



**Architecting better product  
& value chain solutions for  
deploying & using wireless  
mobility & data systems.**



- Products & Solutions for Positive Train Control
- Wayside & Base Station Towers
- Integrated Plug-and-Play Solutions
- 220 MHz Locomotive & Base Antennas
- Remote & Backup Power Solutions
- Wireless Monitoring

**The convergence** of wireless and the Internet is revolutionizing the way people live and work. New applications and systems are being developed and new opportunities created at an unprecedented rate. TESSCO is at the forefront of these trends, fully dedicated to engineering and configuring better product and value chain solutions, at lower total costs, to support the construction, operation, and use of mobility and data wireless systems.

For more than 50 years, TESSCO has been there, serving the wireless needs of railroads. Railroad signaling and communications teams know they can turn to TESSCO for everything from multi-year network deployments to daily maintenance. Access to cutting-edge network designs including WiMAX and Internet Protocol, partnerships with industry-leading manufacturers, and unparalleled program management and supply chain capabilities, make TESSCO your ideal partner for Positive Train Control and other wireless needs.

Committed to delivering unbeatable value and industry-leading solutions that ensure proven reliability and success, TESSCO offers a customized plan targeted to your needs:

### Power System Design Expertise

TESSCO is *Your Total Source*® for wireless. Because TESSCO understands your need for reliable power systems in outdoor environments, we have partnered with knowledgeable leaders in the outdoor power industry to ensure the successful development and deployment of an ideal power system design featuring the right product selection for every site. Specific expert capabilities include application-specific designs (both standard and custom configurations), product specifications, hybrid solutions, availability, and technical assistance—all accompanied by outstanding post-sale warranty programs and ongoing product support.

### System Integration

Blending engineering, integration and project management capabilities is the foundation of Total Source Solution Management. This is the discipline that brings together photovoltaic technologies, AC power systems and balance of system and installation requirements to develop the most secure and reliable solutions for a customer's specific applications.

### Program Management

To complement your needs, TESSCO can employ the services of our Program Management Team. This team is comprised of a group of professionals familiar with all aspects of your technology

solution. Customers benefit from inclusion in TESSCO's weekly inter-team management review, where team leaders from various organizations within TESSCO (operations, logistics, vendor relations, product management, credit/finance) meet to communicate and ensure alignment on key projects handled by the Program Management Team. Our vision is to partner with our customers to understand your specific needs and develop a holistic solution that benefits the overall organization. Some of the specific services that the Program Management Team can provide are project planning and execution, order administration, inventory management and forecasting, logistics and delivery, damage remediation, and tracking quality performance measurements.



