

CitA
BIM GATHERING



Building Capabilities in Complex Environments

CitA BIM Gathering 2017, Croke Park, November 23rd & 24th, 2017

SHAPING DIGITAL REALITIES



"To be smart, cities must be digital, safe and connected," said Hexagon President and CEO Ola Rollén "At Smart City Expo World Congress, we will demonstrate how our sensors and data, industry expertise and technologies and platforms empower cities to reach their fullest potential."



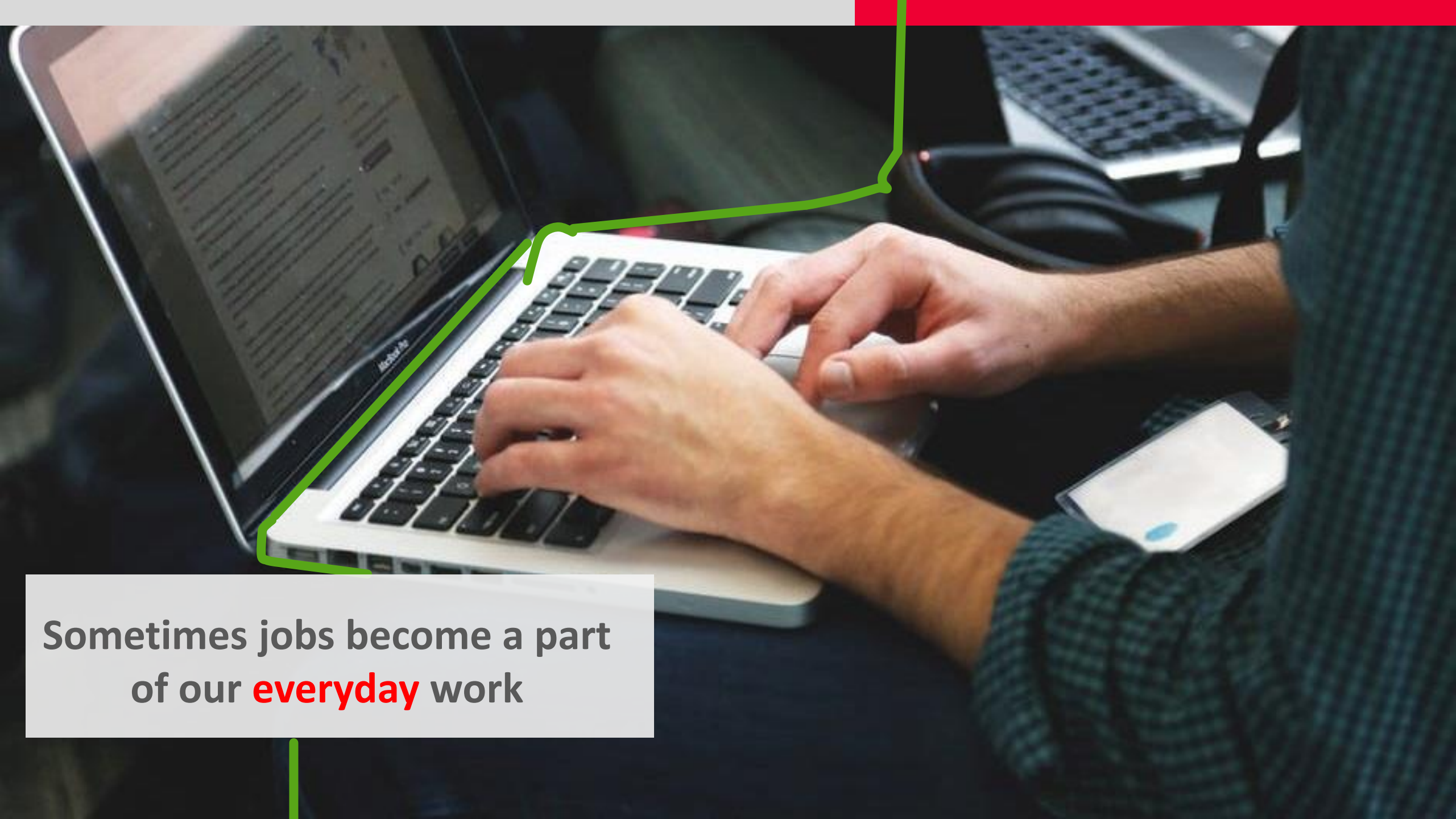
Professional working practices are subject to **change** at a rate not seen since the industrial revolution



Organisations are constantly searching for **solutions** that break down skilled jobs into simple routines or processes

We've **moved** on from typing pools...





