



MAKING AN IMPACT ON U.S. MANUFACTURING

NIST
National Institute of
Standards and Technology
U.S. Department of Commerce

Buy America Transit Supply Chain Connectivity Forum

APTA Rail Conference

Baltimore, MD

June 14, 2017



U.S. Department of Transportation
Federal Transit Administration

MD  **MEP**
MANUFACTURING EXTENSION PARTNERSHIP

	TODAY'S AGENDA
12:00pm	Registration/Boxed Lunches
12:30pm	Welcome Remarks and Forum Introduction
12:45pm	U.S. DOT FTA Keynote: Next Generation Transit Buy America and Domestic Supply Chain Opportunities
1:15pm	Q&A
1:30pm	OEM Panel: Supply Chain Opportunities and Needs
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6:00pm	CONCLUDE



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WELCOME TO MARYLAND



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BUY AMERICA OVERVIEW

Federal Transit Administration
Search FTA site

About
Funding
Regulations & Guidance

Home » Regulations and Guidance » Buy America

Buy America

Regulations

Policy and Guidance ▾

Waivers ▾

Decision Letters ▾

Investigations

Handbook

Interagency Agreements

Buy America

What's New

FTA Issues Pre-Award and Post-Delivery Buy America Handbook

FTA's [Buy America Handbook](#), which provides grantees, manufacturers, and subcontractors and suppliers with the steps necessary to meet pre-award audit and post-delivery Buy America audit requirements, brings greater uniformity to the way the industry conducts and documents pre-award and post-delivery audits of rolling stock purchases. The handbook applies to the procurement of rolling stock used in revenue service, which includes new buses, vans, cars, railcars, locomotives, trolley cars, trolley buses, ferry boats, and vehicles used for guideways and incline planes, and intended for public transportation of passengers. It describes approaches and recommends processes for grantees as they prepare to conduct pre-award and post-delivery vehicle audits from the solicitation phase through the final acceptance of vehicles. It also includes examples of how to calculate domestic content, and verify and document compliance for all participating parties as well as sample forms and templates. The effective date of the Buy America Handbook was March 21, 2017.

Recent Policy Guidance

Related Links

- [Transit Supply Chain Partnerships Forum: June 14, 2017](#)
- [Sign Up for Updates](#)
- [Notices of Buy America Waivers](#)
- [Buy America Policy Guidance](#)
- [House Transportation & Infrastructure Committee - April 24, 2007](#)

Contact Us

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8:30 a.m.-5 p.m. ET, M-F

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Cecelia Comito
Assistant Chief Counsel, General Law Division
Federal Transit Administration



FTA

FEDERAL TRANSIT ADMINISTRATION

2017 Buy America Updates

Richard Wong
Attorney Advisor

Laura Ames
Attorney Advisor

June 14, 2017



U.S. Department of Transportation
Federal Transit Administration

Buy America 101

- 49 U.S.C. § 5323(j)(1):
“The Secretary may obligate an amount to be appropriated to carry out this chapter for a project only if the steel, iron, and manufactured goods used in the project are produced in the United States.”

Rolling Stock

49 U.S.C. § 5323(j)(2)(C)

(C) when **procuring** rolling stock (including train control, communication, traction power equipment, and rolling stock prototypes) under this chapter--

(i) the cost of components and subcomponents **produced** in the United States

(I) **for fiscal years 2016 and 2017**, is more than **60** percent of the cost of all components of the rolling stock;

(II) **for fiscal years 2018 and 2019**, is more than **65** percent of the cost of all components of the rolling stock; and

(III) **for fiscal year 2020 and each fiscal year thereafter**, is more than **70** percent of the cost of all components of the rolling stock; and

(ii) final assembly of the rolling stock has occurred in the United States;

Buy America 101

- Rolling stock procurements are subject to the pre-award and post-delivery Buy America audit provisions
 - 49 U.S.C. § 5323(m) and 49 CFR part 663.
 - Discussed in updated Handbook

Buy America 101

- 49 CFR 661.3: *Rolling stock* means transit vehicles such as buses, vans, cars, railcars, locomotives, trolley cars and buses, and ferry boats, as well as vehicles used for support services.
- Final Assembly must occur in the U.S.
 - 49 CFR § 661.11

What's new in Buy America

- FAST Act Amendments to 49 U.S.C. § 5323(j)
 - Phased increase in domestic content for rolling stock
 - Section 5323(j)(2)(C)
 - Inclusion of U.S. steel and iron in domestic content for car body
 - 49 U.S.C. § 5323(j)(5)
- Executive Order (April 18, 2017)



FTA Final Policy Statement

- Issued on September 1, 2016
– 81 Fed. Reg. 60278
- Addresses phased increase for contracts entered into before October 1, 2015 (FAST Act implementation date)
- Addresses contracts entered into during the transition period, between October 1, 2015 and December 4, 2015 (enactment date)

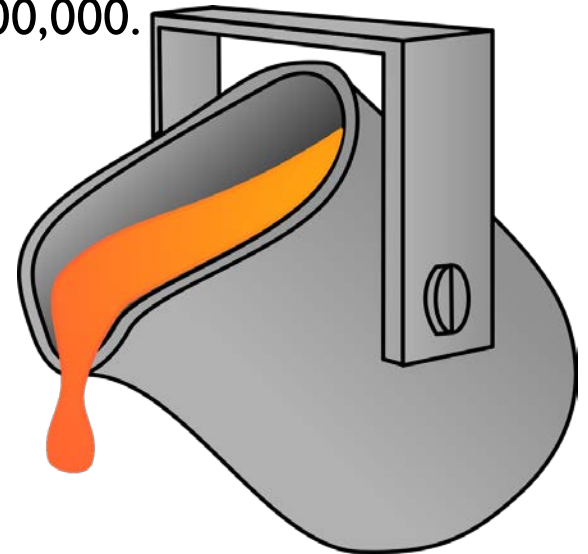


What's New in Buy America

- FTA will adjust the calculation for determining whether a component is of domestic origin under 49 CFR 661.11 to accommodate the increase in domestic content for FY2018 and beyond.
 - For vehicles subject to the more than 65% domestic content, more than 65% of the subcomponents of that component, by cost, must be of domestic origin, and for FY2020 or beyond, more than 70 percent of the subcomponents of the component must be of domestic origin.
 - Manufacture of the component must take place in the United States.
- Additionally, if a component is determined to be of domestic origin, its entire cost may be used in calculating the cost of content of an end product.

Cost of Domestic Steel & Iron

- The FAST Act, which added 49 U.S.C. 5323(j)(5), allows domestic content to include steel and iron produced in the United States and incorporated into a rolling stock frame or car shell outside the United States, provided that the frame or car shell is imported back into the United States for final assembly.
 - Only applies to vehicles that cost more than \$300,000.
- Manufacturers may include the cost of domestic steel and iron on vehicles produced after October 1, 2015, the effective date of the FAST Act.