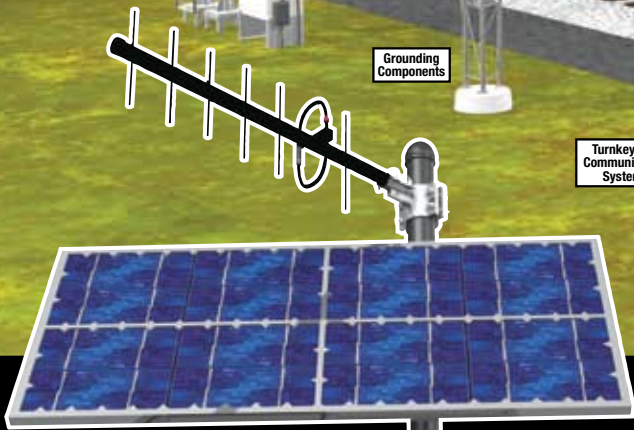
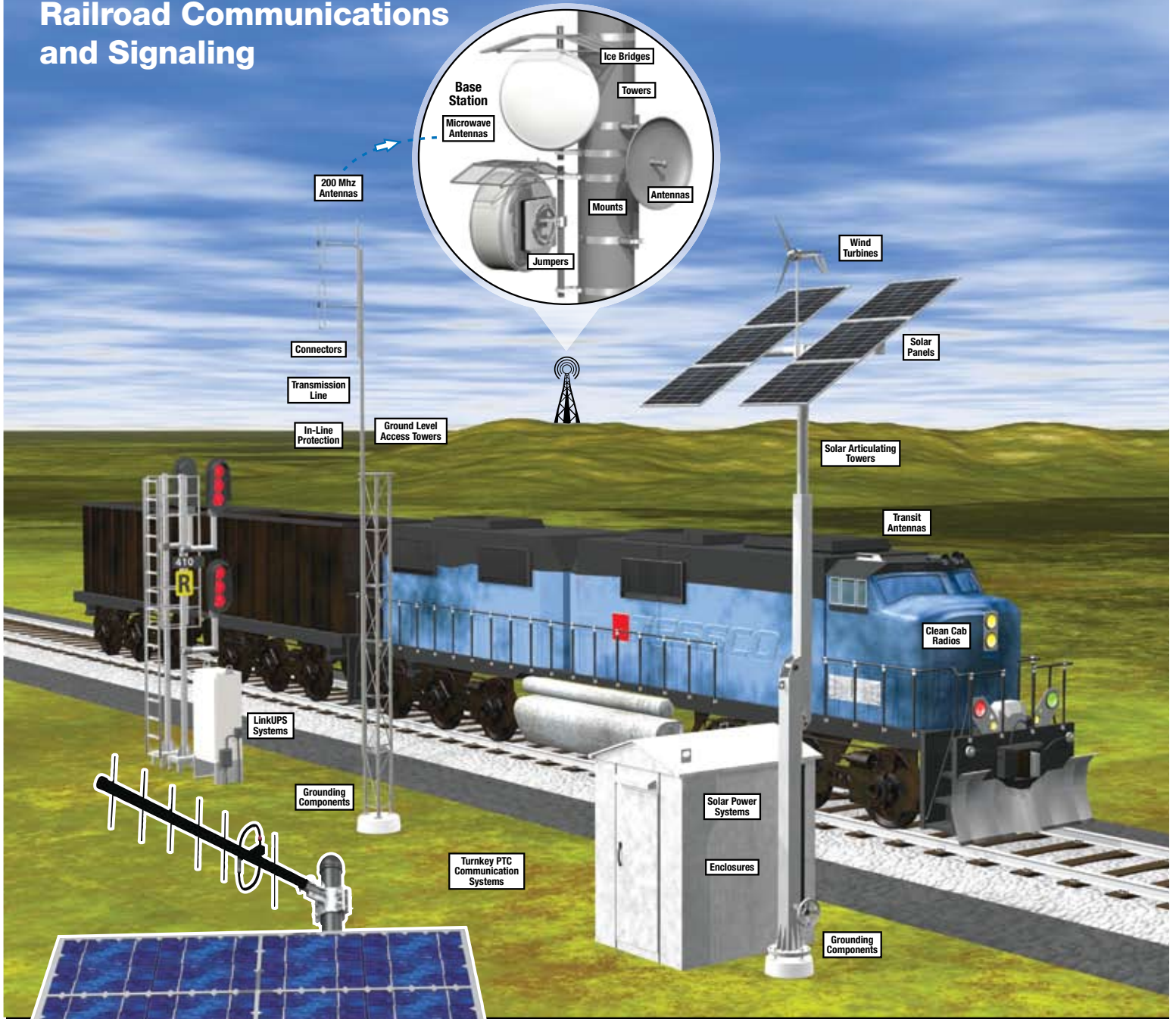
### Supply Chain Expertise

TESSCO can expertly match the needs of both customers and manufacturers with the integrated knowledge, product, and supply chain solutions needed to succeed in wireless. By leveraging TESSCO's extensive program management experience in large-scale wireless deployments, this model will ensure that your complete systems and sites are delivered on time, on budget, and accompanied by reliable and detailed reporting.

### Your Total Source® for Wireless

TESSCO offers the broadest, most comprehensive and diverse product portfolio in the wireless industry. With over 25,000 products from over 300 industry-leading manufacturers, including Times Microwave, Kyocera Solar, Ventev Innovations, Sabre Communications, and more, TESSCO's unmatched availability and expertise guarantee you will have everything you need to build, operate and maintain your wireless network.

# Railroad Communications and Signaling



The LinkUPS® system facilitates communications and ensures safety, as well as reliable power. Outdoor power systems from TESCO are designed to support both types of deployments for sites where AC power is available, or in territories where solar power is required.

