

# FIG Working Week 2016

CHRISTCHURCH, NEW ZEALAND 2-6 MAY 2016

Recovery

from disaster

Organised by



Platinum Partners



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## Trimble Mixed Reality Program

**Stuart Ralston**

Trimble Project Manager

Geospatial Augmented Technologies

Christchurch



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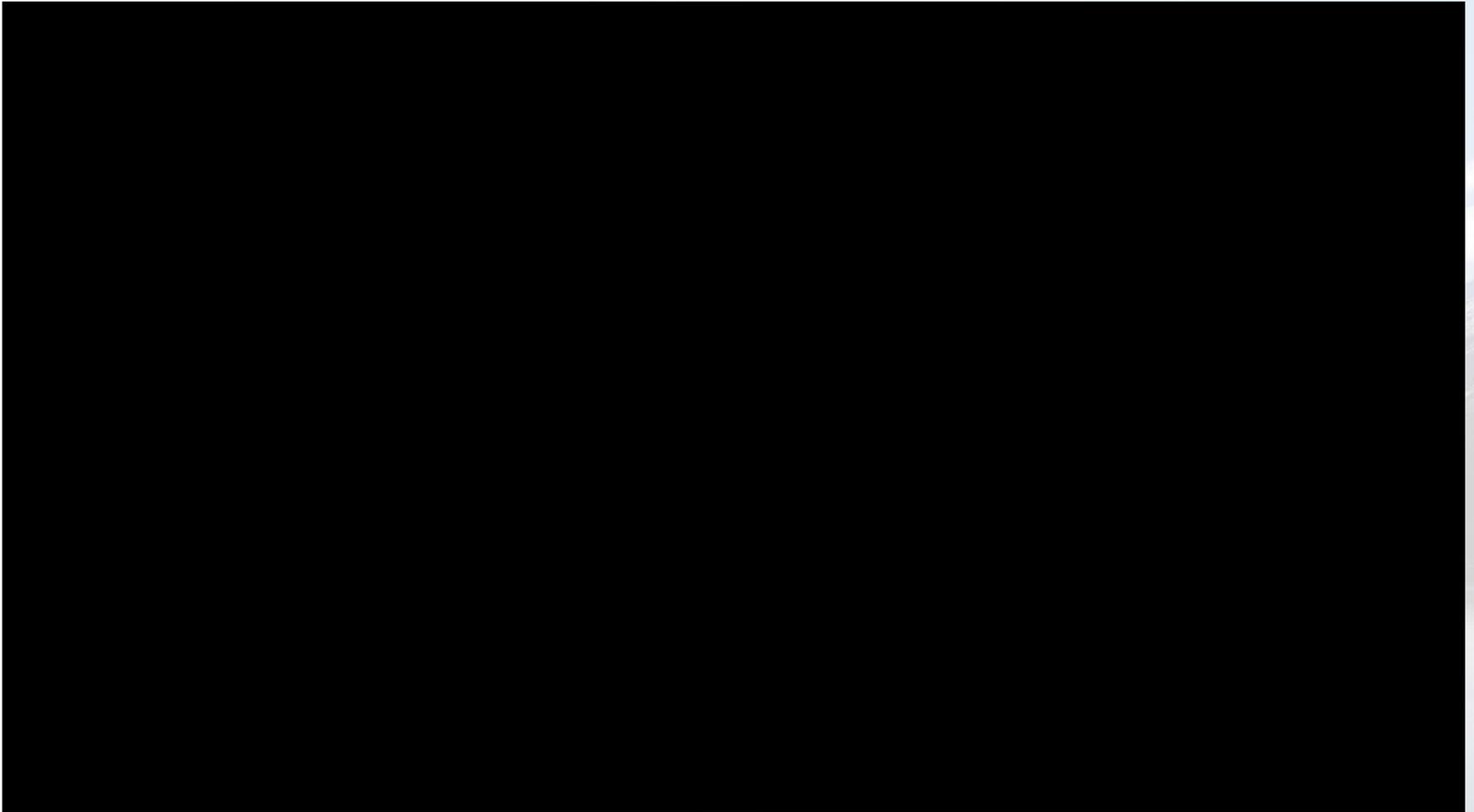


