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Future-Proofing Your Plant

By: *Doug Moore*
The Assembly Show
Rosemont, IL
October 25, 2023

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Agenda

- Introduction
- Challenges
- Solution
- Results/Success Stories
- How to contact us

Flexible Power for Manufacturing

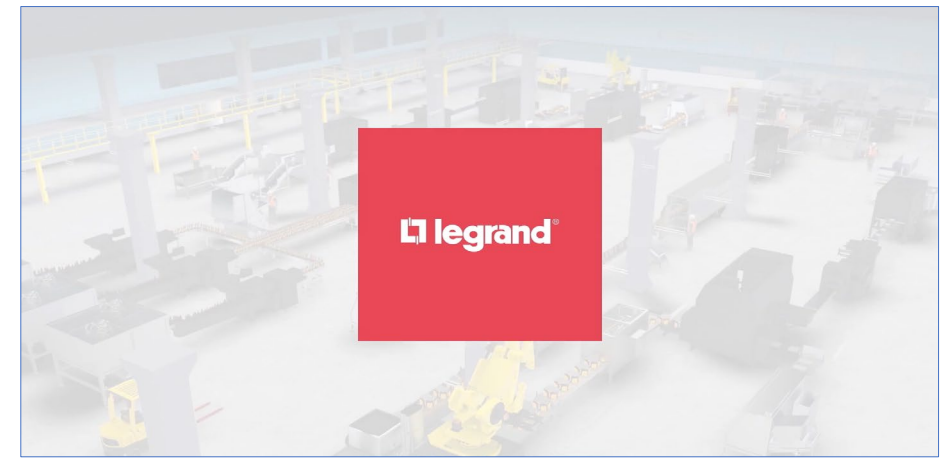
In the past:



“...A customer can have a car painted any color he wants, as long as it’s black...”

Today,
Manufacturers need:

- Agility
- Flexibility
- Speed-to-Market
- Innovation
- Fast Changes
- Customer Centric
- Etc.



Challenge: *No Flexibility*



..conventional conduit & wire..



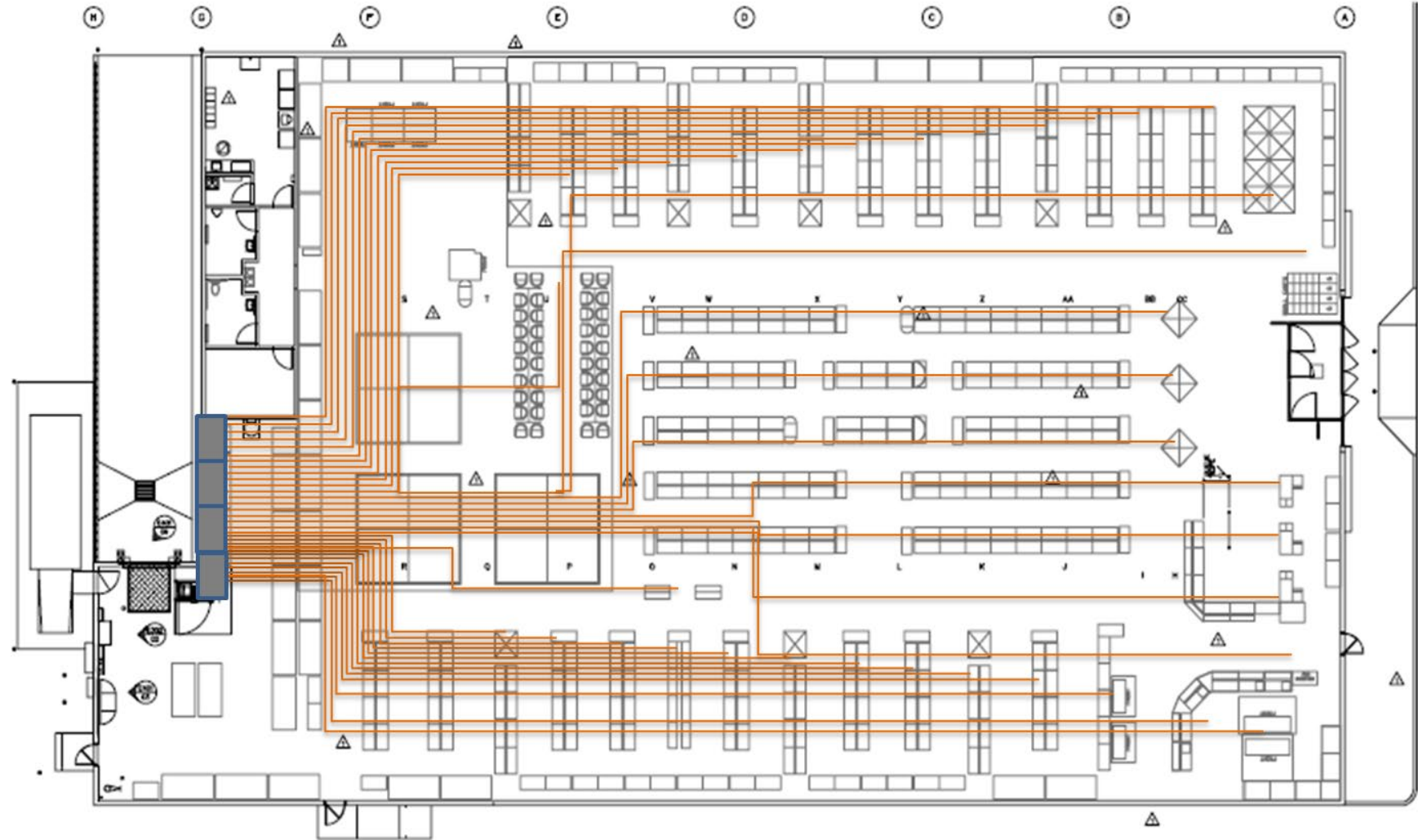
“...Once you hard pipe something it is almost like a castle, it’s immovable...”