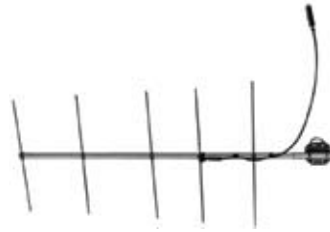
## Typical Applications

- Hot Box Detection
- Wayside Signaling
- Track Circuits
- Block Sections
- Signals
- Switches
- Interlocking Systems
- Fault Equipment Detectors

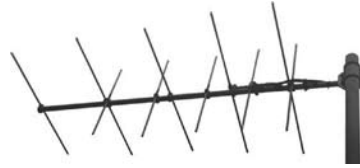
Solar Power Systems for Remote Monitoring



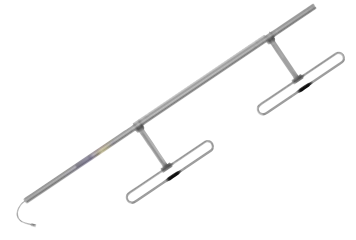
**RFS 220-225 MHz Omni Antenna**  
TESSCO No. 456844



**RFS 220-225 MHz Yagi Antenna**  
TESSCO No. 397303



**RFS 220-225 MHz Dual Yagi Antenna**  
TESSCO No. 357538



**Sinclair 216-225 Dipole 1/2 Wave Dipole Antenna**  
TESSCO No. 438601



**Telwave 195-260 MHz Omni Antenna**  
TESSCO No. 470634



**Laird 220-222 MHz Yagi Antenna**  
TESSCO No. 34941



**Laird 220-250 MHz Silver Yagi Antenna**  
TESSCO No. 25212



**Astron Wireless 215-225 MHz Yagi Antenna**  
TESSCO No. 75863



**Laird 220-225 MHz Fiberglass Omni Antenna**  
TESSCO No. 49217



**Laird 220-222 MHz Omni Antenna**  
TESSCO No. 12523



**Astron Wireless 215-225 MHz Yagi Antenna**  
TESSCO No. 85404



**Sinclair Excaliber 220-222 MHz Transit Antenna**  
TESSCO No. 302427



**Sti-Co Rugged Transit Antenna 214-228 MHz**  
TESSCO No. 303352



**Telewave 220-300 MHz Dual Bandpass Cavity**  
TESSCO No. 487990



**EMR 138-224 MHz 8-Channel Multicoupler**  
TESSCO No. 33532



**TPL Mobile Amplifier 220-222 MHz**  
TESSCO No. 382086

The entire product offering and your pricing is on [TESSCO.com](http://TESSCO.com)



**LinkUPS Remote Battery Tester**  
TESSCO No. 334674



**Kyocera Solar Panel**  
TESSCO No. 384794



**Mega LinkUPS™ System**  
TESSCO No. 305095



**Bud Industries Telephone Pole Mounting Kit**  
TESSCO No. 372788



**Deka Solar Gelled Electrolyte Battery**  
TESSCO# 360014



**Sierra Wireless Raven X Modem Bracket**  
TESSCO No. 372967



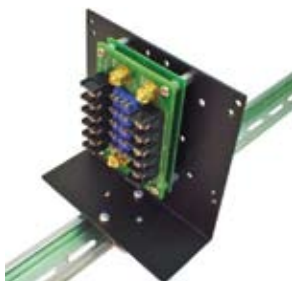
**LinkUPS Power Solution Small**  
TESSCO No. 352831



**DSXL Surge Arrestor**  
TESSCO No. 491574



**Newmar Site Power Monitor**  
TESSCO No. 394373



**DuraComm Five Position Distribution Block**  
TESSCO No. 366730



**DuraComm 24VDC to 12VDC Converter DIN Mount**  
TESSCO No.366246



**Transtector DC Power Protection**  
TESSCO No. 362857



**Laird Phantom Antenna**  
TESSCO No. 494677



**Radio Waves 5.25-5.85 GHz  
Parabolic Antenna**  
TESSCO No. 60456



**Andrew Transmission Line**  
TESSCO# 429150



**Andrew Foam Cable Connector**  
TESSCO No.452988



**Andrew Foam- N Female  
Positive Stop**  
TESSCO No. 414991



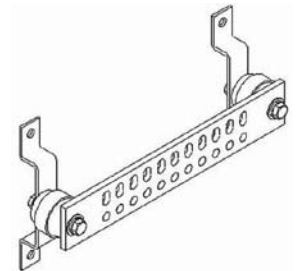
**Andrew Jumper Cold Shrink**  
TESSCO No. 455522