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## Trimble Vision & Mission

### TRANSFORMING THE WAY THE WORLD WORKS

- Economic Breakthroughs
- Quality, Safety & Compliance
- Reduced Environmental Impact



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## Wearables

World of Wearable Technology Applications:  
Towards Function With Style



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## What's going on here?





## Mixed Reality Program Vision & Mission

- Bridge the gap between the Digital and the Physical worlds
- Provide Context-related information, Improved data interpretation, and Collaboration through real-time 3D visualization
- Production Caliber Mixed Reality





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## Broad Agnostic View

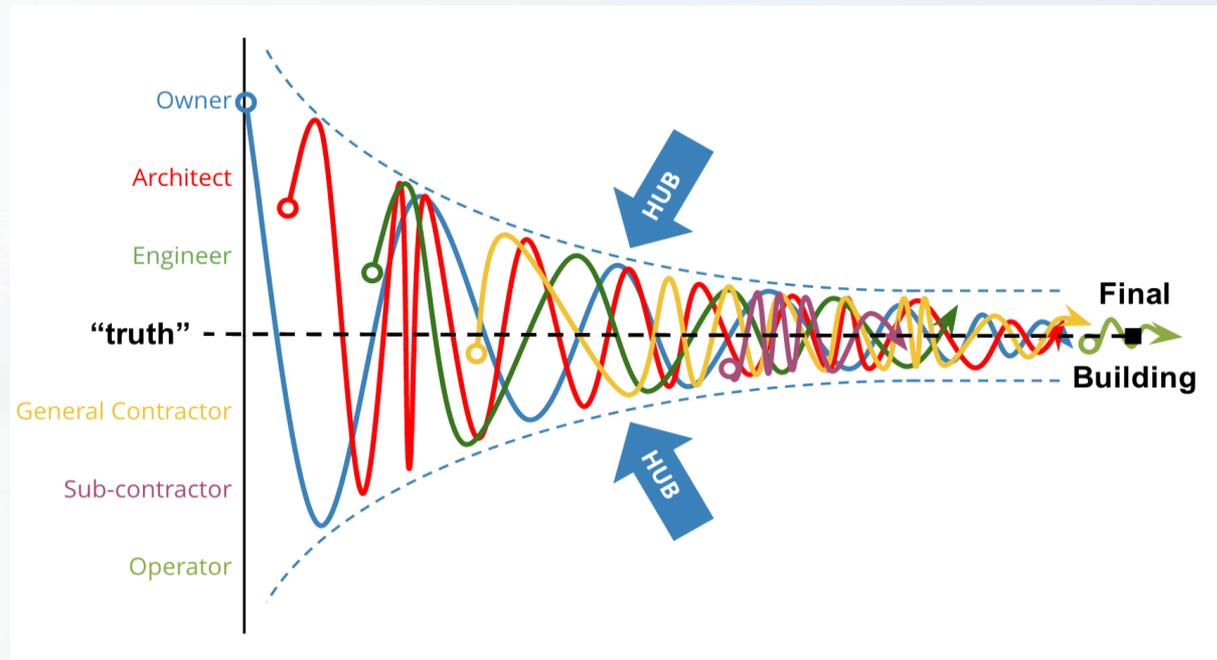
- One Trimble platform for Mixed Reality, Augmented Reality and Virtual Reality
- Transform the way our customers consume, interact, and communicate data





## Data Interpretation

- Subjective truth and common truth
- Bridging the gap between our mental model and reality





