



# SANDCASTLES TO HIGH RISES

## MEP BASECAMP 2019

August 7-9, 2019 | San Diego, CA

## CONTENT OVERVIEW

# WHAT IS MEP BASECAMP?

From Sandcastles to High Rises — there is no limit to what we can imagine, and with Trimble MEP Technology we are enabling our customers worldwide to build more amazing and complex buildings.

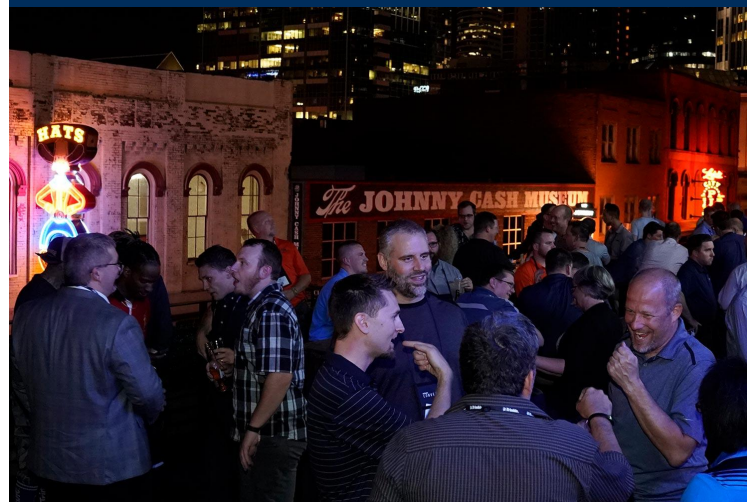
MEP Basecamp is a unique opportunity for you to learn new skills and techniques, hear from thought leaders and make new contacts — enabling us to all imagine and build even more amazing spaces for us to live, work and play in!

As an attendee you will have access to over 100 sessions — including keynotes, industry sessions, computer labs, hands-on practical training, certification exams and thought leadership sessions. By the end of the week, attendees will leave with new skills, techniques, knowledge and contacts to help them further their business goals.

MEP Basecamp is the number one technology event for project managers, estimators, foremen, and field personnel across the MEP trades who are looking for hands-on experience with the latest ... and the next generation of technology for your jobs!



**500+ Attendees**  
**50 States Represented**  
**5+ One Day Workshops**  
**40+ Hands On Labs**  
**40+ Technical & Business Sessions**



# THOUGHT PROVOKING

## KEYNOTES & GENERAL SESSIONS

WEDNESDAY — AUGUST 7

### Sandcastles to High Rises

Wednesday, August 7, 2019 8:00 AM

Pacific C & D

Lawrence Smith — General Manager for Trimble MEP Division

From Sandcastles to High Rises — there is no limit to what we can imagine, and with Trimble MEP Technology we are enabling our customers worldwide to build more amazing and complex buildings. Join us to hear Lawrence Smith, General Manager for Trimble MEP Division. Lawrence will kick off the event with a welcome and update on the evolving breadth and depth of the Trimble MEP portfolio. This opening session will provide insight into how Trimble Constructibility enables your organization to be more productive, reduce waste and improve the bottom line.

#### Bio

As General Manager for Trimble's MEP division, Lawrence leads 750+ employees in 12 countries whose sole focus is technology software, services, and hardware for the MEP industry. In his current role, Lawrence is responsible for Trimble MEP's technology and product transformation, delivering innovative next-gen solutions. During his 28 year tenure with Trimble, Lawrence has held numerous leadership roles, including executive responsibility and management of Trimble's joint venture with Hilti.



### Beyond BIM: Win with Constructibility

Wednesday, August 7, 2019 9:00 AM

Pacific C & D

Lynn Allen — Global Technology Evangelist

Kick off your day with an inspiring, thought provoking look at how technology is evolving the way we construct. With more than 20 years as Technology Evangelist, Lynn Allen brings passion and humor to shining a light on new technology. Of course, moving beyond BIM isn't just about embracing new technology – it's about improved processes as well. More and more MEP firms are taking the next step towards full Constructibility and winning. Join Lynn as she helps you see a clear road to Constructibility so you don't get left behind!

#### Bio

In her 20+ year career as Global Technology Evangelist, Lynn Allen has spoken to more than a half million professionals at events in over 50 countries with an estimated online reach of over five million individuals. Her passion and strength are connecting with users, helping them embrace change and shining a light on new technology. Throughout her 15+ year tenure at Autodesk she was instrumental in helping customers adopt and move from one technology to another - and a leader in the CAD to BIM movement. A sought-after public speaker with a unique comedic style, she is the author of three books, hundreds of technical articles and over 500 videos. She is also a social media enthusiast with over





## THURSDAY — AUGUST 8

## Digital Sketching: Figure Out What You'll Build Before You Start Building it, With Computers!

Thursday, August 8, 2019

11:30 AM

Pacific C &amp; D

John Bacus — Product Management Director, Architecture &amp; Design

The world is full of rich, deep and complex digital tools that can help you figure out how to build almost anything quickly, accurately and safely. Models built at the 'constructible' level of detail let you simulate your construction job down to the individual bolt. But when you aren't sure what exactly you're going to build yet, having to make too many detailed decisions can actually be more of a burden than a help. Sketching is the better answer during those fast and loose early stages of figuring out what you're going to build. Sketching can be done with almost any tool capable of making a mark, but sketching digitally brings all kinds of new power and capacity to your problem-solving work. Let's talk about how to use digital sketching for conceptual design work.

Join us to hear John talk about:

- The value of thinking about a project in a loose and sketchy way
- How to use a computer for conceptual design work
- How to share digital sketches with others
- How to improve your digital sketches until they are detailed enough for construction

## Bio

As Product Management Director at Trimble, John is responsible for the growing SketchUp family of products. He has worked on SketchUp from its first Mac OS X release through the product's acquisition by Google in 2006 and then again by Trimble in 2012. During this time, SketchUp has won numerous awards, including "3D Product of the Year" and a "5 Mice" rating from Macworld Magazine. In the last year alone, there have been over 30 million unique user activations of SketchUp— making it the most widely used 3D modeling product in the world.

Prior to @Last, John was a professional design consultant working on a wide range of architectural and urban design projects in both Europe and the U.S.

In addition to his work on SketchUp, John is on the faculty of the ATLAS Institute at the University of Colorado, where he teaches a practical, launch-oriented studio class in Software Product Management.



## The Trimble Constructible Process

Thursday, August 8, 2019

12:00 PM

Pacific C &amp; D

Roz Buick — Senior Vice President

Continual improvement and increased efficiencies are still the forces pushing the construction industry forward. Specifically, the focus now needs to be on ensuring that the construction and building process goes as smoothly as possible. The construction industry has long been plagued with wasted effort, materials, time, and money. To ensure the future of construction is going to be even more impressive and exciting than the past, industry professionals need to focus on process improvement rather than just materials or technology improvement. And that brings us to the future of construction: The Trimble Constructible Process

## Bio

Dr. Rosalind Buick is responsible for Trimble's Buildings business, including Buildings, Architecture, General Construction, Mechanical Electrical & Plumbing, Real Estate & Workplace Solutions and Trimble Connect divisions. Previously, Dr. Buick served as general manager and vice president of the Civil Engineering & Construction, Aggregates and Mining divisions from 2009 to 2016. Dr. Buick began her career as a research scientist and university teacher at Virginia Tech and later at Lincoln University, New Zealand, in computer decision support software research applying simulation models, GIS, operations research and artificial intelligence to agricultural and environmental applications. She completed her Ph.D in plant physiology and simulation models in 1989, a degree in Agricultural Science in 1986 from Lincoln University, New Zealand, and an executive MBA from Duke University in 2016.



## FRIDAY — AUGUST 9

## Mixed Reality is Now: The Trimble XR10

Friday, August 9, 2019

11:00 AM

Pacific C &amp; D

Jordan Lawver — Portfolio Manager, Mixed Reality

Imagine connecting every person on a site, spatially and over time, to each other and their constructible model, automatically. Imagine seeing your 3D model in the field 1:1. With Mixed Reality you can do this — and you can do it now! Hear from Jordan Lawver, Trimble Product Manager for Mixed Reality, and discover how Trimble is bringing mixed reality right to the front line, enabling workers in safety controlled environments to access model data directly on site.

Join us at this closing session for MEP Basecamp 2019 and have the chance to win an XR10 for your business! \*

\*must be present to win an XR-10

## Bio

Jordan has led product and marketing for Trimble's Mixed Reality Division since its inception in mid-2015. Leveraging his expertise in and passion for technology, Jordan has rapidly productized AR, MR, and VR for Trimble. His team's achievements have been recognized by Microsoft, Google, Forbes, CNN, Wired, Engadget, TechCrunch, The Verge, The Economist, and ENR Magazine. Prior to Trimble, Jordan performed NASA and DoD-funded research at The Ohio State University, where he completed a M.Sc. in Computer Vision and Photogrammetry and B.Sc. in Geomatics Engineering.



# PRE CONFERENCE HANDS-ON WORKSHOPS

Delivered by specialized trainers — these one day workshops will provide attendees with opportunity for in depth hands-on workflow focused training. Classes limited to 20 and are an additional fee to the conference. Sign up early as space will be very limited!

## HANDS ON LABS

### Electrical estimating with Trimble Live Count Cloud and Trimble Accubid Enterprise Estimating

**TW-01**

Tuesday, August 6, 2019

8:00 AM to 4:00 PM

Hospitality B

Target audience | Electrical

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble LiveCount enables contractors to seamlessly integrate and mark up digital image files to streamline the quantification process — providing contractors the consistency they need for every detail and piece of data to complete the most accurate bids, every time. This one day workshop will be an instructional hands-on class focusing on electrical estimating and material takeoff. Attendees will utilize cloud-based Trimble Accubid LiveCount and Accubid Enterprise estimating to quantify items on a PDF drawing and enter them directly into an estimate. Attend this workshop to:

- Learn about cloud-based Trimble Live Count and Enterprise Estimating
- Explore the different methods used in Trimble Live Count to quantify items on a PDF drawing
- Get hands-on training to create an estimate in Trimble Accubid Enterprise and enter takeoff assigning items from the Trimble Live Count drawing

### Trimble AutoBid Mechanical Building Specifications and Using Onscreen View

**TW-02**

Tuesday, August 6, 2019

8:00 AM to 4:00 PM

Broadway A

Target audience | Mechanical

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble AutoBid Mechanical gives contractors a competitive edge with specification-driven takeoffs that work. This intense, hands-on one day workshop is designed to give you the knowledge to build company-specific specifications, engineer-specific specifications and specifications for different types of projects. These skills will help you and your company make the best use of AutoBid Mechanical. We will also dive deeply into Onscreen Takeoff with the intent that you will walk away knowing why and how to use this powerful feature.

