

AGENDA 20-23 JUNE 2022

MONDAY, JUNE 20th

5:00 PM	Registration
5:30 PM	General Session
6:00 PM	Opening Keynote
7:30 PM	Welcome Reception in the Zone

Hexagon GEO Public Safety Presentations - Connected Cities Summit -

TUESDAY, JUNE 21st

7:00 AM	Breakfast	
8:00 AM	Conference Keynote	
9:00 AM	Zone Break	
10:00 AM	Room: 2301 A	Crash and Crime Scenes Investigation and Reconstruction – Technologies Applied <i>Ivan Macella BEng. ACTAR Crash and Crime Reconstruction Expert Expert Witness at the Court of Malta Former police officer of the State Police in Calabria Hexagon Business Development Manager Italy</i> Generale Dott. Luciano Garofano Former Commander of the Chemical-Biological Section of the Carabinieri Scientific Investigations Center of Rome Expert in DNA analysis and BPA Italy
	Room: 2301 A	Evolution of 3D Scanning for Forensic Mapping of Crime Scenes at York Regional Police <i>Brad Joice Inspector Special Investigations & Support York Regional Police Ontario Canada</i>
12:00 PM	Zone Open / Lunch	
	Room: 2301 A	How Ontario's Emergency Preparedness Response Unit at the Office of the Fire Marshal deploys 3D laser scanning for investigations of serious fires <i>Brent Sterling Emergency Response Specialist Office of the Fire Marshal Ontario, Canada</i>
2:30 PM	Zone Break	
	Room: 2301 A	State-of-the-art investigator's toolbox deployment for law enforcement applications <i>N.N.</i>
4:30 PM	Summit Keynote	
5:30 PM	Break	
6:00 PM	Reception	



Hexagon GEO Public Safety Trainings - Pure Surveying Summit -

WEDNESDAY, JUNE 22nd

7:00 AM	Breakfast		
8:00 AM	Room: Tizian 2205	Creating Rapid Investigative and Pre-Trial Forensic Deliverables <i>Ken Jones Leica US</i>	
8:45 AM	Zone Break		
10:00 AM	Room: Tizian 2205	Map360 Fundamentals <i>Ken Jones Leica US</i>	
10:45 AM	Room: Tizian 2205	Map360 Point Cloud Tools <i>Karen Hughes Leica US</i>	
12:00 PM	Zone Open / Lunch		
1:30 PM	Room: Tizian 2205	Merging Total Station, GNSS, Drone, RTC360 and BLK360 data in Map360 <i>Karen Hughes and Ken Jones Leica US</i>	
2:30 PM	Zone Break		
3:30 PM	Room: Tizian 2204	Merging Total Station, GNSS, Drone, and Laser Scan data in Infinity. Parts 1 & 2 <i>Tim Kerr Senior Support Engineer - S&E Hexagon</i>	
5:30 PM	Break		
7:00 PM	Evening Event		

Hexagon GEO Sessions of Interest - Pure Surveying Summit -

THURSDAY, JUNE 23rd

7:00 AM	Breakfast			
8:00 PM	Room: Tizian 2204	Introduction to Infinity <i>Pierre Labe Hexagon</i>	Room: Tizian 2206	Introduction to HxDR <i>Rick Johnston Hexagon</i>
9:00 PM	Zone Break			
10:45 AM	Room: Tizian 2204	UAV Image Processing in Leica Infinity Office Software <i>Tim Kerr Senior Support Engineer - S&E Hexagon</i>		
12:00 PM	Zone Open / Lunch			



Public Safety Presentations Abstracts



TUESDAY, JUNE 21st

Crash and Crime Scenes Investigation and Reconstruction – Technologies Applied

Ivan Macella BEng. ACTAR | Generale Dott. Luciano Garofano | Italy

Crash and crime scenes are generally characterized by the presence of an indefinite and unpredictable number of pieces of evidence, debris, damaged vehicles, sometimes blood spatter. Professional investigators and reconstructionists, or any other Public Safety persona interested in explaining and reconstructing "what has happened" at a scene, need to collect and document all the evidence in the shortest time possible, operating in safety conditions and maintaining the chain of custody.