Sometimes jobs become a part
of our **everyday** work

Three factors that are **shaping**
the future of the mobile
workplace



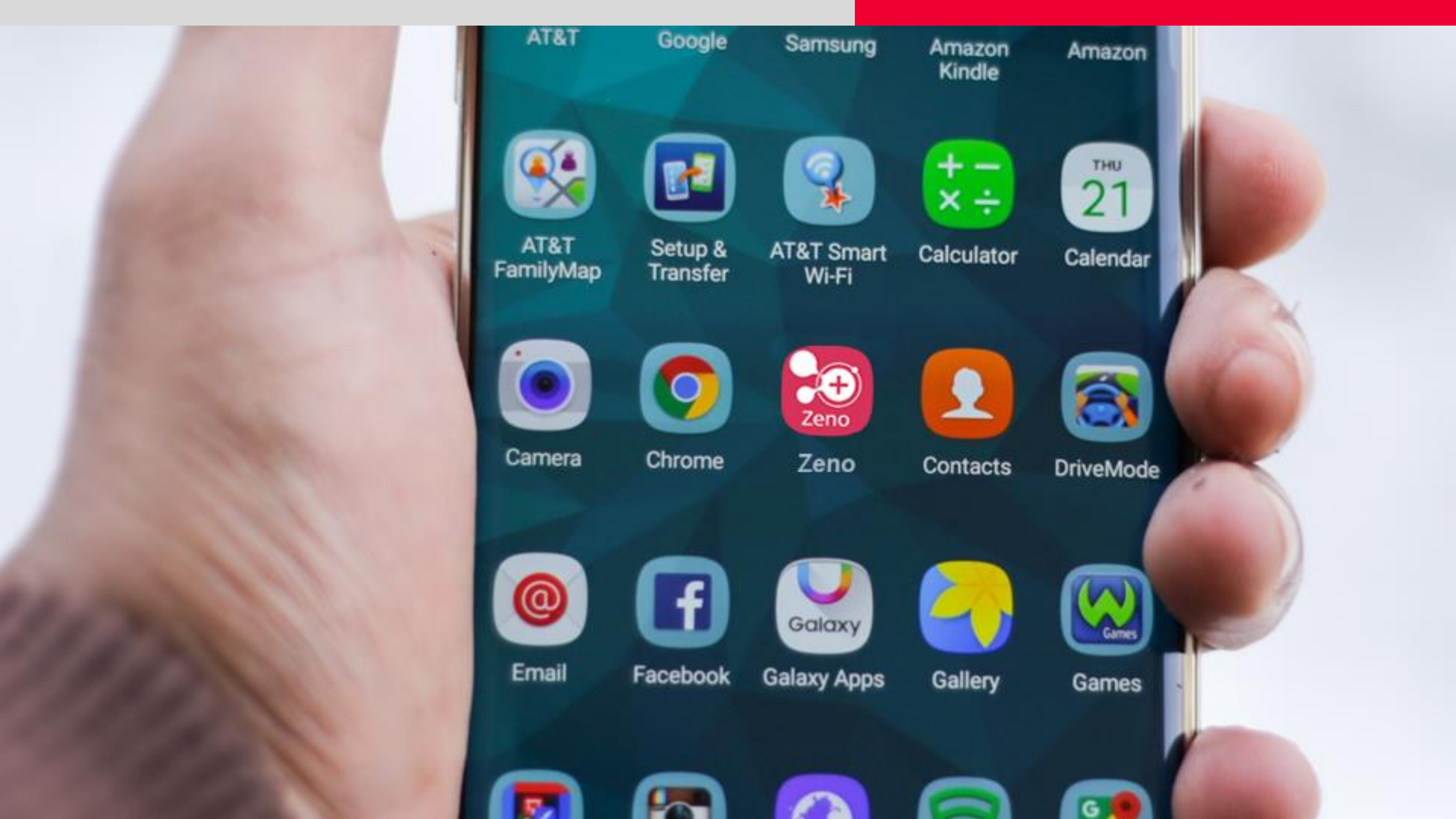
Simplicity



Data



Cloud



AT&T

Google

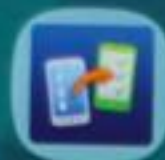
Samsung

Amazon
Kindle

Amazon



AT&T
FamilyMap



Setup &
Transfer



AT&T Smart
Wi-Fi



Calculator



Calendar



Camera



Chrome



Zeno



Contacts



DriveMode



Email



Facebook



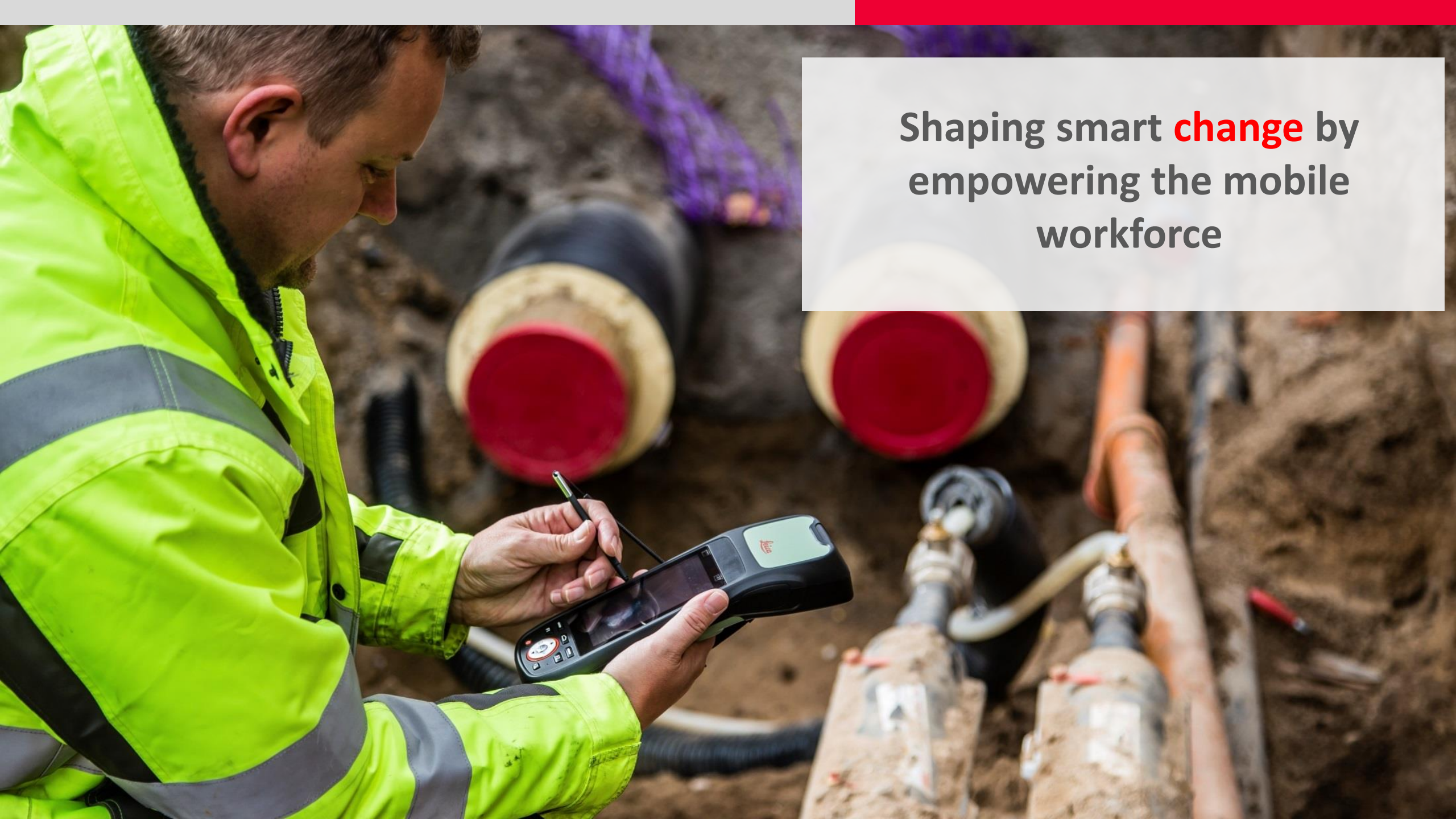
Galaxy Apps



Gallery



Games

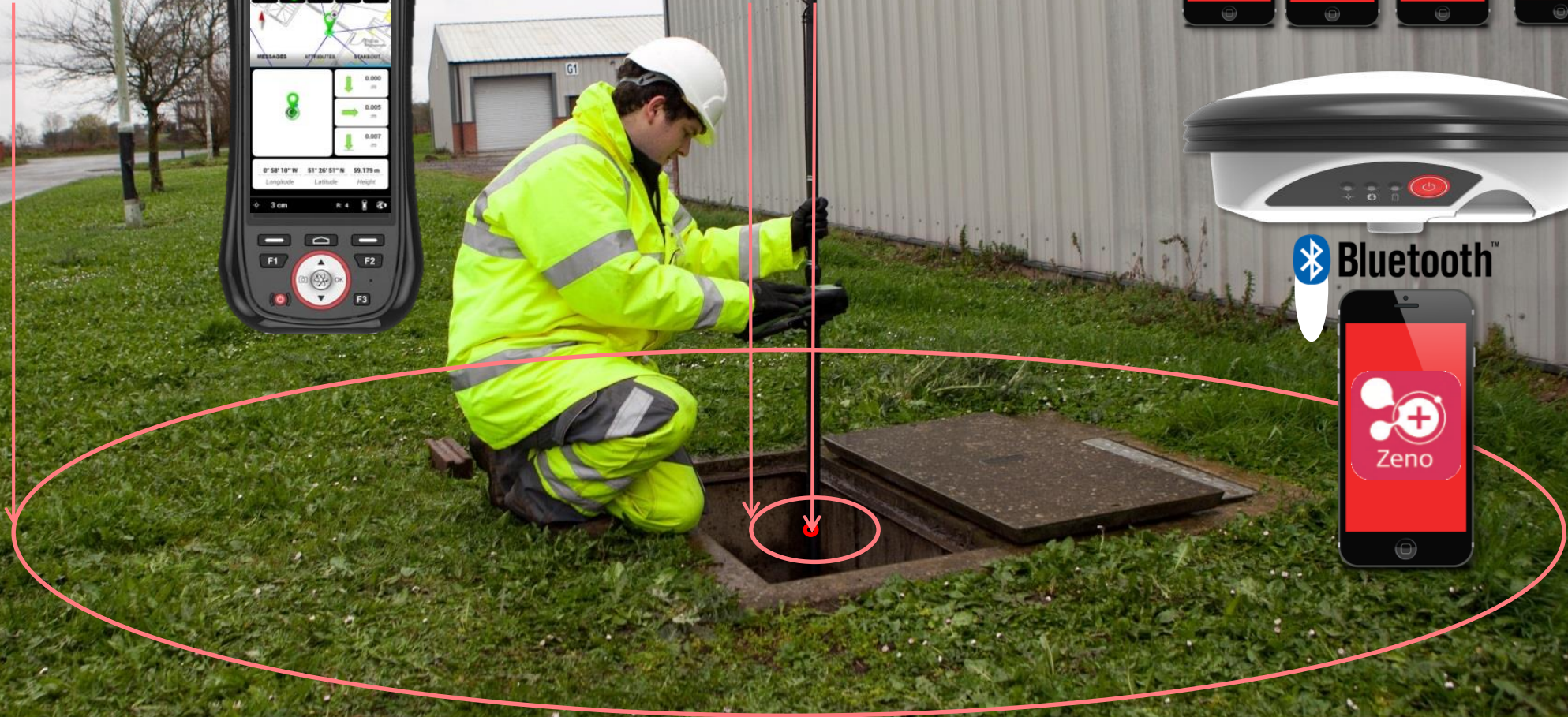
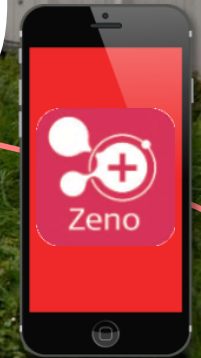


Shaping smart **change** by
empowering the mobile
workforce

50cm

5cm

1cm



Data Model Creator

Layers			
Name	System Name	Geometry Type	Symbol Color
Tree	Tree	Point	
Fence	Fence	Polyline	
Agricultural Area	Agricultural Area	Polygon	

Secure | https://www.youtube.com/watch?v=hMm_g-F3d5I&t=11s

YouTube GB zeno data model

A complete data model could look like this.