Buy America Handbook



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Buy America Handbook

- Addresses pre-award and post-delivery audits of rolling stock procurements (49 CFR part 663)
- Handbook is **guidance** and does not promulgate new requirements
 - Discusses best practices that recipients may adopt
 - Does not require anything beyond what is in the Buy America statute and regulations
- Effective Date: March 21, 2017
 - 82 Fed Reg 4959 (Jan. 17, 2017)
 - <https://www.gpo.gov/fdsys/pkg/FR-2017-01-17/pdf/2017-00873.pdf>

2017 Handbook

- Reflects FAST Act changes with respect to domestic content percentage increases
- Handbook does not apply to overhauls, rebuilds, or refurbished vehicles
- Provides templates and examples for pre-award and post-delivery audits
- Does not define who is a “qualified” auditor, leaves that determination up to recipient

Pre-Award Audits

- What's the purpose of a pre-award audit?
 - A. To unnecessarily increase the cost of procurement of rolling stock.
 - B. To provide jobs for auditors: “Buy American, Hire American”
 - C. To confirm before contract award that the bidder has a plan for meeting the Buy America rolling stock requirements
 - D. To drive Laura and Richard crazy

Pre-Award Audits

- 49 CFR 663.21-27
- Auditor must be independent from the manufacturer
- Auditor must review documentation from bidder to support domestic content calculation and final assembly
- Documents do not need to be included with, or attached to, pre-award audit report

Post-Delivery Audits

- 49 CFR 663.31-39
- Verifies that vehicle delivered meets Buy America requirements
- Domestic content calculation is set forth in 49 CFR 661.11 – **READ IT!**
- Handbook walks through application of section 661.11



Proprietary Information

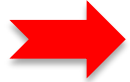
- Manufacturers do not want to disclose pricing information
- OK for auditor to review documentation at manufacturer's facility
- No requirement that auditor retain a copy of the documents it reviews; however, manufacturer needs to be prepared to show information to FTA, should it request it
- Final Report may be expressed in terms of percentages

More Information

- Buy America Policy Statement, [81 Fed. Reg. 60278](#) (Sept. 1, 2016)
- Buy America Page
<https://www.transit.dot.gov/buyamerica>
- Sign up for GovDelivery Emails on Buy America
- Richard.Wong@dot.gov
- Laura.Ames@dot.gov

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Transit Original Equipment Manufacturer and Tier 1 Supplier Panel

- Kiepe Electric
- Knorr Brake Company
- Proterra
- United Rail



PROTERRA

UNITED RAIL

Buy America Transit Supply Chain Connectivity Forum Baltimore, MD

June 14, 2017

John Andreas



Kiepe Electric U.S. Headquarters Alpharetta, Georgia



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Supply Chain Manager
Kiepe Electric
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Alpharetta, GA 30005
Phone: (770) 754-0918
Neal.Carmichael@kiepe.knorr-bremse.com

Est. 1906, Kiepe Electric Specializes in the Design and Manufacture of;

- Electric Traction Systems for Rail and Bus Applications
- Auxiliary Power Systems for Rail and Bus Applications
- Electrical System Upgrades for Obsolete Equipment
- Electrical Components, Such as Contactors, Relays, Switches, etc.



Customized
Test
Equipment





System Integrator

Kiepe Electric Products

Complete Electrical Systems Including
Traction And Auxiliary Power Systems

Product Applications	Product Features
Light Rail Vehicles/Streetcars	Voltages up to 1500V
Subway/Metro	Wide Range of Power Outputs
Commuter/Regional	IGBT Technology
Trolley Bus	AC And DC(Upgrade) Applications
Hybrid Bus	Integrated Energy Management
Battery Bus	Monitoring And Diagnostics
Fuel Cell Bus	Off Wire Applications

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Vehicle Integration
Dayton Dual-Mode
Trolley Bus



Kiepe Electric U.S. References:

PCC car AC drive and APS upgrade – SEPTA / Brookville Locomotive

Subway IGBT chopper traction power upgrade – SEPTA direct

Electrical systems for new trolley buses – SEPTA / New Flyer

Traction power system for new LRVs – Houston Metro / CAF

Vehicle system integrator for Dayton dual mode trolley buses

Electrical systems for new trolley buses – King County Metro / New Flyer

Electrical systems for new trolley buses – San Francisco MTA / New Flyer



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john.andreas@kiepe.knorr-bremse.com

The Knorr-Bremse Group

INTRODUCTION TO THE COMPANY 2017

Making mobility safe – Knorr-Bremse’s daily mission.



112 years of Knorr-Bremse



1905 - 1945

FOUNDING AND INITIAL DEVELOPMENT

- Knorr-Bremse GmbH established in Berlin by Georg Knorr in 1905
- Development of compressed air brake for freight trains enables Knorr-Bremse to become the largest manufacturer of rail vehicle brakes in Europe
- First Knorr air brake for road trucks is patented



1945 - 1985

POST-WAR PERIOD AND RECONSTRUCTION

- Confiscation of Berlin plant at end of Second World War
- Munich becomes company's new headquarter
- KE control valve becomes new UIC standard
- Entrance into the U.S. market with AAR DB-60 valve for rail vehicles



1985 - 2017

EXPANSION THROUGH CONCENTRATION

- 1985: Heinz Hermann Thiele takes over the company
- Development into world's leading manufacturer of braking systems for rail and commercial vehicles
- Radical restructuring and expansion strategy and consolidation of market by Knorr-Bremse

Knorr-Bremse is based in 30 countries around the world at more than 100 locations, some 80 of which are manufacturing facilities



THE AMERICAS

- Argentina
- Brazil
- Canada
- Mexico
- USA



EUROPE / AFRICA / MIDDLE EAST

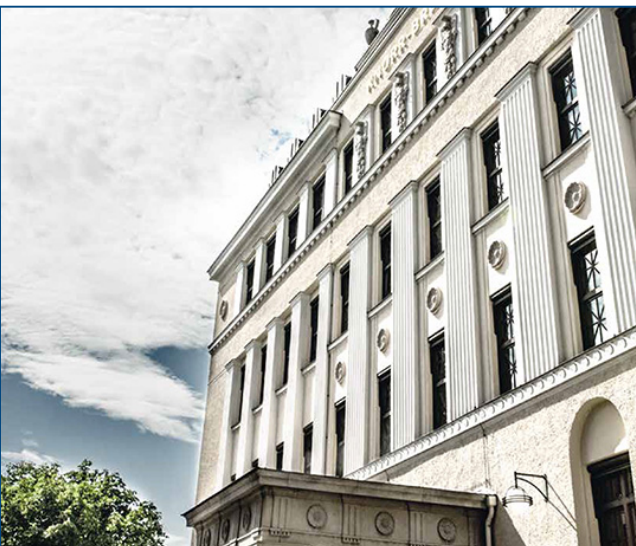
- Austria
- Belgium
- Czech Republic
- Germany
- France
- Hungary
- Italy
- Macedonia
- Netherlands
- Poland
- Romania
- Russia
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom
- South Africa



