> CellGain Wireless provides services, products, and turn-key solutions for seamless in building wireless coverage. CellGain ensures clear and resilient communications for critical public infrastructures, such as public transit systems, airports, tunnels, high occupancy buildings and campuses.

CAPABILITIES

From assessment, design, and engineering to testing and commissioning, CellGain offers all phases of integration services to bring the best fit Distributed Antenna System (DAS) solution unique to each client's environment. CellGain delivers turkey solutions complete with all required agency approvals with simplicity, speed, and confidence, leveraging CellGain's experience, innovative tools, processes, and products.

CellGain's Fiber to Antenna System (FTAS) portfolio of products is a next generation fiber based multi band in building wireless solution platform. An active Distributed Antenna System (DAS) for Public Safety and Land Mobile Radio Communications, the FTAS portfolio includes Active Remote, Head End, and Network Management System and associated modules and components ready to work together and with other vendors' products. With innovative engineering, the FTAS portfolio saves up to 80% in installation time and costs and 66% in space with superior performance, efficiency, and manageability.

CellGain is an authorized dealer for L3Harris and Tait for Public Safety and Professional Communications solutions and is an approved Cisco vendor.

EXPERIENCE

CellGain was founded in 2005, and the team is made of seasoned engineers. With over 80 years of combined wireless experience and success, CellGain bring best fit wireless solutions to critical public infrastructures working with a wide range of industry partners.

Project Experience

LaGuardia Airport
Moynihan Train Hall Penn Station Extension
San Francisco Municipal Transportation Agency
NJ Transit Newark Light Rail System
NY&NJ PATH Rail System
New York Port Authority Bus Terminal
World Trade Center Tower 4
Garden State Plaza Mall

Customers & Partners

LaGuardia Partners
Eastern Communications
Five Star Electric
HOK
Securitas Electronic Security
Skanska / Skanska Walsh
Tutor Perini
JB&B

MBE CERTIFICATION

CellGain is a certified minority owned business (MBE) by New York State, New York City, and the Port Authority of New York and New Jersey.

CellGain Services

Public Safety DAS • 4G/5G Telecommunications • Enterprise Wi-Fi
Turn-key Solutions • Consulting • Engineering • Integration

Complicated agency codes, complex multi-band solutions, and risks of delay and interruptions from multiparty coordination are just some of the common challenges faced in providing in-building wireless coverage.

A team of trusted experts specializing in public safety with over 80 years of combined experience and success, CellGain provides seamless wireless coverage for critical public infrastructures, such as airports, tunnels, high occupancy buildings, malls, convention centers, and campuses. cost-effective

Successful projects of ours include NY&NJ PATH Rail System, San Francisco Municipal Transportation Agency, LaGuardia Airport, and more. We are a leader in the design, deployment, operation and maintenance of highly reliable, secure communications systems and information networks for voice, data, and video systems.

CellGain is a certified MBE by New York State, New York City, and the Port Authority of New York and New Jersey.

TURN-KEY SOLUTIONS

- Best-fit Solution
- Design to commissioning
- Solution approval
- End to End Program Management

CellGain designs the best-fit solutions based on client and public safety agencies requirements with the right products. The solutions are optimized with high resiliency via redundancy and verified with iBwave and Link Budget analyses. We work closely with all stakeholders, are provided with the designs.

| Request for Proposal **(RFP)** | Request for Information **(RFI) & Prosopal** | Notice to Proceed **(NTP)** | Initial Design Review **(IDR)** | Factory Acceptance Testing **(FAT)** | Integrated Factory Acceptance Testing **(FAT)** | System Acceptance Testing **(SAT)** | Coverage Verification Testing **(CVT)** | Training & Monitoring |

CONSULTING

- Active & Passive Site Survey
- Topology Review
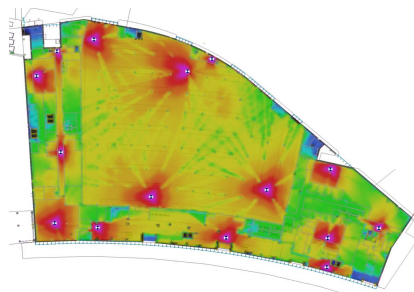- Public Safety Agency Requirements
- Solution Requirements

CellGain provides consulting services to assess customer requirements for the best-fit wireless communications solutions. Depending on client needs, the services can include gap analysis on current operations (e.g., RSSI for Received Signal Strength Indicator), topology review of covered infrastructure, assessment of requirements across involved public safety agencies, assessment of current planned design and equipment lists, and more.