Leica Zeno Mobile - Zeno Data Model for Excel - Office tool to generate your data model

1,231 views

Leica Geosystems AG
Published on 14 Apr 2016

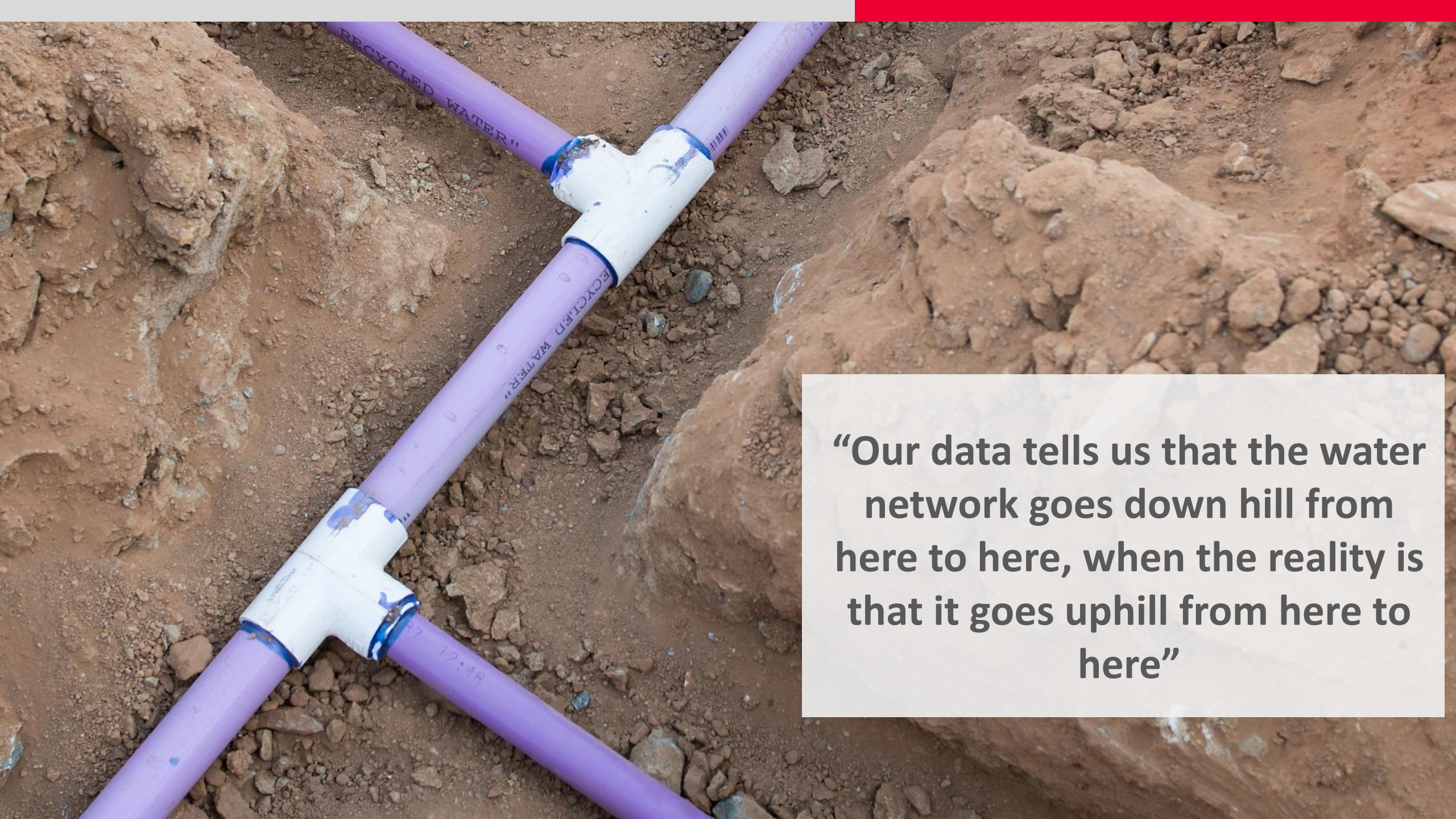
SUBSCRIBED 10K

This video shows how to generate your data model for Zeno Mobile in the office with an Excel tool. Data model generation including all different options, export and import in Zeno Mobile is explained in detail.

SHOW MORE

While you're there, **measure**
new installed assets whilst the
ground is open



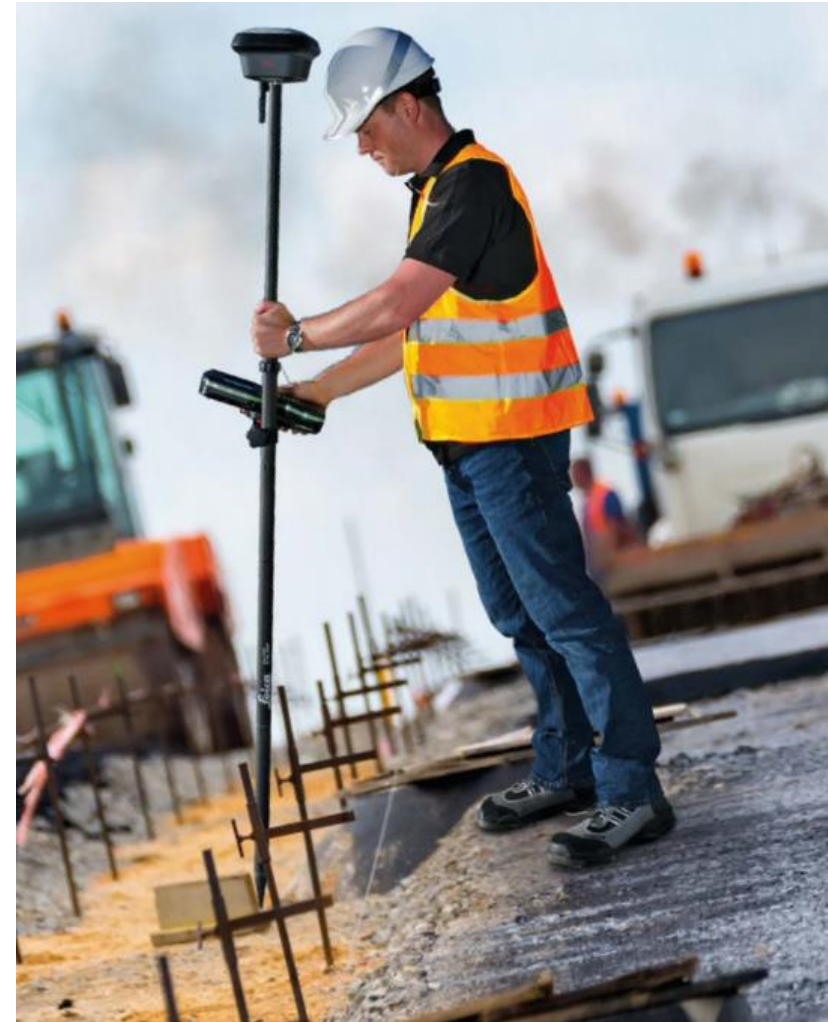


“Our data tells us that the water network goes down hill from here to here, when the reality is that it goes uphill from here to here”

Excited to Announce...