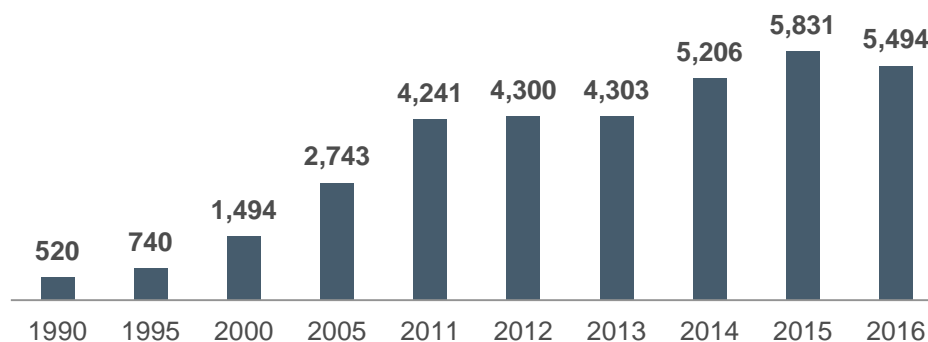
ASIA / PACIFIC

- Australia
- China
- India
- Japan
- Kazakhstan
- South Korea
- Singapore

Development of sales

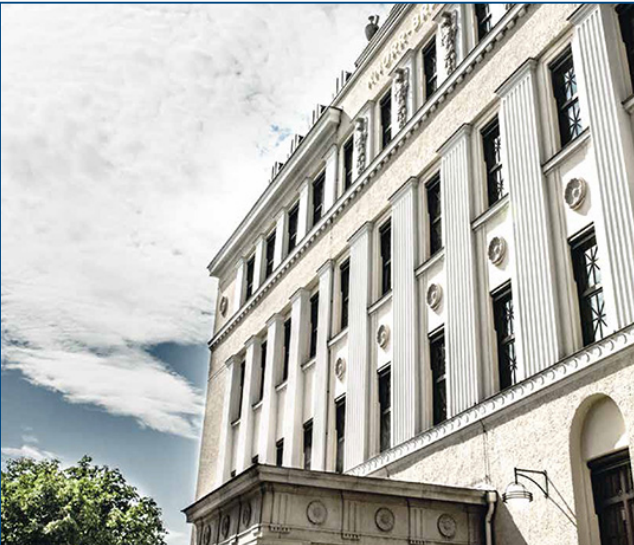


Development of sales (in € million)

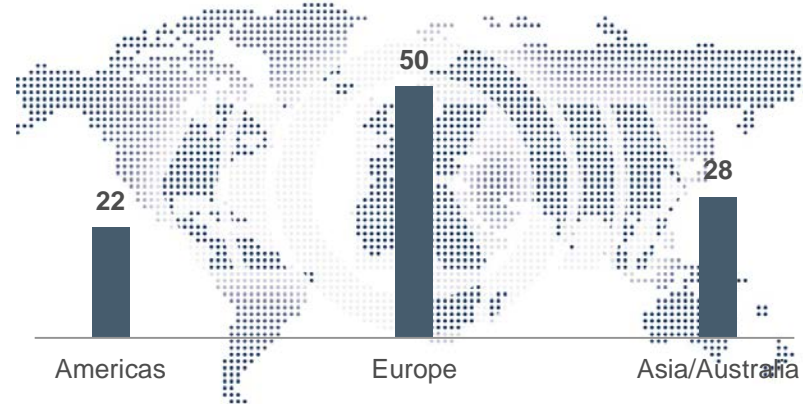


	2015	2016	Δ
Sales	5,831 Mio. €	5,494 Mio. €	-5,8%
Net income	645 Mio. €	550 Mio. €	-14,7%
Return on sales	11,1 %	10,0 %	-1,1%-P.
Investments	210 Mio. €	195 Mio. €	-7,4%
Research and development expenditure	347 Mio. €	328 Mio. €	-5,4%
Employees (incl. leasing; as per Dec. 31)	24,275	24,565	+1,2%

Sales by regions



Sales by regions 2016 (in %)



	2015	2016	Δ
Sales	5,831 Mio. €	5,494 Mio. €	-6%
Europe*	2,618 Mio. €	2,728 Mio. €	+4%
The Americas*	1,433 Mio. €	1,219 Mio. €	-15%
Asia/Australia*	1,780 Mio. €	1,547 Mio. €	-13%

