









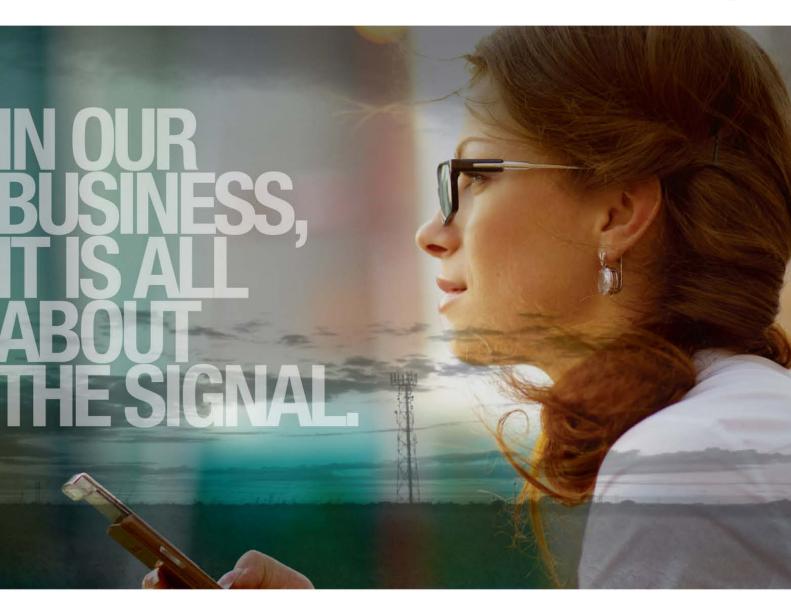


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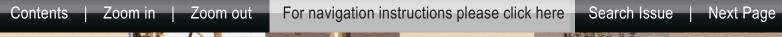
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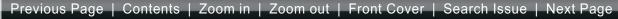




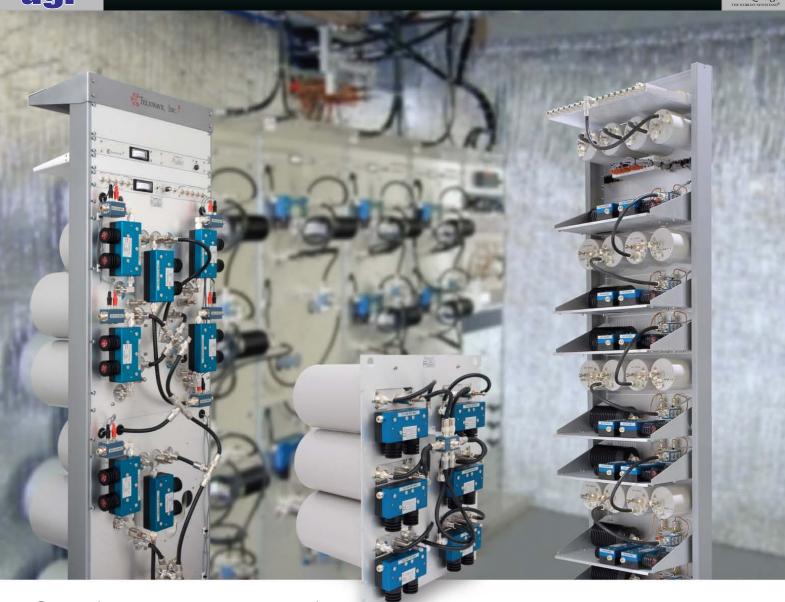


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about the center spread



Charlottesville, Va.

Located atop Carter Mountain and near Thomas Jefferson's Monticello, the AGL Tower of the Month was erected in 2004 by prime contractor Motorola. The public safety tower is part of a four-site, multijurisdictional, simulcast, trunked 800-MHz system that covers 740 square miles. It is part of a three-site, simulcast, UHF paging system for fire and EMS communications. The site also provides low-band VHF statewide conventional interoperability. It has a high-band VHF, UHF and 800-MHz national calling channel and tactical channel for mutual aid and interoperability in the public safety frequency bands.

Photography by Gabe Elias

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editorial comment

Aftermath

The mass shooting at Sandy Hook Elementary School in Newtown, Conn., raises questions at many levels that take a high priority for attention before conclusions about the effect on wireless



telecommunications are reached. The grief of families, friends and co-workers whose loved ones and colleagues were killed or injured has an overarching presence. An examination of the roles of government, law enforcement, schools, mental health care, parents and firearm

regulation is under way.

Wireless 9-1-1

For decades, the advice to anyone facing a security, fire or medical emergency has been to call 9-1-1. In recent years, the use of wireless devices to call 9-1-1 has outpaced the use of wireline telephones. The increasing use of wireless devices has, in turn, focused more attention on coverage, or the lack of it, when an emergency necessitates a call for help.

Twenty-six miles from Newtown, in Ridgefield, Conn., a town selectman said school board members had concerns about poor cell phone coverage as a weak point in emergency communications in the Ridgebury section of Ridgefield. As reported in the Ridgefield Press, First Selectman Rudy Marconi said, "The terrible tragedy in Newtown only accentuates that we need to bring ourselves into the 21st century and have our general citizenry be able to communicate in times of emergency when conventional lines are down."