DESIGN & ENGINEERING

- Design & Modeling
- Coverage / Capacity Mapping
- Product Selection and Integration
- Link Budget Analysis
- Drawings & Parts List

CellGain provides all aspects of engineering services that take place throughout an in-building wireless deployment.

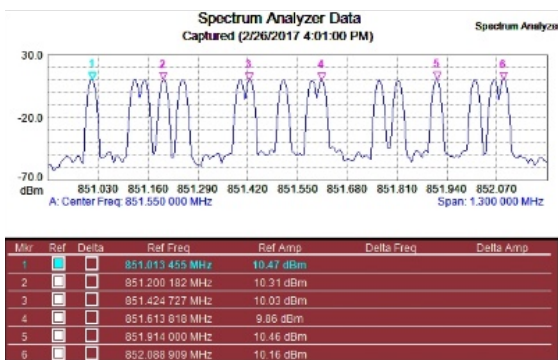Whether you need temporary extra resources, ongoing support, or design validation, we can help.

INTEGRATION, IMPLEMENTATION & ACCEPTANCE

- Solution Staging and Testing
- Field Installation
- Performance Testing
- Site Acceptance Testing
- Stakeholder Acceptance Signoff and Documentation

CellGain delivers integrated solutions onsite with validation through field testing and user acceptance testing.

Leveraging CellGain's innovative tools and processes developed from decades of expertise and experience, CellGain accelerates project delivery while minimizing unforeseen pitfalls. CellGain manages across agencies and obtains all necessary approvals from multiple stakeholders, simplifying this complex task.

Spectrum Analyzer Data
Captured (2/26/2017 4:01:00 PM)

Mkr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1			851.013 455 MHz	10.47 dBm		
2			851.200 182 MHz	10.31 dBm		
3			851.424 727 MHz	10.03 dBm		
4			851.613 818 MHz	9.86 dBm		
5			851.914 000 MHz	10.46 dBm		
6			852.088 909 MHz	10.16 dBm		

Measurement Parameters			
		Stop Frequency	852.200 000 MHz
Trace Mode	Normal	Frequency Span	1.300 000 MHz
Preamp	OFF	Reference Level	15.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	-15 dB	Serial Number	1522067
Input Attenuation	35.0 dB	Base Ver.	V5.70
RBW	10.0 kHz	App Ver.	V6.95
VBW	3.0 kHz	Model	S382E
Detection	Peak	Options	21, 27, 28, 31, 411, 431
Center Frequency	851.550 000 MHz	Date	2/26/2017 4:01:00 PM
Start Frequency	850.900 000 MHz	Device Name	

TRAINING AND OPERATIONS

- User & Technician Training
- Network Monitoring
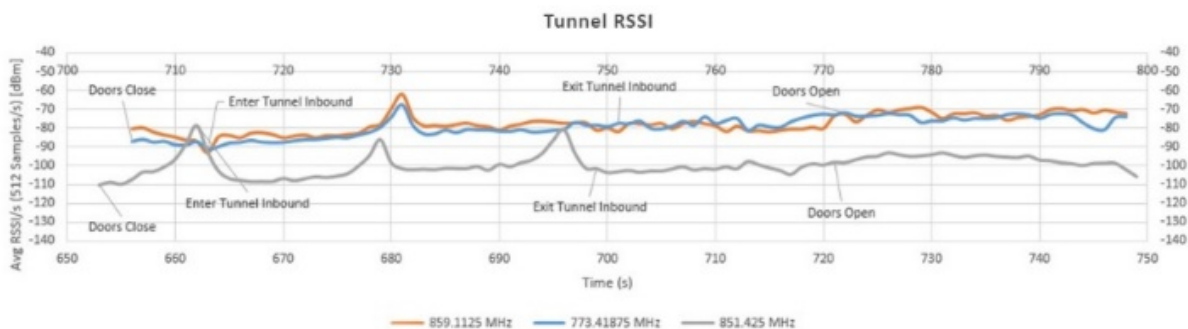 and Management
- NOC Integration
- Ongoing Maintenance

CellGain provides training for testing (e.g. OTDR for optical transmission), field integration, maintenance and trouble shooting. Ongoing monitoring and maintenance is also available. Network management is made simple with CellGain's FTAS Network Management System (NMS), which provides visibility and control across the full network as well as individual components. The FTAS NMS is ready to integrate with Network Operations Center (NOC).