*sales to third parties

Customer Orientation – Connected Systems to enhance the Value of Customers



Windscreen Wiper and Wash Systems



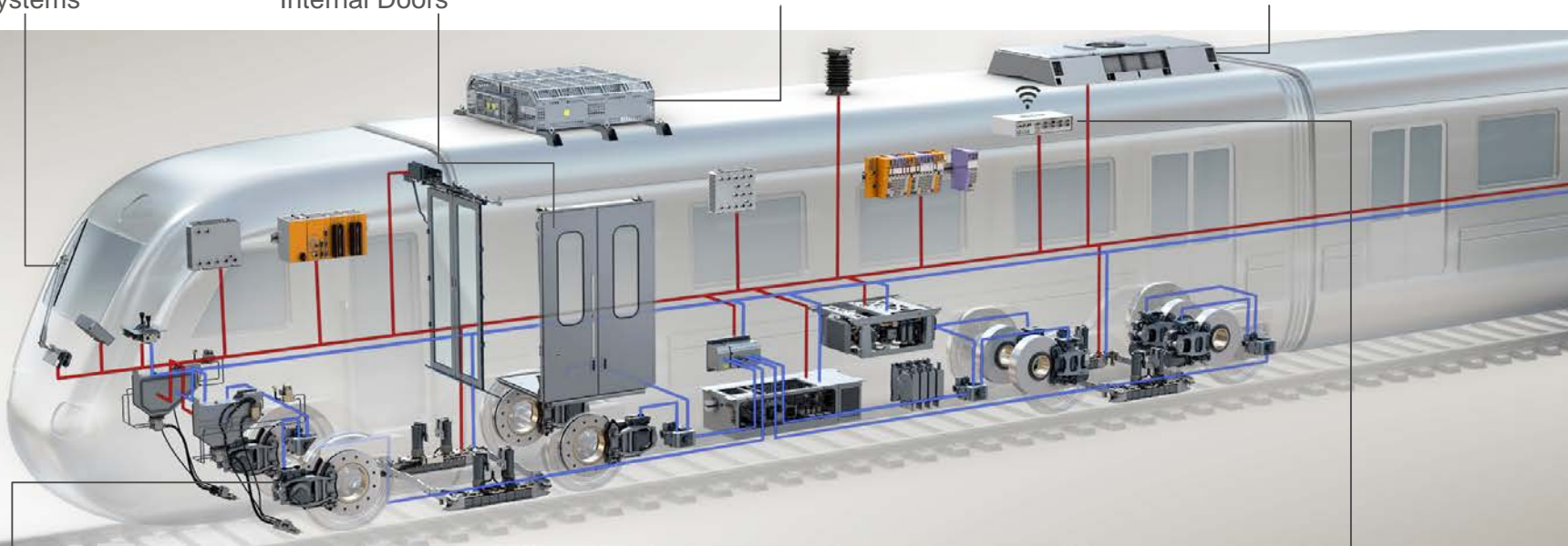
Entrance Systems
Internal Doors



Power Electrics



Climate Management



Brake Systems



Control and Management Systems



Traction Systems



Auxiliary Power Supply



Modernization & Support

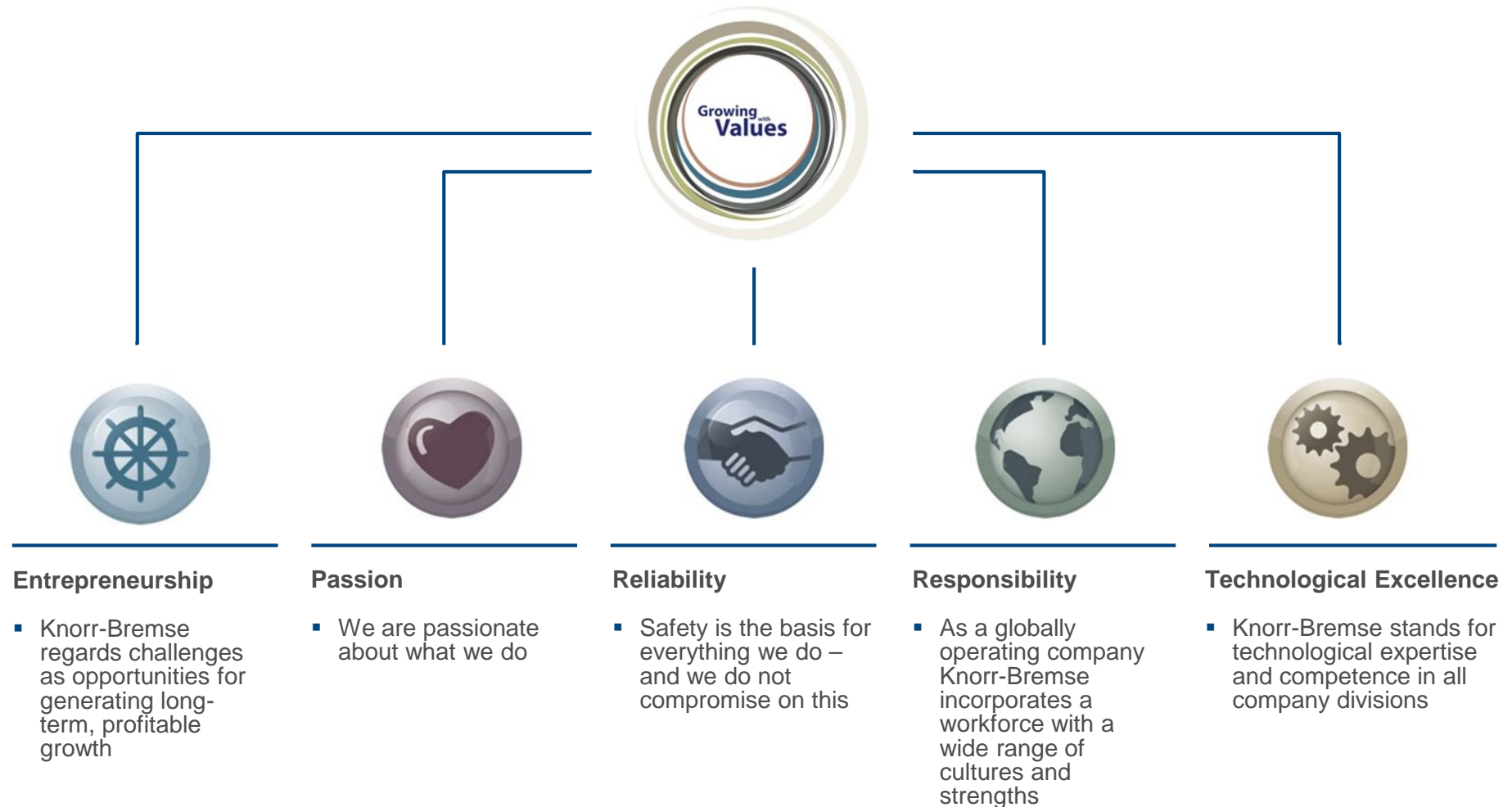
Safety and quality have top priority



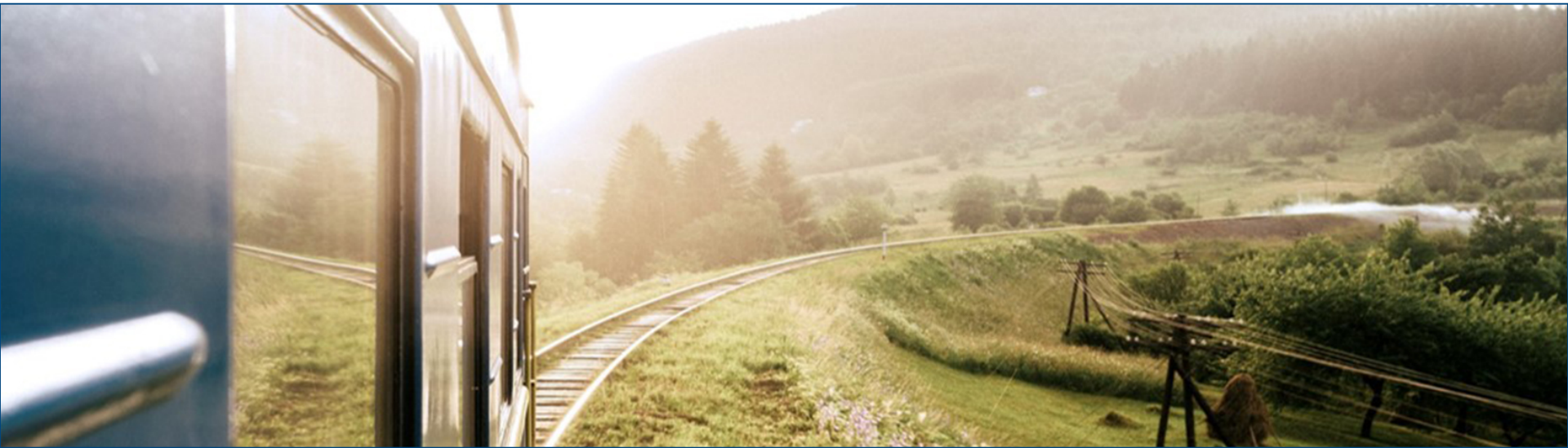
MAIN FEATURES / OUR GOAL

- The customer is the main focus of all our actions
- Top quality – benchmark for the sector
- Strong focus on continual improvement
- Learning from mistakes
- Defect-free products
- Quality is everyone's responsibility

Corporate values



Operating and doing business in a sustainable and socially responsible manner



WITH ITS CORPORATE RESPONSIBILITY (CR) STRATEGY KNORR-BREMSE UNDERTAKES

- to behave responsibly towards customers, employees, the environment, and society
- to make sparing use of natural resources
- to develop sustainable technologies and products
- to engage with society



The aim is to ensure that the company is future-proof but also maintains a proper economic, ecological, and social balance.

