

ORNL Partnerships: Open for Collaboration

Oak Ridge National Laboratory actively seeks and develops industry and technology transfer partnerships that increase the lab's economic impact, accelerate the deployment of ORNL-developed technologies, and strengthen innovation ecosystems regionally and nationally.

Industry Engagement

Each year ORNL begins new engagements with more than 100 companies through partnering mechanisms that facilitate access to unique lab facilities, expertise, and intellectual property, helping these companies meet their research and development needs and making them more competitive in the marketplace.

Economic Development Partnerships

ORNL encourages industry and economic development partnerships through membership in consortia, participation in entrepreneurship programs, and active engagement with regional economic development partners. More than 20 startups have been formed over the past 5 years based on ORNL technologies.



ORNL scientists have developed a novel technology for enhanced synthetic biology that has been licensed to startup SimPath. Pictured left to right are ORNL coinventor Xiaohan Yang, Robert Moseley, Ben Mohr of SimPath, and ORNL coinventor Jerry Tuskan.

150

Active royalty-bearing licenses for ORNL-developed technologies

165

Active CRADAs with industry

185

Active industry-funded R&D projects

220

Invention disclosures annually (with 75 patents issued per year)

221

R&D 100 Awards, more than any other national laboratory



"Our Partnerships team strengthens ORNL's impact through leadership in technology transfer, technology-driven economic development, and strategic engagement with industry."

Michelle Buchanan,
Deputy for Science and Technology

Partnering Mechanisms

ORNL engages industry through a variety of partnering mechanisms, including those listed below, that are designed to cultivate regional and national innovation, speed ORNL-developed technologies to market, and positively impact the economy.

User Facilities—ORNL operates eight scientific user facilities, including the Spallation Neutron Source, High Flux Isotope Reactor, Center for Nanophase Materials Sciences, Oak Ridge Leadership Computing Facility, National Transportation Research Center, Buildings Technology Research and Integration Center, Manufacturing Demonstration Facility, and Carbon Fiber Technology Facility. These unique DOE resources serve thousands of research users each year, including many from industry.

Cooperative Research and Development Agreements—CRADAs are a mechanism by which companies and academic institutions collaborate with ORNL through jointly sponsored R&D efforts leveraging the unique capabilities of the partners. CRADA partners may negotiate exclusive licenses for the resulting inventions.

Strategic Partnership Projects—Industry directly funds R&D in areas where ORNL has unique capabilities. ORNL SPPs provide staff with increased awareness of technical challenges in industry and provide industry with access to critical R&D capabilities that would otherwise not be available.

Technology Licensing—Each year an average of more than 20 ORNL-developed technologies are deployed in the marketplace through royalty-bearing licenses with industry. Recently licensed technologies include biobased plastics, superhydrophobic materials, carbon foam, low-cost carbon fiber, high-temperature lightweight alloys, geospatial information systems, and malware detection software.

Highlights

Technology Innovation Program—ORNL invests a substantial portion of its royalty income to mature competitively selected ORNL technologies, bringing them closer to the marketplace and bridging research and commercialization.

Innov865 Alliance—ORNL is a founding partner of Innov865 Alliance, an annual Knoxville area innovation and entrepreneurship event that attracts 1,500 participants.

Partners from startups to Fortune 500s are commercializing ORNL technologies, including the following.

- Automated Defect Classification for monitoring semiconductor fabrication processes
- LandScan population mapping for geographic information systems and global natural disaster response
- Solid electrolytes for high-voltage, high-efficiency lithium-ion batteries
- Advanced alloys and ceramics for high-temperature applications
- Large-area additive manufacturing for rapid prototyping and tooling
- High-temperature superconducting materials



ORNL researcher uses thermal processing and etching capabilities to produce a transparent superhydrophobic coating technology licensed by Samsung Electronics to improve the performance of glass displays on electronic devices.



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