Jeffrey Rees, CEO
Richfield, OH

Challenge: *No Flexibility*

Pipe & Wire

- Numerous home runs to panel
- Numerous junction boxes
- Labor intensive
- Material not reusable
- Inflexible



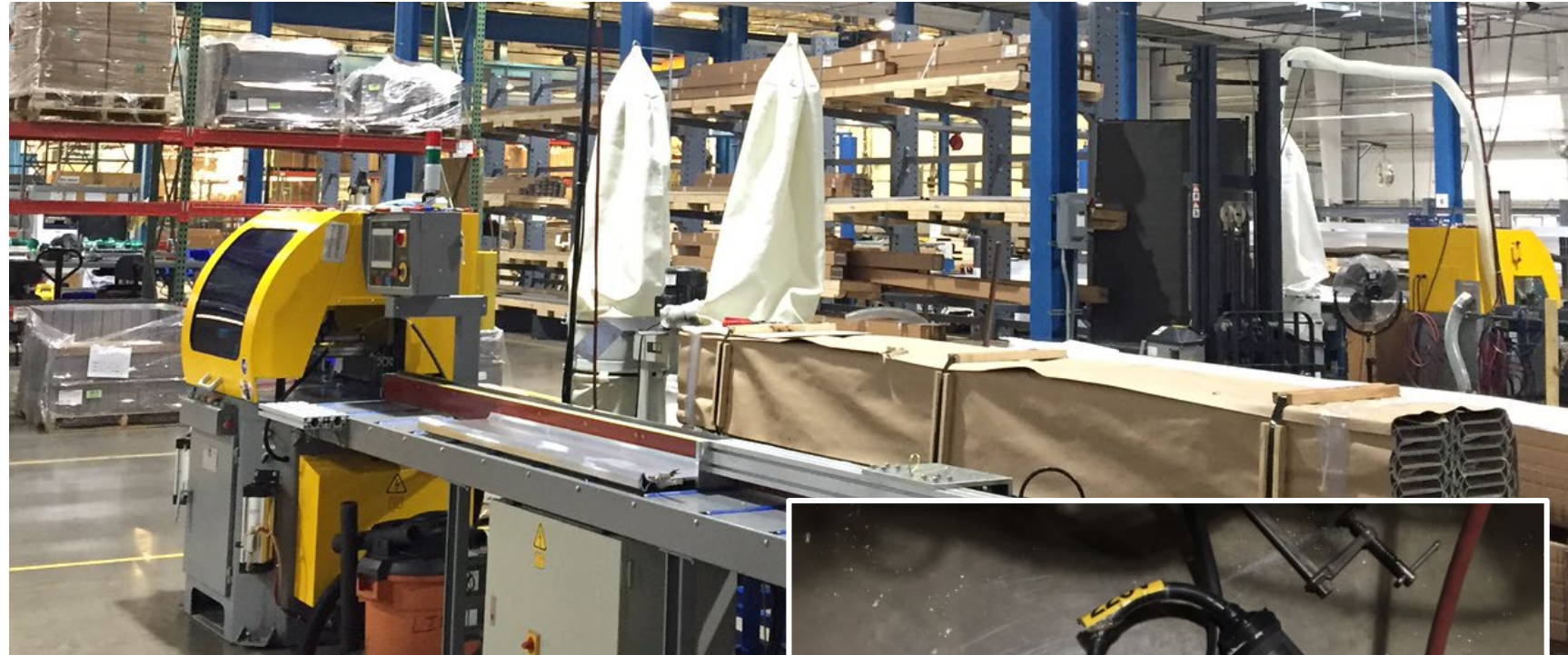
Challenge: *No Flexibility*

CASE STUDY

- End User: Global leader in gas detection devices
- New circuit board printer equipment: 9 days to install rigid conduit & cable