Knorr-Bremse Global Care e.V. – better prospects for people in need



- In 2016 more than €1,9 million spent on development projects
- 650,000 beneficiaries since organization set up in 2005
- Knorr-Bremse workforce involved in volunteering for local projects

PROTERRA COMPANY OVERVIEW



PRESENTED BY
**Annette Dean – Director of
Procurement (Greenville, SC)**

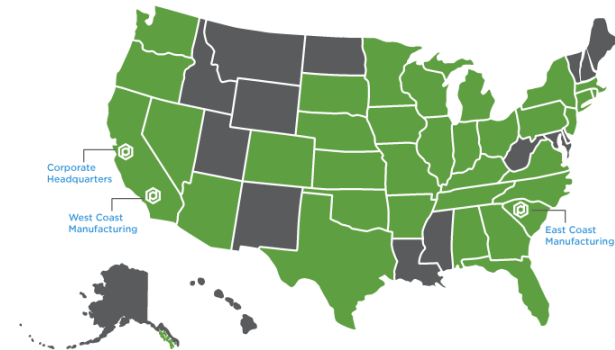
LAST UPDATE:
JUNE 1, 2017



Proterra's Mission

Advancing electric vehicle technology to deliver the world's best-performing transit vehicles

- Founded in 2004
- Offices and manufacturing in CA and SC
- 300+ employees, strong executive management team
- Backed by industry-leading VC and corporate investors
- 38 customers; >400 vehicles sold
- >100 vehicles delivered; >3,300,000 service miles
- >12,000,000 pounds of CO2 emissions avoided



Strong Executive Team



Solid Financial Backing





OUR CUSTOMERS



PROTERRA



290 announced orders from 31 customers

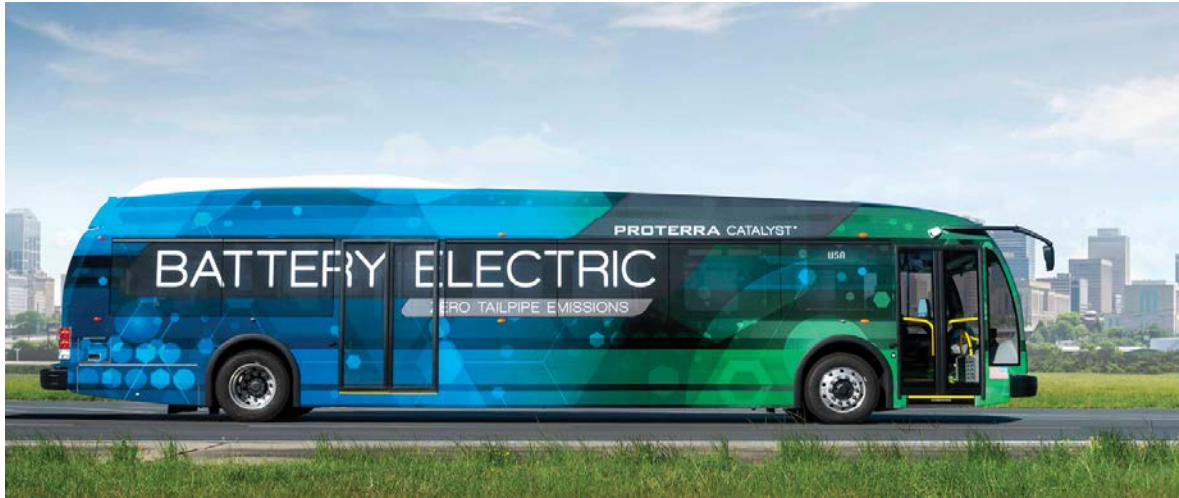
100+ orders not yet announced

PROTERRA CATALYST®—DIFFERENT BY DESIGN

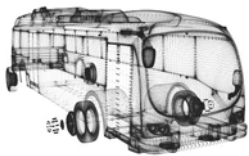
INTRODUCING THE PROTERRA CATALYST™ PLATFORM



PROTERRA



Proterra Catalyst®



Highest Performance

Flexible Energy System



Ultimate Flexibility

Multiple Charging Options



Meet Every Route Need

Financing & Services



Ease of Ownership

THE PROTERRA CATALYST'S RANGE



PROTERRA

CATALYST E2 max
660 kWh

CATALYST E2+
550 kWh

CATALYST E2
440 kWh

CATALYST XR+
330 kWh

CATALYST XR
220 kWh

CATALYST FC+
105 kWh

CATALYST FC
79 kWh

FC SERIES For circulator routes
10-13 minute charge time
49-62 mile nominal range*

XR SERIES For low daily mileage
< 3 hrs. charge time
136-193 mile nominal range*

E2 SERIES For longest routes
3.5-5 hrs. charge time
251-350 mile nominal range*

*Depending on model. Nominal range = total energy/ projected Altoona efficiency. Actual range will vary with route conditions, battery configuration and driver behavior.

- Provide Best in Class Quality
 - Robust Quality and Manufacturing Systems
- On Time Delivery
 - Consistent Delivery and Communication
- Cost & Cash
 - BOM Cost Reductions, VA/VE, Lead-time Reductions, Payment Terms, Consignment, Capacity
 - Ability and Desire to Scale to meet the future
- Attitude
 - Partnering Approach, Focus on Continuous Improvement, Long Term Supply Agreements

Actively Looking for DBEs - NAICs



NAICS Code	NAICS Description	Description of Components/Parts
326299	All Other Rubber Product Manufacturing	Battery Terminal Covers, Gaskets, Flooring
327215	Glass Product Manufacturing Made of Purchased Glass	Side Windows, Front and Rear Windshields, Door Closeout
332710	Machine Shops	Battery Box and Related Parts, Coolant Plates, Front and Rear Suspension Cradles, Rear Cage, Brackets
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	Smart Bus System, Radios, Microphones, Antennas, Cameras, Monitors, Cables
335312	Motor and Generator Manufacturing	Specially-Designed Traction Motor and Controller
335912	Primary Battery Manufacturing	Specially-Designed Lithium Titanate Battery Modules
335991	Carbon and Graphite Product Manufacturing	Carbon Brushes
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	Specially-Designed Charge Station, Fast Charge (Indoor and Outdoor)
336211	Motor Vehicle Body Manufacturing	Specially-Designed Composite Bus Body
336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing	Wiring Harnesses, Driver's Display, Wiper System, Variable Frequency Drives, DC-DC Converter, Switches
336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing	Suspension Components, Drive Shaft, Steering Column
336340	Motor Vehicle Brake System Manufacturing	Brakes & Brake Valves, Brake Pedals
336360	Motor Vehicle Seating and Interior Trim Manufacturing	Stanchions, Overhead Lighting Panels, Flooring, Passenger and Driver's Seating
336390	Other Motor Vehicle Parts Manufacturing	Destination Signs, ADA Ramp, Mirrors, Defroster, Bike Rack, Fire Suppression
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	High and Low Voltage Cable, Connectors, Terminals, Plugs, Sensors, Lugs, Relays
423840	Industrial Supplies Merchant Wholesales	Latches, Hinges, Springs, Filters, Headlights, Paint and Composite Materials, MRO Supplies
541430	Graphic Design Services	Bus Wrap Design Services

THANK YOU.