Marconi said that the town has coverage in all other areas, including the center of town where a cell tower has been in place at the Ridgefield Police Department for the past 20 years.

The newspaper reported Marconi

By Don Bishop. Executive Editor dbishop@agl-mag.com

saying that other townspeople travel in Ridgebury and have children who attend schools there, so the wireless coverage should matter to them.

Marconi previously supported a plan for the town to purchase property for use mostly as open space, but with a small parcel to be designated for rental as a cell tower site, the newspaper reported. The proposed purchase was defeated at a town meeting last year.

The newspaper went on to report that in November the town approved the purchase after Marconi passed along information that a company told him it expected to reach an agreement with a private landowner to use a different site.

Nearby towers help

Elected officials will continue to face decisions regarding cell tower placements on or near school property. The FCC regulates the safety limits for radio emissions from cell towers and handsets, but it is not unusual for people to voice concerns about the health effects of having cell towers close to schools. Many understand that not only do nearby towers improve coverage, they also allow handsets to transmit with less power, reducing exposure to radio emissions from handsets to a level even less than it would be if the tower were farther away.

Resources are best used when they are expended in ways that prevent emergencies and even tragedies from happening. But ensuring adequate wireless communications to support emergency responses should be a part of every local government's agenda.





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Towers That Mean Business

The art and science of tower management





age

publisher's note

New Year, New Game

What a difference a year makes. About this time last year, LightSquared was looking for a life vest from the FCC, but was tossed a 5-pound rock. In a



similar spectrum play, the very lucky (but admittedly hardworking and insightful) Charlie Ergen's Dish Network won on a similar bet. Dish was granted permission to use satellite spectrum in a terrestrial network to construct the LTE wholesale network, while Phil Falcone bet his fortune

on LightSquared, and lost.

The difference? Probably just personalities, and who was reaching too far, and who was willing to compromise. LightSquared wanted to use spectrum that may have interfered with the Global Positioning System. Its opponents were able to raise a number of safety concerns, igniting a real backlash. Light-Squared pushed for the grand prize.

Dish has not been granted permission to use its entire spectrum — it has to leave a pretty large chunk in space due to terrestrial interference concerns. But it won. Strangely enough, the local innerbeltway rumor mill says LightSquared may not be dead yet. We'll keep an ear out for the faint pulse.

So, the LightSquared terrestrial LTE build out that everyone was so excited about a couple of years ago? Get your Sharpie out, cross out "LightSquared," and write in "Dish."

Clearwire

But wait! There's more!

About this time last year, all of our friends (I live in northern Virginia, so they really are many of my friends and neighbors) at Clearwire were waiting for something bad to happen. Those who were left, at least. It turns out that things are now

By Rich Biby, Publisher rbiby@agl-mag.com

above ground level

cleared for Spint to acquire the balance of Clearwire and fully and properly build out a nationwide LTE deployment as part of the same team, completely aligned with Sprint and not some disjointed, hard-tounderstand partnership with many heads. Wow, this is going to be fun.

FirstNet

Initial feedback from the FirstNet meetings and proposals is positive. FirstNet is the nationwide, 700-MHz first-responder LTE network. It appears there is good interest from both sides of the table for larger carriers to build out and operate the network. The deal, as I understand it, is that the carriers would get use of the spectrum during periods with no emergencies in exchange for building out the base stations and providing backhaul and other services.

The sticking point that has popped up early is that the FirstNet folks want to perform all of the core functions — the switching. That would put the end-user customer experience in the hands of FirstNet, not Verizon, AT&T or other commercial mobile network operators. As you can imagine, that idea is not going over well.

Also, the desires of the public safety community regarding network resiliency are much different from those of the traditional carriers. We'll have to wait and see how it shakes out.

Site hardening

In the wake of Hurricane Sandy, where the wireless industry has taken a

bit of a public relations hit, we should all be honest about this: Hardening five 800-MHz P25 (public safety land mobile radio standard) sites to provide narrowband voice and low-speed data service is going to be an order of magnitude easier than hardening the equivalent on the commercial side, which would be 100 700-MHz LTE sites. I want a Mercedes, but I can only afford a scooter.

International market

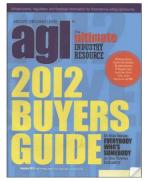
Strangely enough, we've generally ignored the international market. I don't mean just those of us at *AGL*, because almost any conversation about the industry excludes anything outside of the United States and the Caribbean. We may need to change that in 2013. U.S. companies have been strong players in the international market for a long time, recently highlighted by SBA's acquisition of 800 towers in Brazil. U.S. companies are active in almost every market I can think of.

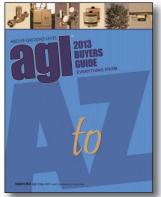
Buyers guide

This issue is our annual buyers guide issue, our most widely distributed issue of the year. The good thing about the buyers buide is that not only is it mailed to every subscriber, it also is distributed at all of the AGL Regional Conferences and all of the major tower trade shows throughout the year. Keep it nearby, because if you're like me, you will be using it often in 2013.

Wishing everyone a successful and safe 2013.