Attend this workshop to:

- Get hands-on training for building company-specific specifications to streamline your estimating process
- Learn Onscreen View, which will make you more efficient
- Get an understanding of best practices around building specifications and using Onscreen view

**Trimble Accubid Enterprise & Anywhere - Assembly Building****TW-03**

Tuesday, August 6, 2019

8:00 AM to 4:00 PM

Balboa B

Target audience	Electrical
Level	Beginners with less than 18 months of industry or product experience

Trimble Accubid Anywhere gives contractors all the benefits of Estimating, Change Management, and Pricing in one easy to manage solution in the cloud. This one day workshop will provide an introduction to Assembly Building for new users. The workshop will focus on Non Spec Assemblies, showing the flexibility of building a very commonly used assembly. It will also demonstrate how to change parts, apply math, and make an assembly more user friendly. We will show how you can convert a Non Spec Assembly into Spec Driven, opening up even more flexibility.

Attend this workshop to:

- Learn how to add and modify Items and Folders
- Understand how to leverage Item Attributes and Global Variables for more flexible Assemblies
- Gain an understanding of basic level of Non Spec Assembly building using If/Then Logic

**Improve Trimble SysQue Efficiency Using Autodesk Revit Work-Sharing, Families & Dynamo****TW-04**

Tuesday, August 6, 2019

8:00 AM to 4:00 PM

Hospitality A

Target audience	All MEP
Level	All levels

Revit Work-Sharing, Families and Dynamo scripts all enable designers to automate tasks within Revit and Trimble SysQue for more efficient modeling. This one day workshop will cover Autodesk Revit Work-sharing for setup and use, and project best practices. Topics will include use of Dynamo, adding packages and creating scripts to use with Revit, Revit MEP families the connectors within them, adding shared parameters, and using them within your views, sheets and schedules. The workshop will include plenty of Q&A time!

Attend this workshop to:

- Learn about Revit Work-sharing Setup and Best Practices
- Get hands on training to create scripts with Dynamo for Revit files
- Gain a deeper understanding of how to work with Revit MEP Families

**Configuring Your Trimble SysQue Environment****TW-05**

Tuesday, August 6, 2019

8:00 AM to 4:00 PM

Broadway B

Target audience	All MEP
Level	Beginner to intermediate users with working knowledge in the industry and its toolset

So you purchased Trimble SysQue - fantastic! We're as excited as you are to see you improve your BIM workflow. What happens next? Setup time! This one day workshop will provide you with an understanding of best practices for structuring your Revit and SysQue projects in order to achieve optimal performance when modeling in SysQue and Revit as well as overall industry best practices. It will review features available to you as an MEP Detailer. At the end you will walk away with the necessary knowledge needed to install and begin using Trimble SysQue and Revit.

Attend this workshop to:

- Learn how to setup your SysQue environment to support your organization's systems and workflows
- Learn how to acquire and use content (actual manufacturer parts, generic parts, and custom content) in your SysQue environment
- Learn how to setup work sharing with SysQue and Revit in your organization

**Field Technology Group Field Layout Certification Program-Certified Operator****TW-06**

Tuesday, August 6, 2019

8:00 AM to 4:00 PM

Pacific B

Target audience	All MEP
Level	Advanced users with more than 3 years of experience

Trimble FTG Certified Operators are considered to be product champions of the Trimble field layout solutions. They can solve problems and overcome challenges of today's construction sites and are ambassadors to how Trimble technology and systems can increase productivity, improve accuracy, and otherwise enhance the layout and installation process for all different trades on the construction site.

The Trimble FTG Certified Operator program is based on knowledge that a user would gain through Trimble training and then the use of the Trimble field layout solutions. Layout solution knowledge is substantiated through a series of Written and Practical exams. The candidates for this certification are typically users that have proven success using Trimble layout solutions in the field on several job sites over a period of time. This one day workshop is focused on preparing students for the Trimble FTG Certified Operator so that they can complete through to the Trimble FTG Certified Operator Level 2 at MEP Basecamp 2019:

- The morning will include completion of the Level 1 online practical test
- The afternoon will provide training for the Level 2 material you will be tested on — written exam and practical exam — during a scheduled test time on either Thursday or Friday of the conference
- The afternoon will also provide materials and instructions for the completion of Level 3 — to be completed at a later date



# TRACK

## ESTIMATING & PRICING

Targeted at estimators across the MEP trades — this track will provide a mix of hands-on and in-depth sessions that will give attendees greater insight and understanding of our powerful and innovative estimating and pricing solutions.

### PRESENTATIONS

#### Optimize your workflow for High Rise Construction Projects

EP-01

Wednesday, August 7, 2019 9:45 AM

Balboa A

Target audience | Electrical  
Level | All levels

Are you frustrated by the competitive nature of High-Rise construction? This session will provide you with the skills to be both competitive and successful. You will learn how to leverage Typicals, a powerful estimating feature within Trimble Accubid Classic and Trimble Accubid Anywhere.

Attend this workshop to:

- Learn how to leverage Typical suites and floors to save time during your estimation phase
- Explore best practices for dividing estimating responsibilities
- Learn what it takes to have a successful project handoff

#### 10 Commandments for the Chief Estimator

EP-11

Wednesday, August 7, 2019 11:00 AM

Balboa A

Target audience | All MEP  
Level | All levels

Success begins with the estimating department. Every organization must have a strong leader so that employees are empowered to perform at an optimum level. The Chief Estimator must not only be a skilled estimator, but he/she must be a leader who can inspire others. Join us in this fast paced session where you can expect to walk away with the knowledge.

Attend this session to:

- Get practical insight into motivating your team for maximum performance
- Acquire ideas for leading without micromanaging
- Learn strategies to handle poor performance while rewarding those who excel

#### What's New with Trimble Estimation

EP-04

Wednesday, August 7, 2019 1:15 PM

Balboa A

Target audience | All MEP  
Level | All levels

Explore the most recent enhancements and changes to the Trimble Estimation Mechanical, HVAC and Electrical programs in this session. You'll learn about what's new in Trimble Estimation and how these new enhancements will enable you to utilize Estimation more efficiently.

Attend this workshop to:

- Review of new features for Estimation Mechanical, HVAC and Electrical programs
- Explore enhancements and the impact to the end user
- Discuss changes to existing features and the impact on the end user

**What's New and What's Next with Trimble AutoBid Mechanical and Sheet Metal****EP-06**

Wednesday, August 7, 2019 2:30 PM

Balboa A

Target audience	Mechanical and plumbing
Level	All levels

We value greatly our customer feedback and use that to enhance our existing products. This session will give you everything that you need to know about what is newly release with Trimble AutoBid Mechanical 2019 version 1 and what's to come with Trimble AutoBid Sheet Metal 2019 version 1.

Attend this workshop to:

- Learn what new features to expect with Trimble AutoBid mechanical 2019v1
- Understand what we've been doing with Trimble AutoBid Sheet Metal over the last year
- Learn how to implement the features into your organization

**What's New and What's Next in Trimble Accubid Enterprise****EP-07**

Wednesday, August 7, 2019 3:45 PM

Balboa A

Target audience	Mechanical and electrical
Level	All levels

Trimble Accubid Enterprise is a full-featured estimating software for MEP contractors. This session will review the latest features and enhancement that have been added to Trimble Accubid Enterprise V9.0. We will discuss the real life issues and problems the new features address. We will also discuss how the new features and enhancement improve the daily work activities of the users. Will conclude with an open discussion about what are the next great feature you would like to see in the application.

Attend this session to:

- About the new features in Trimble Accubid Enterprise V9.0
- Learn about the benefits of the new features to you
- Get insight into what's next

**Estimating: Focus on what matters****EP-12**

Thursday, August 8, 2019 8:00 AM

Balboa A

Target audience	Electrical
Level	All levels

Estimating is not for the faint of heart! A good estimator understand the value of reviewing their takeoff details while a great estimator is obsessively focused on what matters most. In this session you will learn how to analyze your estimates using Trimble Accubid Classic in the most efficient way. This way you will have time to spend on the elements that require your closest attention.

Attend this session to:

- Learn the importance of being as accurate as you can on the part that matters
- Learn how to mitigate labor risks
- Get insight on how to identify the items, systems, and labor categories that need review

**Should you be using Trimble's Submittal Manager?****EP-13**

Thursday, August 8, 2019

9:15 AM

Balboa A

Target audience	All MEP
Level	All levels

Should you be using Trimble's Submittal Manager? Submittals are a necessary and tedious process for all construction projects. Between sourcing all the specification documents and organizing them by CSI section it can be a long time consuming, but it doesn't have to be if you are using Submittal Manager. With Submittal Manager you can cut your submittal creation time by 50% to 75%, allowing you to focus more on other areas of the project that need your attention.

Attend this session to:

- Learn how to use the Submittal Manager to create a submittal
- Learn key features and functions that you need to know to effectively use the Submittal Manager
- Gain insight into how you can reduce your submittal creation process time by 50% to 75%

**Estimating for Profits****EP-02**

Thursday, August 8, 2019

9:15 AM

Pacific C &amp; D

Target audience	All MEP
Level	All levels

Help us welcome an exciting guest speaker, respected NECA member and founder of Accubid Systems, Giovanni Marcelli as he highlights the key components of an Estimate. This session will dive into detail on setting up estimate breakdowns, refining your labor tables and proper use of labor factoring. We will explore how you can analyze your risk through metrics such as the labor risk ratio and why profit must be directly proportional to your risk.

Attend this workshop to:

- Explore why accurate and detailed Estimating is essential to your success
- Understand why you should have a bid or no bid decision process
- Learn how to effectively mitigate risk while facilitating scheduling and project Management

**Leveraging Short Interval Planning (SIP) in Your Estimating AND Construction Phases****EP-03**

Thursday, August 8, 2019

10:30 AM

Balboa A

Target audience	Mechanical and plumbing
Level	All levels

Join us for an in depth look at and best practices around Short Interval Planning (SIP). This powerful feature within Trimble AutoBid Mechanical and Trimble AutoBid SheetMetal can be leveraged both within your estimate and again within your construction phase to analyze and manage your materials and labor.

Attend this workshop to:

- Understand why you should care about short interval planning within estimating
- Examine how short interval planning relates to successful labor Management
- Understanding the link between short interval planning and Material Management

**What's New and What's Next in Trimble LiveCount****EP-08**

Thursday, August 8, 2019

1:45 PM

Balboa A

Target audience | Plumbing, electrical and ITS  
 Level | All levels

Trimble LiveCount helps you avoid costly data entry errors by eliminating manual takeoff methods. This session explores and reviews what's new in Trimble LiveCount and explore how these workflows can save your company money and improve the productivity of your estimating team.

Attend this session to:

- Learn what's new in Trimble LiveCount
- Learn how Trimble LiveCount workflows can save your company time and money
- Get a look at what's coming in Trimble LiveCount

**Trimble Accubid Anywhere: Why Data Security, Disaster Recovery and Accessibility Matter****EP-10**

Thursday, August 8, 2019

3:00 PM

Balboa A

Target audience | Electrical  
 Level | All levels

Trimble Accubid Anywhere gives you all the benefits of estimating, change management, and pricing in one easy to manage solution in the cloud. This is a session will provide an overview of our new product offering — Trimble Accubid Anywhere — and how it can add value to your organization. The session will do a deep dive into data security, disaster recovery and accessibility of the product.

