

## Tuesday September 19 Classes

<u>Location</u>	Training Room 2nd Floor	Collaboration Space 2nd Floor	Sonoyta 2nd Floor	Pategonia 2nd Floor	Sedona 2nd Floor	Auditorium 5th Floor	Dragoon 5th Floor
<u>Session #</u>	T100	T101	T102	T103	T104	T105	T106
8:00 am - 9:50 am	Scanning with RTC360 and Cyclone FIELD 360 (1 of 2)	Scanning Forensic Scenes	Tips and Tricks in Cyclone REGISTER 360 (1 of 3)	Creating Control for Non-Surveyors (1 of 2)	Cyclone 3DR Basics (1 of 3)	Scanning with the BLK360 and Cyclone FIELD 360	Basics of Captivate (1 of 2)
9:50 am - 10:05 am	<b>Break</b>						
<u>Session #</u>	T200	T201	T202	T203	T204	T205	T206
10:05 am - 12:00 pm	Processing Data in Cyclone REGISTER 360	Data Acquisition with GS18i (1 of 2)	Managing and Maximizing Bundles, SiteMaps and Control in Cyclone REGISTER 360 (1 of 2)	Registering Data from Multiple Sensors in Cyclone REGISTER 360	Cyclone 3DR Meshing Workflows (1 of 2)	Cyclone REGISTER 360 Basics	Enhanced Court Ready SiteMaps (1 of 2)
	<b>Lunch 1:00 pm - 12:00 pm</b>						
<u>Session #</u>	T300	T301	T302	T303	T304	T305	T306
1:00 pm - 2:50 pm	Floor Plans and Floor Flatness in Civil 3D using CloudWorx for AutoCAD (1 of 2)	Scanning with Multiple Sensors, RTC360, BLK360 and Cyclone FIELD 360	All Roads Lead to Map360, Managing and Aligning Different Data Types	Rapid Deliverables for Map360	Cyclone 3DR Advanced Meshing and Texturing (1 of 2)	TruView Deliverables (1 of 2)	Basics of Infinity (1 of 2)
2:50 pm - 3:05	<b>Break</b>						
<u>Session #</u>	T400	T401	T402	T403	T404	T405	T406
3:05 pm - 5:00 pm	Topographic Deliverables in Civil 3D using CloudWorx for AutoCAD (1 of 2)	Scanning with P-Series	Infinity Infrastructure (1 of 2)	Presenting Forensic Cases at Trial	Cyclone 3DR Tips and Tricks (1 of 2)	Sharing Data through our Leica Solutions; Cyclone Enterprise, TruView Cloud and Reality Capture Studio (1 of 2)	Leica Infinity Tools (1 of 2)

## Wednesday September 20 Classes

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<u>Session #</u>	W100	W101	W102	W103	W104	W105	W106
8:00 am - 9:50 am	Scanning with the BLK2GO (1 of 2)	Scanning with Multiple Sensors, P-Series and BLK360	TruView Deliverables (2 of 2)	Basics of Captivate (2 of 2)	Survey Workflows (1 of 2)	Tips and Tricks in Cyclone REGISTER 360 (2 of 3)	Cyclone 3DR Basics (2 of 3)
9:50 am - 10:05 am	<b>Break</b>						
<u>Session #</u>	W200	W201	W202	W203	W204	W205	W206
10:05 am - 12:00 pm	Processing BLK2GO Data in Cyclone REGISTER 360	Topographic Surveying (1 of 2)	Tips and Tricks in CloudWorx for AutoCAD	Sharing Data through our Leica Solutions; Cyclone Enterprise, TruView Cloud and Reality Capture Studio (2 of 2)	Point Clouds from Images (1 of 2)	Managing and Maximizing Bundles, SiteMaps and Control in Cyclone REGISTER 360 (2 of 2)	Cyclone 3DR Tips and Tricks (2 of 2)
	<b>Lunch 1:00 pm - 12:00 pm</b>						
<u>Session #</u>	W300	W301	W302	W303	W304	W305	W306
1:00 pm - 2:50 pm	Cyclone 3DR for BIM	Scanning with the RTC360 and Cyclone FIELD 360 (2 of 2)	Aligning Models to Point Clouds (1 of 2)	Basics of Infinity (2 of 2)	GNSS Processing (1 of 2)	Trajectory Workflows Field to Finish Part 1	Cyclone 3DR for Clash Inspection and Monitoring
2:50 pm - 3:05	<b>Break</b>						
<u>Session #</u>	W400	W401	W402	W403	W404	W405	W406
3:05 pm - 5:00 pm	Cyclone 3DR for Analysis	Sensor Petting Zoo (1 of 2)	Managing Large Projects in Cyclone REGISTER 360	Leica Infinity Tools (2 of 2)	Network Adjustment (1 of 2)	Trajectory Workflows Field to Finish Part 2	Cyclone 3DR Topographic Workflows (1 of 2)

