



Keynote  
Address  
**Patrick McNerney**



**5G AND THE FOURTH INDUSTRIAL REVOLUTION** ARE RIGHT AROUND THE CORNER, IN FACT, THE WHEELS ARE ALREADY IN MOTION. SMART CITIES, SELF-DRIVING CARS, ROBOTICS, ARTIFICIAL INTELLIGENCE, AND CONNECTIVITY ON A SCALE PREVIOUSLY UNIMAGINABLE WILL BE HERE BEFORE WE KNOW IT. 5G IS NOT LIMITED TO FASTER SPEEDS AND A FEW NEW CHIC CONSUMER TECHNOLOGIES, BUT RATHER A COMPLETE PARADIGM SHIFT IN OUR SOCIETY AND HOW WE INTERACT WITH TECHNOLOGY. BUSINESS OPERATIONS, OUR PERSONAL RELATIONSHIPS, AND EVEN THE METHODS IN WHICH COUNTRIES GOVERN THEMSELVES WILL BE IMPACTED. THE POSSIBILITIES ARE NEARLY LIMITLESS. BUT FIRST, OUR INDUSTRY HAS THE DAUNTING TASK OF GETTING OUR INFRASTRUCTURE THERE. THIS IS ALREADY HAPPENING WITH MANY CITIES RUNNING TRIALS OR FULL ROLL-OUTS OF 5G. THERE IS A LOT THAT MUST BE DONE TO SET THE FOUNDATION FOR 5G AND IT IS GOING TO TAKE TRAINED TECHNICIANS, ENGINEERS, SITE ACQUISITION SPECIALIST, CARRIERS, MUNICIPALITIES, AND OEMS COLLABORATING TO MAKE IT HAPPEN. HUNDREDS OF THOUSANDS OF MILES OF FIBER BACKHAUL, THE BUILD OUT OF ULTRA-DENSE NETWORKS, AND UPGRADING EXISTING MACRO SITE TECHNOLOGIES ARE AN EXAMPLE OF SOME OF THE WORK THAT IS ONGOING. HOW WILL 5G IMPACT THE ICT SECTOR, AND MORE IMPORTANTLY WHAT DO THESE CHANGES MEAN FOR THOSE WHO WORK IN THE TELECOMMUNICATIONS INDUSTRY? WE HAVE THE ANSWERS TO SOME OF THOSE QUESTIONS AND WILL SPECULATE ON OTHERS. LET'S DISCUSS THIS EXCITING NEW WAVE OF TECHNOLOGY, ITS IMPACT ON END USERS, AND THE PERSONNEL IN OUR INDUSTRY. **PATRICK MCNERNEY IS THE CHIEF OPERATING OFFICER OF 3D DESIGN & ENGINEERING**

## Attendee Testimonials

*"This training taught me new ways to efficiently do my job and will open the door to greater opportunities. It is well worth the money and time!"*  
**Roger Hopp, MCEI, Radio Technician, City of Cleveland Ohio**

*"I found the networking aspect to be the most valuable aspect of having Education Forum in conjuncture with IWCE. I took the Microwave Radio Technician class because in the county that I work for, we recently installed new microwaves and it became evident that we needed to learn more about them. The instructor was incredibly knowledgeable and engaged the class by asking about our system configurations, which made the material relatable."*  
**Jamin Howell, Wireless Communications & Network Technician, Flathead Emergency Communications Center**



**GET TRAINED.  
GET CERTIFIED.  
GET AHEAD.**



March 4-8, 2019 - Las Vegas, NV

Register Today at  
[www.iwceexpo.com](http://www.iwceexpo.com)



**ETA INTERNATIONAL**

5 DEPOT ST. // GREENCASTLE, IN 46135

(765) 653-8262

ETA@ETA-I.ORG // WWW.ETA-I.ORG



# EF18 Hands-On Training

**All Training Workshops  
Include ETA Certification Exam!**

## **SGT – 5G Technician: An Introduction to 5G...\$495**

The course serves as an introduction to 5G and gives cellular technicians the opportunity to earn a certification that has valuable industry application. This course will be taught using a variety of media, from helpful videos and other visual aids to written material. Attendees will get a first-hand look at industry standards, real world examples and case studies provided by a committee of subject matter experts with backgrounds in engineering, construction, cell carriers, broadcasting and entertainment.

## **CETA - Associate Certified Electronics Technician...\$475**

This two-day workshop is a comprehensive hands-on course that will give you all of the necessary skills in order to be successful in today's electronics industry and includes extensive hands-on training.

## **DAS - Distributed Antenna Systems...\$899**

This two-day course is for anyone interested in learning the fundamentals theories, components, installation, maintenance, and support of in-building DAS. Hands-on training will concentrate on connector installation, a simple install, a simple antenna design, and how to identify cabling problems.

## **GCT1 - General Communications Technician...\$899**

This two-day workshop trains practices and procedures common to radio communication technicians during all-hazards emergency operations. This course will help communications technicians work within the Incident Command System (ICS) organizational structure.

## **ITS - Information Technology Specialist (Cybersecurity)...\$899**

This three-day workshop will provide the attendee with a complete defense in-depth strategy for implementing cybersecurity solutions to any network environment - including wireless networks. They also will be made aware of attack vectors, tools and techniques used to Pentest network computing environments.

**\* All prices are at early bird rate, which is good through November 8, 2018.**



# EF18 Hands-On Training

**Get a 10% Discount - Use Code ETAT  
Get a 15% Discount with ETA Membership**

## **LAS - Line Antenna Sweep...\$899**

This frequency domain reflectometer two-day hands-on course goes beyond traditional line sweep and PIM testing and provides all the knowledge in order to test and evaluate RF signals that begin at the output of a radio transmitter and eventually are propagated into the air to a receiver.

## **MRT - Microwave Radio Technician...\$899**

As we move towards 5G and FirstNet implementation, microwave frequencies will be used for more applications and new services. This course is newly designed addressing the changes in roles, performance, installation and maintenance of microwave and millimeter wave radios.

## **PIM - Passive Intermodulation Testing...\$495**

Wireless carriers are requiring PIM testing at new sites and existing installations in an effort to increase call quality and data rates. The student will learn what PIM is, how it is tested and the difference between PIM testing and other antenna testing techniques.

## **R56 - Communications Site Installer...\$1169**

Based on the NEW Motorola updates of R56 industry codes and standards, this four-day workshop provides a documented set of standards & guidelines for designing safe and reliable communications sites.

## **RFIM - RF Interference Mitigation...\$899**

This course begins with an overview of basic RF principles, signal types, propagation and spectrum allocation. Practical applications include interference hunting tools, the use of monitoring receivers, spectrum analyzers and drive test tools.

## **STS—Smart Technologies Systems...\$1099**

The following key areas will be discussed: Audio and Video; Data Networks and Voice Networks; Fire Alarm Systems, Access Control Systems and Video Surveillance Systems; Heating, Ventilating and Air Conditioning Systems and Electric Power Management Systems, Lighting Control/Data Systems; Facility Management Systems  
Hands on labs will include configuration of Power over Ethernet (PoE) powered devices and systems management software configuration of the devices.