Leica GS18 T

“Forget the bubble”



- when it has to be **right**

Leica
Geosystems






Digitising the **Unseen**

‘An estimated **4 million** holes are dug each year by utilities companies...’

*www.energynetworks.org



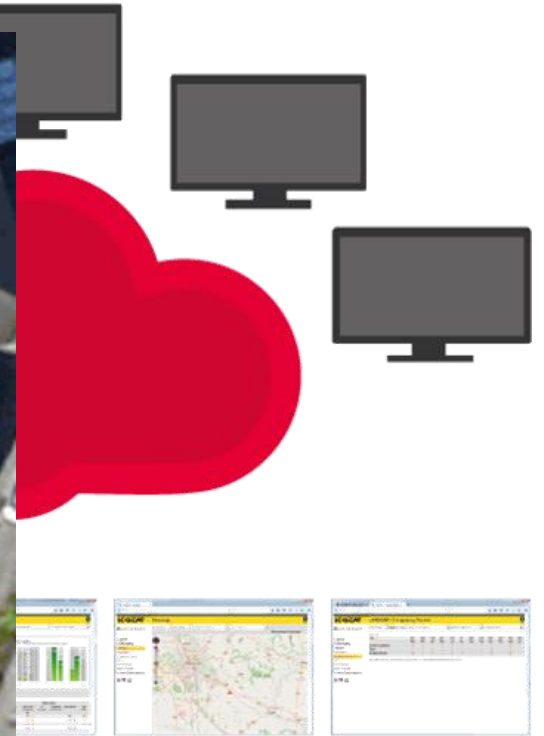
‘An estimated **60,000**
underground cable strikes occur
every year...’

*www.wwtonline.co.uk



Balfour Beatty

VolkerWessels



Mobile

Windows platform

Cloud platform



SerialNumber	ActivityDate	FileIndex	UserId
310620	10/06/2015	148	CABLE
310620	10/06/2015	149	CABLE
310620	10/06/2015	150	CABLE
310620	10/06/2015	151	CABLE
310620	10/06/2015	152	CABLE
310620	10/06/2015	153	CABLE
310620	10/06/2015	154	CABLE
310620	10/06/2015	155	CABLE
310620	10/06/2015	156	CABLE

Report Information
This report is generated from information extracted from loca...
The difference between the actual time and the time on the l... adjustments need to be considered.

Locator Usage for Day of Incident

LogDate	CalDue	Est	Battery	Mod
10/06/2015 15:54:44	7	No	6	33KHz
10/06/2015 15:54:45	7	No	6	Auto
10/06/2015 15:54:46	7	No	6	640Hz
10/06/2015 15:54:47	7	No	6	Power
10/06/2015 15:54:48	7	No	6	Power
10/06/2015 15:54:49	7	No	6	Power
10/06/2015 15:54:50	7	No	6	Power
10/06/2015 15:54:51	7	No	6	Power
10/06/2015 15:54:52	7	No	6	Power
10/06/2015 15:54:53	7	No	6	Power
10/06/2015 15:54:54	7	No	6	Power

 **VolkerWessels**

‘Our cable strike rates
reduced by 75%’

Balfour Beatty

‘No recorded incidents since
November 2015’

Collecting accurate data quickly...



Mobile Reality Capture



External Sync Port
Ports for additional Sensors

Internal Industrial PC
Multicore, Low Voltage,
1TB Internal Storage

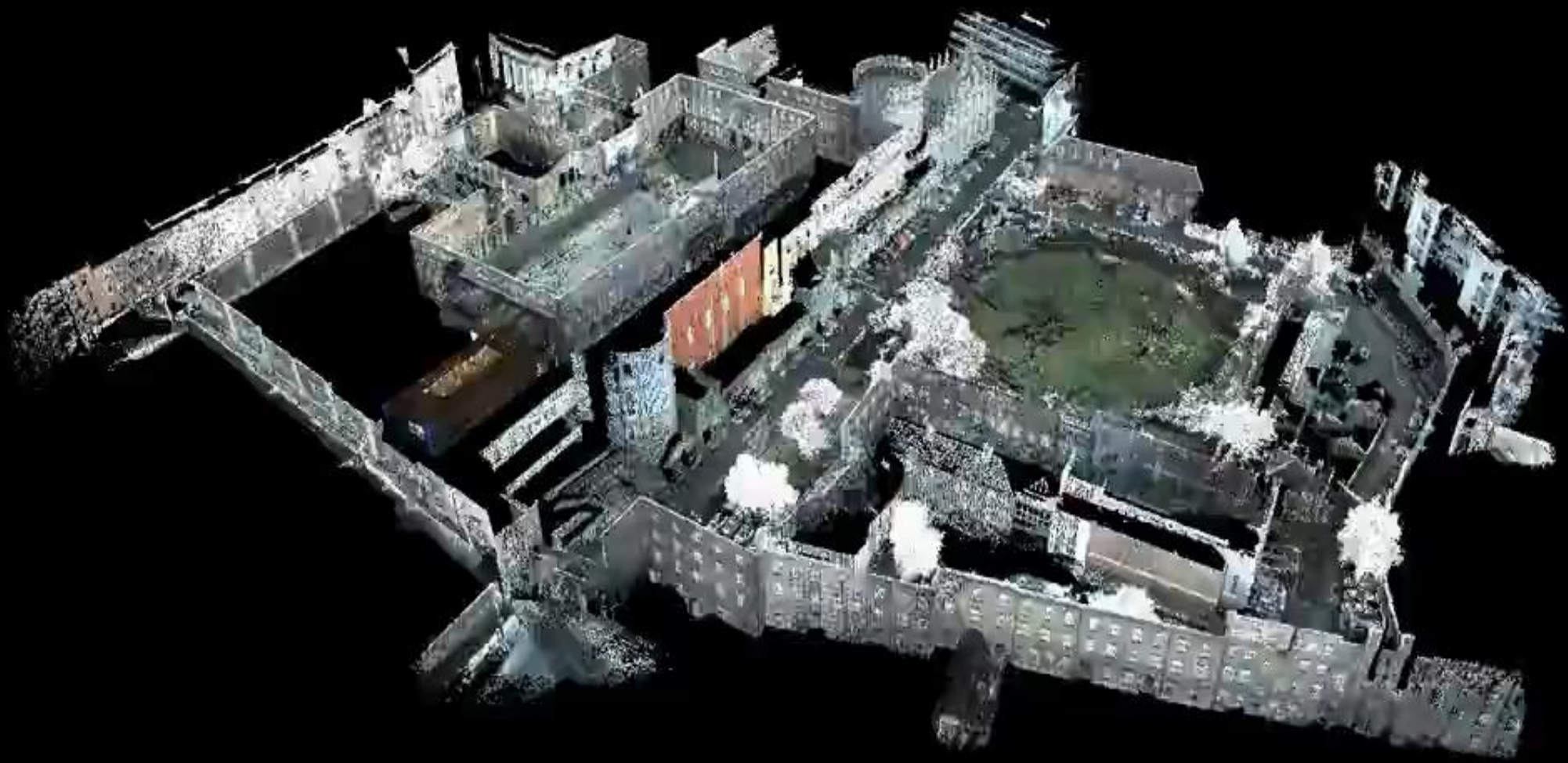
Remote Tablet Control Device
Wireless, Touch Screen



- **Global GNSS/GPS**
Triple Band, All Constellation
- **Dual Velodyne VLP-16 Scanner**
600,000 pts/sec, Dual 360° x 30° Capturing
- **Light Sensor**
Automatic Brightness Adjustment
- **5 x 4MP Camera**
5.5 x 5.5 microns, 360° x 200° Panoramic Image
- **IMU**
125HZ High-End IMU
- **Battery operated**
Hot Swap Batteries, 8h Operational Time