## Thursday September 21 Classes

<u>Location</u>	Training Room 2nd Floor	Collaboration Space 2nd Floor	Sonoyta 2nd Floor	Pategonia 2nd Floor	Sedona 2nd Floor	Auditorium 5th Floor	Dragoon 5th Floor
<u>Session #</u>	TH100	TH101	TH102	TH103	TH104	TH105	TH106
8:00 am - 9:50 am	Scanning with the P-Series with Targets	Data Acquisition with GS18i (2 of 2)	Scanning with RTC360, Cyclone FIELD 360 and Targets	Survey Workflows (2 of 2)	Creating Control for Non-Surveyors (2 of 2)	Enhanced Court Ready SiteMaps (2 of 2)	Cyclone 3DR Basics (3 of 3)
9:50 am - 10:05 am	<b>Break</b>						
<u>Session #</u>	TH200	TH201	TH202	TH203	TH204	TH205	TH206
10:05 am - 12:00 pm	Processing P-Series Data in Cyclone REGISTER 360 to Control	Scanning with the BLK2GO (2 of 2)	Processing RTC360 Data in Cyclone REGISTER 360 to Control	Topographic Surveying (2 of 2)	Point Cloud from Images (2 of 2)	Maximizing Forensic Deliverables in Cyclone REGISTER 360, Map360 and TruView	Aligning Models to Point Clouds (2 of 2)
	<b>Lunch 1:00 pm - 12:00 pm</b>						
<u>Session #</u>	TH300	TH301	TH302	TH303	TH304	TH305	TH306
1:00 pm - 2:50 pm	Cyclone 3DR Line and Feature Extraction	Sensor Petting Zoo (2 of 2)	Floor Plans and Floor Flatness in Civil 3D using CloudWorx for AutoCAD (2 of 2)	GNSS Processing (2 of 2)	Infinity Infrastructure (2 of 2)	Bloodstain Analysis Field to Finish Part 1	Cyclone 3DR Meshing Workflows (2 of 2)
2:50 pm - 3:05	<b>Break</b>						
<u>Session #</u>	TH400	TH401	TH402	TH403	TH404	TH405	TH406
3:05 pm - 5:00 pm	Cyclone 3DR Topographic Workflows (2 of 2)	Stakeout Techniques	Topographic Deliverables in Civil 3D using CloudWorx for AutoCAD (2 of 2)	Network Adjustment (2 of 2)	Tips and Tricks in Cyclone REGISTER 360 (3 of 3)	Bloodstain Analysis Field to Finish Part 2	Cyclone 3DR Advanced Meshing and Texturing (2 of 2)