Leica Geosystems provides a "complete investigation toolbox" of solutions that represent the industry standard for Public Safety professionals: law enforcement officers, accident reconstructionists, crime investigators, blood spatter analysts and other forensic experts.

No piece of evidence left behind and unseen!

A complete and easy workflow from the scene's forensic mapping using Leica Geosystem's state-of-the-art hardware to a professional 2D or 3D deliverable using Leica's software.

Evolution of 3D Scanning for Forensic Mapping of Crime Scenes at York Regional Police

Brad Joice | Inspector Special Investigations & Support | York Regional Police | Ontario Canada

Inspector Brad Joice in the Bureau Commander of Special Investigations & Support, York Regional Police in Ontario, Canada. Brad has over 32 years of police experience, with 10 years experience as a Collision Investigator/Reconstructionist and 20 years experience as a Forensic Investigator. Brad has been using electronic sensors to assist with mapping collision & crime scenes since 1997. These sensors include total stations, Leica Distos and Leica HDS Scanners, combined with Map360 (formally MapScenes) Forensic CAD and Evidence Recorder software. Brad is a Leica HDS and Map360 Certified Trainer and has trained students across North America, South Africa, Hong Kong, South Korea and the United Kingdom.

York Regional Police (YRP) started exploring the 3D Scanner world in 2010, working on a research project with the University of Toronto. At that time, it was the Leica ScanStation 2 that was an instrument of choice. In 2014 YRP purchased their first scanner, a Leica P20. Fast forward to 2022 and we have added two RTC360, a BLK360 and a BLK3D to our forensic mapping arsenal.

Every crime scene is different and as such the equipment used to properly measure the scene varies. Most of our scenes are now mapped using several different tools/sensors and the resulting data is then combined into a court presentation.

I will discuss the journey that YRP embarked upon and the transition of Cyclone to Register 360, P20 to the RTC360 and where does the BLK360 & BLK3D fit into our mapping processes. We will also go through the evolution of Map360 and TruView while discussing court ready deliverables and the acceptance by our courts.

Case examples will be discussed relating to the scanning of shooting scenes for trajectory analysis. I will also share lessons learned and the preparation of trajectory cones in Map360 and TruView.

How Ontario's Emergency Preparedness Response Unit at the Office of the Fire Marshal deploys 3D laser scanning for investigations of serious fires

Brent Sterling | Emergency Response Specialist | Office of the Fire Marshal | Ontario, Canada

Brent Sterling is an Emergency Response Specialist in the Emergency Preparedness and Response Unit with the Office of the Fire Marshal (OFM), a part of the Ministry of the Solicitor General. Brent Has 30 years of experience in emergency services.

The OFM working under Fire Protection & Prevention Act 1997, investigates approximately 600 fires and explosions a year. Last year we investigated over 120 Fatal Fires in Ontario. The OFM also provides / coordinates such services as Urban Search & Rescue (USAR), HAZMAT/CBRNE response, and investigate or assist in the investigations of other incidents such as Drug labs & Grow Ops.

Brent will present how OFM has quickly added 3D laser scanning to their toolkit deployed at investigations across the province of Ontario. This will cover some innovative approaches to using the RTC360 scanners and how this technology helps fully document serious fire scenes as they are delayed. Typical scenes frequently involve 100 or more setups and are conducted in a broad range of environmental conditions. This critical information is then used to help investigators as they conduct their analysis.



Public Safety Training Description



WEDNESDAY, JUNE 22nd

Creating Rapid Investigative and Pre-Trial Forensic Deliverables

Ken Jones | Leica US

Creating accurate and consumable deliverables for cases and court is extremely important. This class will focus on creating rapid investigative and pre-trial deliverables. Utilizing the limit boxes to create views and geotags to mark evidence with linked pictures and videos in Cyclone REGISTER 360 creates the foundation for presentations. Further tools in Map360 such as trajectory rods or witness viewpoints finalize the presentations. Other forensic deliverables such as DXF 2D export into Map 360, ortho TIFFs and the overlay of OBJ/IFC models with point clouds will also be explored.