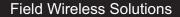


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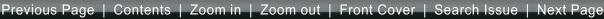
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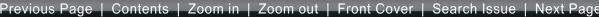
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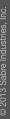
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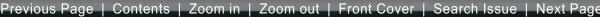
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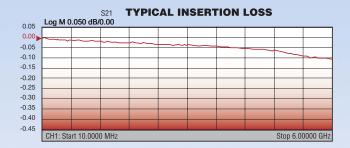
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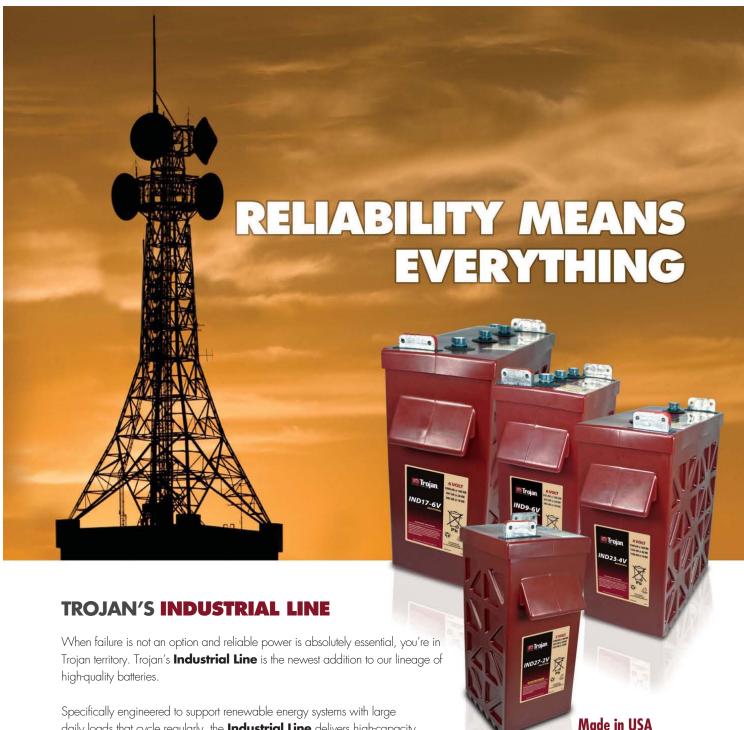
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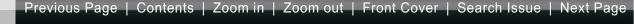
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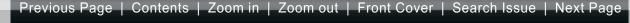
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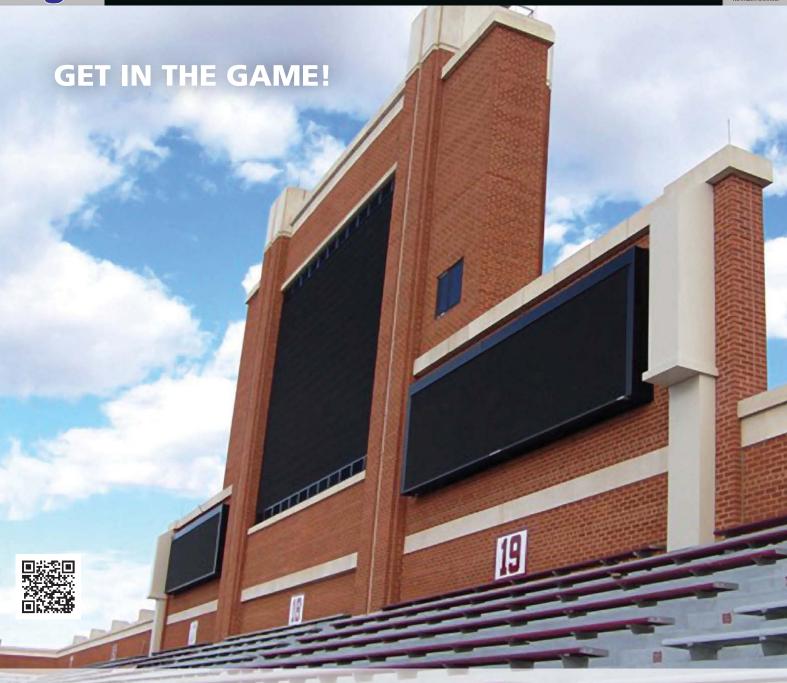
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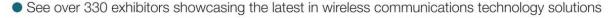