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8:00 am - 9:50 am	Scanning with RTC360 and Cyclone FIELD 360 (1 of 2)	Scanning Forensic Scenes	Tips and Tricks in Cyclone REGISTER 360 (1 of 3)	Creating Control for Non-Surveyors (1 of 2)	Cyclone 3DR Basics (1 of 3)	Scanning with the BLK360 and Cyclone FIELD 360	Basics of Captivate (1 of 2)
9:50 am - 10:05 am	Break						
<i>Session #</i>	T200	T201	T202	T203	T204	T205	T206
10:05 am - 12:00 pm	Processing Data in Cyclone REGISTER 360	Data Acquisition with GS18i (1 of 2)	Managing and Maximizing Bundles, SiteMaps and Control in Cyclone REGISTER 360 (1 of 2)	Registering Data from Multiple Sensors in Cyclone REGISTER 360	Cyclone 3DR Meshing Workflows (1 of 2)	Cyclone REGISTER 360 Basics	Enhanced Court Ready SiteMaps (1 of 2)
	Lunch 1:00 pm - 12:00 pm						
<i>Session #</i>	T300	T301	T302	T303	T304	T305	T306
1:00 pm - 2:50 pm	Floor Plans and Floor Flatness in Civil 3D using CloudWorx for AutoCAD (1 of 2)	Scanning with Multiple Sensors, RTC360, BLK360 and Cyclone FIELD 360	All Roads Lead to Map360, Managing and Aligning Different Data Types	Rapid Deliverables for Map360	Cyclone 3DR Advanced Meshing and Texturing (1 of 2)	TruView Deliverables (1 of 2)	Basics of Infinity (1 of 2)
2:50 pm - 3:05	Break						
<i>Session #</i>	T400	T401	T402	T403	T404	T405	T406
3:05 pm - 5:00 pm	Topographic Delvierables in Civil 3D usng CloudWorx for AutoCAD (1 of 2)	Scanning with P-Series	Infinity Infrastructure (1 of 2)	Presenting Forensic Cases at Trial	Cyclone 3DR Tips and Tricks (1 of 2)	Sharing Data through our Leica Solutions; Cyclone Enterprise, TruView Cloud and Reality Capture Studio (1 of 2)	Leica Infinity Tools (1 of 2)

## HDS U Class Descriptions 2023

### Tuesday – 8:00 am – 9:50 am (T100-T106)

#### Scanning with the RTC360 and Cyclone Field 360 (1 of 2)

- Scanner Settings and Operation
- Best Field Practices
- Using Cyclone FIELD 360

#### Scanning Forensic Scenes

- Initial Setup
- Scanning Operation and Quality Assurance
- Geo-Tags and Evidence
- Rapid Scene Workflows

#### Tips and Tricks in Cyclone REGISTER 360 (1 of 3)

- Various Topics across Software Platform
- Tips for Improving Workflow

#### Creating Control for Non-surveyors (1 of 2)

- Why do we Need Control?
- How do we Set up Control?
- How do we Capture Control?
- Coordinate Types
- Apply Control in Practice

#### Cyclone 3DR Basics (1 of 3)

- Program Interface and Settings
- Coordinate Systems, Units and View Control
- Basic Point Cloud and Mesh Editing
- Basic Compare Inspect
- Additional Help and Training Resources

#### Scanning with BLK360 and Cyclone FIELD 360

- Scanner Settings and Operation
- Best Field Practices
- Using Cyclone FIELD 360

### Basics of Captivate (1 of 2)

- What is Captivate?
- Multi-Sensor Solution
- Configuration
- Applications

## **Tuesday – 10:05 am – 12:00 pm (T200-T206)**

### Processing Data in Cyclone REGISTER 360

- Import Options
- Visual Alignment and TruSlicer
- Versions
- Data Clean-up
- Limit Boxes
- Assets and Geo-Tags
- Measurement Tools and Snapshots

### Data Acquisition with GS18i (1 of 2)

- Configure GS
- Acquire Data
- Create Points from Images

### Managing and Maximizing Bundles, SiteMaps and Control in Cyclone REGISTER 360 (1 of 2)

- Setting up Multiple SiteMaps with Different Background Imagery
- Working and Publishing with Separate Bundles
- Working with Single or Multiple Control Files
- Working with Bundles and Control Files

### Registering Data from Multiple Sensors in Cyclone REGISTER 360

- Understanding Accuracy of Instruments
- Importing Data from Different Sensors
- Registering Data
- Versions
- Merging Projects

#### Cyclone 3DR Meshing Workflows (1 of 2)

- Mesh Generation: Scan to Mesh, 3D Mesh Meshing in Two Steps, Regular Sampling, DTM, DSM
- Mesh Editing and Refinement; Group/Ungroup, Clean/Separate, Replace a Part, Bridge, Fill Holes, Smooth and Cut

#### Cyclone REGISTER 360 Basics

- Program Settings and Interface
- Data Management and Creating Project Folders
- Importing Data and Options
- Navigation Tools, Review and Optimize
- Finalize and Publication

#### Enhanced Court Ready SiteMaps (1 of 2)

- Increase Value of TruView, .lgs to Investigators and Trial Attorneys through Hyperlinked SiteMaps
- Review Digital Photography Editing Tools for SiteMap Template Creation
- Create Enhanced Court Ready .lgs Deliverable