PROGRAM MANAGEMENT

- Design & Modeling
- Coverage / Capacity Mapping
- Product Selection & Integration
- Link Budget Analysis
- Design Drawings & Parts List
- Solution Approval

CellGain simplifies the delivery of turn-key solutions and any phases of the integration services through end to end program management with a single point of contact. CellGain manages all stakeholders as well as vendors and contracts to streamline coordination, reduce risks and errors, and accelerate time to operations. With a proven track record of on time, on budget delivery, CellGain is a trusted partner to provide wireless coverage to critical public infrastructures.

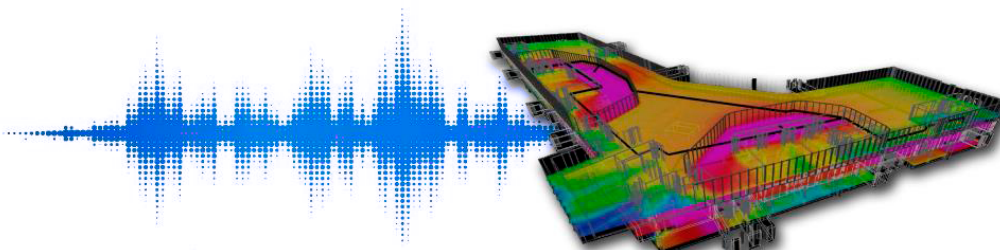Tunnel RSSI

CellGain Services

Fiber DAS • Communications • Routers & Switches

A dependable wireless communications solution is a critical safety tool. The public depends on wireless connectivity, so that they can call for help in an emergency. First responders depend on connectivity systems to communicate during an event response.

CellGain provides a wide variety of high reliability products for the enterprise, first responders, commercial wireless, and facility operations.

CellGain is MBE-certified by New York State, New York City, and the Port Authority of New York and New Jersey.

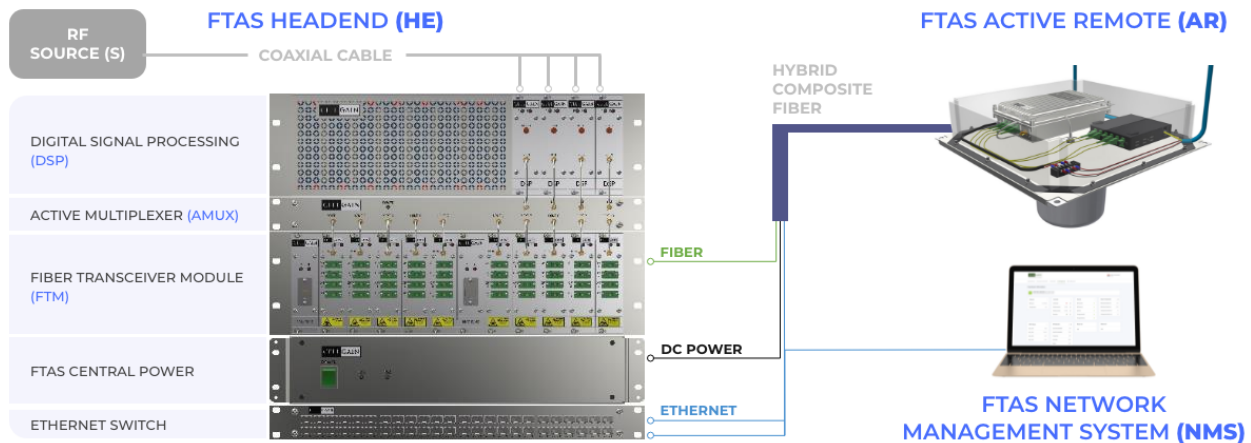MBE CERTIFIED MINORITY BUSINESS ENTERPRISE • NEW YORK STATE • THE STATE OF NEW JERSEY • NEW YORK STATE OF OPPORTUNITY. Division of Minority and Women's Business Development • PORT AUTHORITY NY NJ AIR LAND RAIL SEA • NYC Small Business Services