PROTERRA

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Director of
Procurement
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(864) 214-7079





UNITED RAIL

Bringing the World of Rail Together™



Not on the picture: Brad McLelland, Kelly LaLonde, Nicolaas Hoffman

Company Profile

ABOUT US

- A Florida Corporation inaugurated in 2012
- Privately held with no external investors
- Headquartered in Jacksonville, Florida, USA with a Branch office in Toronto, Ontario, Canada

OUR MISSION

- To be the best Engineering & Design Services, Products and Solutions partner to all segments of North America's Rail industry

PORTFOLIO SEGMENTATION

SIGNAL ENGINEERING & DESIGN SERVICES

CONSULTING SERVICES

PROJECT MANAGEMENT

QUALITY, VALIDATION, CHECKING & DOCUMENTATION

PRELIMINARY ENG.
(PARTNER DB E&C)

CONSULTING SERVICES
(PARTNER DB E&C)

Services

SIGNALING PRODUCTS PORTFOLIO

- AXLE COUNTING CIRCUITS
- AUDIO FREQUENCY TRACK CIRCUITS
 - SWITCH BLOCKING CIRCUITS
(PARTNER – BBR)

DIESEL INJECTION NOZZLES
(PARTNER - GANSER CRS)

Products

SENTINEL SOLUTIONS

SIGNALING SYSTEMS PORTFOLIO
(PARTNER - BBR)

LOCOMOTIVE FUEL INJECTION SYSTEMS
(PARTNER – GANSER CRS)

OPERATIONS SIMULATION
(PARTNER – OPENTRACK)

TRACK GEOMETRY SURVEYING SYSTEMS
(PARTNER – AMBERG – TECH.)

Solutions/Systems

Denotes United Rail's Core Competencies

Signal Engineering Services

- Engineering Services focuses on signal design work on existing platforms such as VHLC, ElectroLogIXS, VPI, Microlock II, GEO, legacy Relay Based Systems, existing Switch Machines, etc.
- Engineering & Design Services:
 - Preliminary Engineering
 - Detailed Signal Design
 - Application Software Design & Test
- Engineering Support Services:
 - As-in service (“As-Built”)
 - System validation (Checking)
 - P.E. or Canadian P.Eng. Services
 - CAD Services: Applications: Bentley MicroStation and Promise-e, Autodesk AutoCAD
- Projects range from small to highly complex including those with a high degree of urgency
- Customers approach us to resolve issues and recommend solutions focused on added value





International Technology & Services Partners

BBR Rail Automation GmbH

- A globally active German company founded in 1990
- 200+ Employees
- Signal solutions for LRT's Streetcars, Subway and Yard Automation
- Passenger Information Systems
- Customer focus: Rail Operators, Design-Build Contractors and Vehicle Manufacturers

International Technology & Services Partners

Ganser CRS AG

- A globally active Swiss company founded in 1985
- Development and manufacturing of high performance Common Rail Fuel Injection Systems for larger (1,000+ kW) diesel engines
- Dual Fuel Systems (LNG)
- Fuel savings (5% - 15%) and/or improved emissions (EPA Tier levels)
- Successful test installation with NS is ongoing

International Technology & Services Partner

Amberg Technologies AG

- A globally active Swiss company with more than 35 years of history
- Provides comprehensive services for **tunnel- and rail surveying**
- **Survey:** Highly efficient systems for as-built survey of existing railway lines for documentation and future planning purpose
- **Tamping:** High-performance system solution for track alignment data or control-point-based tamping
- **Slab Track:** Integrated surveying solution optimized for the typical requirements during construction, monitoring and maintenance of slab track
- **Clearance:** Modular system solution for manual and automatic clearance survey including sophisticated engine for static and dynamic clearance analysis

Prover Technology AB

- A globally active Swedish company founded in 1989
- Leading Processes, Languages and Software for Control and Signaling Engineering
- Prover is digitizing railway signaling systems
 - Reduce time to market and cost in development and verification of rail control signaling systems
 - Provides solutions (methods, tools and processes)
- We help our customers to
 - Capture and maintain mission-critical know-how
 - Reduce project lead time and costs
 - Prove safety
- Products:
 - Prover PiSPEC enables specification engineers to capture their signaling know-how using the leading, unambiguous and proven formal language
 - Ensure clear requirements
 - Overcome specification problems
 - Document tribal knowledge
 - Prover iLock Process is based on PiSPEC and Prover iLock, and covers the entire application lifecycle, from specification to revenue service and future updates
 - Improve operator/supplier relationship
 - Ensure standards compliance
 - Go formal!

International Services Partner

DB Engineering & Consulting Group

- Globally active German company founded in 1966
- Subsidiary of DB (Deutsche Bahn) with 4,500+ Employees
- Providing Project Management, Engineering and Project Execution for DB projects across Germany
- Provide Consulting Services and Engineering in all aspects of Rail operation to international customers
- All Market segments served

New international technology partners

Pixy AG, Switzerland

- Visualization solutions for the railway sector

EKE Electronics Ltd, Finland

- Train automation (TCMS), On board event recorder, etc.

RUF Telematic AG, Switzerland

- On-board Passenger Information Systems PIS

OpenTrack Railway Technology, Ltd, Switzerland

- Rail Networks operation simulation

United Rail's Buy America support

In projects financed by the US or State government (tax money) complying with the 'Buy America Act' is a must and is not negotiable

United Rail is able to support:

- Provide assembly and factory testing
- Interface with Operators, Consultants and Integrators
- Legal support
- Identify / coordinate local materials sourcing
- Logistics
- Warehousing
- After Sales technical and commercial support

Bringing the World of Rail Together™

Thank you for your attention!

United Rail, Inc.
Jacksonville, FL 32224

Phone: 904 503 9757
e-mail: info@united-rail.com
www.united-rail.com

Canadian Branch Office
Phone: 416-492-3526
e-mail: nicolaas.hoffman@united-rail.com

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BREAK



**DON'T FORGET TO STOP BY THE
REGISTRATION DESK TO SIGN UP FOR
YOUR ONE-ON-ONE MEETINGS**



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NIST Overview

- Serve as the National Metrology Institute for the U.S.
- Responsible for Nation's measurement infrastructure – focused on measurements, standards, technology
- > 3,400 federal employees
- ~ 3,800 associates, facilities users
- > 1,200 field staff in partner organizations

Main programs:

- *NIST Labs*
- *Hollings Manufacturing Extension Partnership (MEP)*
- *Baldrige Performance Excellence Program*

Gaithersburg, MD



Boulder, CO



©Christina Kiffney Photography



JILA

Collaborations:
 JILA, JQI, HML,
 IBBR, NCCoE,
 NIIMBL Mfg-USA
 Institute



MEP Summary



Local → National Connection
 Network of Centers providing localized service to manufacturers in each State – with National reach and resources

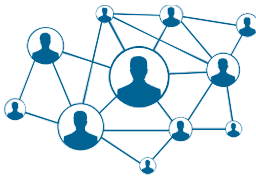


Partnership Model

- Federal, State, Industry
- Managed by NIST at Federal level
- Well aligned with state and local economic development strategies