### **Tuesday – 1:00 pm – 2:50 pm (T300-T306)**

#### Floor Plans and Floor Flatness in Civil 3D using CloudWorx for AutoCAD (1 of 2)

- USC, Clipping Tools and Workplane
- Quick Slice Tools
- Floor Plan, 1- or 2-Point Polyline and Fit Section
- Floor Flatness

#### Scanning with Multiple Sensors, RTC360, BLK360 and Cyclone FIELD 360

- Scan Plan and Maximizing Sensor Capabilities
- Data infill
- Lighting Conditions and Image Quality
- Unusual Scanning Environments

#### All Roads Lead to Map360; Managing and Aligning Different Data Types

- Importing Bing Maps, Total Station, GNSS, UAV and Point Cloud Data
- Overlaying Data from Different Sources
- Published Deliverables

#### Rapid Deliverables in Map360

- Program Settings and Interface
- Importing an Ortho .tiff
- Importing a .lgs
- Printing a Deliverable

#### Cyclone 3DR Advanced Meshing and Texturing (1 of 2)

- Advanced Meshing Tools: Constraint Meshing, Spherical Mesh, Linear Extrusion, Extrude Along Profile
- Advanced Mesh Editing and Refinement
- Mesh Texturing

#### TruView Deliverables (1 of 2)

- Desktop versus Portable Version
- Point cloud data, Panoramic Imagery, GeoTags
- Snapshots, Markups and Presentations
- Flythroughs
- Aligning Models to Point Cloud Data
- Integration with Cyclone Enterprise

#### Basics of Infinity (1 of 2)

- What is Infinity?
- Global vs. Local
- Configuration
- Visualization

### **Tuesday – 3:05 pm – 5:00 pm (T400-T406)**

#### Topographic Deliverables in Civil 3D using CloudWorx for AutoCAD (1 of 2)

- USC and Clipping Tools
- Line Tools
- Smart Picking Viewport
- Workplane
- Points on a Grid

### Scanning with the P-Series (P30, P40 and P50)

- Scanner Settings and Operation
- Best Field Practices
- Scanner Range and Detail Scans
- Scanning with Cyclone FIELD 360

### Infinity Infrastructure (1 of 2)

- Create a 3D Road Model
- Horizontal, Vertical Alignments
- Transfer to Field Controllers
- Reporting
- Cut/Fill Maps and Volumes

### Presenting Forensic Cases at Trial

- Review 3D Presentation Techniques for TruView and Map360 Deliverables
- Curriculum Vitae and Voir Dire Preparation for Scan Operator, Technician and Analyst
- Present Cases for Group Review and Critique

### Cyclone 3DR Tips and Tricks (1 of 2)

- Various Topics across Software Platform
- Tips for Improving Workflow

### Sharing Data through our Leica Solutions; Cyclone Enterprise, TruView Cloud and Reality Capture Studio (1 of 2)

- What are the Server and Cloud-based Options for Deliverables?
- Sharing Point Cloud Data through Different Services
- How does Each Service Work
- Benefits of Each Service

### Leica Infinity Tools (1 of 2)

- Code Tables
- Targets
- Antennas
- Coordinate Systems
- Georeferenced Images

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9:50 am - 10:05 am	Break						
<i>Session #</i>	W200	W201	W202	W203	W204	W205	W206
10:05 am - 12:00 pm	Processing BLK2GO Data in Cyclone REGISTER 360	Topographic Surveying (1 of 2)	Tips and Tricks in CloudWorx for AutoCAD	Sharing Data through our Leica Solutions; Cyclone Enterprise, TruView Cloud and Reality Capture Studio (2 of 2)	Point Clouds from Images (1 of 2)	Managing and Maximizing Bundles, SiteMaps and Control in Cyclone REGISTER 360 (2 of 2)	Cyclone 3DR Tips and Tricks (2 of 2)
	Lunch 1:00 pm - 12:00 pm						
<i>Session #</i>	W300	W301	W302	W303	W304	W305	W306
1:00 pm - 2:50 pm	Cyclone 3DR for BIM	Scanning with the RTC360 and Cyclone FIELD 360 (2 of 2)	Aligning Models to Point Clouds (1 of 2)	Basics of Infinity (2 of 2)	GNSS Processing (1 of 2)	Trajectory Workflows Field to Finish Part 1	Cyclone 3DR for Clash Inspection and Monitoring
2:50 pm - 3:05	Break						
<i>Session #</i>	W400	W401	W402	W403	W404	W405	W406
3:05 pm - 5:00 pm	Cyclone 3DR for Analysis	Sensor Petting Zoo (1 of 2)	Managing Large Projects in Cyclone REGISTER 360	Leica Infinity Tools (2 of 2)	Network Adjustment (1 of 2)	Trajectory Workflows Field to Finish Part 2	Cyclone 3DR Topographic Workflows (1 of 2)