Attend this session to:

- Learn about what is Trimble Accubid Anywhere
- Get an understanding of why you should consider Trimble Accubid Anywhere over your current solution?
- Get an understanding of what does "continuous delivery" mean to your organization

**Strategies for Successful Estimating Software Implementation****EP-05**

Thursday, August 8, 2019

4:15 PM

Balboa A

Target audience | All MEP  
 Level | All levels

Whether you're evaluating estimating software, detailing platforms, or a new ERP system, having a proper implementation strategy is the key to your success. There are a series of items to plan for and consider, which we will examine in detail during this session. We will provide a software implementation strategy and guiding principles.

Attend this workshop to:

- Understand the importance of Identifying Stakeholders and getting all stakeholder on board throughout the process
- Learn how to make your Software Deployment strategy
- Identify key Milestones and learn how to remain accountable to them

**Why Trimble LiveCount: Equip Your Estimating Team with Multi-User Workflows and More****EP-09**

Friday, August 9, 2019

8:30 AM

Balboa A

Target audience | Plumbing, electrical and ITS  
 Level | All levels

Using Trimble LiveCount your team can experience a faster estimating workflow — saving 20 - 30% of the takeoff time — from start to bid completion! This session we will explore why to choose Trimble LiveCount over other graphical takeoff solutions and how it's improved multi-user workflows equip larger and distributed teams estimate faster and more accurately.

Attend this session to:

- Learn how Trimble LiveCount improves my estimating teams productivity
- How Trimble LiveCount supports multi user workflows
- Take a deeper look into some of the recent additions to Trimble LiveCount

**Estimating: Labor Methodologies and Best Practices****EP-14**

Friday, August 9, 2019

9:45 AM

Balboa A

Target audience | Mechanical and plumbing  
Level | All levels

Are you confused by association labor? Join us as our very own Ron King, co-chair of the MCAA WebLEM committee, articulates the changes that MCAA WebLem has made to their labor units and learn what that means for your estimates. This session will also explore how you can be more competitive and accurate in your estimating department by applying proper labor factoring methods.

Attend this session to:

- Hear how MCAA WebLem has modified their Associate labor and how it impacts your estimates
- Learn how to properly leverage productivity factors in your estimates
- Explore principals on the proper use of correction factors

**HANDS ON LABS****Mastering OnScreen View Takeoff with Trimble AutoBid Mechanical****EP-LAB-06**

Wednesday, August 7, 2019

9:45 AM

Broadway A

Target audience | Mechanical and plumbing  
Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Skip the digitizer? With Trimble AutoBid Mechanical OnScreen View takeoff you can do just that! This hands on workshop will demonstrate how to become a master at OnScreen View takeoff with Trimble AutoBid Mechanical for increased productivity and accuracy in your bids!

Attend this workshop to:

- Learn advanced OnScreen View (OSV) takeoff techniques
- Learn how to use the Short Interval Planning tool in the OnScreen View for take off
- Learn how to use the OnScreen View for the takeoff of risers and details

**Explore the Fundamentals of Assemblies with Trimble Accubid Enterprise****EP-LAB-14**

Wednesday, August 7, 2019

9:45 AM

Balboa B

Target audience | Electrical  
Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Creating assemblies means faster estimating. Targeted at the new user, this hands-on workshop explores how to create assemblies in Trimble Accubid Enterprise. The session will start with two non-spec assemblies that will be combined into a master assembly. The new assembly will then be transformed into a spec-driven assembly for more efficient estimating.

Attend this workshop to:

- Learn how to create assemblies in Trimble Accubid Enterprise
- Learn how to work with global variables and item attributes
- Learn basic formula building for the creation of assemblies

**Deep Dive — Trimble AutoBid Mechanical and Advanced Assembly Building****EP-LAB-01**

Wednesday, August 7, 2019

1:15 PM

Broadway A

Target audience | Mechanical and plumbing  
Level | Advanced users with more than 3 years of experience

Take an in depth look at the inner workings of assemblies in AutoBid. This hands on workshop will teach you how to make versatile assemblies that are equally accurate in any number of situations with variable materials and specifications. Additionally you will learn how to apply system settings to take advantage of the Trimble AutoBid automatic fitting generation and powerful report profiles.

Attend this workshop to:

- Gain a deeper understand assembly concepts — Master versus Bid Specific
- Learn how to implement variable dimensions & settings in assemblies
- Learn how to make assemblies compatible with automatic fittings and report profiles



**Trimble Accubid Anywhere: Using Content, Takeoff and Estimating Together for Better Results****EP-LAB-11**

Wednesday, August 7, 2019

1:15 PM

Balboa B

Target audience | Electrical

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Trade Service, a part of Trimble, is the most reliable source of data for contractors, distributors, dealers and manufacturers in the MEP and ICT-Low Voltage. This hands on workshop will demonstrate the use of Trade Services to manage pricing and database content. It will also cover conducting electronic takeoff with Trimble Live Count and assigning takeoffs in Enterprise Estimating.

Attend this workshop to:

- Get an understanding of using Trade Services to update database and estimate pricing
- Learn how to use Trade Services Link Export to add items to a data base or job
- Learn how to conduct electronic takeoff with Live count and Enterprise Estimating

**The Estimate and Beyond: Mastering Powerful Features in Trimble AutoBid Mechanical****EP-LAB-07**

Wednesday, August 7, 2019

3:45 PM

Broadway A

Target audience | Mechanical and plumbing

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Have you ever wondered what you're missing? This hands-on workshop will take you deep into Trimble AutoBid Mechanical features that you have likely never used so you can win more work.

Attend this workshop to:

- Review how to use code manager to build a proper project schedule
- Learn what Profiles are and how to use them in value engineering and ultimately win more work
- Learn how to move beyond just the estimate

**Stay Up to Date with Trimble AutoBid Mechanical and Current, Accurate Trimble Content****EP-LAB-02**

Thursday, August 8, 2019

8:00 AM

Broadway A

Target audience | Mechanical and plumbing

Level | Intermediate to advanced users with more than 3 years of experience

Staying up to date with material prices that change on a daily basis can be a challenge. This hands on workshop will demonstrate how you keep up to date with the latest pricing data as well as develop you own proprietary customized databases for your business. The workshop will demonstrate how to effectively leverage content from Trimble's Trade Service pricing services with Trimble AutoBid — enabling you to quickly and accurately keep current with the latest plumbing and piping pricing trends.

Attend this workshop to:

- Gain a better understanding of the Trimble AutoBid Mechanical material and equipment content
- Learn how to expand and customize your Trimble AutoBid database to meet your companies specific needs
- Learn how to maintain material pricing with up to date values using a combination of Trimble AutoBid and Trimble Trade Service features

**Tips & Tricks You Need to Know to Become a Trimble Estimation (Electrical) Power User****EP-LAB-08**

Thursday, August 8, 2019

8:00 AM

Hospitality A

Target audience | Electrical

Level | All levels

Calling all Trimble Estimation users! This hands-on workshop will provide electrical estimators with the skills needed to become a power user of the system. We will guide you through fine tuning your takeoff to increase efficiency, advanced reporting methodologies and best practices around database management. If you're looking to get more out of your software, we'll help take your skills to the next level in this session.

Attend this workshop to:

- Learn tips and tricks for Takeoff File Maintenance
- Understand Summary and Reporting
- Review best practices around Data File Maintenance

**Change Order Execution with Trimble Accubid Enterprise Change Management****EP-LAB-13**

Thursday, August 8, 2019

8:00 AM

Balboa B

Target audience | Electrical  
Level | All levels

Trimble Accubid Enterprise Change Management enables you to easily execute change orders. This hands on workshop will cover the process of creating and entering a change order in Change Management. Topics covered will be preparing an estimate for use in Change Management, creating a proposed change order, and entering a change order contract upon approval of a proposed change order.

Attend this workshop to:

- Learn how to prepare an Estimate for hand-off and enter an RFP
- Learn how to create a proposed change order in Trimble Accubid Enterprise
- Learn how to enter a Change Order Contract and adjust the status of the proposed change order

**Mastering Digital Takeoff with Trimble Estimation****EP-LAB-10**

Thursday, August 8, 2019

9:45 AM

Hospitality A

Target audience | All MEP  
Level | All levels

Skip the digitizer? With Trimble Estimation Digital Takeoff, you can do just that! This hands-on workshop will focus on basic counting and measuring tools and explore advanced features such as layers and revisions. You will gain the confidence that you need to efficiently use digital takeoff and begin your journey to have a deeper knowledge of settings and advanced features.

Attend this workshop to:

- Understand how to use digital takeoffs counting and measuring tools
- Learn how to set up and preferences
- Begin to explore advanced features such as layers, revisions and the notation tools

**Next Level Estimating with Trimble Accubid Classic****EP-LAB-12**

Thursday, August 8, 2019

9:45 AM

Balboa B

Target audience | Electrical  
Level | All levels

Designed specifically for electrical contractors, Trimble Accubid Classic facilitates the complete construction workflow—from estimating to purchasing, project management and billing. This hands on workshop will cover the use of Job Merge, Classic Reports, and the Integrator function to combine takeoff from different estimates, create and use custom reports, and export an estimate from Classic Estimating for accounting purposes.

Attend this workshop to:

- Learn how Job Merge and Enhanced Job Merge work to combine separate takeoffs and provide a multi user environment for the takeoff process
- Explore how Trimble Accubid Classic Reports are used and created
- Learn how the Integrator feature can be used to export information from the estimate to an accounting program

**Protect Your Information and Estimate Faster with Advanced Database Management Skills****EP-LAB-03**

Thursday, August 8, 2019

1:45 PM

Broadway A

Target audience | Mechanical and plumbing  
Level | Intermediate to advanced users with more than 3 years of experience

Your estimating data and information is your proprietary intellectual property... And there is also a tremendous financial, physical and time investment in developing that estimating information over time. This hands on workshop will provide you methods you can leverage to protect and store your estimating data while at the same time ensuring your team has quick and easy access for fast accurate bidding. The session will also show you using these tools helps to sharpen the pencil... making you more competitive.

Attend this workshop to:

- Understand how to protect your estimating information
- Review best practices for developing and managing your labor database
- Learn to develop an archive and disaster recovery plan for your estimating data

**Learn how to Leverage the Flexibility of Assemblies in Trimble Accubid Enterprise****EP-LAB-15**

Thursday, August 8, 2019

1:45 PM

Balboa B

Target audience	Electrical
Level	Intermediate to advanced users with more than 3 years of experience

Trimble Accubid Enterprise has a number of features that can significantly increase your estimating speed and accuracy. This hands on workshop builds on the knowledge learnt in the fundamentals workshop and covers the next level of assembly building for the Trimble Accubid Enterprise user. It will demonstrate the flexibility of Trimble Accubid Enterprise to allow you to define the amperage to automatically pick the wire size and conduit size as well as define minimums.

