



PPPL selects Starline Plug-In Raceway & Track Busway as power distribution solution for new laboratory

*Starline helps Princeton Plasma Physics Laboratory plan ahead for future facility infrastructure changes*

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- Craig Shaw,  
Power Engineer  
PPPL

Princeton Plasma Physics Laboratory (PPPL) in Princeton, New Jersey is a collaborative national center for fusion energy research. Funded by the Department of Energy, the laboratory advances the coupled fields of fusion energy and plasma physics research, and, with collaborators, is developing the scientific understanding and key innovations needed to realize fusion as an energy source for the world.

In 2015, in order to continue expanding its plasma research for the production of nano particles, PPPL embarked on a project to design a brand new Laboratory of Nano Synthesis.

### Problem

When planning its new laboratory space, PPPL's designing engineers recognized that science is constantly evolving and imposes continuous changes in the facility infrastructure. In order to accommodate these future changes, the lab had to have a modern design that would be able to adapt to future, various layouts.

Unfortunately, using traditional power methods often results in outlets that are hard wired in place. Not only do these inhibit layout changes, but in most cases they also lead to expensive rewiring work in the future that wastes valuable resources and time.

“The objective for the electrical design in the new lab space was to incorporate infrastructure flexibility for the changing environment of plasma research,” said Power Engineer Craig Shaw with PPPL.

With flexibility being a major concern, PPPL needed a power distribution system that would grow with its space, as opposed to being a main obstacle for future innovation.



60 amp Plug-In Raceway Power & Data system installed vertically for additional outlets

## Solution

PPPL ultimately chose Starline Plug-In Raceway and Track Busway as the power distribution systems for its new Laboratory of Nano Synthesis. With Starline, PPPL is able to arrange its electrical outlets based upon the needs of its workspace, instead of arranging its workspace around the electrical outlets.

"Cost is always a factor, however, providing a well-engineered, flexible solution at a modest cost premium saves much more in future modifications," said Shaw.

Plug-In Raceway comes with a prewired backplane and takes approximately one third less time to install than similar products. The backplane can then be covered by an assortment of snap-on cover pieces and plug-in modules that can be rearranged for convenient access to power. Starline Track Busway is an overhead power distribution system that has a continuous access slot to plug into power. Available with a versatile selection of plug-in units, the busway gives PPPL the ability to access power when and where they need it.

With flexibility being a major concern for PPPL's new lab space, it needed a customizable power system that could grow and change with its research needs. Plug-In Raceway and Track Busway were chosen as its products of choice due to the systems flexibility and ease of installation and future modifications.

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### Project Specifics:

#### Size of Facility:

1,700 square feet

#### Starline Products Implemented:

Plug-In Raceway: 150 feet of power & data system (60 amp, 208 volts)

Track Busway: 60 feet (250 amp, 480 volts)

## Result

By choosing Starline for its power distribution, PPPL ensured its access to power would never be an obstacle to the laboratory's future arrangements. The Laboratory of Nano Synthesis will be able to accommodate whatever equipment layout is most efficient for its research, without any costly electrical modifications.

- Craig Shaw,  
Power Engineer  
PPPL

When asked about the final results of the project in regard to Starline, Shaw stated "the outcome provided a comprehensive, flexible electrical solution of which modifications will be easier and faster. I would absolutely recommend Starline for a similar project."

### About Universal Electric Corporation

Universal Electric Corporation (UEC), the manufacturer of Starline, is a global leader in power distribution equipment. For more than 25 years, Starline has provided laboratory, data center, retail, health care, higher education and industrial facilities with the most flexible, reliable and customizable power distribution systems on the market today.