## Wednesday – 8:00 am – 9:50 am (W100-W106)

### Scanning with the BLK2GO (1 of 2)

- Scanner Settings and Operation
- BLK2GO Live App
- Best Practices

### Scanning with Multiple Sensors, P-Series and BLK360

- Scan Plan and Maximizing Sensor Capabilities
- Data infill
- Lighting Conditions and Image Quality
- Unusual Scanning Environments

### TruView Deliverables (2 of 2)

- Desktop versus Portable Version
- Point cloud data, Panoramic Imagery, GeoTags
- Snapshots, Markups and Presentations
- Flythroughs
- Aligning Models to Point Cloud Data
- Integration with Cyclone Enterprise

### Basics of Captivate (2 of 2)

- What is Captivate?
- Multi-Sensor Solution
- Configuration
- Applications

### Survey Workflows (1 of 2)

- Discussion of Typical Survey Workflows
- Field to Office
  - Control Survey
  - Survey for Design
- Office to Field
  - Staking from Design Data
  - Working within a BIM

#### Tips and Tricks in Cyclone REGISTER 360 (2 of 3)

- Various Topics across Software Platform
- Tips for Improving Workflow

#### Cyclone 3DR Basics (2 of 3)

- Program Interface and Settings
- Coordinate Systems, Units and View Control
- Basic Point Cloud and Mesh Editing
- Basic Compare Inspect
- Additional Help and Training Resources

### **Wednesday – 10:05 am – 12:00 pm (W200-W206)**

#### Processing BLK2GO Data in Cyclone REGISTER 360

- Program Settings and Import Options
- Visual Alignment and TruSlicer
- Versions
- Data Clean-up
- Limit Boxes

#### Topographic Surveying (1 of 2)

- GS Setup
- TS Setup
- Observing Control
- Coding and Linework

#### Tips and Tricks in CloudWorx for AutoCAD

- Various Topics across Software Platform
- Tips for Improving Workflow

#### Sharing Data through our Leica Solutions; Cyclone Enterprise, TruView Cloud and Reality Capture Studio (2 of 2)

- What are the Server and Cloud-based Options for Deliverables?
- Sharing Point Cloud Data through Different Services
- How does Each Service Work
- Benefits of Each Service

#### Point Cloud from Images (1 of 2)

- Various Data Types
- Settings for Processing
- Processing Example
- Results and Reporting

#### Managing and Maximizing Bundles, SiteMaps and Control in Cyclone REGISTER 360 (2 of 2)

- Setting up Multiple SiteMaps with Different Background Imagery
- Working and Publishing with Separate Bundles
- Working with Single or Multiple Control Files
- Working with Bundles and Control Files

#### Cyclone 3DR Tips and Tricks (2 of 2)

- Various Topics across Software Platform
- Tips for Improving Workflow

### **Wednesday – 1:00 pm – 2:50 pm (W300-W306)**

#### Cyclone 3DR for BIM

- Progress Monitoring
- BIM Alignment
- Scan to Plan
- Building Extractor

#### Scanning with the RTC360 and Cyclone Field 360 (2 of 2)

- Scanner Settings and Operation
- Best Field Practices
- Using Cyclone FIELD 360

#### Aligning Models to Point Clouds (1 of 2)

- Cyclone REGISTER 360 Basic UCS Tools
- Cyclone REGISTER 360 Advanced UCS Tools
- Cyclone 3DR Point Cloud / Model Best Fit
- Moving Models

#### Basics of Infinity (2 of 2)

- What is Infinity?
- Global vs. Local
- Configuration
- Visualization

#### GNSS Processing (1 of 2)

- Why Process Static Data?
- Network Design
- Data Import
- Settings
- Examine Results
- Store and Report