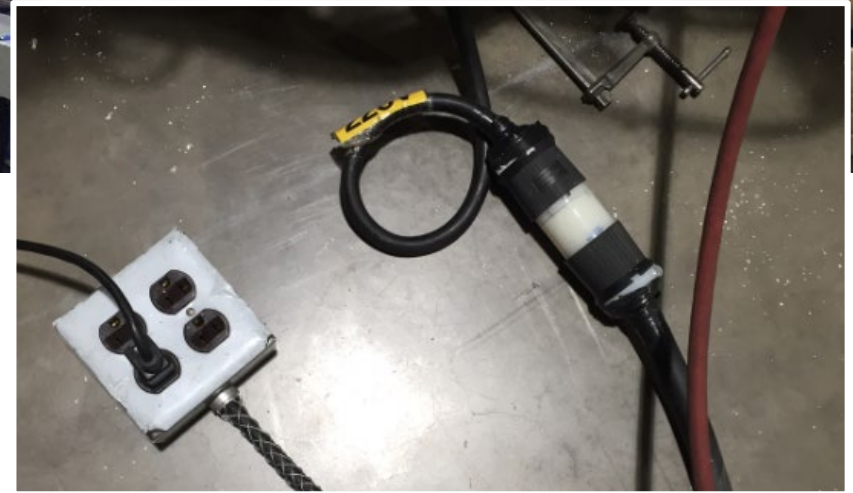


Challenge:
*Equipment
upgrades &
relocations*

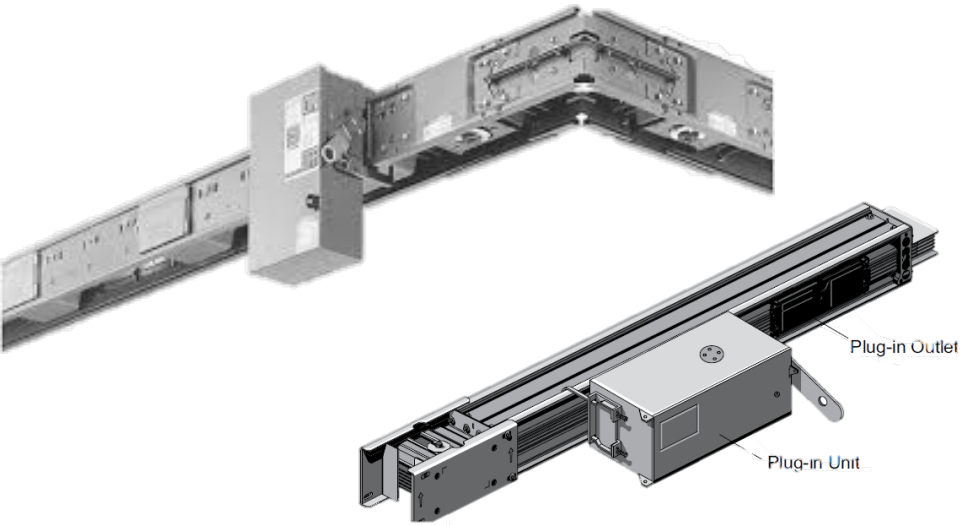


Kaizen Event Case Study

Cutting machine relocation to optimize output ,
material transportation distance: Required only
minutes to modify electrical installation with
busway.



Challenges:



BUSDUCT

- High installation costs
- Limited access points
- High Maintenance costs
- Heavy, clunky
- Complex Joints design



PANELBOARDS

- Limited Scalability
- Requires Pipe & wire
- Final connections require outside source

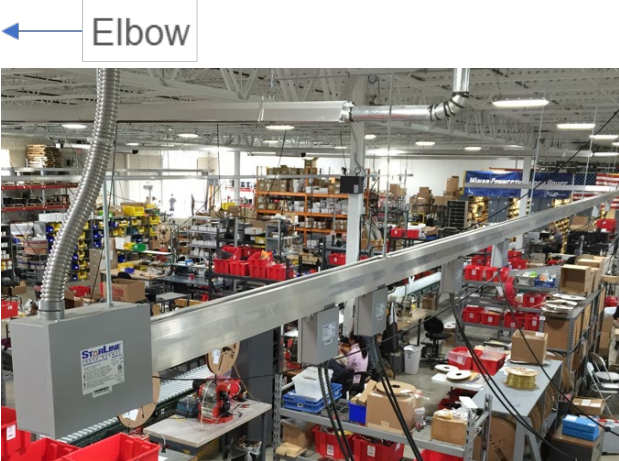
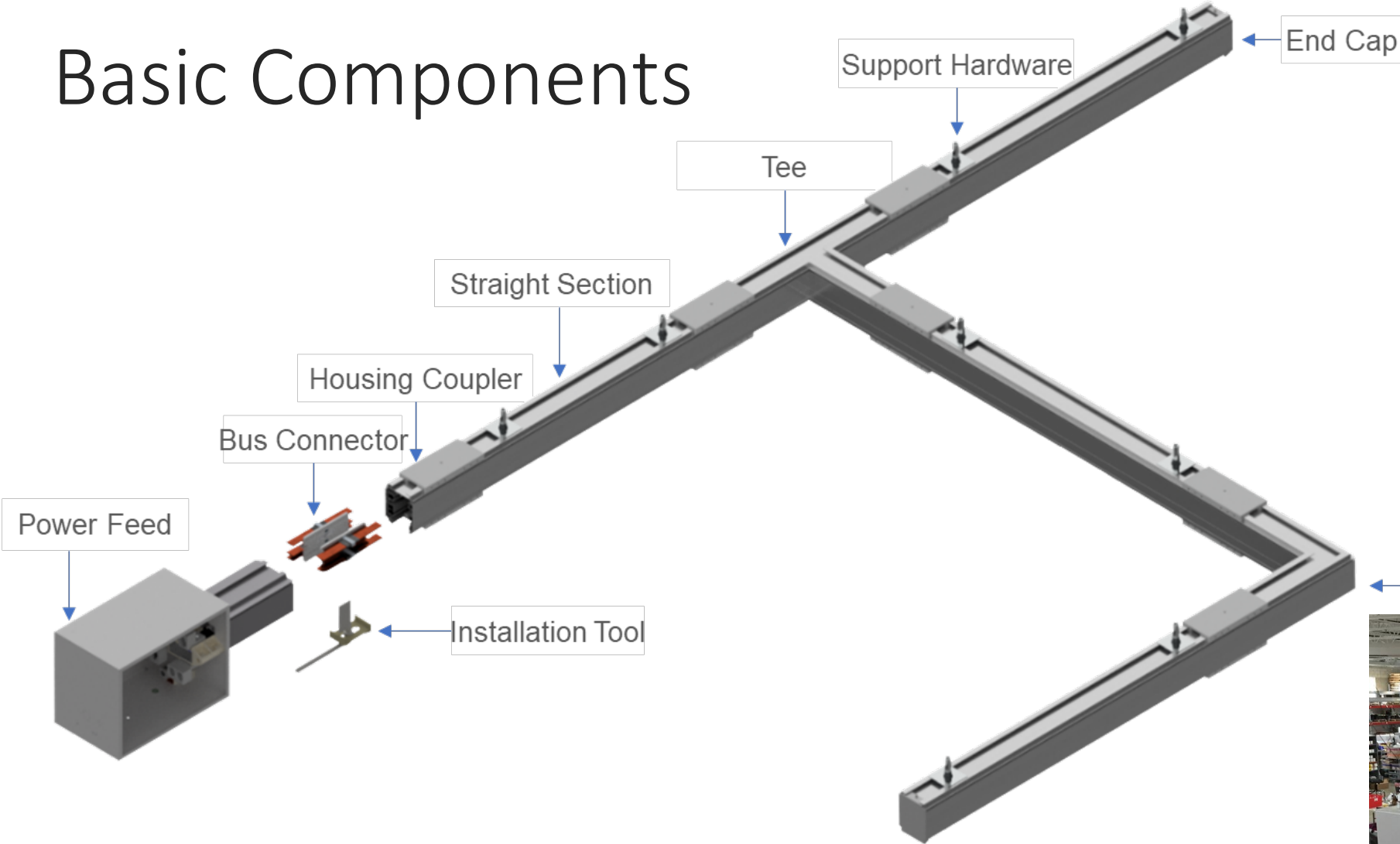
Innovative Alternative: *Flexible Power Track System*