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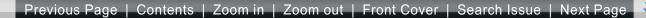
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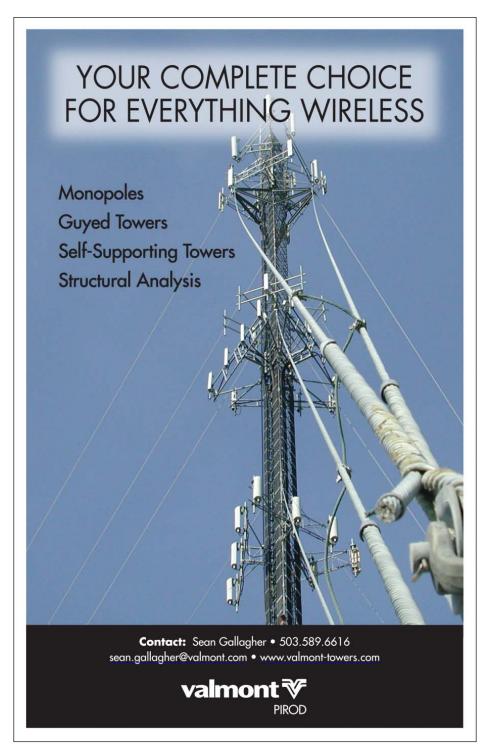
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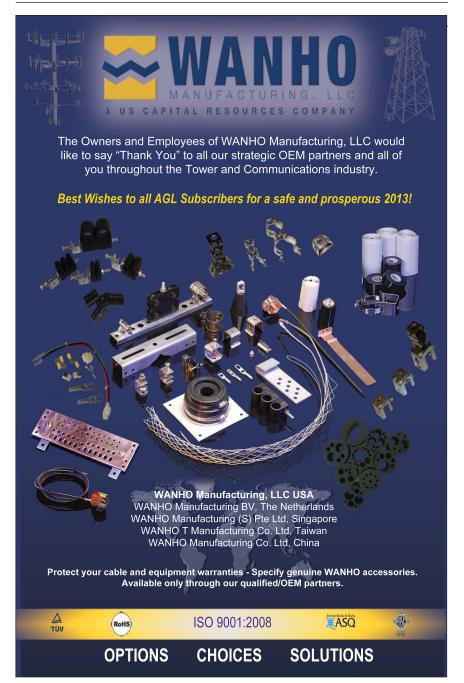
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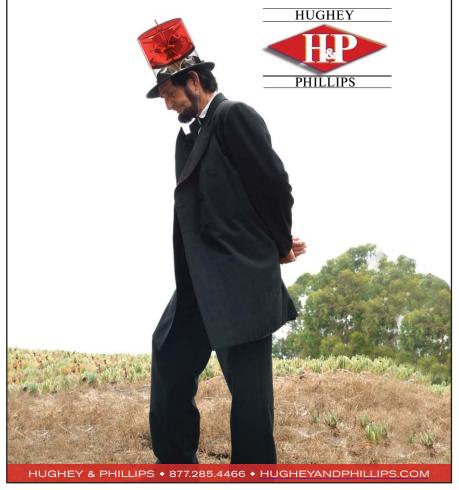
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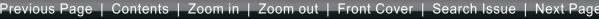












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TWR's one-source solution concept for LED lighting and wireless monitoring incorporates the most advanced optical engineering into its lighting systems along with the latest

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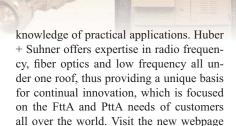
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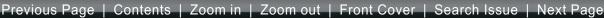
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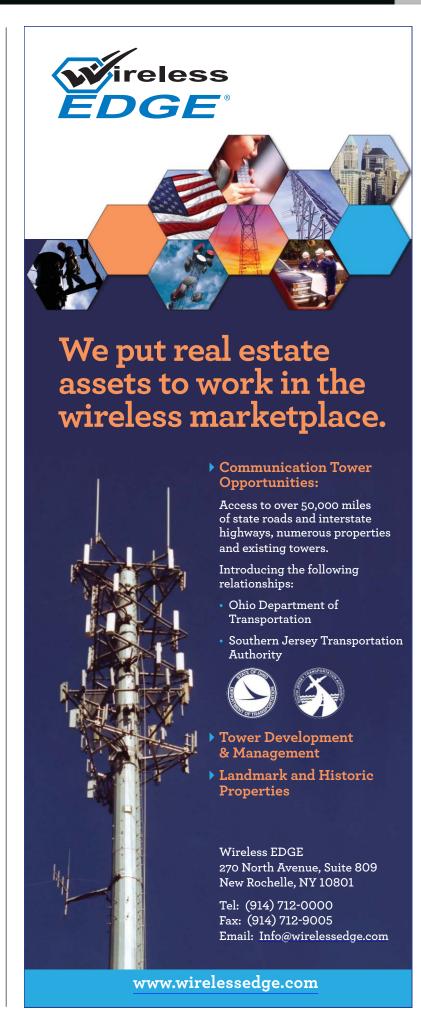
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TWR's one-source solution concept for LED lighting and wireless monitoring incorporates the most advanced optical engineering into its lighting systems along with the latest wireless monitoring technology. The combination makes these systems simple to install, enables them to operate reliably under the harshest conditions and minimizes capital costs and cost of ownership. TWR Lighting has 32 years of enlightened technology.

