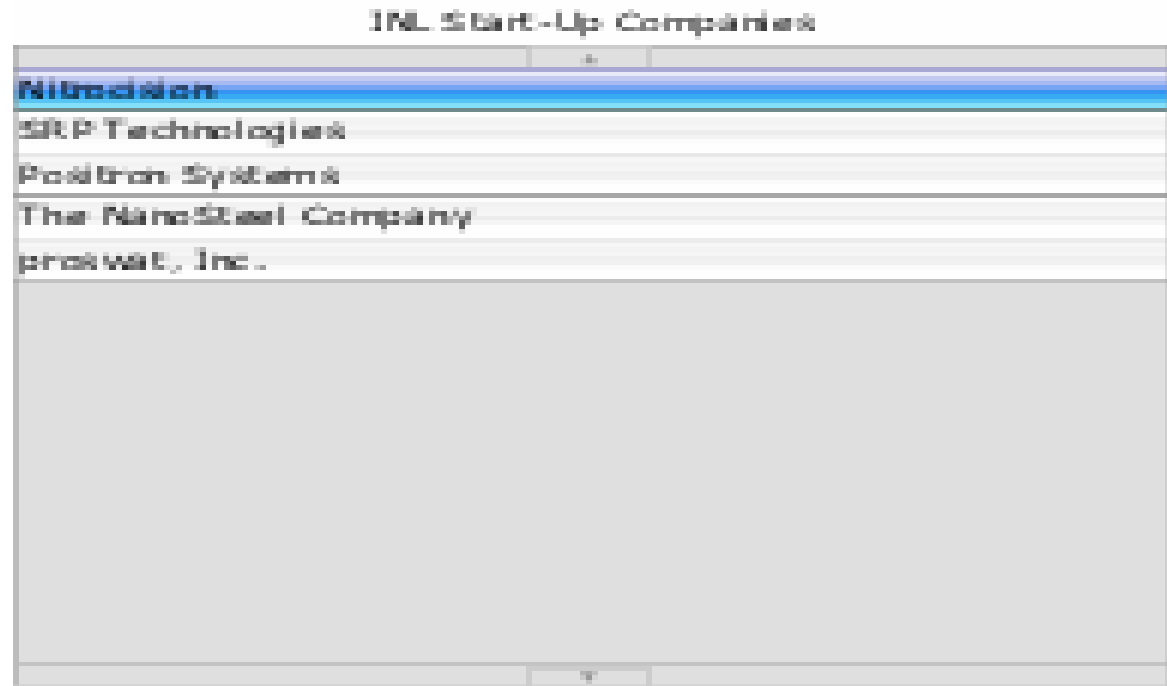
- **Existing Technology Transfer Mechanisms**
  - Cooperative Research and Development Agreements (CRADAs)
  - Licensing and Startup Companies
  - Work for Others
  - Technical Assistance
- **BEA Innovations for Collaboration**
  - Authorities to conduct work with industry partners on commercial terms using lab resources (Use Permit)
  - Fund development of promising technologies w/ Battelle Corp. funds (Privately Funded Technology Transfer)
  - Other transactions authority would give INL license to create new partnership forms

# Realities for INL Spin-offs

- **Scarcity of investment capital**
- **Professional services infrastructure**
- **Availability of experienced management**
- **Remoteness from markets**
- **Expectations on how long spin-off companies take to develop**
- **Few technologies justify starting a new company to commercialize the technology**



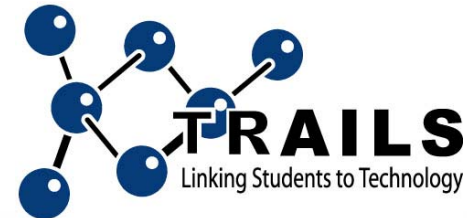
# Nevertheless, Some Succeed



# Building on Idaho's Science and Technology Future



- **Governor's Science and Technology Advisory Council** – supports state of Idaho strategic plan to systematically foster technology based economic development.
  - **Idaho TechConnect and TechLaunch** – a catalyst for Idaho entrepreneurs.
  - **Industry Forums**
- **Idaho Rural Partnerships**
- **Idaho Economic Development Association**
- **Internships** – full-time internships for BYU-Idaho students.
- **TRAILS** - an intercollegiate competition offers senior-level business students the opportunity to conduct market research on promising INL technologies.