Enclosed conductor bars with continuous open-channel bottom access enabling unlimited electrical connection points, to deliver power at the exact point of use in a manufacturing facility

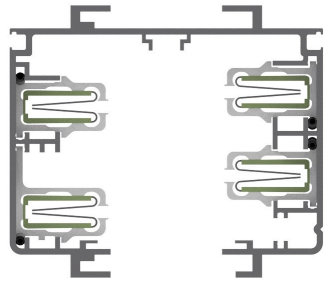
Open-channel busway systems

Basic Components

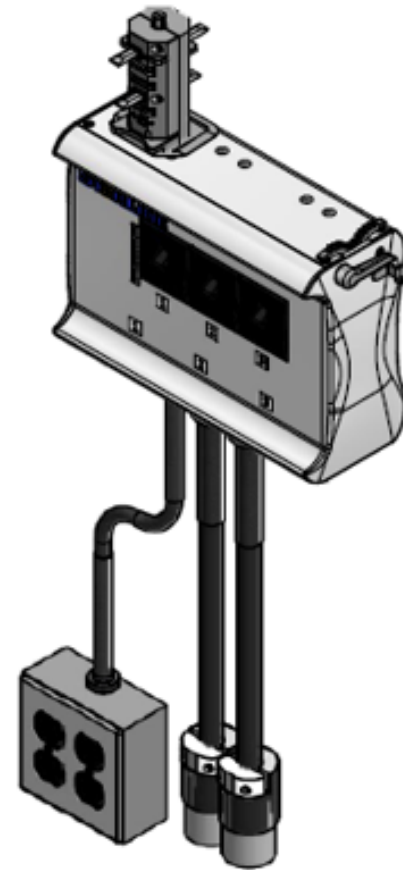
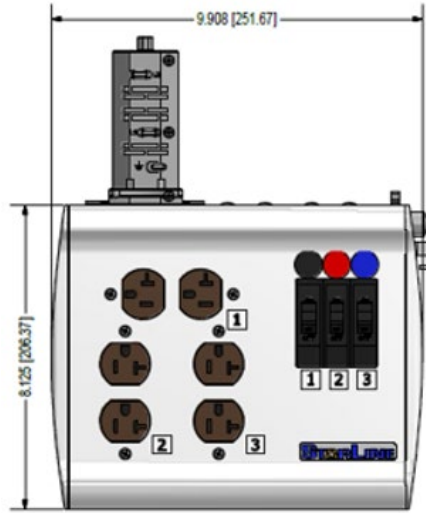
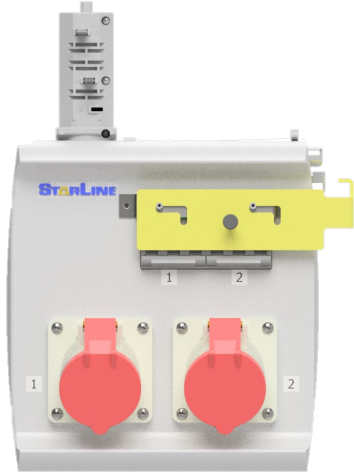
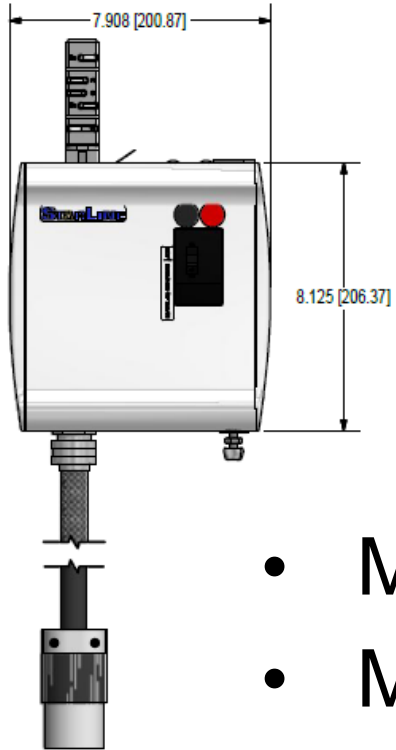