PROGRAM MISSION

To enhance the productivity and technological performance of U.S. Manufacturing



National Network

- MEP Center in all 50 U.S. states plus Puerto Rico.
- System-wide non-Federal staff of over 1,200 individuals in ~600 service locations assisting U.S. manufacturers.
- Contracting with >2,500 3rd party service providers



MEP Budget & Business Model

\$130M FY16 Federal Budget with Cost Share Requirements for Centers



MEP Strategy: Global Competitiveness and Growth

Act as *trusted advisors* that provide direct, hands-on technical and business assistance to domestic manufacturers to help them compete and grow



MEP National Network

www.nist.gov/mep

301-975-5020

... and ...

manufacturing.gov

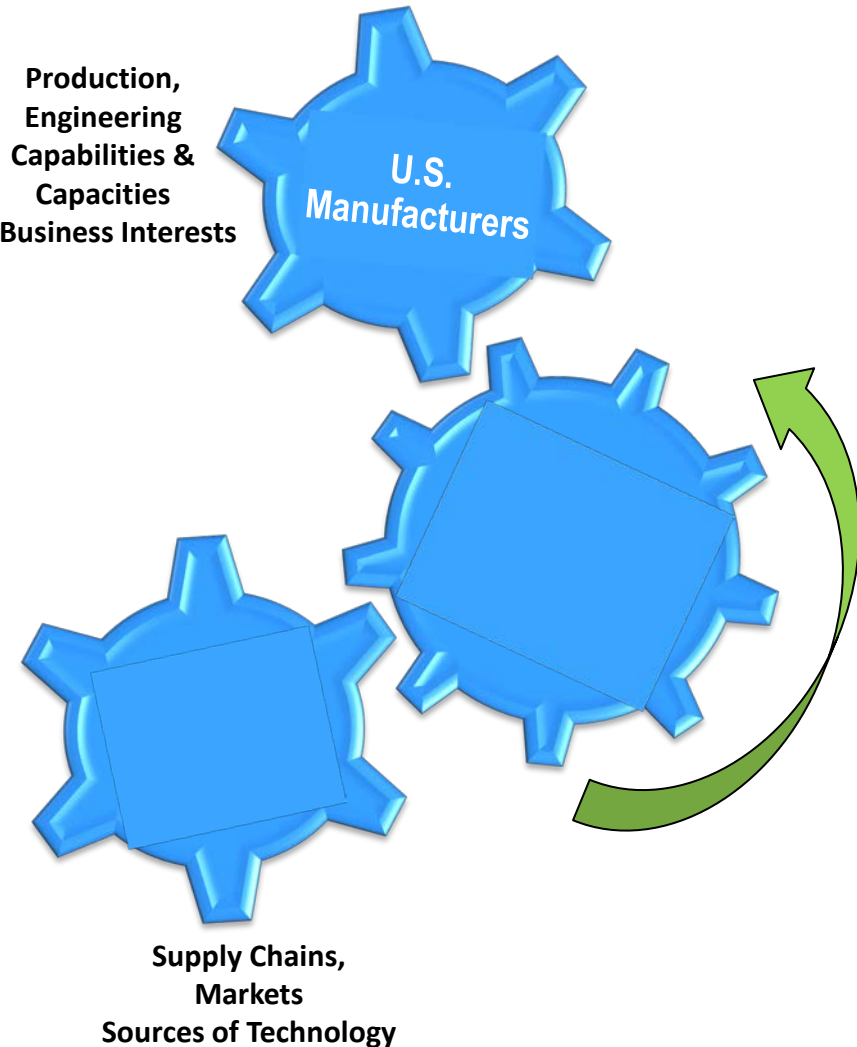


In Maryland: MD MEP

- Independent non-profit funded by NIST MEP, industry, State of Maryland
- Primary location in Columbia with multiple points of service around state
- Make it in Maryland program
- Contact Mike Kelleher
CFO/COO, 443-343-0085
mkelleher@mdmep.org
www.mdmep.org



MEP: Connecting and Assisting U.S. Manufacturers

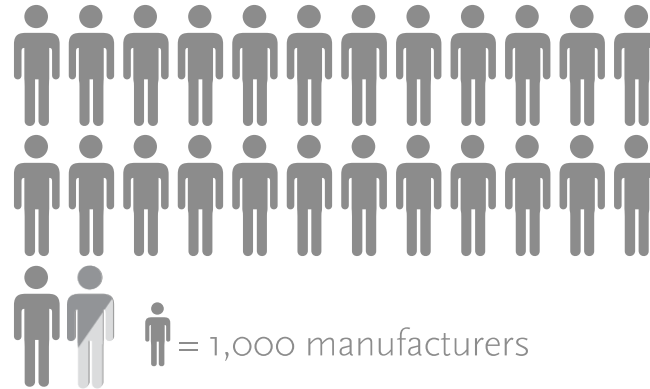


- Enhance business opportunities for U.S. manufacturers
- **Connect** products, capabilities, capacities of U.S. (small) manufacturers with:
 - ✓ Resources available from Nation's technology sources, including NIST Labs and Mfg-USA Institutes
 - ✓ New market opportunities
 - ✓ Supply chain needs of OEMs, Tier 1s, gov agencies – such as those presented in Buy America Transit Supply Chain Connectivity Forum
- Provide **assistance** to manufacturers, including:
 - ✓ **Technical manufacturing services for products, processes**
 - Manufacturing Strategy, Scale-up, Plant Layout
 - Production Optimization, (Re)tooling (Lean/Quality/Automation)
 - Engineering Practices
 - Cybersecurity
 - ✓ **Product/Process Development and Innovation**
 - ✓ **Supply Chain Development**
 - ✓ **Workforce Development**
 - ✓ Marketing, IP Management, Financing/Access to Capital
 - ✓ Sustainability
 - ✓ Exporting, Market Diversification



Delivering Impacts for Clients

25,445
Manufacturers
reached in FY16



Data obtained from MEP Client Surveys - 2016



JOBS RETAINED

66,922



JOBS CREATED

19,680



NEW CLIENT
INVESTMENTS

\$3.5
Billion



COST SAVINGS

\$1.4
Billion



RETAINED SALES

\$7
Billion



NEW SALES

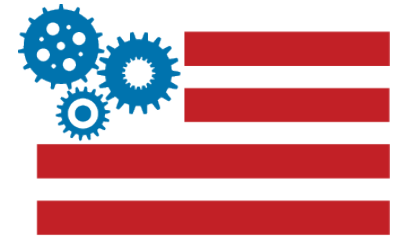
\$2.3
Billion



MEP Supplier Scouting

- Leverages nationwide network of Supplier Scouts in MEP Centers to connect capabilities, capacities, business interests of small U.S. manufacturers with needs and business opportunities of manufacturing supply chains.
- Includes connecting small U.S. manufacturers w/procurement opportunities tied to gov. agency Buy America(n) requirements for domestic content.
- Identifies and connects domestic manufacturers with business opportunities for supply chains in the following industry sectors^{**}:
 - ✓ *passenger and freight rail cars and rail locomotives*
 - ✓ *railroad track and physical infrastructure*
 - ✓ highway and waterborne transportation systems
 - ✓ defense weapon systems and defense support equipment
 - ✓ energy-related products
 - ✓ laboratory instruments
 - ✓ various consumer products
 - ✓ power utilities

^{**}has included identifying small domestic manufacturers w/particular demographic attributes – such as DBE, MOSB, VOSB, WOSB, etc.