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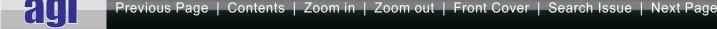
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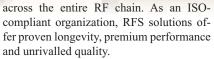
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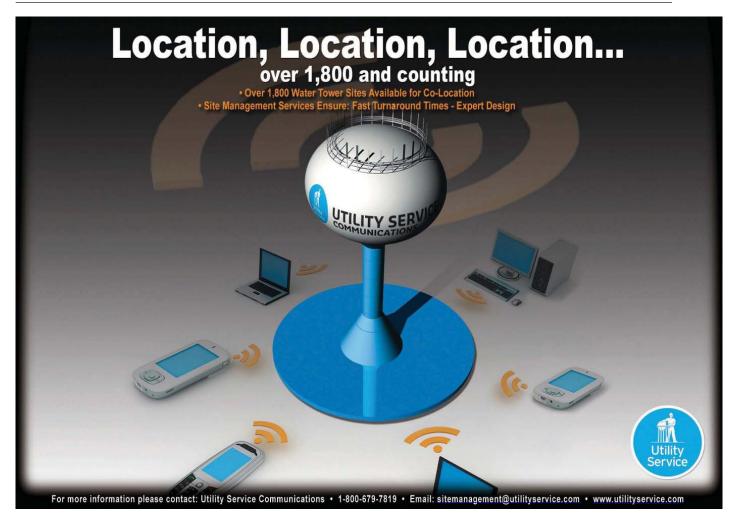
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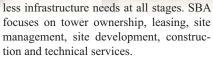
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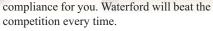
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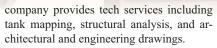
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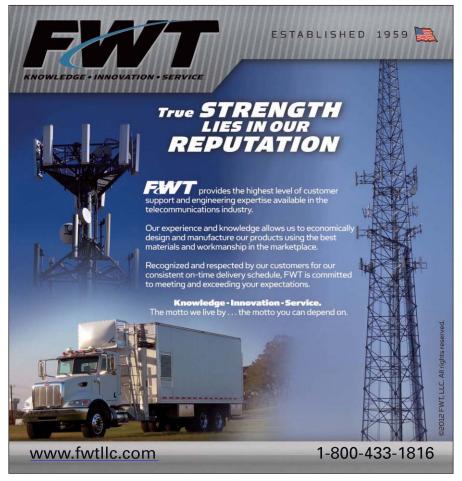


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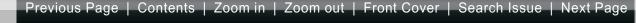
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TWR Lighting

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Slatercom-WCD

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www.valmont-towers.com

Valmont is a leading manufacturer of monopoles and towers and an expert supplier of tower analysis services. The company's offerings include disguised wireless structures and portable bases. Building on a strong heritage of proven results, Valmont's superb brands include PiRod and Microflect products. Valmont manufactures these

products in Indiana, Nebraska, Oregon and Texas, and all plants are AISC-certified. Whatever your wireless tower application, Valmont believes its engineers and manufacturing professionals can offer a solution that meets or exceeds your needs. Contact Valmont today to learn more.

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Allstate Tower

P.O. Box 25 Henderson, KY 42419 Kroth@allstatetower.com (270) 830-8512 www.allstatetower.com See ad on page 102

American Tower Company

5085 State Route 39 West Shelby, OH 44875 info@amertower.com (419) 347-1185 www.amertowers.com



Connect-It Wireless

210 Commerce Way, Suite C Jupiter, FL 33458 sales@connectitwireless.net (866) 781-1300 www.connectitwireless.net

Connect-It Wireless manufactures and supplies the highest-quality site hardware available. Its customer service and industry knowledge are second to none. Connect-It Wireless has your site needs in stock, including antenna mounts, bridge kits, coax support, grounding, and a huge safety line. The company will get it to you on time, so why wait? Get Connect-it.

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Precision LED Lighting

Farlight

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Farlight has designed and manufactured compact and efficient LED obstruction lights for over 10 years at its California factory. Its LED obstruction lights combine the cost-saving benefits of LEDs with advanced technology to ensure reliable operation in all environments. All Farlight lights are backed by a five-year warranty.

See ad on page 47

Gme Supply

1805 Burlington St. Columbia, MO 65202 info@gmesupply.com (800) 940-6762 www.gmesupply.com



H&H Industries

P.O. Box 735 Elmwood, IL 61529 rhowerton@lightsbyhh.com (800) 637-3853

H&H Industries is the leading supplier of incandescent code beacon and obstruction lamps. Its Task-Master lamps are independently tested to meet or exceed all FAA regulations. For tower, shop and office lighting, call H&H at (800) 637-3853 or visit www.lightsbyhh.com. H&H is a proud

member of NATE. See ad on page 102



International Tower Lighting

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We are looking for... "America's Next Top_Model" agl Would your tower site make a great Center Spread or Cover Photo for AGL? Find out how your tower can be Mark the selected. subject line "Tower Photo" Email sdolash@agl-mag.com



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Rosenberger Site Solutions

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Sabre Site Solutions

2101 Murray St. Sioux City, IA 51111 jmpleiss@sabreindustries.com (866) 255-7116 www.sabresitesolutions.com

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Valmont Site Pro 1

15 Oser Ave. Hauppauge, NY 11788 steven.hagee@valmont.com (888) GET-PRO1 www.sitepro1.com

Valmont Site Pro1 is the industry's leading manufacturer and distributor of high-quality wireless site components. The company's broad product offering is available for sameday shipping from any one of its six distribution centers located in Atlanta, Los Angeles, New York, Dallas, Plymouth, Ind., and Sa-

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www.valmont-towers.com

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Wanho

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www.wanho.com

Wanho is a key supplier to all major OEMs throughout the world and is dedicated to serving companies that build and maintain wireless systems on a global basis. Wanho components are used extensively in communications systems in all corners of the world, including the Americas, Europe and Asia.