Attend this workshop to:

- Learn how to use and leverage advanced formulas
- Learn how to use tables for autosizing wire and conduit

**Specification Building with Trimble AutoBid Mechanical for more Accurate Estimates****EP-LAB-05**

Thursday, August 8, 2019

4:15 PM

Broadway A

Target audience	Mechanical and plumbing
Level	All levels

A key aspect of estimating is understanding Specification Schedules and how material specifications interact with pipe and fitting materials, valves, hangers and even insulation requirements. This hands on workshop explores the need-to-knows for successfully and efficiently creating assemblies used in estimating.

Attend this workshop to:

- Learn how to leverage the power of Trimble AutoBid Mechanical to create and use specifications for takeoff
- Gain a deeper understanding of pipe, fitting, joint, valve and hanger specifications
- Acquire the knowledge to refine your company specific specifications that results faster and more accurate estimates

**Tips & Tricks You Need to Know to Become a Trimble Estimation (Mech & HVAC) Power User****EP-LAB-09**

Thursday, August 8, 2019

4:15 PM

Hospitality A

Target audience	Mechanical and plumbing
Level	All levels

Calling all Trimble Estimation users! This hands-on workshop will provide mechanical and plumbing estimators with the skills needed to become a power user of the system. We will guide you through fine tuning your takeoff to increase efficiency, advanced reporting methodologies and best practices around database management. If you're looking to get more out of your software, we'll help take your skills to the next level in this session.

Attend this workshop to:

- Learn tips and tricks for Takeoff File Maintenance
- Understand Summary and Reporting
- Review best practices around Data File Maintenance

**The Power of Matching your Estimates to your Fab Shop Capabilities with Trimble AutoBid Sheet Metal****EP-LAB-04**

Friday, August 9, 2019

8:30 AM

Broadway A

Target audience	Mechanical
Level	Intermediate to advanced users with more than 3 years of experience

Every sheet metal shop is different — from the amount of space in the shop to the shop layout to the different types of automated machinery in that shop. Additionally, the fab shop capabilities directly effect your estimates and your company's bottom line. This hands on workshop will demonstrate how you can leverage Trimble AutoBid Sheet Metal to tightly match your estimates to your fab shop capabilities, improving your productivity and profitability.

Attend this workshop to:

- Learn how you can customize Trimble AutoBid Sheet Metal to the different types of duct you fabricate and install
- Gain a deeper understand duct construction standards
- Learn about the Construction Standard Groups

**Become the Company Expert in Assembly Building with Trimble Accubid Enterprise****EP-LAB-16**

Friday, August 9, 2019

8:30 AM

Balboa B

Target audience

Electrical

Level

Advanced users with more than 3 years of experience

Take your electrical estimating to the next level with a deep dive on the Trimble Accubid Enterprise's advanced feature set. This hands on workshop demonstrates how to create assemblies for power take off — including branch and homeruns based on job type and area. The session will review the importance of understanding and allowing for wire sizing due to voltage drop as part of the estimate.

Attend this workshop to:

- Learn how to use tables to leverage work types
- Learn how to use formulas in Trimble Accubid Enterprise to set up budget takeoffs
- Get an understanding of how to effectively estimate to accommodate voltage drops for branch runs

# TRACK

## DESIGN, DETAILING & FABRICATION

Targeted at individuals in CAD, BIM and VDC roles across the MEP trades — this track will provide a mix of hands-on and presentation-style sessions to give designers, detailers, and fabricators the skills needed to drive greater confidence in office-to-field workflows.

### PRESENTATIONS

#### Successfully Making the Move to Trimble EC-CAD Duct from Trimble DuctDesigner 3d

DDF-01

Wednesday, August 7, 2019 9:45 AM

Embarcadero

Target audience | Mechanical  
Level | All levels

Trimble EC-CAD enables mechanical detailers and designers to create detailed constructible 3D models in the CAD environment. Targeted at newer users, this session will review the implementation of Trimble EC-CAD and move from Trimble DuctDesigner 3D. Additionally it will cover the similarities and differences in workflow and how to successfully implement EC-CAD in your office.

Attend this session to:

- Learn how to set up Trimble EC-CAD for Duct
- Get an understanding of using EC-CAD with MEP Fabrication
- Learn how to effectively use Trimble EC-CAD for duct layout and annotation

#### Selecting the Best Design and Detailing Platform for your Shop — Revit, AutoCAD MEP, or AutoCAD

DDF-06

Wednesday, August 7, 2019 9:45 AM

Pacific A

Target audience | All MEP  
Level | All levels

Many contractors want to work directly in Revit while others prefer to remain in a DWG environment — provided they can collaborate effectively on Revit based projects. This session will review the Trimble's MEP design and detailing portfolio. It will cover the product solutions available today and why we offer solutions on Revit, AutoCAD MEP, and AutoCAD. The session will also discuss the benefits of the purpose built MEP platforms and the advantage of Trimble SysQue and Trimble EC-CAD being built natively on these platforms.

Attend this session to:

- Get a better understanding of the breadth and depth of the Trimble MEP portfolio for design and detailing work
- Gain insight into how to evaluate your options — Revit vs Revit Interoperability



**Working Effectively with Trimble EC-CAD for Pipe Fabrication Modeling****DDF-02**

Wednesday, August 7, 2019 11:00 AM

Pacific A

Target audience	Mechanical and plumbing
Level	Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble EC-CAD provides detailers with a variety of tools for mechanical pipe and plumbing fabrication modeling work. Targeted at newer users, this session will cover how to leverage these tools for within Trimble EC-CAD. It will cover how to create new filter groups in the database, edit parameters and add the new parts to the catalog. In addition, it will also demonstrate how to access the fittings in the software and how to effectively model piping using EC-CAD.

Attend this session to:

- Learn how to utilize Trimble EC-CAD for pipe fabrication
- Create custom spools and schedules
- Create and edit your catalog

**Leveraging the Power of Trimble SysQue for Electrical to Build Wire Reports****DDF-03**

Wednesday, August 7, 2019 1:15 PM

Pacific A

Target audience	Electrical
Level	All levels

Trimble SysQue is a powerful fabrication level detailing tool for designers involved in electrical work. Targeted at newer users, this session will review and demonstrate the specification settings in Trimble SysQue for electrical work. It will show how you can assign wire with wirefill and panel / circuit options, run both report types, change circuit assignments and wirefill assignments and rerun the wire reports for updated values. It will also demonstrate how to build electrical schematics inside of Trimble SysQue.

Attend this session to:

- Learn how to effectively assign wire configurations with Trimble SysQue
- Gain an understanding of how to report on assignments
- Learn how to change assignments within existing conduit

**Working Effectively with Trimble EC-CAD for Pipe****DDF-11**

Wednesday, August 7, 2019 1:15 PM

Embarcadero

Target audience	Mechanical and plumbing
Level	Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble EC-CAD is a powerful detailing and fabrication tool for mechanical and plumbing contractors. This session will provide an overview of how to setup Trimble EC-CAD for pipe to model efficiently. It covers how to customize your spools to get accurate information out of the model and to the shop as well as how to setup your system to meet your needs.

Attend this session to:

- Learn how to Model Piping in Trimble EC-CAD
- Learn how to setup fittings and routing preferences for quick layout
- Gain an understanding of the setup and ability to customize spools and spooling

**Ask the Expert - Effectively Leveraging Trimble SysQue to Trimble FabShop Workflows****DDF-15**

Wednesday, August 7, 2019 2:30 PM

Embarcadero

Target audience	Mechanical
Level	All levels

Trimble SysQue includes a range of functionality for fabrication ductwork from the model. This session will provide both an overview of the functionality as well as an opportunity for you to ask in depth, company specific questions of our experts. It will cover Trimble SysQue requirements for duct fabrication, Trimble FabShop requirements for SysQue duct fabrication and how to link Trimble SysQue to Trimble FabShop.

Attend this session to meet with our Trimble SysQue fabrication experts and have your questions answered!

**Making the move from AutoCAD to Revit****DDF-18**

Wednesday, August 7, 2019 2:30 PM

Pacific A

Target audience	Mechanical and plumbing
Level	All levels

You're an AutoCAD pro who can churn out construction drawings quickly and easily! Why go to all the trouble to learn a new software program and make the move to Autodesk Revit? Join Global Technology Evangelist and Cadalyst AutoCAD video tipster, Lynn Allen, as she takes you through the many reasons why making the move to Autodesk Revit is the right one and get on the path to true Constructability! And Lynn will help put your mind at ease regarding the difficulty of moving to Autodesk Revit, and discuss recommended paths to ensure success.

Attend this session to:

- Discover the advantages of making the move to a Building Information Modeler
- Learn some tips and techniques for making the move from AutoCAD to Revit
- To help you feel confident and comfortable about making the move to Revit

**Trimble SysQue and Building Data Managed Content****DDF-20**

Wednesday, August 7, 2019 3:45 PM

Pacific A

Target audience	All MEP
Level	All levels

If you're a Manufacturer, how do you get your content library into your Customer's hands while they perform their day-to-day duties, and how are you ensuring your Customers have your latest content? If you're an Estimator, Detailer, or Engineer, how are you ensuring you're using the latest, accurate manufacturer content when estimating and detailing? In this session, we will explore how Trimble is helping to bridge this gap by providing both Manufacturers and Estimators / Detailers / Engineers with a platform for distributing and sharing manufactured content.

Attend this session to:

- Learn how Trimble is managing manufacturer content
- Learn where Trimble sees the direction of content management in the MEP industry headed
- Learn the nuances of managed content and how it is managed and delivered to Users in the MEP BIM, CAD, and Estimation landscape

**Ask the Experts - Workflow interoperability between Trimble EC-CAD and Revit****DDF-10**

Thursday, August 8, 2019

8:00 AM

Embarcadero

Target audience | Mechanical and plumbing  
 Level | All levels

Trimble EC-CAD offers functionality for interoperability with Revit. This session will provide both an overview of the interoperability as well as an opportunity for you to ask in depth, company specific questions of our experts. Attend this session to meet with our EC-CAD piping and plumbing experts and have your questions answered!

Attend this session to meet with our EC-CAD piping and plumbing experts and have your questions answered!

**Scanning and Importing Objects from the Field into an Intelligent BIM Model****DDF-07**

Thursday, August 8, 2019

8:00 AM

Pacific A

Target audience | All MEP, architecture and structure  
 Level | Intermediate to advanced users with more than 3 years of experience

We've all been there before - you're in the field and a change is needed or requested. How do you quickly communicate this back to the office and update your coordinated model to ensure you're not introducing additional issues? Do you have the technology needed to do so? During this session, Nathan Moore with BL Halbert International will discuss an innovative way to communicate field changes back into his BIM model using his cell phone. Technologies included are Trimble SysQue, Revit, and Dynamo scripting.

