Personal Protective Equipment,
Heat Stress Management &
Rad Waste Minimization

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UniTech Facilities

**United States**
- Springfield, MA
- Royersford, PA
- Oak Ridge, TN
- Barnwell, SC
- Macon, GA
- Morris, IL
- Ontario, CA
- Richland, WA
- Santa Fe, NM
- Ontario, Canada

**Europe**
- Coevorden, Netherlands
- Laar, Germany
- Oakdale, UK
- La Bouilladisse, France
LANL – PPE / Respirators ( >300,000 lbs. and >3,700 respirators in 2014)

PNNL – PPE / Respirators ( >600,000 lbs. and >34,000 respirators in 2014)

SRNL – PPE / Respirators ( >450,000 lbs. and >32,000 respirators in 2014)

Exelon – (22 units) PPE / Respirators / Tool & Metal Decon / Mobile Safety Stores (MSS)

Ontario Power Generation – Canada (12 units) PPE / Respirators / Tool & Metal Decon / MSS

British Energy (UK) – (4 units) PPE / Respirators

EDF (France) – Personal Protective Equipment

Each of our customers has unique challenges that spur on continuous innovation within our company. Our Santa Fe branch brings these new innovations and services home to our Northern New Mexico customers.
UniTech was founded in 1957.

Our Santa Fe facility began serving LANL in 1961.

By 1971 we were processing more than 500,000 pounds of laundry per year for LANL.

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**Doing Business with a ‘Hot’ Laundry**

The Los Alamos Scientific Laboratory 000-a-year business with a “hot” laun-

The word “hot,” in this case, refers to appropriately describes the type of state Laundry and Decontamination.

Interstate launders more than a million pounds of the Laboratory’s contaminated equipment each year. According to aver-piled by SP-10, more than 5,500 pieces of equipment’s doors every day.

The records show that about 3,000 of ments are canvas shoe covers, more com-

by those who wear them. There are 700 each of laboratory coats, shorts and and 120 miscellaneous items including areas, and canvas bags in which the con-

borted to the laundry.

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**The ATOM**

does a $165-

dry in Santa Fe.

radioactive materials and laundry in which Inter-

Service, Inc., specializes.

pieces, or a half-million protective clothing and age-daily-use records com-

pass through the Santa

these protective garments called “booties”

pairs of socks, 450 towels, 300

shirts, 240 coveralls, 150 caps,

mops used to clean contaminated 
taminated articles are trans-
In 2014 we processed over 500,000 articles of PPE.

Very low amounts of Rad Waste generated. (1.27%)
Our state-of-the-art, large volume washing machines maximize mechanical agitation.

Long wash cycles, which employ many fresh water changes, an average of 2 to 3 gallons (16 to 24 lbs.) of fresh water for each pound of clothing processed.

All wash chemicals are delivered via a computer controlled automated injection system.

Our pH Cycling Process detaches any loose contamination from the garment.

Washers and dryers are decontaminated and surveyed between processing cycles.
Automated Laundry Monitoring

100% Monitoring Using Conveyors With 100 cm² Gas Flow Proportional Detectors

All cloth items monitored to 5,000 dpm/100cm²
PPE: ProTech

- Provides excellent protection and unsurpassed strength.
- Double Flat Felled Seams
- Lightweight fabric exhibits excellent air permeability and low thermal resistivity.
- Vent provides bellows cooling effect during work.
- Low coefficient of friction (easier to don and doff).
- Water Repellent and Anti-Microbial Treatments
- Anti-Static Properties - Carbon filament prevents static charge buildup, reducing particle and radon attraction.
SoftTech Plus offers exceptional barrier protection against particulates and liquids while maintaining the fabric’s breathability.

Coveralls feature elastic wrists and ankles, double fabric in-seams at high stress areas.

Double knees and elbows increase protection in high contact areas.

Coveralls zippers are color-sized to minimize dress-out times.
The DryGuard fabric is a microporous film laminate that offers exceptional barrier protection and breathability.

Seams are triple sealed to provide an extra degree of protection in wet environment.

Offers superior protection from radiological as well as chemical hazards.

Comes standard with an attached hood with optional attached booties.

