

Pacific Northwest National Laboratory: Assistance for Small Businesses

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Pacific Northwest National Laboratory

PNNL: a national treasure in the Northwest

We deliver solutions to America's most intractable problems in energy, national security and the environment. Through the power of our interdisciplinary teams, we advance science and technology to make the world a better place.

- ▶ Proudly operated by Battelle since 1965
- ▶ More than 4,300 staff
- ▶ Unique capabilities
- ▶ Mission-driven collaborations with government, industry and universities



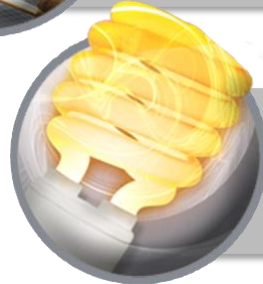
PNNL science and technology benefit the nation

Mission

We **TRANSFORM THE WORLD**
through courageous **DISCOVERY**
And **INNOVATION**.



Strengthen U.S. scientific foundations for innovation



Increase U.S. energy capacity and reduce dependence on imported oil



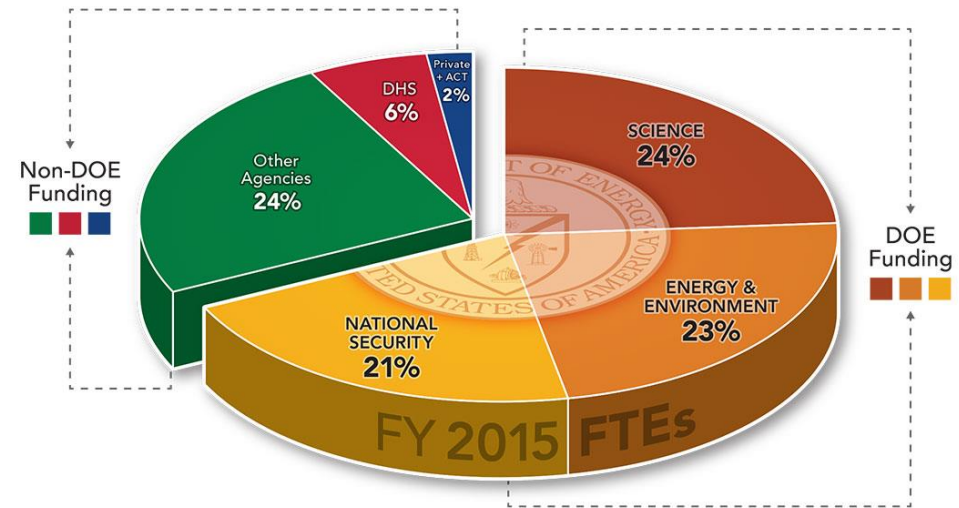
Reduce environmental effects of human activity and create sustainable systems



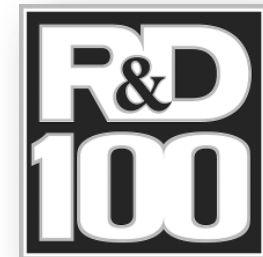
Prevent and counter terrorism and proliferation of weapons of mass destruction

Over the years, our portfolio has diversified and grown ... and been recognized

- ▶ 4,400+ staff, 1,000+ PhDs
- ▶ \$955 million in R&D expenditures in FY15
- ▶ 2,410 U.S. and foreign patents as of FY15 (invention per day, patent per week)
- ▶ 1,000+ peer-reviewed, published articles
- ▶ 98 R&D 100 Awards – *The Oscars of Invention*
- ▶ 81 Federal Laboratory Consortium (FLC) Awards for Excellence in Technology Transfer



FLC[™]
FEDERAL LABORATORY CONSORTIUM
FOR TECHNOLOGY TRANSFER



PNNL / Battelle innovations with everyday impact

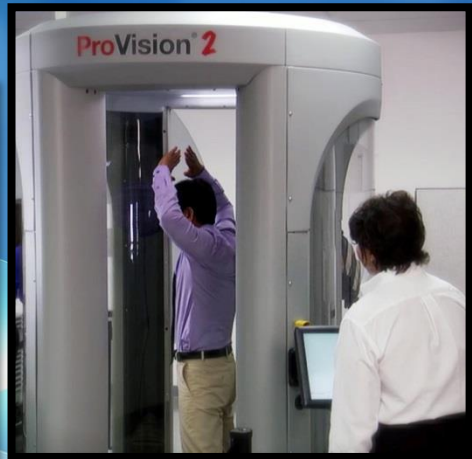
Holography



Optical digital recording



Threat detection



Lightweight lift gate



Coatings for curved digital displays



PNNL resources and expertise are available to businesses and entrepreneurs

Technology Support

- **Technology Assistance**
- **Small Business Vouchers Pilot**
- Technology deployment support
- Mentoring



Business Support

- Training
- Mentoring
- Entrepreneur handbook
- SBIR/STTR guidance
- Entrepreneurial counsel
- Referrals to professional services and space
- University Technology Entrepreneurship Program



Intellectual Property, Sponsored Research

- New technologies and other IP for licensing
- Customized R&D to transform technologies into products
- CRADAs (federal funding share)



Specialized Facilities

- EMSL (user facility)
- APEL (tech incubator)
- BSEL (bio-energy)



Technology Assistance

- ▶ Several days of technology assistance for businesses at no charge
- ▶ IP from assistance available nonexclusively and royalty-free to the business
- ▶ Businesses must request assistance
- ▶ Can't compete with private sector
- ▶ Each firm can receive technology assistance once per fiscal year
- ▶ Over 20 years: Recipients are 94% satisfied or better
- ▶ 87% took our advice



<http://www.pnnl.gov/edo/assistance/techassist.stm>

Small Business Vouchers Pilot



U.S. Department of Energy Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable



- ▶ Sponsored by DOE/Office of Energy Efficiency & Renewable Energy
 - Purpose: Commercialize more technologies in high-tech clean energy businesses
 - Broaden small business access to national labs
- ▶ \$20M total (\$300K max. each voucher) 100 projects total expected
- ▶ Roughly 6 staff-months of effort; funding goes directly to labs – not businesses
- ▶ Round 1 closed at \$6.7M, Round 2 just closed \$TBD, Round 3 opens late July
- ▶ 20% cost share required (typically in-kind)
- ▶ www.sbv.org

Voucher Topics and Types of Assistance

▶ Vouchers are limited to specific EERE R&D areas:

- Advanced Manufacturing
- Bioenergy
- Buildings
- Fuel Cells
- Geothermal
- Solar
- Water Power
- Wind
- Vehicles

▶ Examples of voucher work

- Unique materials and characterizatic
- Prototyping
- Technology testing / validation
- Modeling and analyses
- Engineering designs
- Scale-up of samples/processes



Doing Business with PNNL



Direct Licensing of Existing IP

- Patents and technologies available for licensing

CRADA

- Cost share with DOE
- Option to exclusive rights to foreground IP

SPP (WFO)

- Fund research
- Keep the IP
- Mostly non-negotiable terms

ACT

- Fund research
- Negotiate IP
- More flexible in some terms

UniEnergy Technologies: Redox flow batteries for grid-scale storage



Perpetua Power Source Technologies: Reliable power for wireless sensors



Questions?



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