Attend this session to:

- Gain an understand how to generate OBJ mesh files for importing into your SysQue model
- Learn how to modify OBJ mesh files in Dynamo for importing into Revit and SysQue

**Ask the Experts - Pipe Workflows in Trimble EC-CAD****DDF-09**

Thursday, August 8, 2019

9:15 AM

Embarcadero

Target audience | Mechanical and plumbing  
 Level | All levels

Trimble EC-CAD includes a range of functionality for piping and plumbing modeling work. This session will provide bothan overview of the functionality as well as an opportunity for you to ask in depth, company specific questions of our experts. Attend this session to meet with our EC-CAD piping and plumbing experts and have your questions answered!

Attend this session to meet with our EC-CAD piping and plumbing experts and have your questions answered!

**Engineering to Detailing Workflow Best Practices****DDF-19**

Thursday, August 8, 2019

9:15 AM

Pacific A

Target audience | Mechanical and plumbing  
 Level | All levels

Consuming an engineer's model for detailing offers the opportunity for significant time savings, but can it really be done effectively? In this session, we will explore how to detail using an engineer's model successfully from a company dedicated to doing so as a matter of routine. Learn best practices and tips and tricks for the Engineering-to-Detailing workflow as any pitfalls to avoid.

Attend this session to:

- Learn how to detail with an Engineer's model
- Learn tips and tricks for detailing from an Engineer's model
- Learn best practices for converting an Engineer's model to a model with actual manufacturer parts and a high level of detail

**You have Won the Bid — Now What? Using SysQue Weld to Track Project Costs****DDF-13**

Thursday, August 8, 2019

10:30 AM

Pacific A

Target audience | All MEP  
 Level | All levels

So you have won the bid? That's great news! How will you track your costs and ensure that you are not exceeding your estimates and going over budget? Your margins are on the literally on the line with every project! This session will cover Trimble Weld, a new platform used to aggregate project data from estimation through to detailing and fabrication so that your team can track project costs more accurately and effectively. It will also cover the estimation-to-detailing workflows as well as how the Trimble Cloud is used to aggregate and present this data.

Attend this session to:

- Learn how BIM workflows can be used to track project costs from estimation to detailing and fabrication
- Learn how content can be shared between estimation and detailing
- Learn how web-based products are the future of the BIM industry

**Understanding and Leveraging Trimble EC-CAD and Revit Interoperability in a DWG Environment****DDF-05**

Thursday, August 8, 2019

1:45 PM

Embarcadero

Target audience | Mechanical  
 Level | All levels

The Trimble's MEP portfolio for design, detailing and fabrication offers solutions that are Revit, AutoCAD MEP, and AutoCAD based, addressing the preferences of those who want to work in the different environments — Revit AutoCAD MEP or AutoCAD. This session provide an overview of the Trimble portfolio and Revit interoperability for customers that prefer to work in the DWG environment but need to communicate with project stakeholders that are using Revit. It will demonstrate how users can leverage Trimble EC-CAD for AutoCAD MEP and best practices for importing Revit files to start your projects. It will also review how to export files back to Revit for coordination and for submitting project as-built models to achieve the highest level of Revit interoperability.

Attend this session to:

- Learn how Trimble EC-CAD can run natively inside of AutoCAD MEP and also provide a high level of Revit interoperability
- Get an understanding of using Trimble EC-CAD with MEPFabrication
- Gain a deeper understanding of Trimble's commitment as your partner — regardless of where you are on your CAD Journey

**Lessons Learned — The Design Assist Best Workflow and Best Practices****DDF-12**

Thursday, August 8, 2019

1:45 PM

Pacific A

Target audience | Mechanical and plumbing  
 Level | Advanced users with more than 3 years of experience

When Harrell-Fish was contracted to lead BIM coordination as well as provide mechanical and plumbing modeling for a new building on Purdue University's campus, they knew their involvement would require complex coordination and strong communication with the other stakeholders on the project. Due to the unique structural requirements of the building, they needed to coordinate and model out the mechanical and plumbing elements in tandem with the building's overall design. What did they do to keep pace, maintain quality, and manage their costs on this project?

Attend this session and hear from Jeff Miller at Harrell-Fish discuss some of the challenges and best practices his team have leveraged to add value to his company's latest project. Jeff Miller will cover:

- Design-Assist best practices
- How to overcome common coordination issues
- How to detail in tandem with building design

**Minimize Fabrication Exceptions Using Trimble SysQue for Duct Export to Trimble FabShop****DDF-04**

Thursday, August 8, 2019

3:00 PM

Pacific A

Target audience | Mechanical  
 Level | All levels

Leveraging Trimble SysQue for duct with Trimble FabShop, designers and detailers can minimize fabrication exceptions — which minimizes waste and improves margins. Targeted at newer users, this session will demonstrate how to use Trimble SysQue for Duct to export for fabrication. The session will review the requirements and capabilities within both Trimble SysQue and Trimble FabShop to ensure a smooth production and fabrication workflow. It will also review the 'basic' requirements and explore some more advanced functionality such as default settings and using formulas within the Trimble SysQue families.

Attend this session to:

- Learn how to configure pressure classes in Trimble FabShop and Trimble SysQue
- Learn how to configure fitting defaults in Trimble SysQue — including within formulas
- Get an understanding of how to map naming conventions between Trimble SysQue and Trimble FabShop

**Ask the Experts - Duct Workflows in Trimble EC-CAD****DDF-08**

Thursday, August 8, 2019

4:15 PM

Embarcadero

Target audience | Mechanical  
 Level | All levels

Trimble EC-CAD includes a range of functionality for duct modeling work. This session will provide both an overview of the functionality as well as an opportunity for you to ask in depth, company specific questions of our experts.

Attend this session to meet with our EC-CAD duct experts and have your questions answered!



**Ask the Expert - Mastering the Duct and Pipe Workflows in Trimble SysQue****DDF-17**

Thursday, August 8, 2019

4:15 PM

Pacific A

Target audience | Mechanical and plumbing

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble SysQue includes powerful functionality for duct and pipe modeling workflows. This session will provide best practices and Tips and Tricks for mastering these workflows. It will demonstrate new features and functionality to quickly and accurately coordinate your model as well as the "right way" to customize your systems specifications and routing preferences. The session will additionally review the preferred Revit environment to view and / or edit to ensure the results you need when routing duct and pipe and how to take advantage of the new Trimble SysQue duct and pipe view templates.

Attend this session to meet with our Trimble SysQue fabrication experts and have your questions answered!

**What's New with Trimble SysQue?****DDF-16**

Friday, August 9, 2019

8:30 AM

Pacific A

Target audience | Mechanical and plumbing

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble SysQue continues to evolve with powerful functionality for contractors to design in Revit with real-world, manufacturing-specific MEP content that is ready for fabrication. This session will provide an overview of the new features and functionality in Trimble SysQue 2019 from releases 6.5 & 7.0. It will demonstrate how new Trimble SysQue features improve your workflow efficiencies — making you and your design team more productive.

Features and functionality that will be covered include:

- SysQue Properties Palette
- Duct UI Improvement
- Duct Palette Improvements
- Duct Editing Workflow Performance
- Duct Break Commands
- Duct Annotation Automation
- PAC Improvements

**Making Sense of the Evolving Landscape for Design, Detailing and Fabrication****DDF-14**

Friday, August 9, 2019

8:30 AM

Embarcadero

Target audience | All MEP

Level | All levels

The BIM and CAD landscape is evolving, encouraging adoption of new tools and workflows. Are you ready for change? This session led by Trimble Product Managers David Derocher and Ben Stallsworth will discuss the results of recent polling data from across the industry to understand what tools people are using today for detailing. Additionally the session will take a look at where Trimble sees the industry headed and how BIM detailers can stay at the forefront of the latest technology innovations disrupting construction technology.

Attend this session to:

- Learn what platforms others are using in the industry for design and detailing work
- Learn how to effectively achieve interoperability with engineering and architectural drawings
- Gain insight into where Trimble sees the industry headed

**Fabrication Focus: A Leading Duct Manufacturer's Perspective****DDF-21**

Friday, August 9, 2019

9:45 AM

Pacific A

Target audience | Mechanical  
Level | All levels

Hamlin Companies leverages Trimble EC-CAD helps drive their Rectangular, Round and Oval Duct Manufacturing facility. Attend this session to hear from Katherine Anne Hamlin, Vice President of The Duct Manufacturer's and gain insight into how Hamlin Companies manages their flow of data both internally and externally to produce top quality manufactured ductwork. The session will review how they receive job data in and require job data to be submitted out in many different formats.

**HANDS ON LABS****Maximizing Workflows using Trimble SysQue and Revit****DDF-LAB-04**

Wednesday, August 7, 2019

9:45 AM

Broadway B

Target audience | All MEP  
Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Fabrication level detailing requires current content — size, dimension, material type and more. This hands on workshop will explore best practices for ensuring current content and driving efficiencies. The workshop will cover how to create a multi-user environment, worksets, view-templates and filters in Trimble SysQue. Additionally it will review Trimble SysQue workflows and preparations necessary to minimize productivity losses. There will be a check on learning in copying and renaming existing systems, building hanger specifications, insulation specifications, filters and schedules as well as view templates so you can create a company template.

Attend this workshop to:

- Learn how to use Trimble SysQue tools to build systems, hanger and insulation specifications
- Gain insights into best practices related to managing model size and worksets to easily manage your models
- Review, build and manage view templates within Trimble SysQue

**Implementation and Best Practices for Mechanical Spooling — Trimble SysQue Prefabrication****DDF-LAB-06**

Wednesday, August 7, 2019

9:45 AM

Hospitality A

Target audience | Mechanical  
Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble SysQue enables designers and contractors to design in Revit with real-world, manufacturing-specific MEP content that is ready for fabrication. Targeted at mechanical and plumbing contractors making the shift to Revit and Trimble SysQue, this hands on workshop explores the implementation process in setting up spooling. It will demonstrate how to set up accurate and automated spool sheets for both the fab shop and field personnel.

Attend this workshop to:

Create automated, parametric spool drawings with schedules and tags

- Learn how to quickly modify and revise spools
- Create categorical schedules, broken out by spool number

**Maximizing Workflows using Trimble SysQue and Revit****DDF-LAB-04**

Wednesday, August 7, 2019 1:15 PM

Hospitality A

Target audience	All MEP
Level	Beginner to intermediate users with working knowledge in the industry and its toolset

Fabrication level detailing requires current content — size, dimension, material type and more. This hands on workshop will explore best practices for ensuring current content and driving efficiencies. The workshop will cover how to create a multi-user environment, worksets, view-templates and filters in Trimble SysQue. Additionally it will review Trimble SysQue workflows and preparations necessary to minimize productivity losses. There will be a check on learning in copying and renaming existing systems, building hanger specifications, insulation specifications, filters and schedules as well as view templates so you can create a company template.

