

## Visualisation, AR & VR

Seminar Session 📅 Tuesday 22 May 2018 📍 Theatre 1 🕒 9.30 - 11.10



With their focus on sharing and cooperation, Virtual and Augmented realities have the potential to profoundly change the way individuals and teams work. Driven by rapid data capture sensors, new data sources, new platforms like drones and new 3D immersive visualisation tools, this session brings together practical examples of how these technologies are changing the working environment in the real business world.

### Seminar Session Programme

9:30 **Geo Immersive Reality (GIR)**



Layla Gordon, AR/VR lead in OSLabs, Ordnance Survey

Maps are a reference to real world objects. They help us navigate and make sense of the world by providing a list and locations of places and objects and a drawing to understand the attributes of objects invisible to our eyes. The height and contours of a mountain, the dimensions of a property, etc, all relevant to help understand the environment. However, if this geospatial information is to help the user understand the world in their current location, it makes sense to use Augmented Reality to add the geospatial attribution of real world objects as a digital overlay and to be visualised by a smart phone or glasses. The level of immersiveness has been proven by psychologists to improve information retention by 20%.

9:50 **Does it scale? Visualising large spaces with high speed and precision**



Ignacio Pérez Hallerbach, Vice President EMEA & Ecosystem, NavVis GmbH

It is clear that the widespread use of virtual representations of physical spaces will have a tremendous effect on how we use as well as collaborate in and around such spaces. The issue is that, until recently, capturing and visualising large spaces was either very costly and time-consuming or did not yield precise results. Moreover, only few expert users then actually had access to such data, dramatically limiting its value for organisations. Recent technological developments are starting to solve these issues, opening up a myriad of possibilities for creative data use and collaboration.

10:10 **Emerging immersion in construction**



Martin McDonnell, Chairman and Founder, Soluis Group and Sublime

Communication is key: site induction with work zones described on a 2D plan doesn't make sense until you step foot on site. We communicate by sight, sound and shared experience. The best work gets done by teams with shared goals and shared experience of the challenge at hand. The application for health & safety and site communication is clear for this technology but where are we headed and what can we expect in the realms of shared experience and the augmented worker? The presentation will look at the Soluis' portal and discuss advantages of being able to experience and plan the site virtually in a shared space.

10:30 **Multisensor photogrammetric platforms - the answer for urban smart cities worldwide**



Witold Kuznicki, Key Account Manager, MGGP Aero

The presentation will show how a multisensor photogrammetric platform, which took almost two years to design, can simultaneously capture geodata. This scalable and combined configuration allows acquisition of nadir and oblique imagery and LiDAR simultaneously. So one multisensor platform collects all the data which is needed to map a city from each of four directions and in 3D. The application includes processing tools and internet publishing TMS (tile map service) without having to install additional plug-ins.


10:50 **Advanced use of UAV data - from 'cross-border' project to new tool for inspection**



Jesper Falk, Market Director, COWI A/S

In 2015 a strategic management initiative within COWI began hatching the idea of using 3D models for Structural Inspection. Colleagues from different departments and Business Units in COWI A/S considered ideas for cooperating in order to use and benefit from each other's professional expertise. Using Virtual 3D model imagery acquired from UAV's for inspection, was one such idea. Virtual 3D models for inspection engineers opens up a new set of possibilities for improving planning and executing their inspection workflow. This presentation describes the process from start to completion of the first version of the Virtual Inspection.

## Related Seminar Presentations

 Talks in **other seminar sessions** that include content relevant to Visualisation:

### Tuesday 22

#### BIM: through a surveyors' lens

Dipaneeta Das, CAD Technology/BIM Manager, Warner Surveys



Building Information Modelling (BIM) Seminar Session  
10.20 | Tue 22 | Auditorium

#### Powering smarter and cleaner cities by democratising location intelligence

Tim Marston, Head of European Partnerships, CARTO



Environmental Seminar Session  
11.35 | Tue 22 | Theatre 2

#### Utility Survey Exchange

Dr Neil Brammall, CEO, Utility Survey Exchange



Utilities Seminar Session  
15.00 | Tue 22 | Theatre 1

#### Emerging technologies, making survey sexier

Martin McDonnell, Chairman and Founder, Soluis Group and Sublime



Laser Scanning Seminar Session  
15.05 | Tue 22 | Auditorium

#### Smart inspection and asset management of civil infrastructure - deep learning in computer vision

Yung Loo, Senior Engineer, Arup  
Fabio Panella, Civil Engineer & UCL PhD Student, Arup



Railways and Tunnelling Seminar Session  
15:15 - 15:55 | Tue 22 | Theatre 2

#### Building the digital globe

Luca Parletta, Sales Manager - Strategic Accounts, DigitalGlobe



Earth Observation and Satellite Applications Seminar Session  
15.35 | Tue 22 | Room B

#### Augmented reality - a panacea for utility strikes?

Nathan Ward, Head of Business Development, Select Surveys



Utilities Seminar Session  
15.40 | Tue 22 | Theatre 1

### Wednesday 23

#### Imaging total stations - static and dynamic monitoring without prisms

John Brewster, Managing Director, Imetrum



Instrumentation and Monitoring Seminar Session  
9.50 | Wed 23 | Theatre 2

#### Urban Virtual Design Construction - the beginning of VDC and integrating project delivery

Peter Bo Olsen, Technical Director, MT Højgaard



Architecture, Engineering and Construction Seminar Session  
10.10 | Wed 23 | Theatre 1