Leica Pegasus:Backpack
Wearable reality capture



Complete Freedom





Countless possibilities

Infrastructure



Building Construction



Asset Collection



Energy



Disaster Recovery



Virtual Industrial Training



Accident Simulation



Urban Planning



Forestry/Environmental



Safety & Security



Capturing the **As-Built**



severn partnership

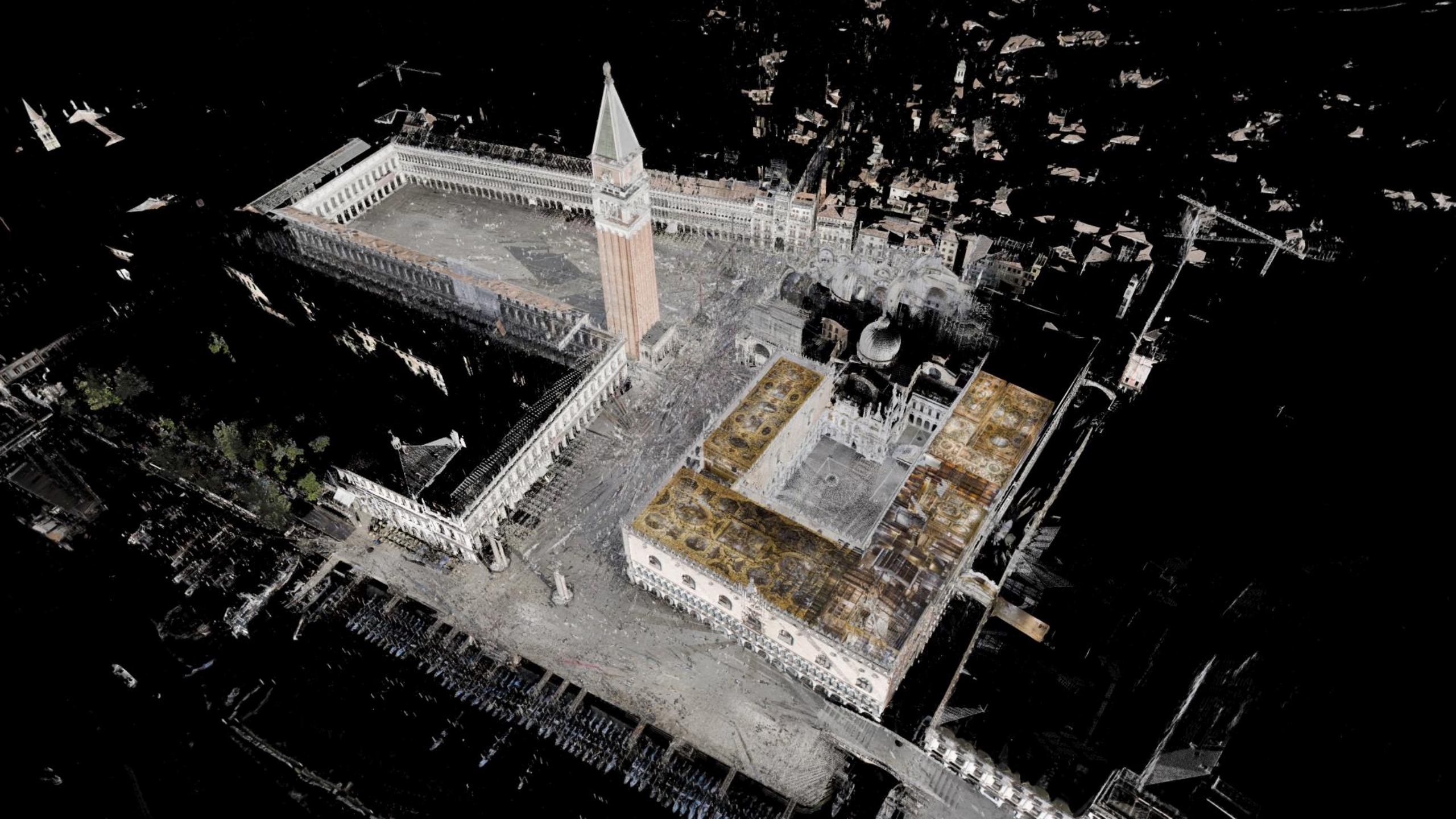


‘Spaghetti Junction was scanned completely in **one afternoon** with no traffic management’

severn partnership



severn partnership



Capture Reality

Extract Features

Build Database

Maintain Assets



when it has to be right **Leica**
Geosystems





LISTECH

SOFTWARE
ION

SAT

MAINTENANCE
CONTROL

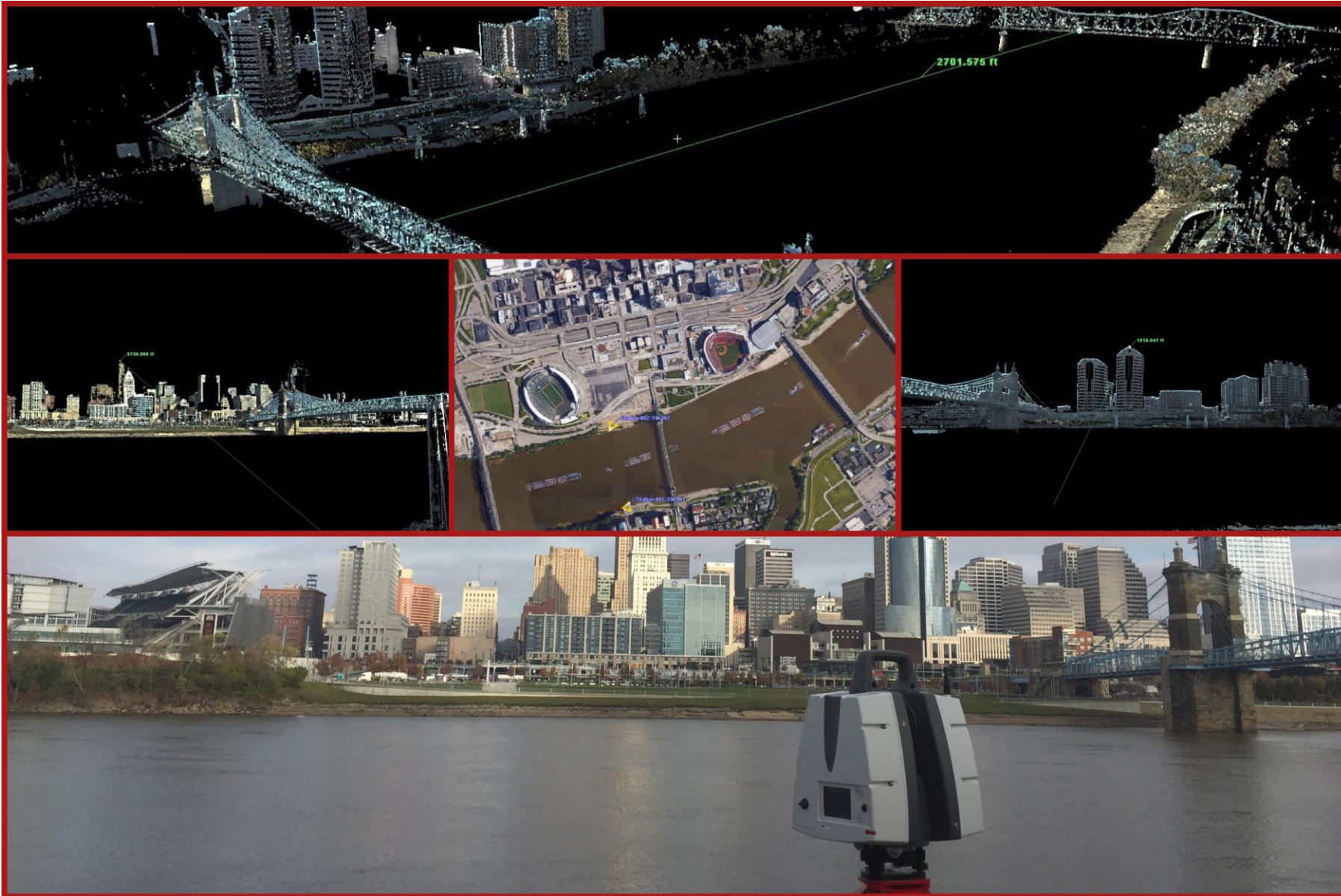
Leica

Excited to Announce...