Attend this workshop to:

- Learn how to use Trimble SysQue tools to build systems, hanger and insulation specifications
- Gain insights into best practices related to managing model size and worksets to easily manage your models
- Review, build and manage view templates within Trimble SysQue

**Implementation and Best Practices for Mechanical Spooling — Trimble SysQue Prefabrication****DDF-LAB-06**

Wednesday, August 7, 2019 1:15 PM

Broadway B

Target audience	Mechanical
Level	Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble SysQue enables designers and contractors to design in Revit with real-world, manufacturing-specific MEP content that is ready for fabrication. Targeted at mechanical and plumbing contractors making the shift to Revit and Trimble SysQue, this hands on workshop explores the implementation process in setting up spooling. It will demonstrate how to set up accurate and automated spool sheets for both the fab shop and field personnel.

Attend this workshop to:

- Create automated, parametric spool drawings with schedules and tags
- Learn how to quickly modify and revise spools
  - Create categorical schedules, broken out by spool number

**Customizing Tags, Tools and Schedules in Trimble EC-CAD****DDF-LAB-02**

Wednesday, August 7, 2019 3:45 PM

Hospitality A

Target audience	Mechanical
Level	All levels

Trimble EC-CAD provides mechanical detailers and designers with the flexibility to create fabrication models, spooling sheets and direct download to your shop fabrication software. Targeted at newer users, this session will provide an overview of how to create custom property sets, add the property sets to the model, create custom tags and schedules and how to manage and update your drawings with the new data.

Attend this workshop to:

- Learn how to define new data
- Learn how to create custom schedules
- Creating Custom Annotation

**Harnessing Revit Schedules to Provide Automated, Accurate, Material Lists for Trimble SysQue****DDF-LAB-05**

Wednesday, August 7, 2019 3:45 PM

Broadway B

Target audience	Mechanical and plumbing
Level	Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble SysQue enables designers to work with a seamless workflow from design to fabrication to construction. This hands on workshop will provide an introduction to the structure and functionality of schedules in Revit and how they interface with Trimble SysQue. Topics will include the organization and creation of schedules of different varieties. It will also review options for adding information to model elements and how that information effects the schedule or annotation using The Trimble SysQue "Project Data" and Revit's Shared Project Parameters.

Attend this workshop to:

- Create accurate material lists for mechanical and plumbing categories
- Leverage custom-made parameters to reflect necessary data your modeling work
- Learn how Trimble SysQue can to imply parameter information automatically

**Content Best Practices in Trimble SysQue****DDF-LAB-07**

Thursday, August 8, 2019 8:00 AM

Broadway B

Target audience	All MEP
Level	Beginner to intermediate users with working knowledge in the industry and its toolset

Your organization needs to use a common set of content in order to control costs and increase predictability across projects. Meanwhile, manufacturer content is constantly changing and evolving. How do you manage this data? Targeted at mechanical and plumbing contractors, this hands on workshop will demonstrate how to leverage Trimble SysQue content and what type of content is managed inside of Trimble SysQue. It will also explore how Trimble SysQue content can be used and customized to meet your organization's unique needs.

Attend this workshop to:

- Learn the breadth of Trimble SysQue content and the disciplines it covers
- Learn how to setup and structure content for use in Trimble SysQue
- Learn how to add custom parameters and information into Trimble SysQue content for fabrication and reporting

**Become the Master of Reports in Trimble SysQue****DDF-LAB-09**

Thursday, August 8, 2019 9:45 AM

Broadway B

Target audience	All MEP
Level	All levels

You've created a beautifully detailed model and are ready to go to pre-fabrication. But before you do, you need to determine how much will the parts in your model cost? How do you get approvals from your foreman or engineering team for the parts and manufacturers you've used? This hands on workshop will explore how to build Bill of Materials (BOM) and submittal reports inside of Trimble SysQue. We will discuss best practices for structuring this content so that it can be easily consumed by downstream stakeholders.

Attend this workshop to:

- Become an expert at creating and running Bill of Material (BOM) reports inside of Trimble SysQue
- Learn how to create and run submittal reports inside of Trimble SysQue
- Learn best practices for structuring your data when creating reports

**Configuring and Optimizing your Trimble SysQue Environment for Electrical Detailing****DDF-LAB-01**

Thursday, August 8, 2019

1:45 PM

Broadway B

Target audience | Electrical

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble SysQue is a powerful fabrication level electrical modeling and detailing tool. This hands on workshop targeted at the new user, explores how to leverage add systems and families for more efficient modeling work. It will cover the different type of conduit systems and how to configuring the specification settings for wire data. The workshop will also demonstrate how to create systems for electrical trays and the value Trimble SysQue brings to coordination versus out of the box Revit families.

Attend this workshop to:

- Learn how to build Trimble SysQue systems and define wire configurations for electrical modeling
- Learn about the differences between the Trimble SysQue and Revit trays
- Have the opportunity to provide input for future feature requests

**The Advantage of Migrating to Trimble EC-CAD from Trimble DuctDesigner 3D****DDF-LAB-03**

Thursday, August 8, 2019

1:45 PM

Hospitality A

Target audience | Mechanical

Level | All levels

Trimble EC-CAD is an easy-to-learn solution designed to accommodate manufacturer content within AutoCAD and is the Trimble CAD based solution for duct modeling in AutoCAD MEP. Targeted at users familiar with Trimble DuctDesigner 3D, this hands on workshop will demonstrate both the similarities and differences between the two products. The workshop will also cover how to setup your Trimble EC-CAD database to meet your shop needs and will demonstrate how you can quickly and efficiently model.

Attend this workshop to:

- Learn how you can model efficiently in Trimble EC-CAD and the value of migrating from Trimble DuctDesigner 3D
- Learn how to effectively setup your duct database in Trimble EC-CAD
- Gain an understanding of similarities and differences between Trimble EC-CAD and DuctDesigner 3D to support your migration to Trimble EC-CAD

**Mastering Supports and Managing Points in Trimble SysQue****DDF-LAB-08**

Thursday, August 8, 2019

4:15 PM

Broadway B

Target audience | All MEP

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

You've constructed your model and have gone through and meticulously added all of your supports. Now how do you export those points out to the field? Targeted at mechanical, plumbing and electrical contractors, this hands on workshop will explore best practices for using supports inside of Trimble SysQue. It will also walk through how points are managed inside of Trimble SysQue and best practices for using them and demonstrate how to export points out for use in the field.

Attend this workshop to:

- Learn how to use supports inside of Trimble SysQue
- Learn best practices for creating and managing points in Trimble SysQue
- Learn best practices for exporting points out to the field



**Configuring and Optimizing your Trimble SysQue Environment for Electrical Detailing****DDF-LAB-01**

Friday, August 9, 2019

8:30 AM

Broadway B

Target audience | Electrical

Level | Beginner to intermediate users with working knowledge in the industry and its toolset

Trimble SysQue is a powerful fabrication level electrical modeling and detailing tool. This hands on workshop targeted at the new user, explores how to leverage add systems and families for more efficient modeling work. It will cover the different type of conduit systems and how to configuring the specification settings for wire data. The workshop will also demonstrate how to create systems for electrical trays and the value Trimble SysQue brings to coordination versus out of the box Revit families.

Attend this workshop to:

- Learn how to build Trimble SysQue systems and define wire configurations for electrical modeling
- Learn about the differences between the Trimble SysQue and Revit trays
- Have the opportunity to provide input for future feature requests

**The Advantage of Migrating to Trimble EC-CAD from Trimble DuctDesigner 3D****DDF-LAB-03**

Friday, August 9, 2019

8:30 AM

Hospitality A

Target audience | Mechanical

Level | All levels

Trimble EC-CAD is an easy-to-learn solution designed to accommodate manufacturer content within AutoCAD and is the Trimble CAD based solution for duct modeling in AutoCAD MEP. Targeted at users familiar with Trimble DuctDesigner 3D, this hands on workshop will demonstrate both the similarities and differences between the two products. The workshop will also cover how to setup your Trimble EC-CAD database to meet your shop needs and will demonstrate how you can quickly and efficiently model.

Attend this workshop to:

- Learn how you can model efficiently in Trimble EC-CAD and the value of migrating from Trimble DuctDesigner 3D
- Learn how to effectively setup your duct database in Trimble EC-CAD
- Gain an understanding of similarities and differences between Trimble EC-CAD and DuctDesigner 3D to support your migration to Trimble EC-CAD

# TRACK

## ON THE JOBSITE

Targeted at field personnel across the MEP trades — this track will provide a mix of hands-on labs and in-depth classroom sessions focused around field layout with robotic total stations, 3D laser scanning, and mixed reality technologies to enhance current skills or develop new processes to apply to field workflows.

### PRESENTATIONS

#### Using Mixed Reality and Trimble Connect for HoloLens on your Project

OTJ-01

Wednesday, August 7, 2019

11:00 AM

Harbor

Target audience | All MEP  
Level | All levels

Trimble Connect for HoloLens utilizes mixed reality for site productivity by providing precise alignment of holographic data on the job site, enabling workers to review their models overlaid in the context of the physical environment. This session will introduce you to mixed reality workflows using the Trimble Connect for HoloLens application. The session will cover features, workflows, and the value of using mixed reality on your project. It will provide an understanding of the features included with the Trimble Connect for HoloLens application. It will provide attendees with insight into the value of using mixed reality on your project.

Attend this session to:

- Learn about features, workflows, and the value of using mixed reality on your project
- Get an understanding of the features included with the Trimble Connect for HoloLens application
- Learn about workflows using Trimble Connect and Trimble Connect for HoloLens
- Gain insights into the value of using mixed reality on your project

#### How to Maintain Accuracy in High Rise Construction

OTJ-07

Wednesday, August 7, 2019

1:15 PM

Harbor

Target audience | All MEP  
Level | All levels

Learn how field layout technology was used on a 62-story building that required the location of 6000 points per floor. Using the Trimble Robotic Total Station, the Trimble R8s GNSS receiver, and Trimble Field Link a field layout process was developed to achieve the General Contractor's requirement of a 4-day turnaround per floor with a 95% accuracy rating on the placement of all sleeves and inserts.

**Trimble Field Link v5: What Can It Do for You?****OTJ-04**

Wednesday, August 7, 2019

3:45 PM

Harbor

Target audience	All MEP
Level	All levels

Trimble Field Link enables you to extend your layout capabilities, simplify tasks, and improve accuracy for crews in the field. For robotic total station users, this session will provide a deep dive into the new features provided with the release of Trimble Field Link version 5. It will also cover advanced features in Trimble Field Link and tips-and-tricks for successful field layout using Trimble Field Link.

Attend this session to:

- Learn about new features in Trimble Field Link version 5
- Learn about advanced features in Trimble Field Link
- Learn tips-and-tricks for successful field layout using Trimble Field Link

**Layout Technology Solutions - Customer Testimonials****OTJ-10**

Thursday, August 8, 2019

8:00 AM

Harbor

Target audience	All MEP
Level	All levels

This session is to present customer testimonials from varying size MEP contractors in the Midwest on their use of implementing and using Trimble layout solutions on projects. This session will discuss challenges companies have had, benefits gained, and overall feedback on Trimble layout solutions for specific projects, as well as the company as a whole. We will also discuss the typical workflows for these companies/projects and see how different size companies might differ, or be similar in how they are utilizing the technology.

