

Pacific Northwest National Laboratory / Radiation Portal Monitor Project

Overview

JUNE 2018



Domestic Radiation Portal Monitoring Bottom Line Up Front

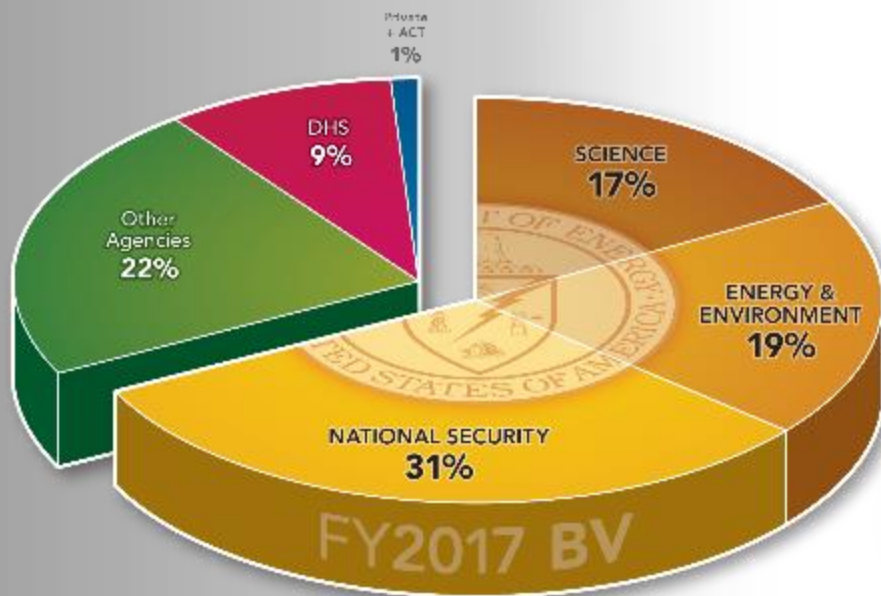
- ▶ Space: Detection of illicit radiological materials entering the country
- ▶ Problem: How to achieve 100% scanning of conveyances while minimizing the impact on legitimate commerce
- ▶ Solution: Multi-disciplinary approach involving science, engineering and integration, oversight, and coordination (across Government agencies and industry)
- ▶ Results: Radiation portal monitor systems deployed at hundreds of US ports of entry providing nearly 100% scanning coverage
- ▶ TRL: 9
- ▶ Presenter contact information
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PNNL – FY2017 at a Glance

- ▶ \$987M in R&D expenditures
- ▶ 4,486 scientists, engineers and non-technical staff
- ▶ 64 U.S. and foreign patents
- ▶ 7 R&D 100 Awards, 2 FLC Awards
- ▶ 1,127 peer-reviewed publications

- ▶ Mission-driven collaborations with government, academia and industry
- ▶ Among DOE's top-performing labs; a premier chemistry, environmental sciences and data analytics laboratory



Radiation Portal Monitor Project (RPMP)

- ▶ U.S. Department of Homeland Security's (DHS's) program to develop and deploy radiation detection and interdiction systems at U.S. ports of entry
- ▶ Initiated by U.S. Customs and Border Protection (CBP) (2002) and subsequently executed by the Countering Weapons of Mass Destruction Office (CWMD) since 2006
- ▶ Goal - 100% scanning for radiological materials while minimizing the impact on legitimate commerce



Rainbow Bridge Land Border Crossing, Buffalo, New York

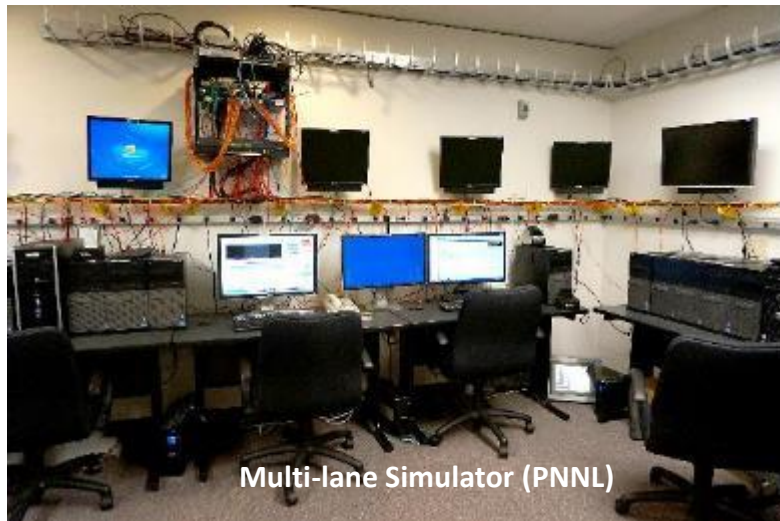
Deployed Systems



Technology Integration



Test and Evaluation



Multi-lane Simulator (PNNL)



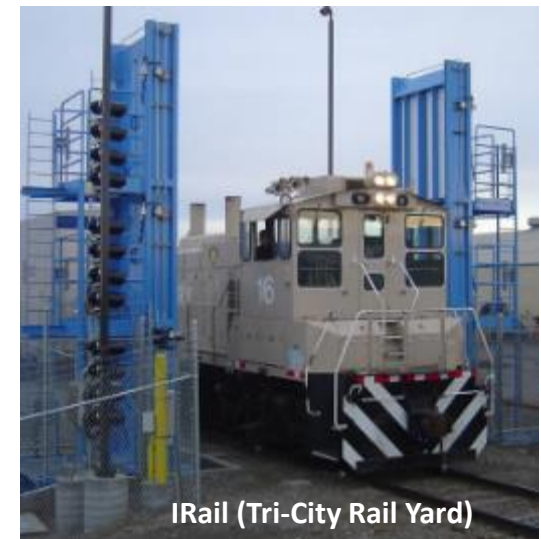
Remote Operations Testbed (PNNL)



Technology Refresh (PNNL ITIL)



ROS (Baltimore-Seagirt Terminal)



IRail (Tri-City Rail Yard)



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