See ad on page 49

tower reinforcement



ADB Wireless

8205 Hickman Mills Drive Kansas City, MO 64132 elust@adb-us.com (636) 583-8448 www.adb-us.com

Aero Solutions

5500 Flatiron Parkway, Suite 100 Boulder, CO 80301 rtaillon@aerosolutionsllc.com (720) 304-6882 www.aerosolutionsllc.com



Allstate Tower

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AW Solutions

300 Crown Oak Centre Drive Longwood, FL 32750 keith.hayter@awsolutionsinc.com (407) 260-0231 www.awsolutionsinc.com



Black & Veatch

10950 Grandview Overland Park, KS 66210 bukatyk@bv.com (913) 458-7967

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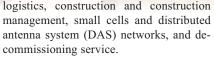
B&V network infrastructure deployment and upgrade solutions include program and project management, site acquisition, architectural and engineering drawings, zoning and permitting, tower structural analysis and modification, procurement,

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FDH

6521 Meridian Drive, Suite 100 Raleigh, NC 27616 nkuplic@fdh-inc.com (919) 755-1012 www.fdh-inc.com

Malouf Engineering

17950 Preston Road, Suite 720 Dallas, TX 75252 mmalouf@maloufengineering.com (972) 783-2578 www.maloufengineering.com



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www.pjfweb.com

PJF is a structural engineering firm that has earned a national reputation for designing and analyzing structures for the communications industry since 1966. It has professional engineers registered in 50 states, the District of Columbia and Puerto Rico.

Sabre Towers and Poles

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www.sitepro1.com

Valmont Site Pro1 is the industry's leading manufacturer and distributor of high-quality wireless site components. The company's broad product offering is available for sameday shipping from any one of its six distribution centers located in Atlanta, Los Angeles, New York, Dallas, Plymouth, Ind., and Salem, Ore. Products include coax cable accessories, grounding components, ice bridges, antenna mounts and platforms, guy material, fiber components and safety products. Check out Valmont Site Pro 1's user-friendly website at www.sitepro1.com.

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WesTower Communications

9961 Sidney Hayes Road Orlando, FL 32824 astephens@westower.com (562) 786-1414 www.westower.com

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American Tower

116 Huntington Ave., 11th Floor Boston, MA 02116 customer.relations@americantower.com (877) ATC-SITE www.americantower.com

AT&T Towers

AT&T Towers

5405 Windward Parkway Alpharetta, GA 30004 atttowers@att.com (866) 593-1383

www.atttowers.com

AT&T Towers is the fourth-largest owned tower portfolio in the United States with over 14,600 locations in 50 states, the District of Columbia and Puerto Rico. The AT&T Towers Portfolio consists of highquality tower structures of all types, often with preferred elevations and excess tower capacity. The AT&T Towers Portfolio also offers distributed antenna system (DAS) network alternatives to help meet your network needs. The AT&T Towers team consists of highly experienced wireless site-leasing professionals who understand the importance of speed and service to meet customer expectations. Additional information on the AT&T Towers group and its portfolio of towers, rooftops and DAS networks can be found at www.att.com/towers.

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Atlas Tower Alaska

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Beacon Towers

3001 Salterbeck St., Suite 200 Mt Pleasant, SC 29466 martind@vitessewireless.com (843) 324-9731

Brian's Industrial Communications

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tower space rental — towers/concealment



Chat Mobility

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ComSites West

2555 Third St., Suite 200 Sacramento, CA 95818 charlie@comsiteswest.com (530) 414-4376 www.comsiteswest.com

ComSites West develops, owns and operates wireless communications sites in Northern California and Nevada, including tower and rooftop communications facilities. The company also develops towers jointly with landowners and acquires towers through outright purchases.

Crown Castle

2000 Corporate Drive Canonsburg, PA 15317 nationalsales@crowncastle.com (877) 486-9377 www.crowncastle.com



Day Wireless Systems

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www.daywireless.com

Founded in 1969, Day Wireless Systems has 26 offices and 190 towers in seven western states. The company specializes in collocation, site management, tower construction, engineering, system design, sales and service. Day Wireless Systems is the largest full-service wireless integrator on the West Coast.

Heartland Tower

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Highwood Towers

5579B Chamblee Dunwoody Road, Suite 164 Dunwoody, GA 30338-3630 mallen@hwtowers.com (404) 664-8656 www.hwtowers.com



Liberty Towers

51 Monroe St., Plaza East 7 Rockville, MD 20850 fjenkins@libertytowers.com (301) 667-0069 www.libertytowers.com

Mobiletech Communications

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Orion Builds

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As your first-choice service provider of wireless infrastructure solutions, SBA continues to set the standard for customer satisfaction by building better wireless. Clients depend on SBA to provide their wireless infrastructure needs at all stages. SBA focuses on tower ownership, leasing, site management, site development, construction and technical services.

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Subcarrier Communications

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www.subcarrier.com

Subcarrier Communications is a provider of telecommunications sites and services throughout the United States. The company's primary business is leasing antenna space on its multiple-tenant towers and exclusively managed building rooftops.

