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Geospatial for Telecommunications Use of geospatial solutions for all phases in the lifecycle of a telco project

Presented by:

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GWF 2023 booth 01

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Europe's Digital Decade: digital targets for 2030

2020 - 2030

- EU Infrastructure goals for 2030
 - All EU households and businesses should have gigabit connectivity
 - For Fiber-to-the-Home (FTTH) still **102 million** households left to do (EU+UK)
 - 62 million in Germany, UK and Italy
 - All populated areas should be covered by 5G
- Very significant investment gap to reach the EU digital targets for 2030







Fiber-to-the-Home lifecycle





Planning

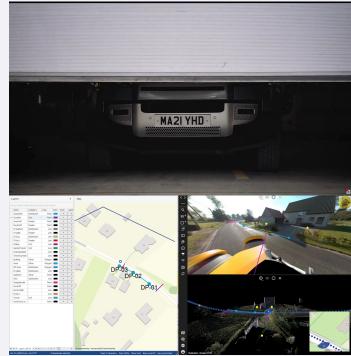
- Determine nature and extent of work required
- Pre-survey of the area
 - Demand needs, house and building counts, households
 - Surface characteristics
 - Property rights
 - Location, accessibility and conditions of utilities and services
- Documentation for liability



Pre-survey

Mobile Mapping the preferred choice of technology

- Fast reality capture of the complete project area
 - Collect precise and dense **point** clouds for a full digital representation of reality
 - Immersive **imagery**
 - Enable planners/designers to get a much better view of the real-life situation in the field **avoiding costly field visits**.
 - Enables centimeter levels **accurate** measurements remotely





Trimble MX Publisher with live data connection to Geostruct FTTH software

5G RF planning and engineering

Roll-out of 5G requires proper geospatial data

- Clutter classifications
- 3D multi-tiered building vectors
- 4D bridges



Credit: Land Info Worldwide Mapping, LLC

Design

- Field Survey Verification
- Road surface conditions
- Planned infrastructure locations and status

DESIGN

- Obstruction locations
- Walk out of the preliminary design for QC



Augmented Reality

Visualize

- Underground infrastructure
 - See the **hidden**
- Above ground structures
 - See the **future**
- In-ground line work
 - See the **boundaries**



Build

- Identify existing (underground) utilities before digging into the ground
 - Augmented Reality(AR)
- Capture precise as-built
- Inspect and record modification
- Register new network in national (underground) utilities databases



As-built recording

GNSS

- Integration of standard survey tools such as GNSS into industry specific workflow solutions
 - Capture at cm level
 - Update underground utility registers
 - In the UK
 ± 7 accidents every hour, every day
 - Economic cost of accidents
 £2.4b per year



Operate & Maintain

- Precise As-Built
 - Update and Manage
 Changes
- Infrastructure Inspection
- Vegetation Management



Tower maintenance

Inspection using 3D laser scanners

- Fast and easy data collection
- Large amount of rich data
 - Even data which is not directly required for the project at hand is obtained and can be retrieved down the line without another trip to the site.
- The client can perform condition assessments of the tower structure and adjacent assets to aid their plans for maintenance and improvements



Vegetation management

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	>	>	<	Fall-in Vegetation: LAZ feature code 5 CalcLimit 20 RGB Color 0. Ground Clearances: Calculate clearances	191.255	1	· ·	
Network Modeller Settings	Network Modellet Settings Source Asset Data	Asset Field Value Mapping	Standard Clearance Settings	LAZ feature code Vegetation Clearances: LAZ feature code Ground Cut-Off Distance: Wire Buffer Distance:		Custom Clostances Settimus	Risk Settings	Timble Vegetation Manager - LiDAR Automatically identify vegetation relies by building and model of your retroris from a wide variety of data sources.



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Thank you

For Questions or Feedback please contact:

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