**Wireless Solutions Clip-on Ground Kit**  
TESSCO No. 67471



**Polyphaser General Coverage  
Flange Mount**  
TESSCO No. 58966



**Harger Ground Bar**  
TESSCO No. 412042



**RFS Super Flexible Cable**  
TESSCO No. 30426



**RFS Male Super Flexible  
Connectors**  
TESSCO No. 59867



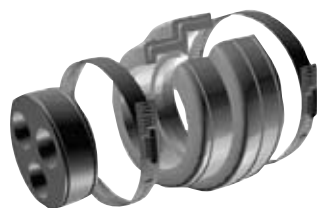
**RFS Elbow Super Flexible  
Connectors**  
TESSCO No. 11997



**Andrew Hoisting Grip**  
TESSCO No. 440126



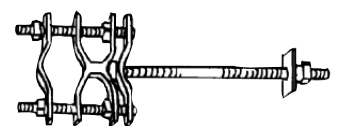
**Times Microwave  
LMR-600 1/2" Foam Cable**  
TESSCO No. 86672



**Wireless Solutions Boot Assembly**  
TESSCO No. 312614



**Trylon Safety Cable System**  
TESSCO No. 465819



**Andrew Wood Mounting Clamps**  
TESSCO No. 29248

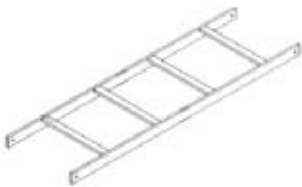
The entire product offering and your pricing is on [TESSCO.com](http://TESSCO.com)



**RFS Base Antenna Pole Mount**  
TESSCO No. 15433



**Wireless Solutions Angle Tower Adapters**  
TESSCO No. 455534



**Bud Industries Indoor Enclosure Rack**  
TESSCO No. 51865



**Bud Industries Rack Shelf**  
TESSCO No. 47267



**Trylon SuperTitan Tower**  
TESSCO No. 487796



**Rohn Tapered Monopole**  
TESSCO No. 350916



**TerraWave 5.25-5.85 GHz, Panel & Corner Reflector**  
TESSCO No. 330010



**Wireless Solutions Angle Tower Adapters**  
TESSCO No. 465498

# Solutions for POSITIVE TRAIN CONTROL

## Wireless Infrastructure

### 220 MHz Antennas

- Base
- Locomotive
- Wayside

### Power Solutions

- Solar Packages
- Backup for AC-Powered Sites

### PTC Wireless Infrastructure Kits

- Antennas
- Towers
- Coax Cable
- Grounding Systems
- Lightning Protection
- Site Hardware



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**NetVanta 5305 Access Router**  
TESSCO No. 384547



**Alcatel-Lucent OmniSwitch 6855 Switch**  
TESSCO No. 303465



**Motorola 5.8 GHz PTP500 Series Backhaul**  
TESSCO No. 373229



**Motorola 5.8 GHz PTP300 Series Backhaul**  
TESSCO No. 383485



**Alcatel-Lucent OmniSwitch 6855 Switch**  
TESSCO No. 333614



**Redline AN-80i PTP or PMP Radio 5.8 GHz**  
TESSCO No. 344025



**Sixnet Industrial Unmanaged Switch**  
TESSCO No. 306458



**Sixnet Industrial Managed Switch**  
TESSCO No. 324458



**RedMAX 3.65 GHz WiMAX Base Station Indoor Controller**  
TESSCO No. 393158



**Redline RedMAX 3.65 GHz WiMAX Base Station Transceiver**  
TESSCO No. 364803



**Sixnet DIN Rail PoE Injector**  
TESSCO No. 337014



**Laird PoE Injector/Splitter**  
TESSCO No. 372177



**Sierra Wireless Raven X Modem**  
TESSCO No. 344250



**IPm2m RTU and Datalogger**  
TESSCO No. 394303



**Redline RedMAX 3.65 GHz Subscriber Unit**  
TESSCO No. 324919



**TerraWave AP1242 Enclosure Solutions**  
TESSCO No. 470908

The entire product offering and your pricing is on [TESSCO.com](http://TESSCO.com)



**Agilent N9912A FieldFox  
RF Analyzer**  
TESSCO No. 365814



**Agilent Handheld 3 GHz  
Spectrum Analyzer**  
TESSCO No. 331341

## Training

As you prepare for your migration to PTC, TESSCO can also work with you for an all-inclusive training program. Options range from basic e-Learning modules to complete certifications, as well as private on-site training and customized training curriculums.