Leica ScanStation P50 – Long Range 3D Terrestrial Laser Scanner

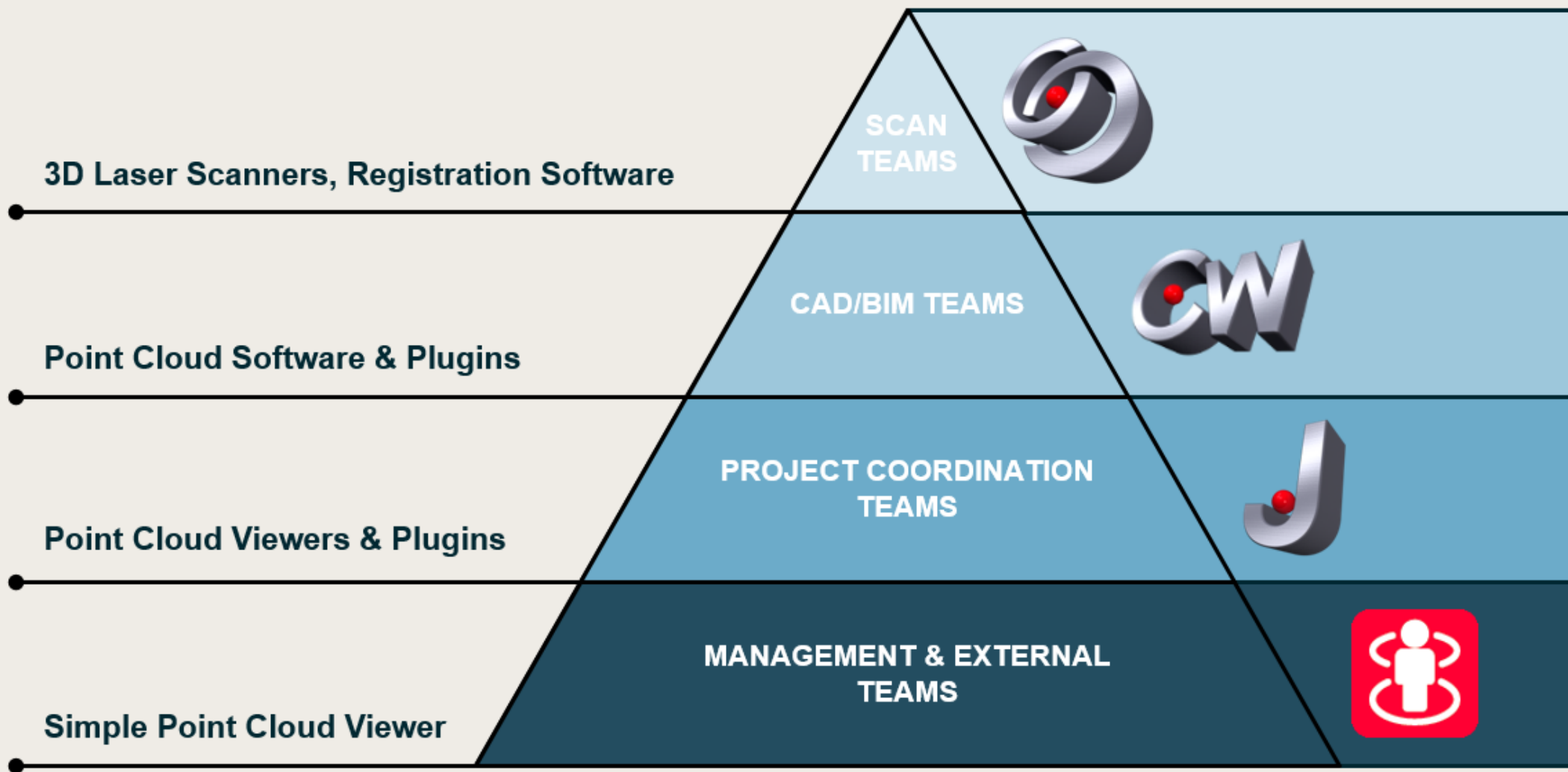
Maximise productivity by scanning inaccessible places at a safe position on site, reducing time in the field with less setups.





- when it has to be **right**

Leica
Geosystems



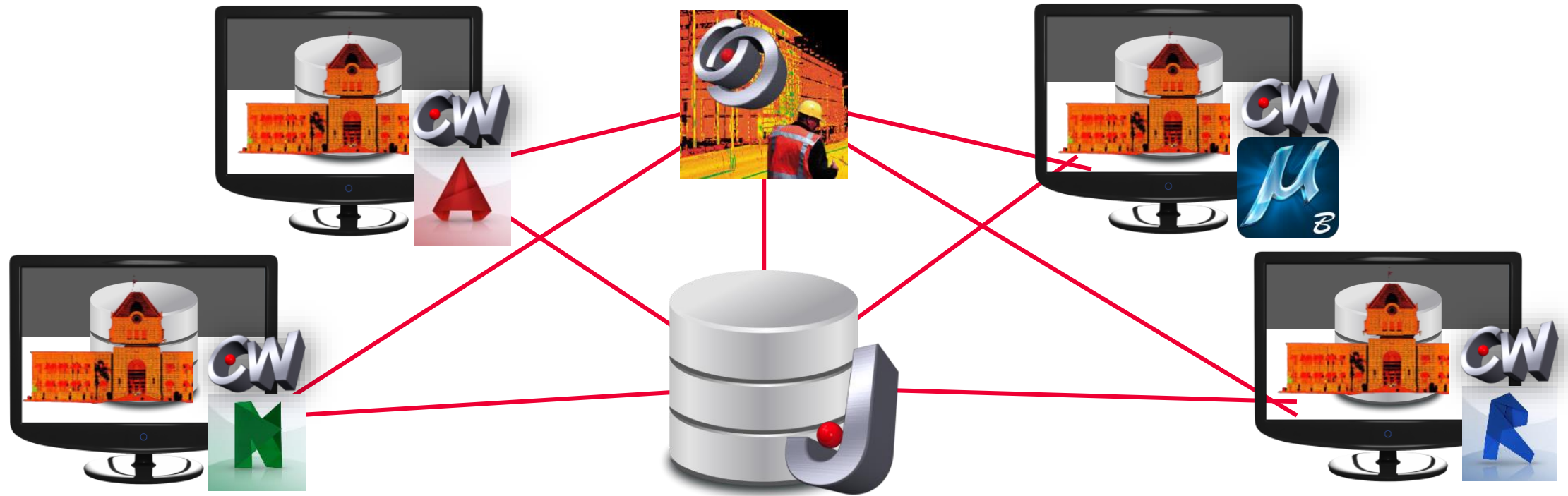




BIG DATA LOADING



Performance : Manage : Archive : Share





INSTANT

Live image and scan data streaming
< 3 min for complete reality capture

1KG

100 mm x 165 mm



SIMPLE

One button

360° activity indicator





SPHERICAL

3-camera system

full dome view 360° by 300°

HDR

LED flash



THERMAL

Longwave infrared panorama image
Broad scene temperature range
High thermal sensitivity

MILLIMETER PRECISE

360'000 3D points per second

Full dome 3D 360° by 300°

60 m range

Invisible infrared laser

Laser class 1 eyesafe





INDEPENDENT

No cables

Storage for 70+ reality captures

Battery for 50+ reality captures

Indoor and outdoor use



INDEPENDENT

No cables, MIMO wireless
Storage for 70+ reality captures
Battery for 50+ reality captures
Indoor and outdoor use

AUTOMATIC

Tilt
Positioning
Altitude





CLICK

Fast, secure tripod mounting
upright and upside down use

BLK360

SWISS MADE







Leica



Review cloud projects

Store for offline uses

Take measurements

Make comments

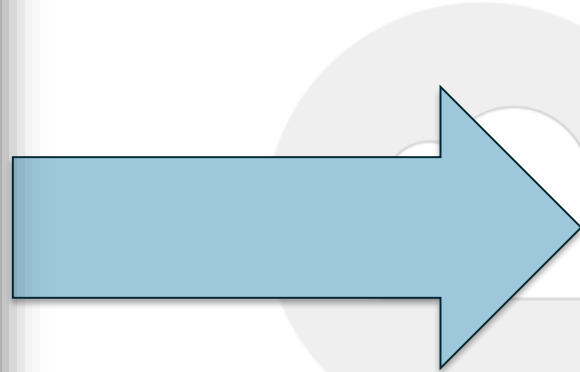
Collaborate



Designed for iPad Pro.

