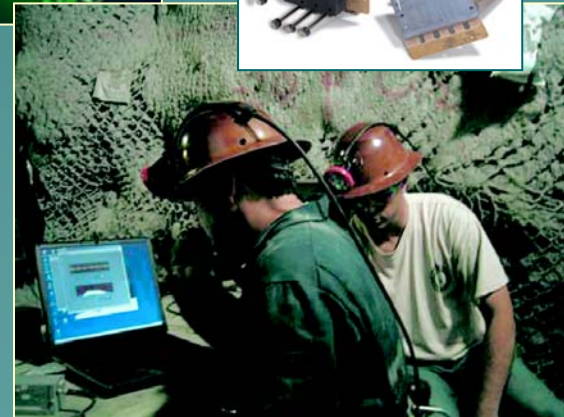
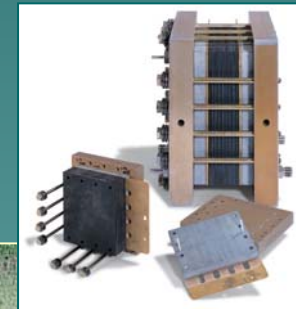
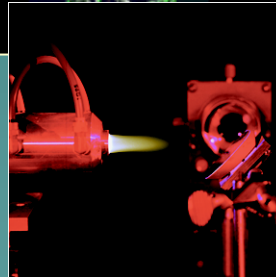
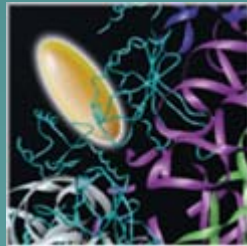
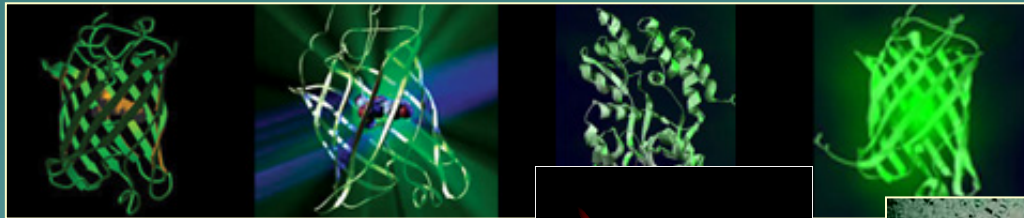


Collaboration Mechanisms

A Department of Energy Laboratory Perspective



Mechanism Summary

- ◆ Licensing
 - ◆ Cooperative Research and Development Agreements
 - ◆ Work for Others
 - ◆ Other Innovative Mechanisms
- 


DOE Laboratories

- ◆ Ames Laboratory
- ◆ Argonne National Laboratory
- ◆ Brookhaven National Laboratory
- ◆ Fermi National Accelerator Laboratory
- ◆ Idaho National Laboratory
- ◆ Lawrence Berkeley National Laboratory
- ◆ Lawrence Livermore National Laboratory
- ◆ Los Alamos National Laboratory
- ◆ National Energy Technology Laboratory (GOGO)*
- ◆ National Renewable Energy Laboratory
- ◆ New Brunswick Laboratory (GOGO)*
- ◆ Oak Ridge Institute for Science and Education
- ◆ Pacific Northwest National Laboratory
- ◆ Princeton Plasma Physics Laboratory
- ◆ Radiological and Environmental Sciences Laboratory
- ◆ Sandia National Laboratories
- ◆ Savannah River Ecology Laboratory
- ◆ Savannah River National Laboratory
- ◆ Stanford Linear Accelerator Center
- ◆ Thomas Jefferson National Accelerator Facility

Why License?

- ◆ Economic Competitiveness
 - ◆ Economic Development
 - ◆ Social Benefit
 - ◆ National Security
- 

Considerations in All Licenses

- ◆ Preference for US companies
 - ◆ Preference for small businesses
 - ◆ Substantial US manufacture if product sold in US
 - ◆ Government retained right
 - ◆ Government march-in rights
 - ◆ May retain rights for use in research and education
- 

Intellectual Property

- ◆ Technology is disclosed and reviewed by Legal Counsel and Technology Transfer
- ◆ Patent protection and copyright assertion for technologies with commercial potential
- ◆ Typically protects only US rights in patent
- ◆ May license trademarks for software