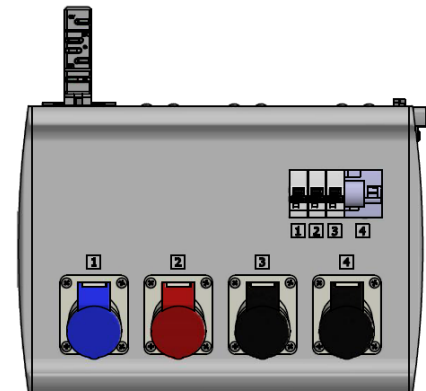
Safe
Plug n' Play
live insertion
(UL857)



Components Integration



- Millions of SKUs combinations
- Maximum integration
- Valued Engineered
- *Replication-Testing* at Factory



Results:

Cost of Ownership ↓

- Faster Installation
- Reduced Downtime
- No Maintenance
- Future-Proof Facilities



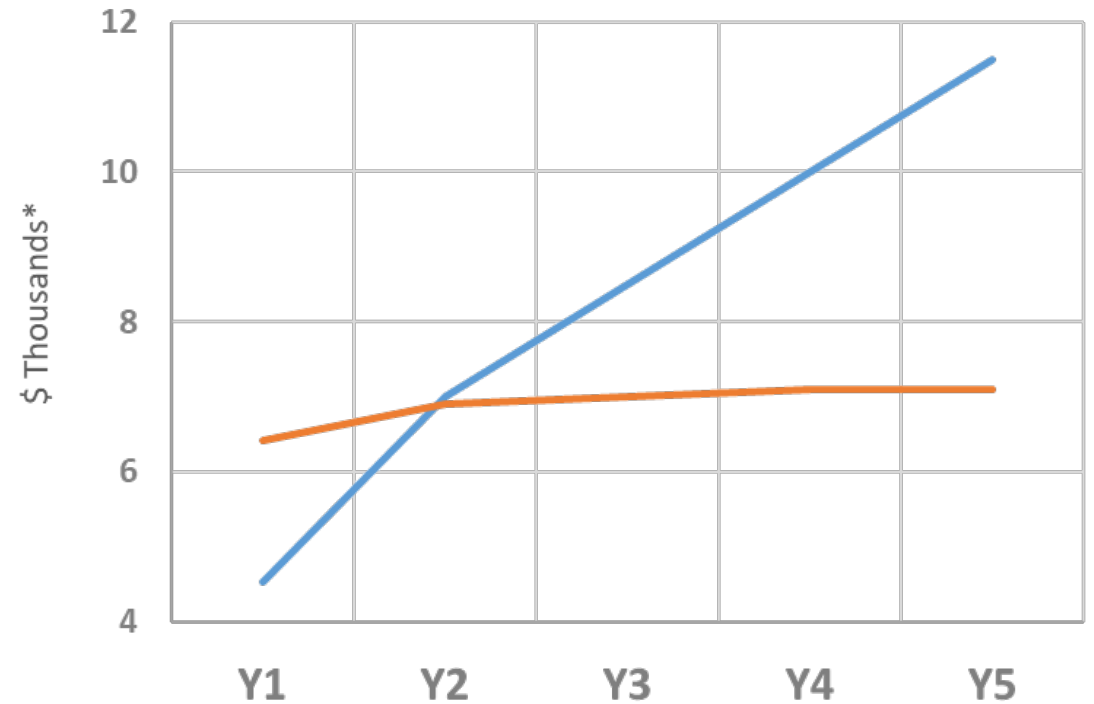
Results:

TCO Reductions

- Acquisition Costs: ↑
- Operating Costs: ↓
- Personnel Costs: ↓

“...Reconfigurations are now cheap and easy...”
End User @ Univ. of Hawaii
School of Ocean & Earth Sc. & Tech.

5yr COST COMPARISON Pipe & Wire vs. STARLINE



— Conventional Methods



— Starline



Results:

Fast Installation

CASE STUDY

- End User: Global Automotive OEM in Detroit, MI
- Ventilator Assembly Plant: Covid-19 response
- System installed in **2** days



Results: *Future-Ready Facility*

CASE STUDY

End User: Franklin County
School Board

Application: New welding lab
shop

Location: Eastpoint, FL



Results:

Downtime Minimized

Sent: Monday, March 11, 2019 1:37 PM
Subject: XXYY Adding a receptacle



*“...The Production Line added a piece of equipment to the line for their robotics modification. Installed the plug, wire managed the cord **in under 55 min.**”*

*Previous application, we would have had to pulled wire, changed or add the breaker, numerous PPE, barricading the area affecting our operators, with an install time of **6 hours**...our project manager would have had to send a RFQ, PO request and involve (5) upper management signatures for approval. Adding an **additional 5-day lead time...a response time of 55 min. vs. a minimum of 7,560 min.....”***

*Facilities-Master Electrician
Seguin, TX*

Implement Flexible Power in your facility!



