

Glovebox Capabilities and Technologies

Executive Overview:

Applications for glovebox technologies cross-cut multiple industries and address a vast range of health, safety, and environmental concerns. These concerns can range from damaged products to life-threatening situations. In circumstances that require the use of a glovebox, even the smallest leak or tear in a protective glove can create a potentially harmful environment. Furthermore, scientists who use these devices face serious ergonomic challenges because of the physically taxing positions required to operate a glovebox and related tools. These ergonomic factors often cause mild to severe health effects.

Scientists at Los Alamos National Laboratory (LANL) have been developing and implementing glovebox technologies and capabilities for decades. LANL's nuclear R&D and HAZMAT facilities provide a unique environment for developing and testing innovative glovebox technologies and capabilities. The reliability and safety of the tools used are critical to the health and safety of the scientists and the surrounding areas. Through many years of experience, LANL scientists have created capabilities and technologies that apply not only to nuclear and HAZMAT work, but also to a variety of industrial and commercial applications.

LANL is now inviting participation from companies interested in collaborating with our researchers to apply LANL's innovative glovebox technologies to specific industrial applications. Furthermore, portions of LANL's portfolio of glovebox technologies are available for licensing and commercialization. These capabilities and technologies include, but are not limited to the following:

- Optimal glovebox-worker algorithms
- Lean Six Sigma glovebox process improvements
- Ideal appendage replacement techniques
- Improved glovebox and glove leak detector technologies
- Glovebox negative pressure sensor technology
- Rapid push-through glove replacement technology
- Ergonomic tools and machines specifically designed for gloveboxes

Status:

Los Alamos is seeking partners interested in joint collaborations and/or exclusive or non-exclusive licensing opportunities.



Scientists at Los Alamos National Laboratory have developed cutting edge glovebox capabilities and technologies for a wide variety of applications and industries.

Applicable Industries:

Nuclear facilities
HAZMAT operations
Forensics, chemical, and other R&D laboratories
Pharmaceutical, biochemistry, and medical organizations
Semiconductor assembly plants
Space exploration
Medical incubators
Any industry that uses cleanrooms, controlled environments, and/or gloveboxes

Benefits:

Ergonomically favorable gloves and tools
Increased overall efficiency through Lean Six Sigma processes
Time-saving, push-through glovebox glove ports
Increased safety and reliability
Significant reduction in transuranic waste generation
Optimal glovebox worker selection processes
Increased leak-detection capabilities

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