CellGain Fiber–to–Antenna System

Simplicity • Performance • Confidence

The CellGain Fiber-to-Antenna System (FTAS) is a next-generation, fiber-based, multi-band inbuilding distributed antenna system (DAS) platform for Public Safety Communications. Engineered from decades of experience with flexibility, reliability, and control in mind, the CellGain FTAS saves up to 80% in installation time and costs and 60% in space while delivering superior performance, efficiency, and manageability.

The system has proven itself in high-profile deployments in large, critical public infrastructure, with approval from multiple agencies. Feature highlights include modularity for scalable deployments, multi-level redundancy for reliability, and low power consumption for reduced HVAC load.

FTAS HEADEND (HE)

RF SOURCE (S)

COAXIAL CABLE

DIGITAL SIGNAL PROCESSING (DSP)

ACTIVE MULTIPLEXER (AMUX)

FIBER TRANSCEIVER MODULE (FTM)

FTAS CENTRAL POWER

ETHERNET SWITCH

FTAS ACTIVE REMOTE (AR)

HYBRID COMPOSITE FIBER

FIBER

DC POWER

ETHERNET

FTAS NETWORK MANAGEMENT SYSTEM (NMS)

Save Time, Costs, Space & Energy

- Simple to install, manage, and operate
- No coaxial cable or conduit required
- Compact size and high density
- Centrally fed low power remotes

Deliver Superior Performance

- Save Time, Costs, Space & Energy
- Simple to install, manage, and operate
- No coaxial cable or conduit required
- Compact size and high density
- Centrally fed low power remotes

Address Most Stringent Public Safety Needs

- Engineered for critical communications
- Designed for resiliency with multi-level redundancy
- Multi-band unit across Public Safety and LMR bands

Adapt to Changing Requirements

- Modular and scalable design
- Software adjustable for frequency additions/changes
- Engineered to adjust to variations in environment

Authorized Reseller

Fiber DAS • Portables • Dispatch • Infrastructure

CellGain is an authorized reseller for L3Harris and Tait public communication products.

L3HARRIS™
FAST. FORWARD.

tait
communications

L3Harris has high quality, robust Project 25 (P25) trunking equipment for Public Safety and Professional Communications (PSPC). Developed by the Association of Public Safety Communications Officials International (APCO), Project 25 (P25) is a suite of standards for North American digital radio communications for federal, state and local public safety organizations, first responders and utilities allowing for interoperable multi agency communications during emergency situations.

Tait products are designed for mission critical operation and engineered to provide unbeatable performance and reliability. They are DMR standards compliant and ensure interoperability with other vendors, giving your organization greater choice in meeting your unique requirements.

Portables

Designed and built to withstand the challenging conditions public safety user operate in. Packed with a range of safety enhancing features, the portables provide the clear audio, reliable connection, and interoperability that those serving our communities depend on.

Mobiles

Designed for use in challenging conditions wit industry leading digital audio clarity, superb usability, and safe, secure communications. Mobiles are available with a wide range of features, giving public safety organizations more possibilities.

Dispatch

Designed with real dispatchers in mind, the dispatch consoles meet the rugged needs and high reliability demands of a Public Safety Dispatch center.

Infrastructure

Base stations and repeaters are designed for mission critical operation and engineered to provide unbeatable performance and reliability.

Authorized Hitachi Cable Distributor

CellGain is an authorized distributor of Hitachi Fiber Optic Cable. Hitachi Cable America's indoor/outdoor fiber optical cables deliver outstanding audio, video, telephony and data signal performance for educational, corporate and government campus applications. High density, hybrid, armored.

Authorized Hitachi Cable Distributor

CellGain is an approved channel partner for Cisco, providing secure, reliable network equipment for today's enterprises, offices, branches, business, and everyone. Cisco products help you start with the right Wi Fi and Local Area Network (LAN).