- when it has to be **right**

Leica
Geosystems



#AUME2016

- when it has to be **right**



NEW Product Announcements



Leica Cyclone REGISTER 360



Leica Cyclone Cloud & TruView Cloud Services



Leica Cyclone MODEL VR



Leica CloudWorx Ultimate
and CloudWorx Basic for 3DReshaper
- when it has to be **right**



IMPORT

REVIEW AND OPTIMIZE

FINALIZE

REPORT

Views (1)
View 1

Assistant Properties

Properties

Recently Used All Projects

Modified Date

1 3 11	0 0 0	0 0 0	0 9 9
BLK Data Support	Cathedral	Baseball Field	Oregon Bridge
Mon Sep 11 17:01:29 2017	Mon Sep 11 16:36:45 2017	Mon Sep 11 16:36:12 2017	Mon Sep 11 16:31:03 2017

Close Open Create New Project

Connect to the BLK360's built-in WiFi.

IMPORT

REVIEW AND OPTIMIZE

FINALIZE

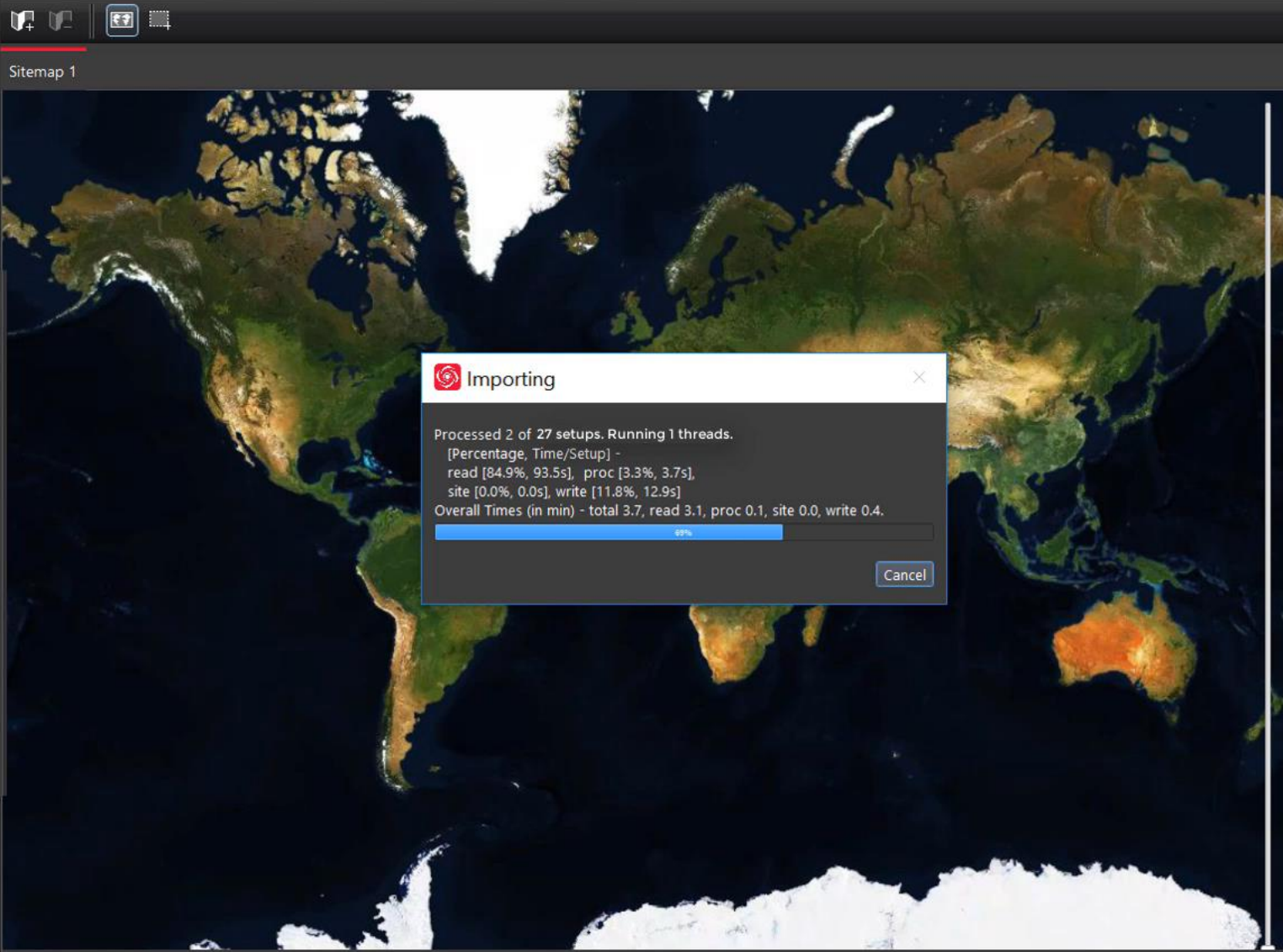
REPORT

Drag files here.

Import BLK360

Browse Files

- Setups(11) - BLK360
- BLK360_3500389_Setup89-1 Sitem... ✓
 - BLK360_3500389_Setup90-1 Sitem... ✓
 - BLK360_3500389_Setup91-1 Sitem... ✓
 - BLK360_3500389_Setup89-1 Sitem... ✓
 - BLK360_3500389_Setup90-1 Sitem... ✓
 - BLK360_3500389_Setup91-1 Sitem... ✓
 - BLK360_3500389_Setup89-1 Sitem... ✓
 - BLK360_3500389_Setup90-1 Sitem... ✓
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 - BLK360_3500389_Setup90-1 Sitem... ✓
 - BLK360_3500389_Setup91-1 Sitem... ✓
 - BLK360_3500389_Setup89-1 Sitem... ✓
 - BLK360_3500389_Setup90-1 Sitem... ✓
 - BLK360_3500389_Setup91-1 Sitem... ✓



Importing

Processed 2 of 27 setups. Running 1 threads.

[Percentage, Time/Setup] -
 read [84.9%, 93.5s], proc [3.3%, 3.7s],
 site [0.0%, 0.0s], write [11.8%, 12.9s]

Overall Times (in min) - total 3.7, read 3.1, proc 0.1, site 0.0, write 0.4.