**Ultitec 3000 Fabric Construction**

1. Breathable Film
2. SpunBonded Polypropylene

Liquid & Blood
Breathable film diffuses heat and moisture vapor with liquid/blood proof property.

Antistatic treatment on fabric passes EN1149-1

Vapor
Nonwoven substrate provides comfort feeling to human skin.
All items are color-sized to minimize dress-out times.

Rubber shoes are 55 mil thick for durability and come in 5 sizes.

Rubber gloves are 18 mil thick and 15 inches long for increased protection.

Coated nylon shoe has anti-skid bottom and elastic top closure.
Ergonomic curved design minimizes hand fatigue.
Breathable knit back helps keep hands cool.
Available in 14” length to cover wrists
Color-coded bands by size for easy identification.
Gloves are marked and color-coded "left" and "right" to facilitate sorting.
PPE: Distribution Systems

Improved worker efficiency during dress-outs and labor saving distribution and storage systems.

<table>
<thead>
<tr>
<th>Item No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHIP-40A</td>
<td>UniStock Plus</td>
</tr>
<tr>
<td>SHIP-41A</td>
<td>UniStock Plus with Fusible Link closure</td>
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Optional cover includes fusible link that melts at 165°F, shutting cover in case of a fire.
Heat Stress Management: CoolTech

**Blue CoolTech Scrubs:**
- Advanced wickable fabric draws moisture away from the body, improving overall worker comfort.
- Tight material weave provides improved protection.
- Carbon filament anti-static grid minimizes radon adherence.
- Lasts over 200+ launderings, savings in both cost per use and rad waste.

**Orange CoolTech Scrubs:**
- For use under Fire Retardant PPE
- Lasts over 200+ launderings
- 100% Fine Cotton
Heat Stress Management: AquaVest

Cool water is circulate through tygon tubing throughout the vest.

- Can be used with the Back Pack System or Multi-Person System.
- Heat stress alarm.
- Launderable
Heat Stress Management: NuCool Vest

- Maintains 59 °F temp for up to 2.5 hours in 100 °F Environment.
- Total weight = 5 lbs. Cooling packs do not freeze.
- Recharges in as little as 20 minutes.
- The only cooling vest with no hazardous chemicals.
- Launderable.

What is MCS Adaptive Technology?

In WARM ENVIRONMENTS moves perspiration rapidly to provide cooling effect.

In COOL ENVIRONMENTS moves perspiration at a slower rate to provide warmth.
3M Versaflo PAPR can be configured to provide respiratory, head, eye, face, and hearing protection.

No fit test required. The wearer does not have to be clean shaven. The new Versaflo TR-600 can operate at high attitudes.

Cools the supplied air by up to 50°F (28°C). The assembly allows the user to adjust airflow and temperature.
On January 15, 2014, Unitech Services Group, Ontario Power Generation (OPG)’s laundry service provider laundered the 1,000,000th ProTech coverall.

This is a very important occasion as this relates to a savings of an estimated 3001 m$^3$ or 106,000 ft$^3$ radioactive solid waste that has been diverted since the implementation of this single item.
How Much is 106,000 ft$^3$ of Rad Waste?

Enough Radioactive Waste to Fill a Hockey Rink

6’ft High!
Rad Waste Minimization: Specialty Products
Total Rad Waste Savings 2004 to 2013

Ontario Power Generation
Washable Radioactive Solid Waste Avoidance

10,249 M³ or 100 Semi-trailers
Rad Waste Min: MicroFiber Wipers

About Microfiber

Microfiber is a synthetic filament with one denier diameter (1/30 of cotton). Wedge-shaped elements follow the surface, trapping particles inside the fiber for excellent absorbency.

Contamination Pickup Efficiency Significantly Better Than Masslinn!
Tool & Metal Decon
Tool & Metal Decon Video
Mobile Safety Store

- Store and manage radiological & safety consumables.
- Eliminate need for customer consumable warehousing.
- Restocked from laundry truck into controlled area.
- Pay when items are removed
iProcurement through GSS

LANL Lab/Safety JIT Contract No. 33169
SNL Lab/Safety JIT Contract No. 1416895
Veteran Owned Small Business
Quality Level ML1-ML4
ISO 9001:2008 CERTIFIED
Thank You!