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Tower Economics

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Nobody can deliver one site or a package of sites that fits better or that is more sensibly priced than Tower Economics.

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TowerCo

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Utility Service Communications

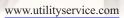
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Utility Service Communications specializes in site marketing and management for wireless facilities on water tank sites. The company provides tech services including tank mapping, structural analysis, and architectural and engineering drawings.

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Vasu Communications

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Wireless Edge is a premier provider of network implementation services and strategic tower sites. Nationwide services include tower development, site management, development of cell sites and satellite terrestrial repeaters and special projects. Wireless Edge specializes in development and permitting of antenna sites on landmark and historic properties.

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tower-top amplifiers

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Westell Technologies

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towers/concealment

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Engineered Endeavors is a recognized leader in the design and supply of wireless antenna structures including monopoles, disguised structures, pine trees, flagpoles and all types of rooftop concealment. EEI offers in-house engineering services registered in all 50 states.

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Environmental Integration

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www.environmentalintegration.com

Environmental Integration designs and manufactures concealment products for monopole, rooftop and steeple applications. Branch canopy systems, including refurbish projects, are engineered for durability and longevity. Environmental Integration specializes in realistic reproductions for concealment.

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Kenwood Telecom

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Larson Camouflage

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www.larsoncamo.com

Larson pioneered cellular camouflage with the first monopine cell tower in 1992 and has been leading the industry ever since. Products include pines, palms, elms, cypress, cacti, rooftops and DAS sites. The company also refurbishes trees with fieldinstalled bark, branches and fronds.

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Peabody Concealment

13435 Estelle St. Corona, CA 92879 sales@peabodyconcealment.com (951) 734-7711

www.peabodyconcealment.com

Peabody Concealment is the leader in prefabricated cell site RFTC concealment enclosure design, engineering and fabrication. Large prefab sections are built to match architecture to help pass zoning and siting regulations for easy permit approval, and the sections install in hours, saving you thousands of dollars in costs.



Porter

30076 Spray Drive Canyon Lake, CA 92587 pedfrp@hotmail.com (719) 201-0463

www.porterrf.com

Porter offers custom fabrication and installation of RF-transparent antenna enclosures and FRP structures. The company matches any texture or finish and will ship anywhere in North America.

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towers/concealment — trade shows



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SOLAR COMMUNICATIONS INTERNATIONAL

Solar Communications

8885 Rio San Diego Drive, Suite 207 San Diego, CA 92108 rrenfro@rftransparent.com (619) 243-2750

www.rftransparent.com

Solar Communications offers an array of concealment products and services for integrating wireless infrastructure into the community character, making SCI products the ideal choice in any setting.



Stealth Concealment Solutions

6549 Fain Blvd. North Charleston, SC

North Charleston, SC 29406 cindywishart@stealthsite.com (800) 755-0689

www.stealthconcealment.com

Got something to hide? Camouflage your antennas and improve the environmental landscape. Trust the experts who were here first. Stealth Concealment Solutions has been the leader and master of quality concealment solutions for the wireless industry since 1992. *See ad on page 33*



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tower/mobile/portable

CDMI

969 Griffin Pond Road Clarks Summit, PA 18411 rryan@cdmiwireless.com (570) 587-3077 www.cdmiwireless.com



Peak Industries

1408 E. Stutler Road Spangle, WA 99031 contact@peakindustriesinc.com (509) 443-0479

www.peakindustriesinc.com

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(814) 676-5688

www.peprollc.com

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towers/monopoles

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5500 Flatiron Parkway, Suite 100 Boulder, CO 80301 rtaillon@aerosolutionsllc.com (720) 304-6882 www.aerosolutionsllc.com

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GROUND LEVEL





FWT

5750 E. I-20 Fort Worth, TX 76119 aglenn@fwtllc.com (817) 255-3022 www.fwtllc.com See ad on page 83

Nello

211 W.Washington St., Suite 2000 South Bend, IL 46601 sales@nelloinc.com (800) 80-Nello www.nelloinc.com

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Stainless

1140 Welsh Road, Suite 250 North Wales, PA 19454 ed.deetscreek@stainlessllc.com (215) 631-1323

www.stainlessllc.com

For more than 65 years, Stainless has designed, engineered, fabricated and installed towers of any height up to 2,000 feet. The company offers tower analysis, modifications, inspections, maintenance and repair plus 24-hour emergency service with its own experienced and safety-trained crews.

Tessco Technologies

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trade shows



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AGL Regional Conferences are intended for carriers, tower owners, building owners and industry service providers that don't have the time or budget to attend expensive, weeklong national conventions. This is your opportunity to connect with customers who are making the buying decisions for antenna-site planning, development, construction and maintenance.

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IWCE – International Wireless Communications Expo

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www.iwceexpo.com

IWCE, which will be held March 11–15 at the Las Vegas Convention Center, connects the working world to mobile voice, video and data solutions. IWCE is the authoritative annual event for communications technology in the working world. Over 7,500 technology buyers gather together to see the latest in effective and efficient communications systems from over 330 exhibitors. IWCE provides the foundation for the technology, operations, engineering and governance for your communications technology networks, systems and services.