### TCP/IP & Networking

[www.tessco.com/go/training-networks](http://www.tessco.com/go/training-networks)

### Safety Training

[www.tessco.com/go/training-safety](http://www.tessco.com/go/training-safety)

### Microwave & Radio

[www.tessco.com/go/training-rf](http://www.tessco.com/go/training-rf)

### Tower, Climbing & Construction

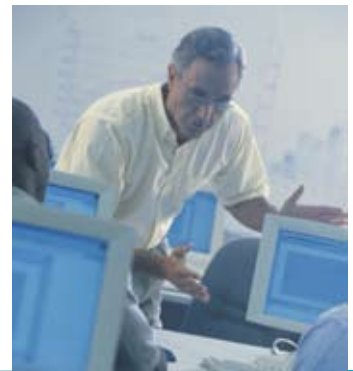
[www.tessco.com/go/training-tower](http://www.tessco.com/go/training-tower)

### Electrical Systems

[www.tessco.com/go/training-electrical](http://www.tessco.com/go/training-electrical)

### Fiber Optic Cable & Systems

[www.tessco.com/go/training-backhaul](http://www.tessco.com/go/training-backhaul)



**JDSU/ACTERNA HST3000  
Services Tester**  
TESSCO No. 432618



**Bird 5000 Digital Power Meter**  
TESSCO No. 323089



**General Dynamics R8000  
System Analyzer**  
TESSCO No. 395345



**Anritsu Handheld Spectrum**  
TESSCO No. 320649



**Fluke Networks CableIQ**  
TESSCO No. 494757



**Fluke Networks  
87 V True-RMS DMM**  
TESSCO No. 454633



**Bird 43 Wattmeters**  
TESSCO No. 43948



**AEMC Clamp-On Ground  
Resistance Tester**  
TESSCO No. 70830



**Noyes Handheld Single-Mode &  
Multimode OTDR**  
TESSCO No. 336314



**Fluke Networks AirCheck  
Handheld Wi-Fi Analyzer**  
TESSCO No. 306302



**DeWALT 29-Piece Drill Bit Set**  
TESSCO No. 417706



**DeWALT 7-1/2" 18V Cordless Drill**  
TESSCO No. 383036



**Master Telecom Installer's Tool Kit**  
TESSCO No. 66506



**Paladin Tools RJ45 and Cat5 Tool Kit**  
TESSCO No. 48485



**RF Industries CatV Stripper**  
TESSCO No. 26043



**3M Cold Shrink Sealing Kit for 1/4"- 7/8" Cable**  
TESSCO No. 489665



**Wireless Solutions Aerosol Foam Sealant**  
TESSCO No. 324253



**Klein Tools, Inc. Wide Steel Fish Tape**  
TESSCO No. 366805



**Paladin Tools CAT5 Kit for Compression Connectors**  
TESSCO No. 429884



**Wireless Solutions Cable Tie IForgot Box**  
TESSCO No. 416563



**3M Super 88 Heavy Duty Vinyl Tape**  
TESSCO No. 475603