Attend this session to:

- Learn about how Midwest Customers of varying sizes are utilizing layout workflows
- Get an understanding of the challenges that had to be overcome on projects
- Gain insights into the short term and long term benefits of implementing Trimble layout solutions

**Trimble SiteVision - Outdoor High Accuracy Augmented Reality****OTJ-09**

Thursday, August 8, 2019

9:15 AM

Harbor

Target audience	All MEP
Level	All levels

Trimble SiteVision is a high accuracy outdoor visualization of spatial data accomplished by integrating GNSS and augmented reality. SiteVision uses your mobile android phone, Trimble Catalyst, BIM model and Trimble Connect to overlay your model accurately in the field. This overlay of Model to real-world coordinates and project sites allows for various QA/QC workflows. This session will explore these workflows and show users how they can use them in their business to be more accurate.

Attend this session to:

- Get an introduction to Trimble SiteVision — the hardware, corrections, connect and workflows
- Learn how to use Trimble SiteVision for QA/QC on a buildings project
- Learn about point measurements, to do's, cut/fill, EDM, as well as the transfer of field conditions back to the office

**Overview of Creating Field Points for Layout with Robotic Total Stations****OTJ-02**

Thursday, August 8, 2019

10:30 AM

Harbor

Target audience | All MEP  
Level | All levels

Trimble Field Points enables you to easily create field layout points in SketchUp, AutoCAD, or Revit. This session will provide an overview of creating field points for layout using a robotic total station using Trimble Field Points. Learn best practices as well as tips-and-tricks for successful point creation workflows.

Attend this session to:

- Learn the features of Trimble Field Points
- Learn best practices for successful point creation workflows
- Learn tips-and-tricks for successful point creation workflows

**What's New in Field Technology for the MEP Industry?****OTJ-05**

Thursday, August 8, 2019

1:45 PM

Harbor

Target audience | All MEP  
Level | All levels

Trimble has a broad portfolio of hardware solutions for the contractor. This session will review the latest developments from Trimble. Learn about the latest hardware developments for field layout and 3D capture and how these products are changing the construction industry.

Attend this session to:

- Learn about field layout solutions from Trimble
- Learn about 3D capture solutions from Trimble
- Learn about industry trends and how to address them with field technology

**The Most Common Field Layout Support Issues and how to Troubleshoot Them****OTJ-11**

Thursday, August 8, 2019

3:00 PM

Harbor

Target audience | All MEP  
Level | Beginner to intermediate users with working knowledge in the industry and its toolset

This session would cover the most common support issues that I have ran across in the field. From connection issues, points coming in with different coordinates, to drawings importing in at the in correct scale. We will review what causes these issues, how to troubleshoot in the field, and how to correct them. It will cover common connection issues, how to address common csv and txt file issues and drawing and point file scale problems and how to correct them.

Attend this session to:

- How to troubleshoot connection issues
- How to address common csv and txt file issues
- Learn about drawing and point file scale problems and how to correct them

**Utilizing 3D Scanning to Implement Prefabrication in Existing Transit Space****OTJ-08**

Thursday, August 8, 2019

4:15 PM

Harbor

Target audience | All MEP  
Level | All levels

Session description: NYC transit jobs require a fast paced approach to design and construction. Hear how E-J Electric, the oldest independently owned electrical contractor in the United States, has advanced its technology and prefabrication operations to meet the needs of one of the most demanding pieces of infrastructure in New York City.

**Exploring Trimble Field Link Office****OTJ-03**

Friday, August 9, 2019

8:30 AM

Harbor

Target audience | All MEP  
Level | All levels

Trimble Field Link enables you to visualize, manage, and share your field data and results. This session will provide an overview of the features and workflows in Trimble Field Link Office and how it connects with your field layout workflow using Trimble Field Link. The session will cover field point creation when you do not have access to a CAD platform, how to transfer points from the office the field and how to check your layout files in the office before sending them out to the field for layout.

Attend this session to:

- Learn basic field point creation when you do not have access to a CAD platform
- Learn how to transfer points from the office the field
- Learn how to check your layout files in the office before sending them out to the field for layout

**Using 3D Laser Scanning for Construction Verification****OTJ-06**

Friday, August 9, 2019

9:45 AM

Harbor

Target audience | All MEP  
Level | All levels

Trimble 3D laser scanning solutions enable you to capture existing building conditions, documents the progression of construction, and transforms scan data to 3D models for visualization. The session will look at how 3D laser scanning is being used for construction verification. You will learn about different ways scan data can be used to evaluate as-built conditions using the 3D model to ensure accuracy during construction.

Attend this session to:

- Learn how Trimble 3D laser scanning solutions are being used for construction verification
- Learn about different ways contractors use scan data for quality control on a project
- Learn how to evaluate as-built conditions using scan data and the 3D model

**HANDS ON LABS****3D Laser Scanning: Creating 3D Models and Sharing Scan Data****OTJ-LAB-03**

Wednesday, August 7, 2019

9:45 AM

Hospitality B

Target audience | All MEP  
Level | Beginners with less than 18 months of industry or product experience

This hands-on scanning lab will familiarize students with the 3D modeling and publishing features in Trimble RealWorks. Students will take scan data to generate 3D models from the point cloud and then prepare this data to export out to AutoCAD or Revit. Students will also become familiar with sharing data using the Scan Explorer interface in Trimble RealWorks.

Attend this workshop to:

- Get an understanding of how to generate 3D models and extract centerlines in RealWorks
- Learn best practices for exporting the point cloud out of RealWorks and into AutoCAD and Revit
- Learn how to publish data using Scan Explorer in RealWorks

**Robotic Total Station Operation and Usage 101****OTJ-LAB-05**

Wednesday, August 7, 2019

9:45 AM

Pacific B

Target audience	All MEP
Level	Beginners with less than 18 months of industry or product experience

If you are new to the world of layout using robotic total stations, then this lab is for you! The topics covered in this class are for those looking to get hands-on experience operating a Trimble robotic total station using the Trimble Field Link software.

Attend this workshop to:

- Get an overview of a robotic total station system
- Learn how to transfer data between the office and the field
- Learn how to perform layout with a robotic total station

**3D Laser Scanning: The Basics of 3D Laser Scanning****OTJ-LAB-01**

Wednesday, August 7, 2019

1:15 PM

Hospitality B

Target audience	All MEP
Level	Beginners with less than 18 months of industry or product experience

This hands-on scanning lab is designed to provide you with an overview of capturing 3D laser scans in the field using the TX-series 3D laser scanner and Trimble RealWorks scanning software. After participating in this session, students will understand best practices for capturing scan data in the field, importing, and registering scan data using Trimble RealWorks to create a composite 3D point cloud.

Attend this workshop to:

- Gain insights into best practices for capturing scan data in the field
- Learn how to import and register scan data using Trimble RealWorks
- Learn best practices for creating a composite 3D point cloud

**Robotic Total Station Operation and Usage 201****OTJ-LAB-06**

Wednesday, August 7, 2019

1:15 PM

Pacific B

Target audience	All MEP
Level	Intermediate to advanced users with more than 3 years of experience

If you have been operating a robotic total station for a while and are looking for advanced hands-on training, then this session is for you! This session will cover advanced point control, advanced layer controls, point layout, and data collection. It will also cover reference elevation, exporting data, and creating reports.

Attend this workshop to:

- Learn about advanced point control
- Learn about advanced layer controls, point layout, and data collection
- Learn about reference elevation, exporting data, and creating reports

**3D Laser Scanning: Preparing Scan Data for BIM****OTJ-LAB-02**

Wednesday, August 7, 2019

3:45 PM

Hospitality B

Target audience	All MEP
Level	Beginners with less than 18 months of industry or product experience

This hands-on scanning lab will utilize Trimble RealWorks to prepare registered 3D scan data for use with the project Building Information Model (BIM). Working in Trimble RealWorks, students will take 3D points clouds and rotate the data to match project drawings, georeference the point cloud to a project coordinate system, and utilize the limit-box extraction tool in RealWorks to quickly isolate specific areas in the point cloud and share them with the project team.

Attend this workshop to:

- Learn how to take registered 3D point clouds in RealWorks and rotate the data to match project drawings
- Learn how to georeference the 3D scan data in RealWorks to align with a project coordinate system
- Learn how to quickly isolate specific areas in the point cloud using the limit-box extraction tool in RealWorks

**Collecting Point Data from the Field with a Robotic Total Station****OTJ-LAB-07**

Wednesday, August 7, 2019

3:45 PM

Pacific B

Target audience	All MEP
Level	All levels

For all users of Trimble robotic total stations, this session will go through collecting data from the field and exporting reports using Trimble Field Link. This session will cover how to collect field points with a robotic total station, export collected field points to the office and create reports using Trimble Field Link.

Attend this workshop to:

- Learn how to collect field points with a robotic total station
- Learn how to export collected field points to the office
- Learn how to create reports using Trimble Field Link

**Robotic Total Station Control Point Setup and Advanced Control****OTJ-LAB-08**

Thursday, August 8, 2019

8:00 AM

Pacific B

Target audience	All MEP
Level	All levels

For robotic total station operators, this session covers everything having to do with setting up on the jobsite, transferring control points, and common mistakes to avoid. This session will cover best practices for setting up instruments on a jobsite, common mistakes and pitfalls to avoid in the field and how to create new and transferring control points as you move through the jobsite.

Attend this workshop to:

- Learn best practices for setting up instruments on a jobsite
- Learn about common mistakes and pitfalls to avoid in the field
- Learn about creating new and transferring control points as you move through the jobsite

**3D Laser Scanning: Creating 3D Models and Sharing Scan Data****OTJ-LAB-03**

Thursday, August 8, 2019

9:45 AM

Hospitality B

Target audience | All MEP

Level | Beginners with less than 18 months of industry or product experience

This hands-on scanning lab will familiarize students with the 3D modeling and publishing features in Trimble RealWorks. Students will take scan data to generate 3D models from the point cloud and then prepare this data to export out to AutoCAD or Revit. Students will also become familiar with sharing data using the Scan Explorer interface in Trimble RealWorks.

Attend this workshop to:

- Get an understanding of how to generate 3D models and extract centerlines in RealWorks
- Learn best practices for exporting the point cloud out of RealWorks and into AutoCAD and Revit
- Learn how to publish data using Scan Explorer in RealWorks

**3D Laser Scanning: The Basics of 3D Laser Scanning****OTJ-LAB-01**

Thursday, August 8, 2019

1:45 PM

Hospitality B

Target audience | All MEP

Level | Beginners with less than 18 months of industry or product experience

This hands-on scanning lab is designed to provide you with an overview of capturing 3D laser scans in the field using the TX-series 3D laser scanner and Trimble RealWorks scanning software. After participating in this session, students will understand best practices for capturing scan data in the field, importing, and registering scan data using Trimble RealWorks to create a composite 3D point cloud.