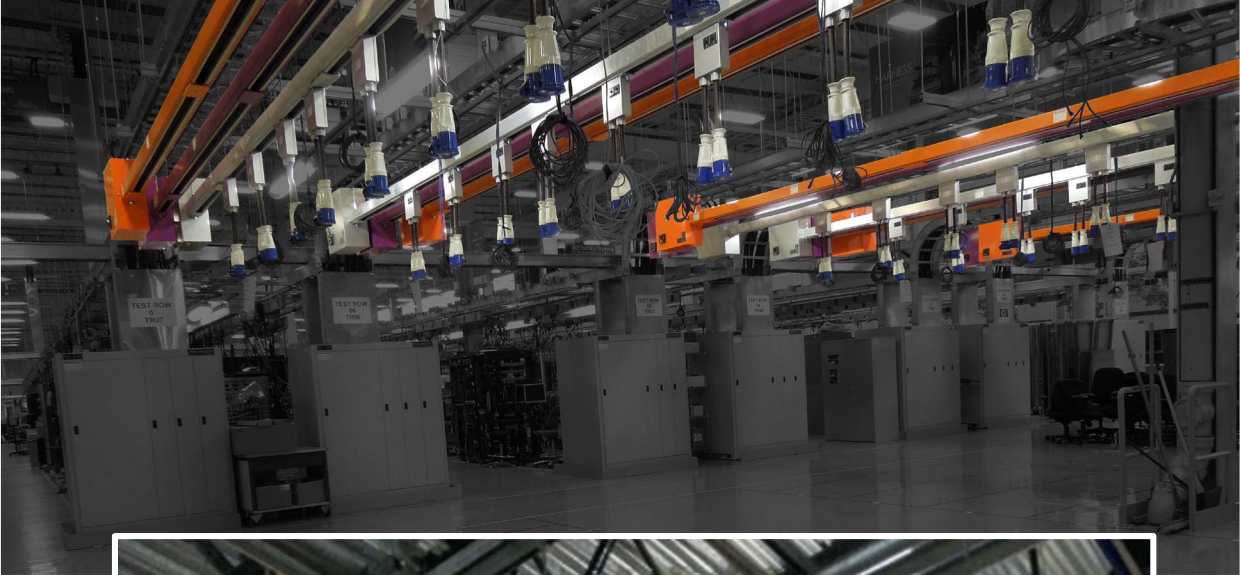
.conventional pipe & wire..

vs.



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Scalability



vs.