MAKE IT IN AMERICA
MANUFACTURING EXTENSION PARTNERSHIP



15
Participating Supply Chain
Scouting Customers



~200
Items Scouted



70+ Identified
Suppliers



>\$108M New Business
Opportunities

MEP Supplier Scouting and Buy America Transit Supply Chain Connectivity and Development



The nationwide MEP Network is actively assisting in the development of more robust domestic supply base for transit equipment in the U.S.

- ✓ Interagency Agreement between DOT FTA and NIST MEP
- ✓ NIST MEP coordinates national, system-wide MEP efforts
- ✓ MEP Supplier Scouting conducted by Centers to ID manufacturers both **capable of** and **interested in** supplying needed manufactured goods
 - Include manufacturers currently serving transit industries + manufacturers from other sectors (auto, defense, aero, industrial controls / electronics, others ?)
- ✓ MEP available to assist domestic manufacturers with needs and requirements to enter transit supply chains and become suppliers



Buy America Transit Supply Chain Connectivity

Next Steps



- Today's Supply Chain Connectivity Forum
 - ✓ NIST MEP to post slides for access by participants, interested entities at www.nist.gov/mep
- MEP Assistance to Manufacturers
 - ✓ Local MEP Centers available to work with manufacturers at the local level to provide assistance in response to needs – resulting from today's Forum and other needs
 - In MD, contact Maryland MEP: www.mdmeep.org
 - ✓ NIST MEP available to coordinate national level MEP assistance resulting from today's Forum, such as supplier scouting, supplier development and improvement, other, ...
 - NIST MEP: www.nist.gov/mep

MD



MEP

MANUFACTURING EXTENSION PARTNERSHIP

A promotional poster for an event. The top left features a logo with three gears and a stylized American flag, with the text 'MAKE IT IN AMERICA' and 'MANUFACTURING EXTENSION PARTNERSHIP' below it. The top right has a blue banner with white text. The background is a photograph of a transit vehicle interior. The bottom section contains event details in blue text on a white background.

**FTA TRANSIT SUPPLY CHAIN
CONNECTIVITY FORUM**

June 14, 2017
12:00 pm - 6:00 pm

Hilton Baltimore
401 W. Pratt Street Baltimore, MD 21201

MD MEP Overview

June 14, 2017

About the MD MEP

- Part of the **MEP National**
- Leading provider of **services** and **solutions** for manufacturers in Maryland
- **State-wide** organization with access to 3,500+ manufacturers and resources for industry
- Built on outreach, **partnership** and engagement

MISSION: To grow manufacturing in Maryland by making Manufacturers Stronger and More Profitable

About the MD MEP

Part of a National Network



Built on Public / Private Partnership



Government



Industry



What Does MEP Do?

- Lean
- Six Sigma
- Quality

Operational Excellence

Growth Strategy

- Market Development
- Product Development
- Marketing and Sales
- Strategic Planning

Grow Profits

Supplier Development

- Supplier Scouting
- Supplier Capacity and Quality
- Supply Chain Management

Improve The Process

Coaching

- Leadership Development
- Partner Development
- Culture Transformation

Build Your People

Technology

- Technology Transfer
- Technology Adoption
- Technology Scouting

Training

- Workforce Training
- Lean Training
- Technical Training
- Team Building

Supporting DOT Buy America Supply Chain



- Support and foster “local-for-local” manufacturing
- Identify and scout potential suppliers and partners at the local level
- Build capacity and technical capabilities of current and future local partners
- Provide training and workforce development solutions
- Leverage the national network for growth

Financial Resources for Maryland Manufacturers

- EARN
- Apprenticeship – Industrial Maintenance and Machining
- Maryland Business Works
- Partnership for Workforce Quality

Partners for Maryland Manufacturing

- Maryland Department of Commerce
- Maryland Department of Labor, Licensing and Regulation
- Regional Manufacturing Institute

Projects of Interest



Under Armour

Maryland MEP is working with the Under Armour team to conduct supplier development assistance with a supplier located in Tennessee. MD MEP team providing project support as well as identifying local resources through TN MEP that may be applicable to project.

Potential Impact: Expansion of UA Domestic Supply Base, Proof of the Local for Local Manufacturing Model.

Volvo Truck

MD MEP is assisting Volvo Truck in Hagerstown with the administration and delivery of State provided EARN funding. In this capacity, MD MEP is working with local (Hagerstown) Volvo suppliers and other companies to identify training needs and deliver customized solutions.

Potential Impact: Incumbent Worker Training and Job Retention for the larger Hagerstown area (100+ Jobs).



Dixon Valve

MD MEP is assisting Dixon Valve in the development of a comprehensive workforce training initiative consisting of skills development, career path and eventual Apprenticeship.

Potential Impact: Training and Job retention for 100+ workers. 10+ New Hires.

Projects of Interest



Grace

Maryland MEP is working with Grace Curtis Bay facility to develop a training program to meet the needs of the organization. Program will consist of evaluation of skills requirements, identification of training partners and skilled training for incumbent workforce.

Potential Impact: Cost savings for Grace as well as 50+ jobs impacted.

Crystal Steel

MD MEP is assisting Crystal Steel Corporation in their relocation to Maryland. MD MEP team will provide guidance on facility layout as well as significant efforts to develop the local workforce.

Potential Impact: 50+ New Jobs



Murray Corporation

MD MEP is working with Murray Corporation on a Market Research / Lead Generation program to expand Murray's sales, identify new markets and contact potential customers in an effort to grow sales.



Questions?

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6:00pm	CONCLUDE



Intro to One-on-One Meetings and Closing Remarks

Ten minute introductory, private meetings between participating OEMs and prospective suppliers.



- ✓ These are NOT intended to be deal negotiation meetings – intended to be basics discussions on participating in transit OEM supply chains
- ✓ OEMs are encouraged be prepared to discuss the areas where they are seeking suppliers, highlights of what supplying to them means, and hear-term supply opportunities
- ✓ Participating suppliers are encouraged to meet with as many OEMs as possible

Introductory meetings will occur during the networking reception at 3:10pm



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October 11, 2017 in conjunction with
APTA's Annual Meeting and Expo



BUY AMERICA TRANSIT
SUPPLY CHAIN
CONNECTIVITY FORUM



U.S. Department of Transportation
Federal Transit Administration





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EXTENSION PARTNERSHIP®



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 www.nist.gov/mep

 mfg@nist.gov

 (301) 975-5020



Thank You

[David Stieren](#)

Acting Chief Programs & Partnerships

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[Samm Bowman](#)

General Business Specialist