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National Association of Tower Erectors

8 Second St. S.E. Watertown, SD 57201 nate@natehome.com (888) 882-5865 www.natehome.com

NATE is dedicated to providing a unified voice for tower erection, service and maintenance companies. The association is recognized as the leader in safety and education for the tower construction industry.

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training and education -- zoning services



training/education

FrenchCreek Production

626 13th St.

Franklin, PA 16323

marketing@frenchcreekproduction.com (814) 437-1808

www.frenchcreekproduction.com

making wireless work

Tessco Technologies

11126 McCormick Road Hunt Valley, MD 21031-1494 celentanoj@tessco.com (410) 229-1186 www.tessco.com



Waterford Consultants P.O. Box 2090 Ashburn, VA 20146-2090 sales@waterfordconsultants.com (703) 596-1022

www.waterfordconsultants.com

Waterford Consultants offers a wide array of professional and regulatory consulting services with expertise in AM detuning, RF emissions analysis (EME), intermodulation studies, FAA certification and filing, site audit and third-party inspection, and tower structural and appurtenance mapping. Waterford's nationwide team of highly respected and reputable experts is committed to providing superior, timely and budgetsensitive customer service. Let Waterford alleviate the burden and frustration of FCC compliance for you. Waterford will beat the competition every time.

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turnkey systems

AFL

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AFL provides installation, material furnish, engineering, construction and maintenance solutions. AFL plans, designs, implements and maintains communications networks for service providers in all communications markets offering network, enterprise and government solutions.



AW Solutions

300 Crown Oak Centre Drive Longwood, FL 32750 keith.hayter@awsolutionsinc.com (407) 260-0231

www.awsolutionsinc.com

AW Solutions is one of the leading providers of outsourced wireless, DAS and wireline infrastructure services related to the deployment, upgrade and maintenance of networks and infrastructure in the United States, Canada, the U.S. Virgin Islands and Puerto Rico.



Caltrop

9337 Milliken Ave. Rancho Cucamonga, CA 91730 mdostal@caltrop.com (480) 241-6363 www.caltrop.com

Caltrop's workforce has a solid reputation for completing large, complex wireless network projects throughout the country. Its multidisciplinary team of professionals applies a broad range of experience to provide a streamlined approach to workflow management that generates significant cost savings through reduced deployment time and cost. With Caltrop as your single source for turnkey services, you can count on true value-added services.

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CommScope

1100 CommScope Place S.E. Hickory, NC 28603 tania.patrone@commscope.com (708) 236-6586 www.commscope.com

Exalt Communications

254 E. Hacienda Ave. Campbell, CA 95008 pvalentine@exaltcom.com (408) 688-0200 www.exaltcom.com

6521 Meridian Drive, Suite 100 Raleigh, NC 27616 nkuplic@fdh-inc.com (919) 755-1012 www.fdh-inc.com



GlenMartin

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«MasTec

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2859 Paces Ferry Road, Suite 600 Atlanta, GA 30339 shauncey.mashia@mastec.com (404) 541-1300

www.mastec.com/communications

MasTec Network Solutions is a division of MasTec that provides comprehensive services and turnkey solutions required to design, build, optimize and maintain telecommunications networks. The company's services cover both the wireline and wireless industries.

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Subcarrier Communications

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Subcarrier Communications is a provider of telecommunications sites and services throughout the United States. The company's primary business is leasing antenna space on its multiple-tenant towers and exclusively managed building rooftops.

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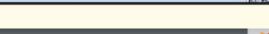


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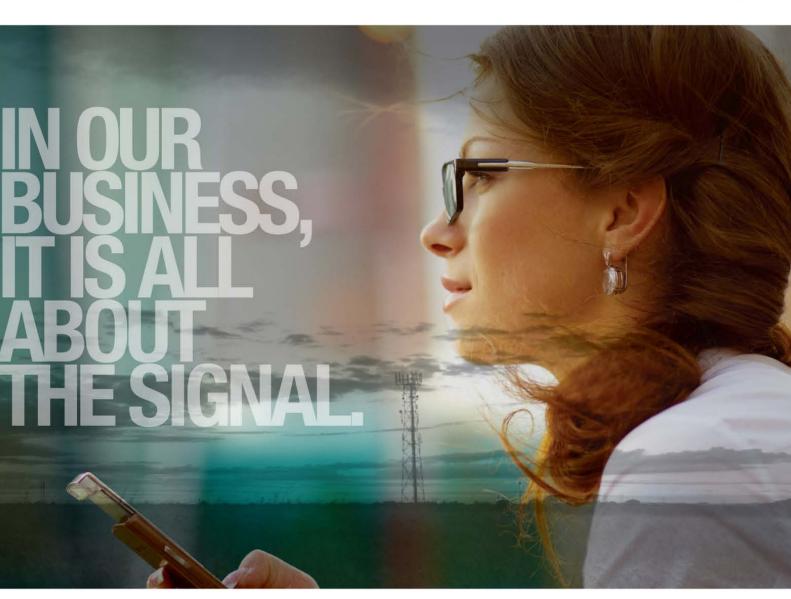








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