Automotive

Solution:
T3 Series, 225A busway

Application:
Electric Vehicles final
assembly line

Localization:
Normal, IL



Plug-in T3 Series, E50 Enclosure
30A CB

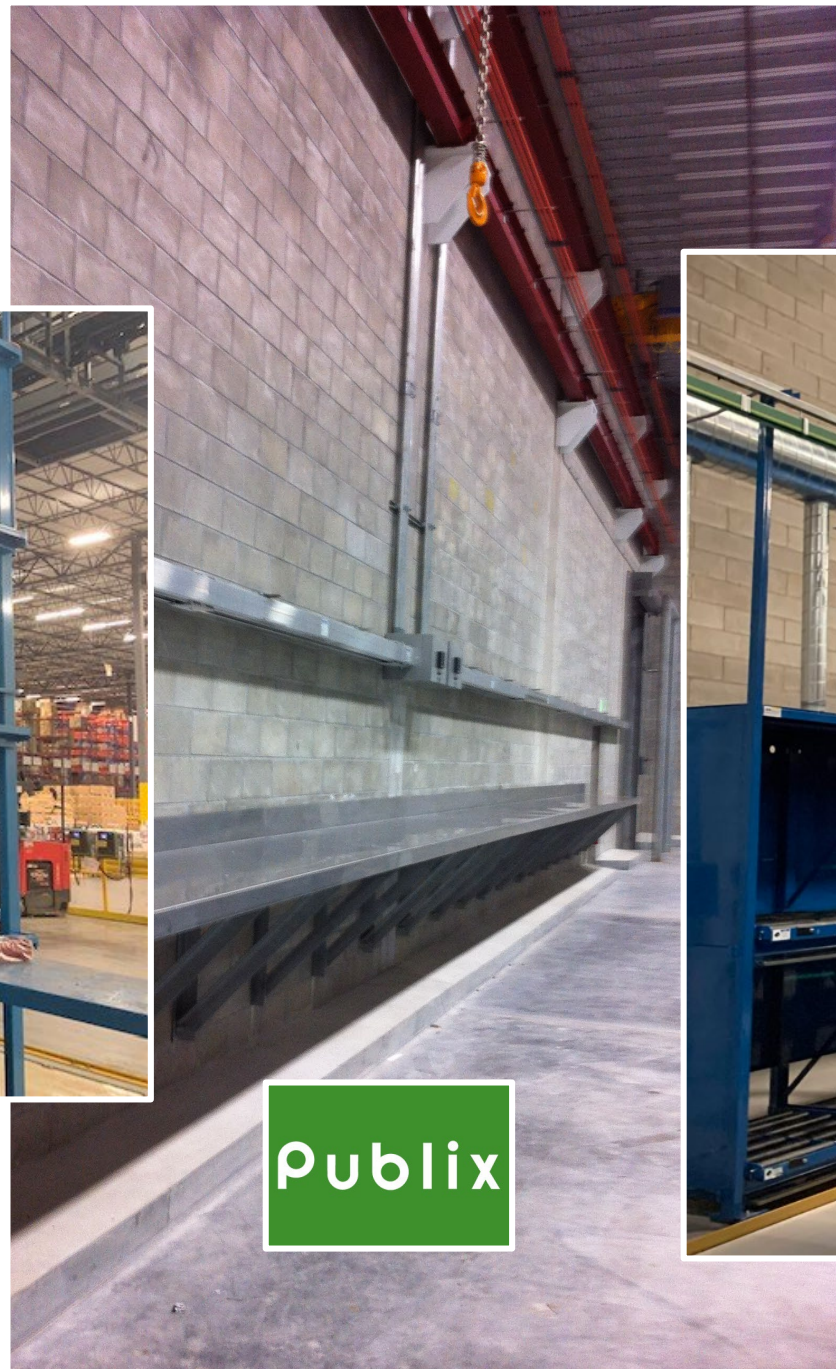


225A busway, T3 Series

Distribution Centers: Electric forklifts

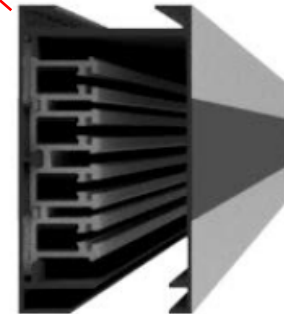
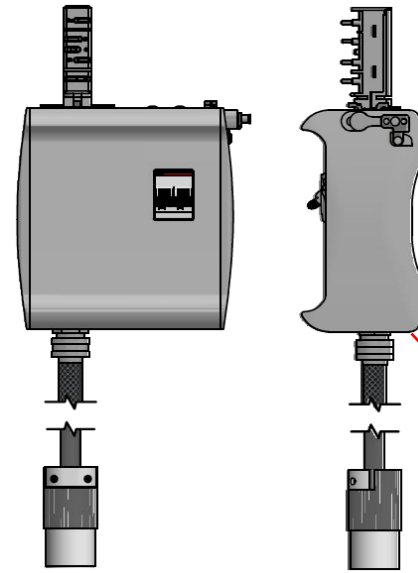
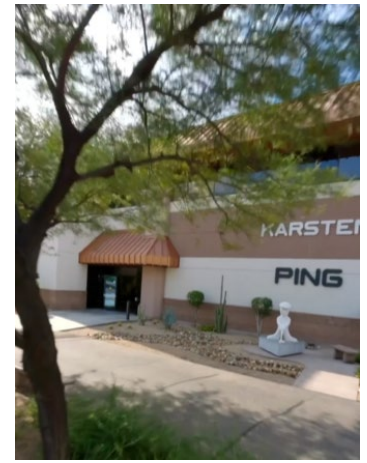


- Future-Proof design
- High Power-Density per sqft



Traditional Manufacturing

Location: Phoenix, AZ



T3 Series
225a busway



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Revolutionizing Power Distribution

NEW
Series-S Track
Busway

Starline

Series-S Product Overview



Features

- IEC IP54 Rating
- NEMA 3R Rating
- 100A through 1200A range
- Same functionality, versatility, and configurability
- Corrosion-resistant finish housing with painted options available
- Custom Series-S Plug-in Units

Increased ingress protection with unmatched versatility



First of a kind

Maintained proven features & benefits
Sleek & simple design



Broader applications

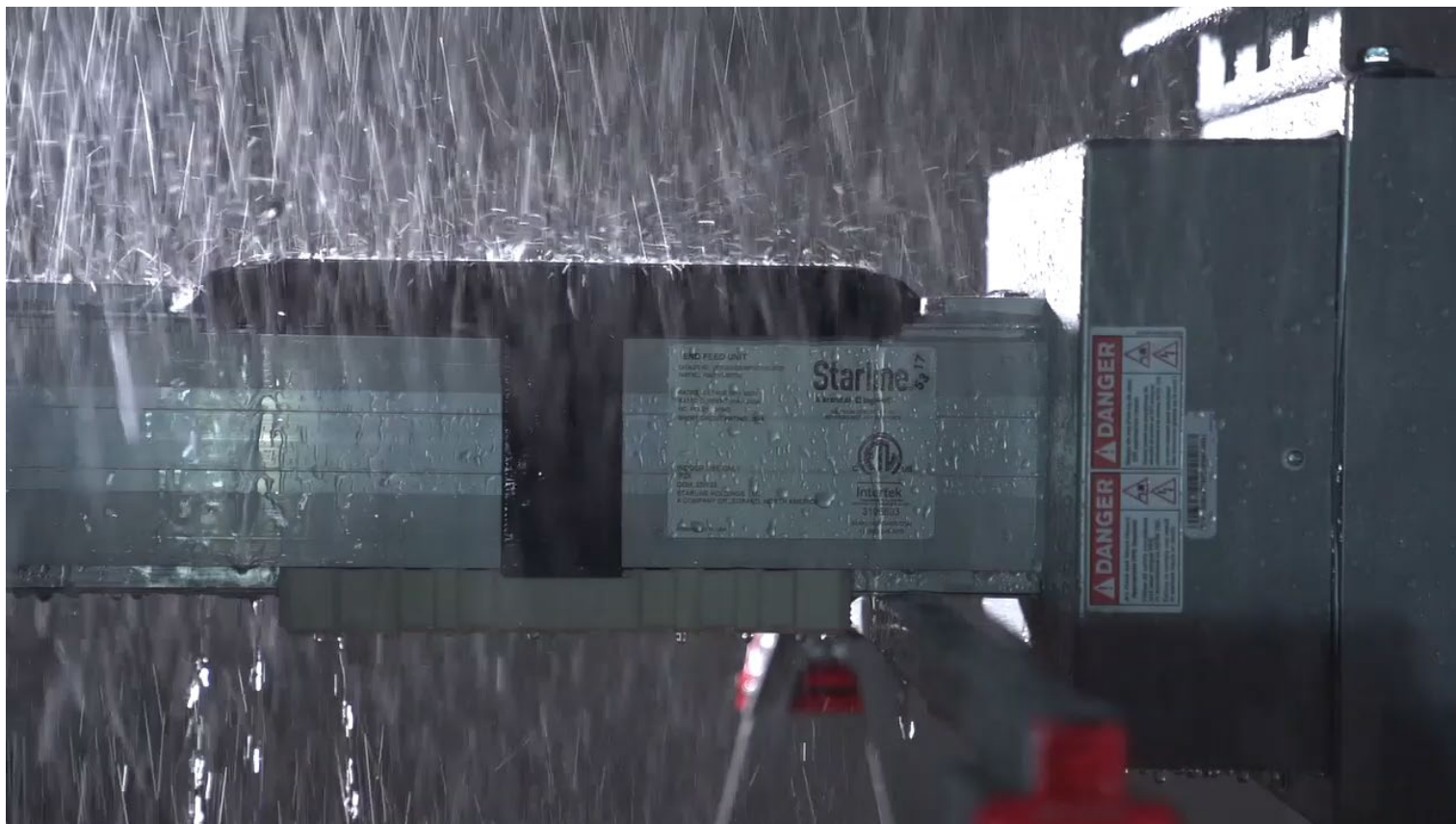
- Sprinkler-proof / Splash-proof requirements
- Dusty or Debris-contaminated manufacturing