Attend this workshop to:

- Gain insights into best practices for capturing scan data in the field
- Learn how to import and register scan data using Trimble RealWorks
- Learn best practices for creating a composite 3D point cloud

**Introduction to the Next Generation of Design and Point Cloud Editing Software****OTJ-LAB-04**

Thursday, August 8, 2019

4:15 PM

Hospitality B

Target audience | All MEP

Level | All levels

In this session, you will learn about the next generation of point cloud editing software to use with your 3D laser scanner hardware to provide analysis, collaboration, and visualization tools for the constructible workflow from Trimble Buildings.

Attend this workshop to:

- Learn about advanced 3D model integration tools for deviation analysis, load path planning, real-time clash detection, and point cloud-to-model comparison tools
- Learn how to manipulate point cloud data like a 3D photograph to select objects such as pipes, ductwork, or steel beams
- Learn how to add 360 panoramic images to your scan data for viewing with project teams



**3D Laser Scanning: Preparing Scan Data for BIM****OTJ-LAB-02**

Friday, August 9, 2019

8:30 AM

Hospitality B

Target audience	All MEP
Level	Beginners with less than 18 months of industry or product experience

This hands-on scanning lab will utilize Trimble RealWorks to prepare registered 3D scan data for use with the project Building Information Model (BIM). Working in Trimble RealWorks, students will take 3D points clouds and rotate the data to match project drawings, georeference the point cloud to a project coordinate system, and utilize the limit-box extraction tool in RealWorks to quickly isolate specific areas in the point cloud and share them with the project team.

Attend this workshop to:

- Learn how to take registered 3D point clouds in RealWorks and rotate the data to match project drawings
- Learn how to georeference the 3D scan data in RealWorks to align with a project coordinate system
- Learn how to quickly isolate specific areas in the point cloud using the limit-box extraction tool in RealWorks

# TRACK

## PLANNING & MANAGING

Targeted at managers across the MEP trades — this track will provide a mix of hands-on and in-depth sessions that will give attendees solutions to improve the productivity of their business through automation and software adoption.

### PRESENTATIONS

#### Implementing AllTrak and managing your tool and equipment inventory

PM-05

Wednesday, August 7, 2019 11:00 AM

Embarcadero

Target audience | All MEP  
Level | All levels

This session will cover how to reduce the administration required in tool and equipment management. From where my tools are, who has them to when are my service intervals and when are my rentals due; asset management offers one of the greatest return on investments a contractor can make.

#### Don't Stress About your Workforce (and burn the filing cabinet): Manage Training, Jobsites & Badging

PM-01

Wednesday, August 7, 2019 2:30 PM

Harbor

Target audience | All MEP  
Level | All levels

OSHA training, mandatory documentation, worker badges, communication - in this session we'll show you how you can manage all of this from a simple, cost-effective, solution which makes keeping your business compliant and professional without all the admin cost and time. We'll show you how to digitize your worker records, communicate with workers, issue your whole team with ID badges and be alerted whenever critical training or documentation is out-of-date or missing, avoiding OSHA fines.

Attend this session to:

- Get an understanding of how to simplify your business' admin requirements
- Learn how Trimble is moving into workforce management
- Learn how to easily satisfy General Contractor labor requirements

#### Integration Support for Trimble Estimating into ViewPoint ERPs

PM-03

Wednesday, August 7, 2019 3:45 PM

Embarcadero

Target audience | All MEP  
Level | All levels

The hard work of winning a bid is just the start of your journey. Leveraging the estimated costs of labor and materials to establish buyout lists and measures of actuals versus plan is part of a successful construction project. This session will demonstrate how Viewpoint Spectrum and Vista are able to take estimating information from Trimble Accubid, AutoBid and Estimation and create project phases, buyout lists, and estimated costs by phase.

Attend this session to:

- Learn how you can integrate your Trimble estimating solution into Viewpoint
- Gain an understanding of the business benefits of such an integration
- How Viewpoint ERP can help your business

**How MEP Businesses Can Be Part of the Connected Construction Revolution****PM-02**

Thursday, August 8, 2019

10:30 AM

Embarcadero

Target audience | All MEP  
Level | All levels

Trimble Connect is a new way for designers, builders, owners and operators to collaborate, share and view project information. This session reviews how Trimble Connect and constructible workflows improve productivity, BIM collaboration, constructibility analysis, and office to field communication.

Attend this session to:

- Learn about Trimble Connect
- Find out how MEP BIM deliverables can be shared with project teams through Trimble Connect
- Understand how data in design context enables better decision making

**How Viewpoint is Integrating the Office to the Field via Project Teams****PM-04**

Thursday, August 8, 2019

3:00 PM

Embarcadero

Target audience | All MEP  
Level | All levels

Viewpoint, a recent addition to the Trimble family, is focused on connecting critical business functions for the construction industry, like accounting and project management with field operations. This session will demonstrate Viewpoint's highly collaborative and intuitive cloud-based solutions and how it can be tailored to organizations of any size.

Attend this session to:

- Get an understand of how you can accelerate your field administration
- Gain insight into leveraging your ERP in the field effectively
- Learn how your business can benefit from implementing a field apps solution

**Don't Stress About your Workforce (and burn the filing cabinet): Manage Training, Jobsites & Badging****PM-01**

Friday, August 9, 2019

9:45 AM

Embarcadero

Target audience | All MEP  
Level | All levels

OSHA training, mandatory documentation, worker badges, communication - in this session we'll show you how you can manage all of this from a simple, cost-effective, solution which makes keeping your business compliant and professional without all the admin cost and time. We'll show you how to digitize your worker records, communicate with workers, issue your whole team with ID badges and be alerted whenever critical training or documentation is out-of-date or missing, avoiding OSHA fines.

Attend this session to:

- Get an understanding of how to simplify your business' admin requirements
- Learn how Trimble is moving into workforce management
- Learn how to easily satisfy General Contractor labor requirements

# TRACK

## MAKING WAVES

Hear about technology and ideas that are “Making Waves” across our industry! With content relevant to everyone involved in MEP — this track will cover a range of topics and explore the “what is next” for our industry.

### PRESENTATIONS

MW-07

Wednesday, August 7, 2019 9:45 AM

Harbor

Target audience All MEP  
Level All levels

With increasing scope of projects going through fabrication facilities, it is imperative that contractors and shop foreman have a real-time understanding of how the shop is performing, how long the work in front of them will take, and whether or not the shop will meet the delivery dates that have been set. This session will review how accurate shop tracking and predictive analytics, shop foreman today can better manage their work with far less effort than ever before.

### The Supply Chain Transformation Opportunity

MW-06

Wednesday, August 7, 2019 1:15 PM

Pacific C &amp; D

Target audience All MEP  
Level All levels

Attend this session to:

- Gain an understanding the value in context of the end to end — estimating, model and coordination, fabrication and procurement
- Gain an understanding of managed content
- Learn how managed content can reduce the cost of delivering and pieces/parts

### Leveraging Technology to Transform Your Business

MW-05

Wednesday, August 7, 2019 3:45 PM

Pacific C &amp; D

Target audience All MEP  
Level All levels

The amount of technology change in our industry can leave construction companies unsure of where to begin and in what to invest. In this panel discussion, learn how other companies are leveraging cloud, software, and other technology innovations to make positive impacts on their businesses. The session will be an opportunity to reflect on how are you thinking about technology holistically in your company and consider what role does cloud play in your strategy.

Attend this session to:

- Reflect on how are you thinking about technology holistically in your company
- Consider what role does cloud play in your strategy
- Get insight into technology trends that have the potential to transform your business and the construction industry

**Be Part of the Vision: Imagining the Future of Estimating and Detailing****MW-01**

Thursday, August 8, 2019

8:00 AM

Pacific C &amp; D

Target audience | All MEP

Level | Intermediate to advanced users with more than 3 years of experience

Whether your firm participates in Plan-Spec, Design-Build or IPD Project Delivery, one thing is certain: the construction industry is advancing at an amazing rate as is the technology driving the changes. Come join members of the Trimble marketing and product development teams to discuss the past, present and future challenges you have in estimating and modeling your projects, and become an integral part of defining the future of MEP construction projects.

Attend this session to:

- Get an understanding of the industry's perspective on problems between estimating and modeling a project
- Ideate on how solutions to alleviate these problems
- Sign on for future discussions with Trimble product leads to define the future of Trimble MEP software solutions

**Inspiring the Next Generation to Build****MW-08**

Thursday, August 8, 2019

10:30 AM

Pacific C &amp; D

Target audience | All MEP

Level | All levels

According to the Bureau of Labor Statistics Job Openings and Labor Turnover Survey shows nearly 200,000 unfilled construction industry jobs nationwide in June 2019. This interactive panel session will explore how we can all inspire the younger generation to build. How can we engage the younger generation in seeing construction as a viable career path with both a breadth and depth of opportunities.

Attend this session to:

- Discuss what our high schools could be doing to support inspiring our next generation to build?
- What can we as contractors and manufacturers do to inspire our next generation to build?
- How can technology and automation play a part in inspiring our younger generation to build

**The Hidden Cost of Change Orders****MW-02**

Thursday, August 8, 2019

1:45 PM

Pacific C &amp; D

Target audience | All MEP

Level | All levels

Change orders are more and more the norm on most construction projects... and at face value they may appear to be a positive thing, enabling you to generate more revenue on the project. However Change Orders can have many hidden costs. This session reviews the impact that Change Orders cause to the base contract and their ripple effect. Change Orders can be very expensive for the Contractor. The session will also review the pros and cons of Change Orders and the potential detrimental effects of Change Orders.

Attend this session to:

- Gain an understanding of the true nature of Change Orders
- Get insight into developing a detailed process for estimating Change Orders and recover all recoverable costs
- Get an understanding on how Change Order cost is time sensitive and needs to be priced accordingly

**AI: Construction Future****MW-04**

Thursday, August 8, 2019

3:00 PM

Pacific C &amp; D

Target audience	All MEP
Level	All levels

See new AI programs running with YOU as the subjects. Real hardware and live presentations. See how this technology could help you and help define its future. This is an open forum discussion session. **WARNING:** live AI programs will be running during this session and anyone in attendance will be filmed and content used to train the machine learning model.

Attend this session to:

- Get an understanding of new AI technology coming to construction
- Learn how you can use this new technology to win future work
- Learn how can you be part of this revolution

**Constructible Today: Beyond BIM****MW-03**

Thursday, August 8, 2019

4:15 PM

Pacific C &amp; D

Target audience	All MEP
Level	All levels

Since the 1980s, the idea of Business Information Modeling has caused a construction technology revolution from 3D modeling to object based parametric modeling, but in today's world where augmented and virtual realities are in our pockets on our smart devices, what is the next generation of construction detailing? Attend this session to learn more about how Trimble defines the Constructible model, and how by managing the content, connectedness and data of your building model using modern technologies, you can lessen clashes as well as reduce project times, ultimately producing your building under budget and under time.

Attend this session to:

- Gain deeper insight into the value of the 3D constructible model today, as it moves through the construction process and the interaction between trades using a single model
- Look at VDC across the organization — who touches it and who is impacted by it — more than just the CAD department
- Get an overview of Trimble's Strategy for the continued evolution of technology in our industry

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