#### Automated monitoring in the digital era

Marco Di Mauro, Segment Manager, Leica Geosystems



Instrumentation and Monitoring Seminar Session  
10.10 | Wed 23 | Theatre 2

#### IoT beyond the hype: CityVerve is creating a smart blueprint for future cities

Steve Murray, Smart Delivery Manager, Ordnance Survey



Highways Seminar Session  
13.50 | Wed 23 | Theatre 3

#### Case Study 1: analysis of crowdsourced data from a distributed network of cyclists in Manchester

Philip McAleese, CEO, See.Sense



Smart Cities Seminar Session  
14.05 | Wed 23 | Theatre 1

#### Case study 2: does a smart city have to choose between standardisation and innovation?

Richard Woodling, Managing Consultant, Smart Practice, Ordnance Survey



Smart Cities Seminar Session  
14.35 | Wed 23 | Theatre 1


#### Panel Discussion

Julie Alexander, Director Urban Development & Smart Cities, Siemens  
Miranda Sharp, Director of Innovation, Ordnance Survey  
John Twitchen, Consultant, Env23



Smart Cities Seminar Session  
15.05 | Wed 23 | Theatre 1

## Related Commercial Workshops

 Workshops hosted by exhibiting companies that include content relevant to Visualisation:

### Tuesday 22

#### Vessel-based marine mobile laser scanning

Swathe Services

Tue 22 | 10:15 - 10:45 | Theatre 3

#### Next generation software cyclone, JetStream and Cloudworx

Leica Geosystems

Tue 22 | 10:15 - 10:45 | Room E

#### River modelling preparation software - GeoRiver

Storm Geomatics

Tue 22 | 11:45 - 12:15 | Theatre 3

#### Creation of a 3D point cloud from UAV-collected images

Blue Marble Geographics

Tue 22 | 11:45 - 12:15 | Room F

#### Marine asset integrity and structural monitoring surveys

Bibby HydroMap

Tue 22 | 12:30 - 13:00 | Theatre 3

#### N4ce software re-launch with point cloud processing

Applications in CADD

Tue 22 | 12:30 - 13:00 | Room F

#### Photo capture for accurate 3D site data

Carlson Software

Tue 22 | 13:15 - 13:45 | Room F

#### Augmented Reality, visualising buried utilities

Select Surveys

Tue 22 | 13:15 - 13:45 | Room B

#### Survey services and data capture

L&M Survey Services

Tue 22 | 14:00 - 14:30 | Room E

#### Ground penetrating radar data processing

Guideline Geo | MALA | ABEM

Tue 22 | 15:30 - 16:00 | Room H

### Wednesday 23

#### 360 Spherical Vision Cameras

FLIR Systems

Wed 23 | 9:30 - 10:00 | Theatre 3

#### Innovative Web GIS Asset Management System and Analytical Maps

T-MAPY

Wed 23 | 9:30 - 10:00 | Room H

#### 3D Survey software for processing drone survey and photogrammetry including flood modelling

3DSurvey

Wed 23 | 10:15 - 10:45 | Theatre 3

#### Next Generation condition reporting and assessment using artificial intelligence and robotics as a service

SCISYS

Wed 23 | 11:00 - 11:30 | Theatre 3

#### Updates in laser scanning technology

FARO Technologies

Wed 23 | 11:00 - 11:30 | Room E

#### Reality modelling and the latest innovations in 3D technology

Bentley Systems

Wed 23 | 11:45 - 12:15 | Theatre 3

#### GeoMax surveying instruments and XPAD software

GeoMax Positioning

Wed 23 | 11:45 - 12:15 | Room B

#### Drone Surveys - DIY or hire contractors?

RUAS

Wed 23 | 11:45 - 12:15 | Room F

#### Advances in 3D Reality Capture making it an everyday technology

Kaarta

Wed 23 | 12:30 - 13:00 | Theatre 3

#### Geospatial datasets for 3D urban visualisation

SkylineGlobe UK

Wed 23 | 12:30 - 13:00 | Room C

#### Delair UX11- The professional fixed wing UAV for large area mapping

Survey Solutions Scotland

Wed 23 | 12:30 - 13:00 | Room F

#### Drone captured data, its applications and the law

Drones on Demand

Wed 23 | 13:15 - 13:45 | Room F

#### Planning and visualisation web application for geospatial professionals

Maptasks

Wed 23 | 14:00 - 14:30 | Room C

#### Innovative software solutions for the surveying, civil engineering and geospatial industries

LISTECH

Wed 23 | 14:45 - 15:15 | Theatre 3

#### Vectorisation of data: Fixed point tracking vs. surface scanning systems

Pangea Geosystems

Wed 23 | 14:45 - 15:15 | Room C

#### Industrial scale mobile mapping that revolutionises AEC, BIM and FM workflows

NavVis

Wed 23 | 14:45 - 15:15 | Room E

#### Web based 3D point cloud and iOS augmented reality solutions

Critigen

Wed 23 | 15:30 - 16:00 | Room H