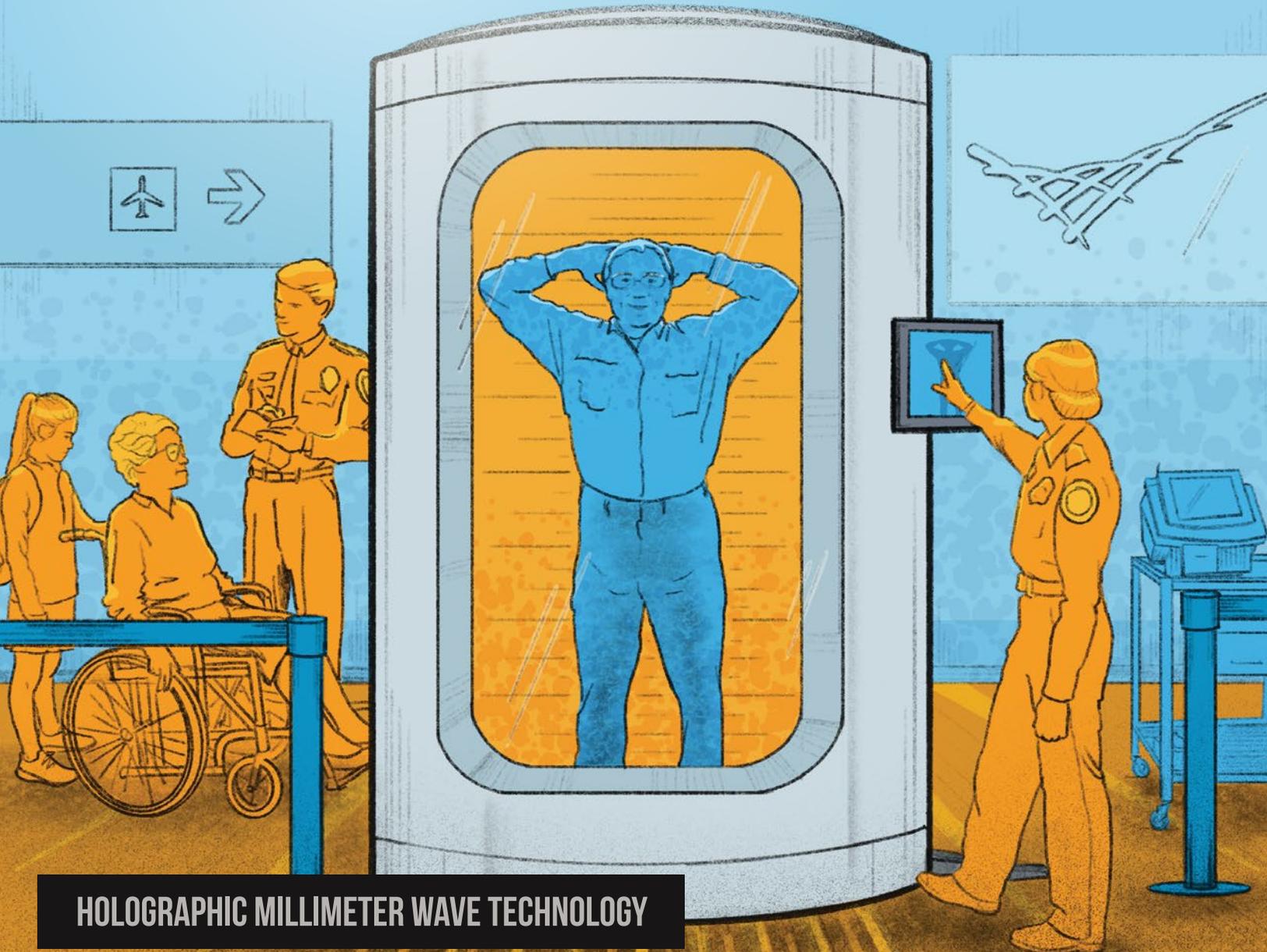


ADVANCING AMERICA *through* TECHNOLOGY TRANSFER

# PACIFIC NORTHWEST NATIONAL LABORATORY

**TRANSFORMING** *the* **PERSONAL SECURITY INDUSTRY**



**HOLOGRAPHIC MILLIMETER WAVE TECHNOLOGY**

**SECURE AIRPORTS, BORDERS,  
*and* PUBLIC PLACES USING  
SAFE DETECTION TECHNOLOGY**



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
**TECHNOLOGY TRANSITIONS**



## Super vision without the X-rays?

Scientists at Pacific Northwest National Laboratory (PNNL) invented a safer and superior security screening alternative to traditional threat detection technologies. An outgrowth of PNNL's 1960s optical and acoustic holography research and first applied to airport security in 2003, the award-winning Holographic Millimeter Wave technology cost-effectively outperforms conventional X-ray and metal-only threat detection by using safer non-ionizing illumination. The invention more rapidly scans individuals and objects within a smaller technology footprint and produces higher resolution 3D images across a wider range of materials.

The discovery was licensed and incorporated into airport passenger security portal scanners and to date, more than 2,300 installations of the systems are used worldwide with more than 100 million individuals scanned. The public and military benefit from enhanced safety through more effective threat detection in high-traffic security situations, such as airport, border, and military checkpoints and public events.

### PNNL at a Glance

Situated in Washington State's Tri Cities at the intersection of the Columbia, Snake, and Yakima Rivers, PNNL was conceived in the 1940s out of the Manhattan Project's Hanford Site and founded in 1965. PNNL advances scientific discovery and creates solutions to the nation's toughest challenges in energy resiliency and national security by drawing on signature capabilities in chemistry, earth sciences, and data analytics.

### U.S. Department of Energy National Laboratories

The 17 U.S. Department of Energy (DOE) National Laboratories comprise a preeminent federal research system that executes long-term government scientific and technological missions, often with complex security, safety, project management, or other operational challenges. The National Laboratory system produces the scientific research needed to develop national energy policy and solutions allowing DOE to be one of the largest supporters of technology transfer in the federal government.

### Technology Transitions

The mission of the Office of Technology Transitions (OTT) is to expand the commercial impact of the DOE's research and development portfolio to advance the economic, energy, and national security interests of the Nation. The office develops the Department's policy and vision for expanding the commercial impact of its research investments, and streamlines information and access to DOE's National Labs and sites to foster partnerships that will move innovations from the labs into the marketplace.

[www.energy.gov/technologytransitions](http://www.energy.gov/technologytransitions)

## Rapidly identifies hidden weapons, explosives, and other contraband through clothing

### Technology

Scans people for security applications in seconds and detects threats, such as plastic and liquid explosives.

### Industry

Applications span the security, medical, health and fitness, entertainment, manufacturing, construction, and apparel industries.

### Awards

- R&D 100 Award
- R&D Magazine's Editor's Choice Award
- Federal Laboratory Consortium Award

### Contact Us

The scientific discovery highlighted on this poster is just one of DOE's many successes advancing America.

Learn more about available resources and partnering opportunities with the National Labs by visiting:

[www.energy.gov/technologytransitions](http://www.energy.gov/technologytransitions)

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