Expansion into other markets

- Parking garages
- Fleet vehicles
- Forklift charging

S3 System during water test



“If a picture paints a thousand words...”

Future Proof EVSE Infrastructure

Service Entrance/Power source/Grid: utility, batteries, solar, etc.

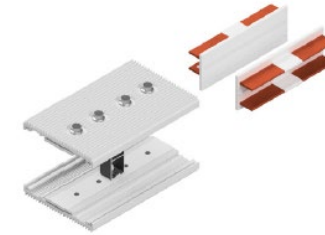


Busway
Custom lengths. Overhead or wall mounted. AC or DC

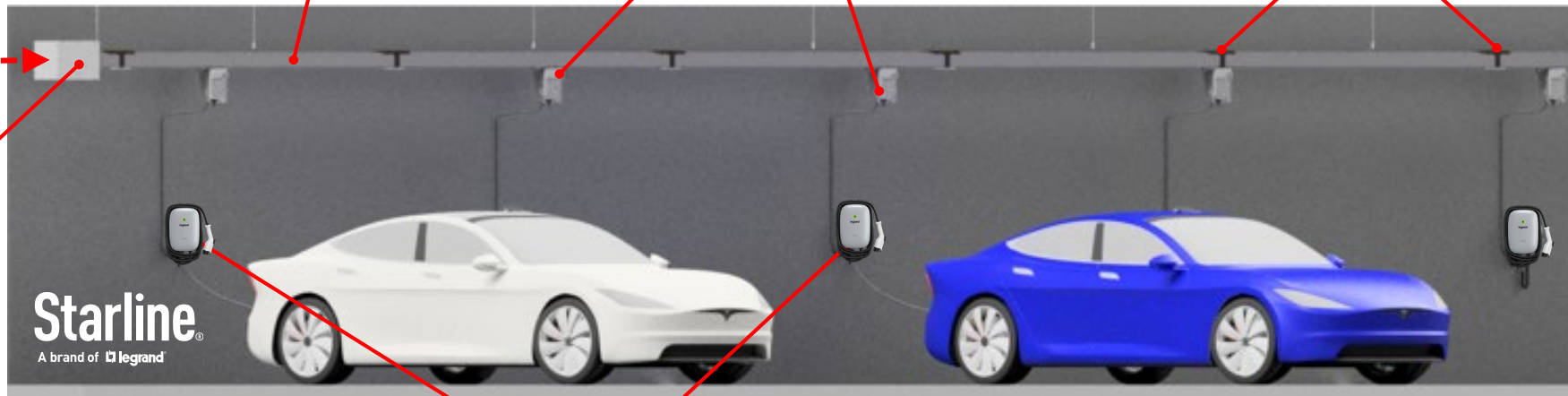
Plug-in Units
Installs in seconds. Plug n' play. Single/multiple cords



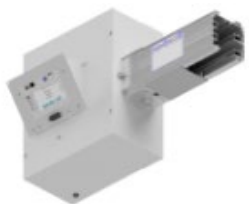
Joint Kits
Easy install. Maintenance free



Scalable System
Future Ready. Easy to add additional sections



End Feed
Electrical connections. Metered options.



Level II EV Chargers
Wall Mount or pedestal

Starline EVSE Power Solution

- ❑ Overhead solution
- ❑ No trenching required
- ❑ Simple & fast installation
- ❑ Minimal downtime for parking areas
- ❑ Less planning required
- ❑ Scalable - Easy expansion with growth
- ❑ Evolving technology requires flexibility
- ❑ Easy to relocate or change-out





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Future-Proof Advocates:



Etc..

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Facilities in over

90

countries

Products sold
in nearly

180

countries



USA Headquarters

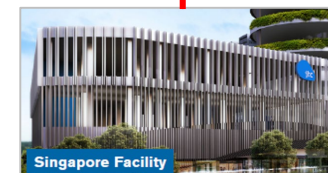
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UK Facility



Singapore Facility

\$7B ↑

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