#### Trajectory Workflows Field to Finish Part 1

- Scan Crime Scene/Vehicle
- Scan Trajectory Rods Placed in Towed Vehicle at Lab
- Register Two Vehicles and Export LGS with Trajectory Rods

#### Cyclone 3DR for Clash Inspection and Monitoring

- Clash Detection
- Inspection
- Monitoring

### **Wednesday – 3:05 pm – 5:00 pm (W400-W406)**

#### Cyclone 3DR for Analysis

- Compare and Inspect
- Heat Maps
- Deviations between Objects
- Slope and Surface Analysis
- Monitoring

#### Sensor Petting Zoo (1 of 2)

- Hands-on Session with Reality Capture Sensors

## Managing Large Projects in Cyclone REGISTER 360

- Field Planning
- Hardware Settings
- Software Settings
- Data Management
- Multiple SiteMaps
- Multiple Bundles

## Leica Infinity Tools (2 of 2)

- Code Tables
- Targets
- Antennas
- Coordinate Systems
- Georeferenced Images

## Network Adjustment (1 of 2)

- Why do we Adjust Data?
- Mathematical and Statistical Models
- Settings
- Unconstrained Adjustment
- Constrained Adjustment
- Store and Report

## Trajectory Workflows Field to Finish Part 2

- Map 360 Trajectory Analysis
- Visualize Map 360 Analysis in TruView

## Cyclone 3DR Topographic Workflows (1 of 2)

- Point Cloud Editing, Vegetation Segmentation
- Meshing and Mesh Editing
- Topographic Analysis

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9:50 am - 10:05 am	Break						
<i>Session #</i>	TH200	TH201	TH202	TH203	TH204	TH205	TH206
10:05 am - 12:00 pm	Processing P-Series Data in Cyclone REGISTER 360 to Control	Scanning with the BLK2GO ( 2 of 2)	Processing RTC360 Data in Cyclone REGISTER 360 to Control	Topographic Surveying ( 2 of 2)	Point Cloud from Images ( 2 of 2)	Maximizing Forensic Deliverables in Cyclone REGISTER 360, Map 360 and TruView	Aligning Models to Point Clouds ( 2 of 2)
	Lunch 1:00 pm - 12:00 pm						
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1:00 pm - 2:50 pm	Cyclone 3DR Line and Feature Extraction	Sensor Petting Zoo ( 2 of 2)	Floor Plans and Floor Flatness in Civil 3D using CloudWorx for AutoCAD ( 2 of 2)	GNSS Processing ( 2 of 2)	Infinity Infrastructure ( 2 of 2)	Bloodstain Analysis Field to Finish Part 1	Cyclone 3DR Meshing ( 2 of 2)
2:50 pm - 3:05	Break						
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## Thursday – 8:00 am – 9:50 am (TH100-TH106)

### Scanning with the P-Series and Targets

- Scanner Settings and Operation
- Best Field Practices
- Target Setup and Acquisition
- Scanning Wi-Fi Remote Apps

### Data Acquisition with GS18i (2 of 2)

- Configure GS
- Acquire Data
- Create Points from Images

### Scanning with the RTC360, Cyclone Field 360 and Targets

- Scanner Settings and Operation
- Target Setup and Best Practices
- Marking Targets with Cyclone FIELD 360

### Survey Workflows (2 of 2)

- Discussion of Typical Survey Workflows
- Field to Office
  - Control Survey
  - Survey for Design
- Office to Field
  - Staking from Design Data
  - Working within a BIM

### Creating Control for Non-surveyors (2 of 2)

- Why do we Need Control?
- How do we Set up Control?
- How do we Capture Control?
- Coordinate Types
- Apply Control in Practice

### Enhanced Court Ready SiteMaps (2 of 2)

- Increase Value of TruView, .lgs to Investigators and Trial Attorneys through Hyperlinked SiteMaps
- Review Digital Photography Editing Tools for SiteMap Template Creation
- Create Enhanced Court Ready .lgs Deliverable

### Cyclone 3DR Basics (3 of 3)

- Program Interface and Settings
- Coordinate Systems, Units and View Control
- Basic Point Cloud and Mesh Editing
- Basic Compare Inspect
- Additional Help and Training Resources

## **Thursday – 10:05 am – 12:00 pm (TH200-TH206)**

### Processing P-Series Data in Cyclone REGISTER 360 to Control

- Program Settings and Import Options
- Verify Targets and Names captured on Scanner
- Create New Targets, Delete and Refit Targets
- Target Registration
- Import and Apply Control
- Export