# Discover the Opportunities

<a href="#">Home</a> <a href="#">INL Transformation</a> <a href="#">The Laboratory</a> <a href="#">Capabilities</a> <a href="#">Facilities</a> <a href="#">National Security</a> <a href="#">Nuclear Programs</a> <a href="#">Research</a> <a href="#">Safety</a> <a href="#">Partnerships</a> <a href="#">Communications</a> <a href="#">Media Resources</a> <a href="#">News Releases</a> <a href="#">Publications</a> <a href="#">Human Resources</a> <a href="#">Careers</a> <a href="#">Education</a> <a href="#">Diversity</a> <a href="#">Laboratory Outreach</a> <a href="#">Community</a> <a href="#">Working With Us</a> <a href="#">K-12 Education</a> <a href="#">About us</a> <a href="#">Organization</a> <a href="#">Partners</a> <a href="#">History</a> <a href="#">Center for Advanced Energy Studies</a>	<a href="#">Home</a> <a href="#">Technology Transfer</a> <a href="#">INL Inventors' Hall of Fame</a> <a href="#">Partnering Mechanisms</a> <a href="#">Patent Search</a> <a href="#">Technologies Available for Licensing</a> <a href="#">Agriculture</a> <a href="#">Biotechnology</a> <a href="#">Chemical</a> <a href="#">Environmental</a> <a href="#">Fossil Energy</a> <a href="#">Health and Medical</a> <a href="#">Information Technology</a> <a href="#">Manufacturing</a> <a href="#">Materials</a> <a href="#">National Security</a> <a href="#">Non-Nuclear Energy</a> <a href="#">Nuclear Energy</a> <a href="#">Robotics</a> <a href="#">Transportation</a> <a href="#">Technology Transfer Ombuds Program</a> <a href="#">A-Z Index</a> <a href="#">Contact Information</a> <a href="#">Staff Directory</a>	<a href="#">Home</a> <a href="#">Technology Transfer</a> <a href="#">INL Inventors' Hall of Fame</a> <a href="#">Partnering Mechanisms</a> <a href="#">Patent Search</a> <a href="#">Technologies Available for Licensing</a> <a href="#">Agriculture</a> <a href="#">Biotechnology</a> <a href="#">Chemical</a> <a href="#">Environmental</a> <a href="#">Fossil Energy</a> <a href="#">Health and Medical</a> <a href="#">Information Technology</a> <a href="#">Manufacturing</a> <a href="#">Materials</a> <a href="#">National Security</a> <a href="#">Non-Nuclear Energy</a> <a href="#">Nuclear Energy</a> <a href="#">Robotics</a> <a href="#">Transportation</a> <a href="#">Technology Transfer Ombuds Program</a> <a href="#">A-Z Index</a> <a href="#">Contact Information</a> <a href="#">Staff Directory</a>
---	--	--

- Visit our website at:  
 – [www.inl.gov/techtransfer](http://www.inl.gov/techtransfer)

[Home](#) » [Partnerships](#) » [Technology Transfer](#) » [Licensing](#) » [Environmental](#)

## Technologies Available for Licensing

### Environmental

#### Co-extraction of cesium and strontium from acidic solutions

**Related Patents:** Patent Pending

**Contact:** Gary Smith

**Phone:** (208) 526-3780

**E-mail:** [Send E-mail](#)

The INL has developed a method for co-extraction of cesium and strontium from acidic solutions using a mixture of commercially available crown ether and calixarene extractants that exhibit high radiation and chemical stability. This is an efficient solvent extraction process for the simultaneous removal of cesium and strontium from dissolved spent nuclear fuel and acidic nuclear waste streams. Combined use of these two extractants in one process represents a novel approach to partitioning these elements in a single, convenient manner. Simultaneous solvent extraction of these radioactive elements is desirable for waste management concerns because the process provides; purified cesium and strontium in a form easily concentrated or solidified, high levels of decontamination, high removal factors and a simplified chemical scheme. Removal of cesium and strontium from commercial spent nuclear fuel waste streams has numerous benefits. This process will be more easily employed and produces less secondary wastes than that of current cesium/strontium extractants under consideration. It would replace existing solvents used in competing small-scale tests that have negative attributes in a large-scale process.