99%

Cancel

Assistant Properties

Register Using

- Auto Target
- Auto Cloud
- Smart Align
- Pre-Registered

(11) (0) (0)

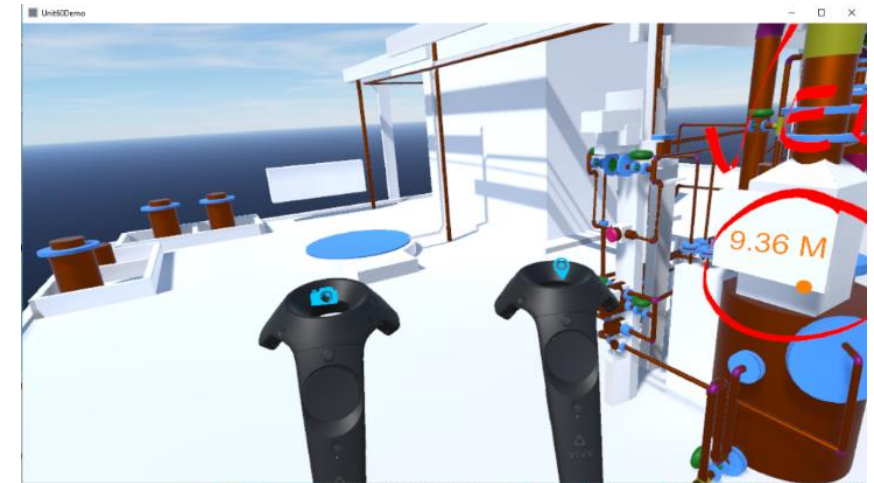
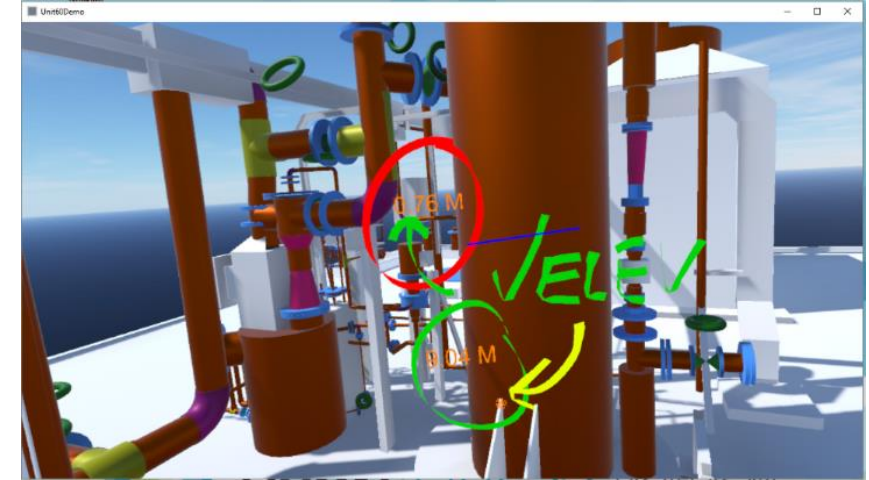
Look up address: Lookup Get Image Cancel



Excited to Announce...

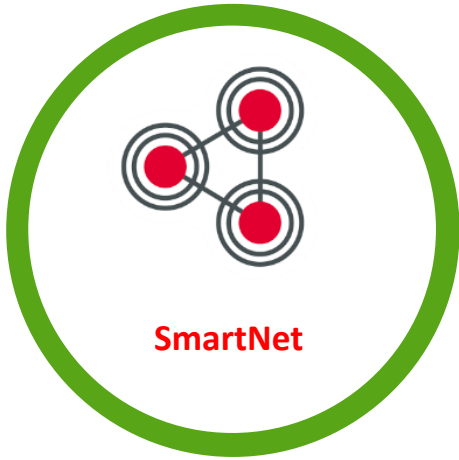
First VR Product compatible with HTC Vive

- Publishes Cyclone Models
- Free Viewer
 - Teleportation Navigation
 - Interactive Measuring
 - Markups - Simple text, shapes, arrows, etc.
 - Pick points to get Elevations & Pipe Diameters
 - Snapshots
 - GeoTags



- when it has to be **right**

Leica
Geosystems



SmartNet



SmartLink



Used Equipment Centre



ConX



TRUSTED SERVICES



Active Assist

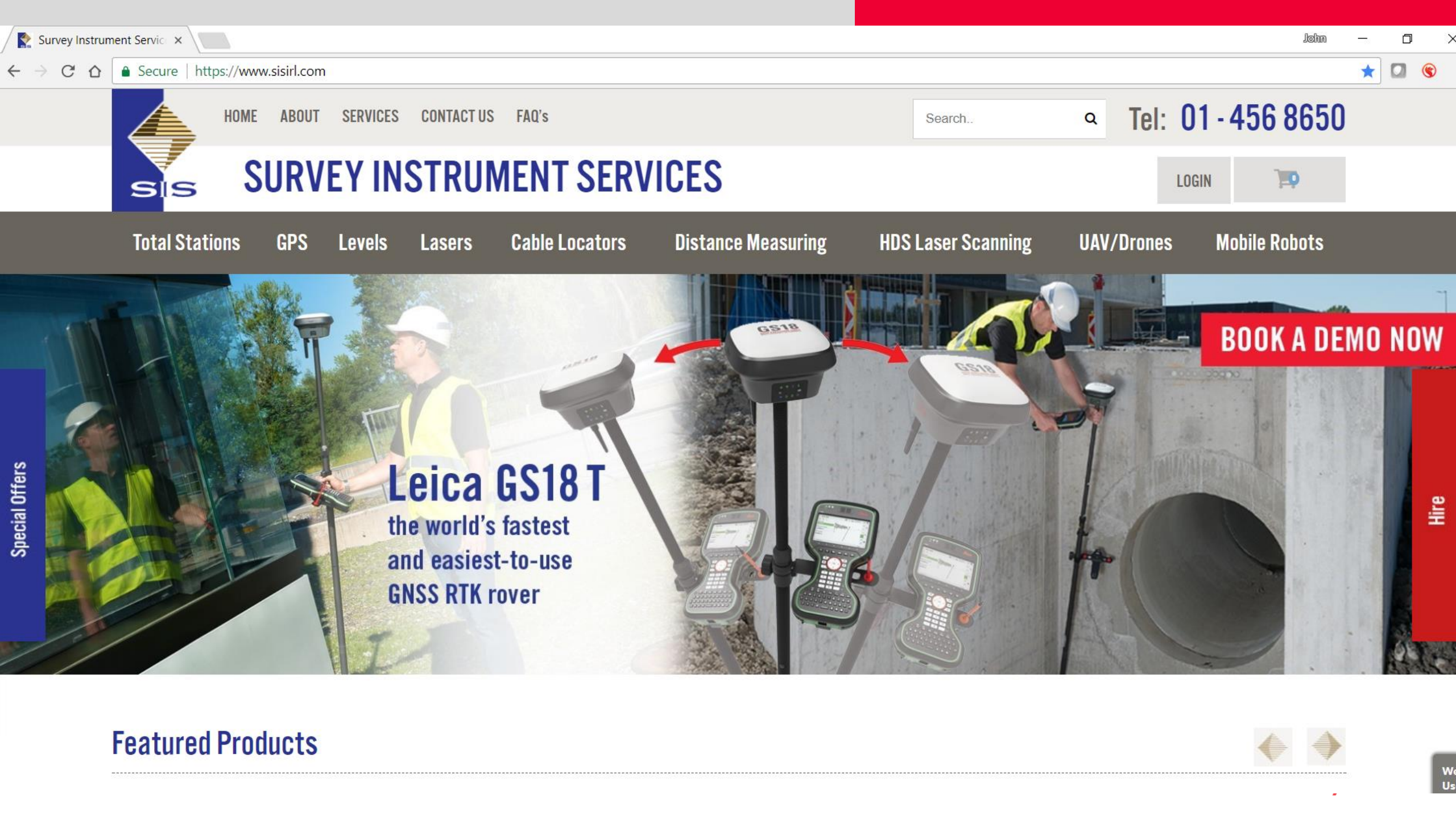


Technical support



Training

as to be right



Special Offers



Leica GS18 T
the world's fastest
and easiest-to-use
GNSS RTK rover

BOOK A DEMO NOW

Hire

Featured Products



LES

Levelling
Equipment
Services

SURVEYING EQUIPMENT ▾ SURVEYING ACCESSORIES ▾ DISTANCE MEASURING ▾ DETECTION & SAFETY ▾ MONITORING ▾

MACHINE CONTROL ▾

HIRE

WORKSHOP

ABOUT US

CONTACT US



CART



LEICA iCON

- Intelligent work flow and applications
- BIM to Field
- Straightforward software design



Leica Geosystems





@LeicageoJohn



John Kerrigan

john.Kerrigan@leica-geosystems.com

Thank You

Questions?

CitA
BIM GATHERING



Thank you

Presenters name