### Scanning with the BLK2GO (2 of 2)

- Scanner Settings and Operation
- BLK2GO Live App
- Best Practices

### Processing RTC360 Data in Cyclone REGISTER 360 to Control

- Program Settings and Import Options
- Validate Targets Tagged in Cyclone FIELD 360
- Create New Targets, Delete and Refit Targets
- Target Registration
- Import and Apply Control
- Export

### Topographic Surveying (2 of 2)

- GS Setup
- TS Setup
- Observing Control
- Coding and Linework



#### Point Cloud from Images (2 of 2)

- Various Data Types
- Settings for Processing
- Processing Example
- Results and Reporting

#### Maximizing Forensic Deliverables in Cyclone REGISTER 360 in Cyclone REGISTER 360, Map 360 and TruView

- Registration QA; TruSlicer Inspections
- Techniques for Cleaning Noise and Errant Points
- Eliminating Irrelevant Data for Crime Scene Presentations
- Scripting Presentations in TruView

#### Aligning Models to Point Clouds (2 of 2)

- Cyclone REGISTER 360 Basic UCS Tools
- Cyclone REGISTER 360 Advanced UCS Tools
- Cyclone 3DR Point Cloud / Model Best Fit
- Moving Models

### **Thursday – 1:00 pm – 2:50 pm (TH300-TH306)**

#### Cyclone 3DR Line and Feature Extraction

- Feature Extraction
- Cross Sections and Profiles
- Volume Calculations

#### Sensor Petting Zoo (2 of 2)

- Hands-on Session with Reality Capture Sensors

#### Floor Plans and Floor Flatness in Civil 3D using CloudWorx for AutoCAD (2 of 2)

- USC, Clipping Tools and Workplane
- Quick Slice Tools
- Floor Plan, 1- or 2-Point Polyline and Fit Section
- Floor Flatness

#### GNSS Processing (2 of 2)

- Why Process Static Data?
- Network Design
- Data Import
- Settings
- Examine Results
- Store and Report

#### Infinity Infrastructure (2 of 2)

- Create a 3D Road Model
- Horizontal, Vertical Alignments
- Transfer to Field Controllers
- Reporting
- Cut/Fill Maps and Volumes

#### Bloodstain Analysis Field to Finish Part 1

- Scanning Bloodstains (Impact Spatter) for Area of Origin (AoO) Analysis
- Required Photographic Documentation Techniques
- Cyclone REGISTER 360 Workflows

#### Cyclone 3DR Meshing Workflows (2 of 2)

- Mesh Generation: Scan to Mesh, 3D Mesh Meshing in Two Steps, Regular Sampling, DTM, DSM
- Mesh Editing and Refinement; Group/Ungroup, Clean/Separate, Replace a Part, Bridge, Fill Holes, Smooth and Cut

### **Thursday – 3:05 pm – 5:00 pm (TH400-TH406)**

#### Cyclone 3DR Topographic Workflows (2 of 2)

- Point Cloud Editing, Vegetation Segmentation
- Meshing and Mesh Editing
- Topographic Analysis

#### Stakeout Techniques

- GS Setup
- TS Setup
- Point Stakeout
- Stake to Line
- Quick Stake

#### Topographic Deliverables in Civil 3D using CloudWorx for AutoCAD (2 of 2)

- USC and Clipping Tools
- Line Tools
- Smart Picking Viewport
- Workplane
- Points on a Grid

#### Network Adjustment (2 of 2)

- Why do we Adjust Data?
- Mathematical and Statistical Models
- Settings
- Unconstrained Adjustment
- Constrained Adjustment
- Store and Report

#### Tips and Tricks in Cyclone REGISTER 360 (3 of 3)

- Various Topics across Software Platform
- Tips for Improving Workflow

#### Bloodstain Analysis Field to Finish Part 2

- Map 360 Area of Origin Analysis
- Visualization of BPA in AoO in TruView

#### Cyclone 3DR Advanced Meshing and Texturing (2 of 2)

- Advanced Meshing Tools: Constraint Meshing, Spherical Mesh, Linear Extrusion, Extrude Along Profile
- Advanced Mesh Editing and Refinement
- Mesh Texturing