Map360 Fundamentals

Ken Jones | Leica US

Map360 is an innovative and versatile tool for creating 2D and 3D forensic deliverables. This class introduces users to the program interface, walks through how to create a scene and set up drawing units, as well as general settings and navigation. Users will also learn how to bring in an Ortho TIFF, and use basic drawing commands including layers, snaps, lines, polylines, arcs and circles, grips and selections, body poser, symbols, text and dimensions. The class will end with learning how to organize and print a deliverable.

Map360 Point Cloud Tools

Karen Hughes | Leica US

Working with point cloud data in Map360 is easy and efficient. This class explores how to work with point clouds in 3D and maximize the point cloud toolset. Aligning the point cloud using the UCS tools makes it easy to clean data, create clips, sections and isolate areas of interest to create deliverables. This class will show how to maximize the tools in Map360 to use point clouds to create both 2D and 3D exhibits.

Merging Total Station, GNSS, Drone, RTC360 and BLK360 data in Map360

Karen Hughes and Ken Jones | Leica US

All roads lead to Map360 with its ability to integrate data from multiple sensors. This course will show how to import data and overlap data from one project incorporating a total station, GPS/GNSS receiver, drone, RTC360 laser scanner and BLK360 laser scanner. Data from different sources highlights important features about a crime scene or crash. Users will learn how to work with the data and create accurate and compelling deliverables for court.

Merging Total Station, GNSS, Drone, and Laser Scan data in Infinity. Parts 1 & 2

Tim Kerr | Senior Support Engineer - S&E | Hexagon

One of the most powerful capabilities of Infinity office software is its ability to seamlessly merge data from multiple sensors, including total stations, GNSS receivers, drones and laser scanners, for easy QA/QC and export into your CAD software. This class will give you an understanding of the tools available in Infinity to import and handle both traditional and non-traditional survey datasets. You'll also learn how to align point cloud data to a projected coordinate system and explore the workflow to migrate data to CAD applications for high-value deliverable creation.



Sessions of Interest



THURSDAY, JUNE 23rd

Introduction to Infinity

Pierre Labe | Hexagon

Manage, process, combine, analyze, quality check and share all your survey data from total stations, digital levels, GNSS systems and UAVs in one software, Infinity. This software makes combining different data seamlessly.

Infinity helps you to connect through integrated data exchange services to move data more efficiently. In this introductory class, users will be introduced to the overall Infinity application structure, project creation and settings, and how to import and visualize data.

This class is applicable for all segments including plant, survey, building and construction, and public safety & forensics.

UAV Image Processing in Leica Infinity Office Software

Tim Kerr | Senior Support Engineer - S&E | Hexagon

Unmanned aircraft systems (UAS/UAVs) are increasingly used for survey data collection, and Infinity software provides a seamless way to process this aerial imagery for a variety of mapping, visualization, and inspection tasks.

Attendees will learn how to use Infinity's Imaging module for orienting and generating downstream products such as point clouds, surfaces models, and orthomosaic images, regardless of the UAV platform used to collect the data.

This class is applicable for all segments including plant, survey, building and construction, and public safety & forensics.

UAV Image Processing in Leica Infinity Office Software

Tim Kerr | Senior Support Engineer - S&E | Hexagon

HxDR is Hexagon's cloud-based storage, visualization and collaboration platform for reality capture and geospatial data. Upload data and access it from anywhere and share it with colleagues and clients worldwide.

Data can be uploaded for cloud storage or directly from the field from the BLK2GO, BLK2FLY and BLK ARC.

HxDR will automatically convert uploaded point clouds into textured 3D meshes. All your 3D assets are viewable including point clouds, textured meshes and panoramic images. This session will introduce the HxDR web-based platform and highlight how it can be utilized to improve your project needs.

This session is applicable to all segments including plant, survey, building construction and public safety & forensics.