**Streamlight 4-AA Flashlight**  
TESSCO No. 467532



**Leatherman Wave**  
TESSCO No. 452647

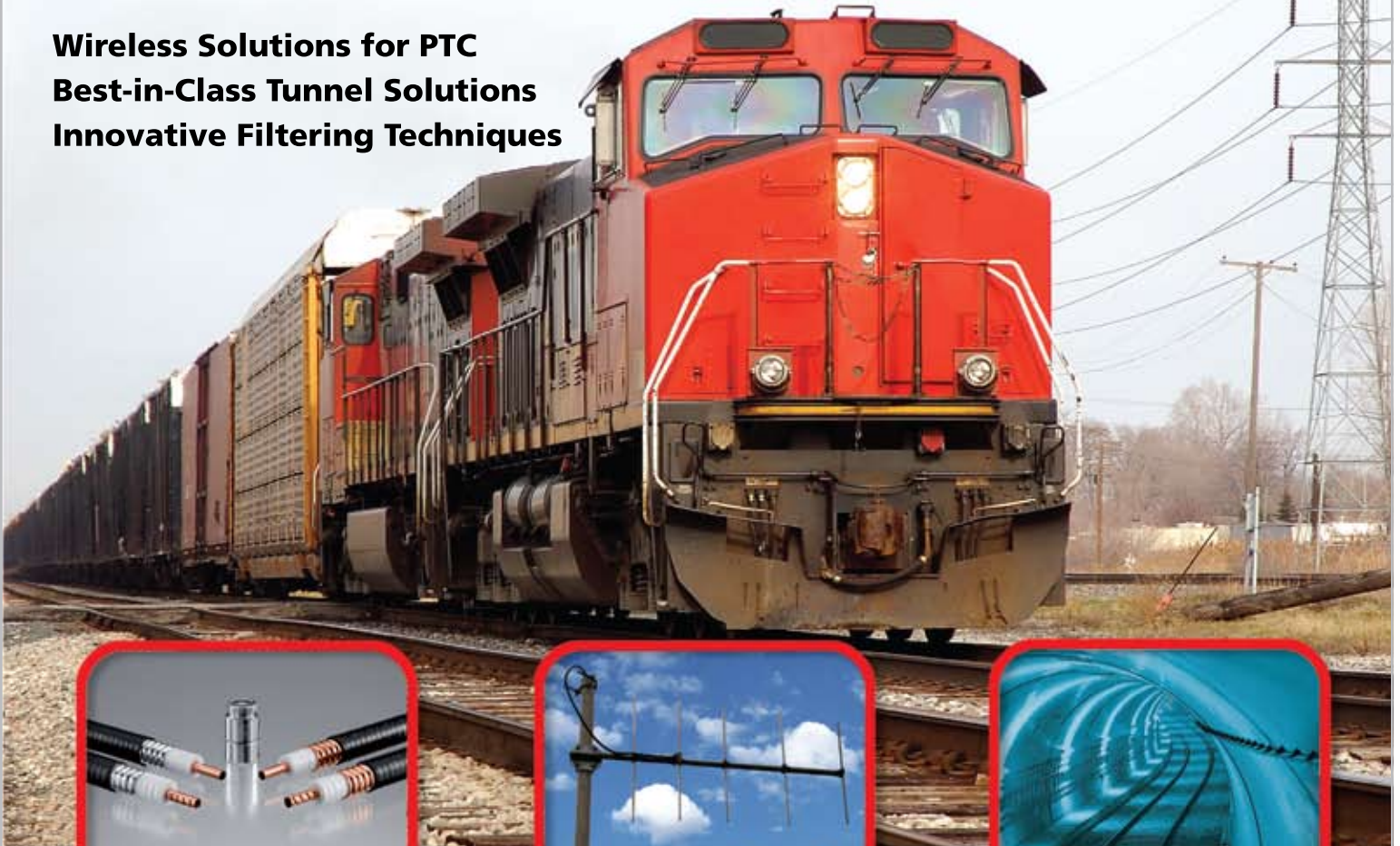


RADIO FREQUENCY SYSTEMS  
The Clear Choice®



# Supporting the Next-Generation, Wireless Railroad Communications

Wireless Solutions for PTC  
Best-in-Class Tunnel Solutions  
Innovative Filtering Techniques



## Technology

RFS/TESSCO are the technical and market leaders in railroad and tunnel solutions. They target the areas that matter most – network performance, system reliability and enhanced coverage.



## Experience

RFS/TESSCO have more than 40 years of experience in delivering premium performance products and innovative RF solutions to LMR, Utilities, Railroad and Tunnel customers.



## Services

RFS/TESSCO provide customized and turnkey wireless solutions including consulting, site survey, system design, installation, project management, commissioning, training and maintenance.

Single / Dual Band Antenna Solutions for 160 and 220 MHz  
CELLFLEX® 1/2" and 7/8" Copper Cable & Lite Aluminum Cable  
RF Filter Products •• Tower Components •• Microwave Systems

Learn more about our innovative Railroad and Tunnel Solutions at [www.tessco.com/go/rfs](http://www.tessco.com/go/rfs)

# The convergence of wireless & the Internet is **revolutionizing** the way we live & work.

TESSCO is there, architecting better product & value chain solutions for deploying & using wireless mobility and data systems.

TESSCO supports these solutions:



Base Station Infrastructure



Wide Area Networks



Local Area Networks



Mobile Radio Communication



Security & Surveillance Networks



Mobility & User Device Performance



Remote Monitoring & Control



Maintenance & Repair

Configured from these products and services:

Mobile & Data Network Infrastructure  
Network Systems  
Antennas  
Cable & Wire  
Enclosures

Towers & Shelters  
Power  
Mobile Devices  
Mobile Device Accessories  
Security

Safety & Disaster  
Test Equipment  
Tools & Supplies  
Education & Training