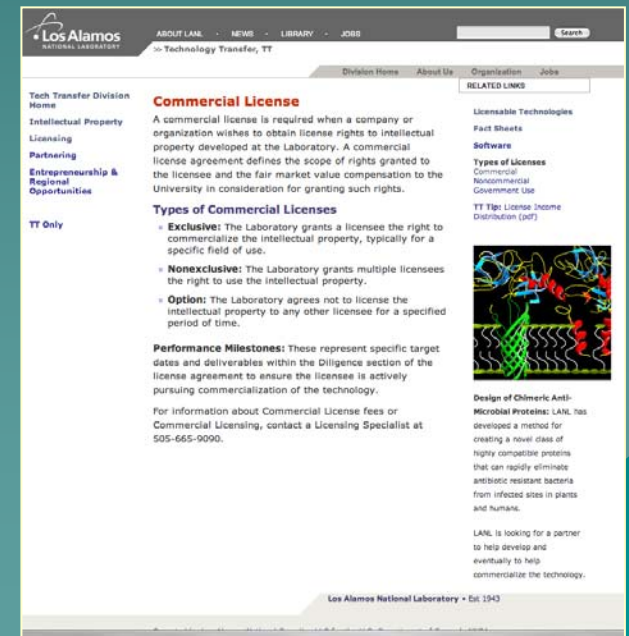
Path to Commercialization

- ◆ Develop commercialization strategy
 - Technology is transferred to commercial partner through license and/or CRADA
- ◆ Fairness of Opportunity notice
- ◆ Marketing
 - Tech push vs. market pull
 - Identify & contact potential partners
- ◆ Select best partner
 - Based on business/product development plan



Licensing at LANL

- ◆ Technologies typically are early stage
 - Pairing a license with a CRADA helps technology development
- ◆ Full range of license structures
 - Exclusive
 - Nonexclusive
 - Field-of-use
- ◆ US Government retains unlimited, nonexclusive rights to use or have used



The screenshot shows the Los Alamos National Laboratory website's Technology Transfer page. The header includes the LANL logo and navigation links for ABOUT LANL, NEWS, LIBRARY, and JOBS. The main content area is titled "Commercial License" and provides a definition of a commercial license, types of licenses (Exclusive, Nonexclusive, Option), and performance milestones. A sidebar on the left lists navigation options like "Tech Transfer Division Home" and "Intellectual Property Licensing". A sidebar on the right features "RELATED LINKS" such as "Licensable Technologies" and "Types of Licenses". A small image of a protein structure is visible on the right side of the page.

Landscape of a License

- ◆ Up front and annual fees
 - ◆ Royalty
 - ◆ License fees and royalties negotiated based on *Fair Market Value*
 - ◆ Due diligence milestones
- 
- A stylized silhouette of a mountain range in shades of teal, located in the bottom right corner of the slide.

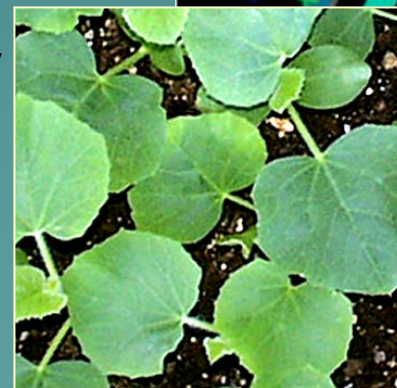
Some Licensing Examples

◆ SOLVE

- Protein structure characterization
- 67 licenses with commercial users
- 411 licenses with academic institutions

◆ TAKEOFF™

- Plant growth regulator
- Exclusively licensed to specialty agrochemical company
- Company funding further development through CRADA



Cooperative Research and Development Agreements

- ◆ Co-development of “dual-use” technology
- ◆ Partner must contribute ~50% of total cost of project
 - Funds-In or In-Kind contributions
- ◆ Partner receives first option to license subject inventions



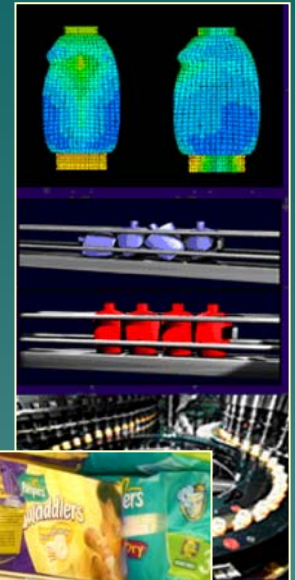
**Procter & Gamble
Partnership**




A CRADA Example

◆ PowerFactoRE

- Software developed for stockpile stewardship program
- Applied to P&G manufacturing problems
- Saved P&G \$1B
- P&G licensed final product and is now sublicensing to others



Work For Others

- ◆ Enables a nonfederal partner to request a defined scope of work that draws on LANL's unique capabilities
 - ◆ Enables access to highly specialized instrumentation and facilities and unique expertise of LANL researchers
 - ◆ Enables contribution to research agendas of industry, state, and municipal governments, universities, nonprofit associations and other organizations
- 

Elements of WFO Agreements

- ◆ Full cost-recovery work, includes Laboratory overhead plus DOE federal administrative charge of 3% (automatically waived for small-business and nonprofit entities).
- ◆ A 90-day advance of funds is required.
- ◆ Intellectual Property (IP) rights may be available to sponsor under DOE's class waiver.
- ◆ LANL retains IP rights to any Lab invention (including technical data) conceived during the course of work conducted for federally funded, nonfederal sponsors.

A WFO Example

- ◆ Supersonic Cooling
 - LANL helped the company understand flow conditions sufficiently to optimize X-ray laser performance.
 - Developed a model for gas flow through a nozzle
 - Lambda-Vision, Inc. of Chicago, IL, provides ultra-high-resolution visualization and networking instrumentation for interactive, ultra-high-resolution imagery.



Other Collaborative Mechanisms

- ◆ User Facility Agreements
 - ◆ Staff Exchanges
 - ◆ Industrial Fellows
 - ◆ Technical Assistance
- 