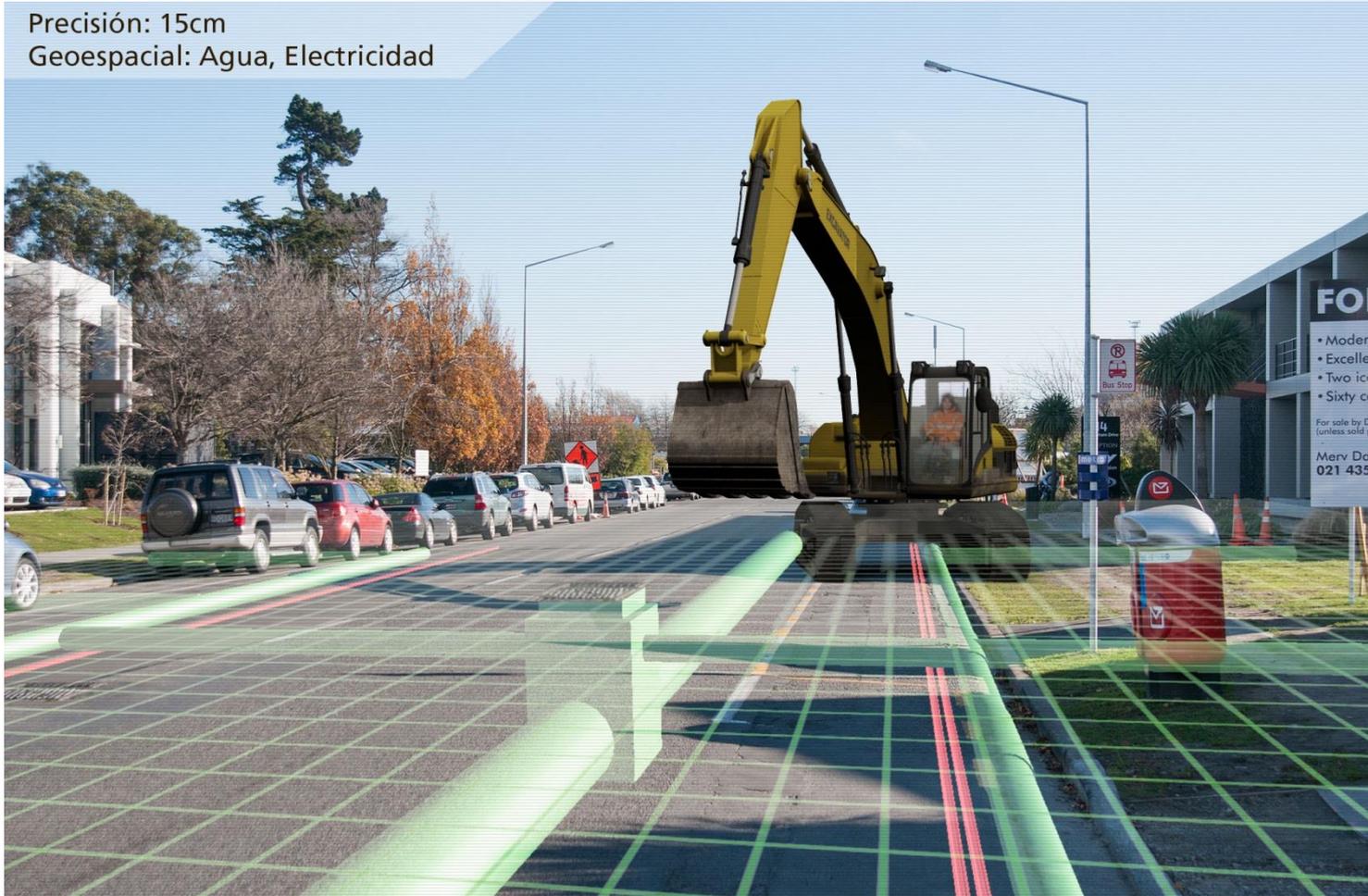
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Precisión: 15cm  
Geoespacial: Agua, Electricidad



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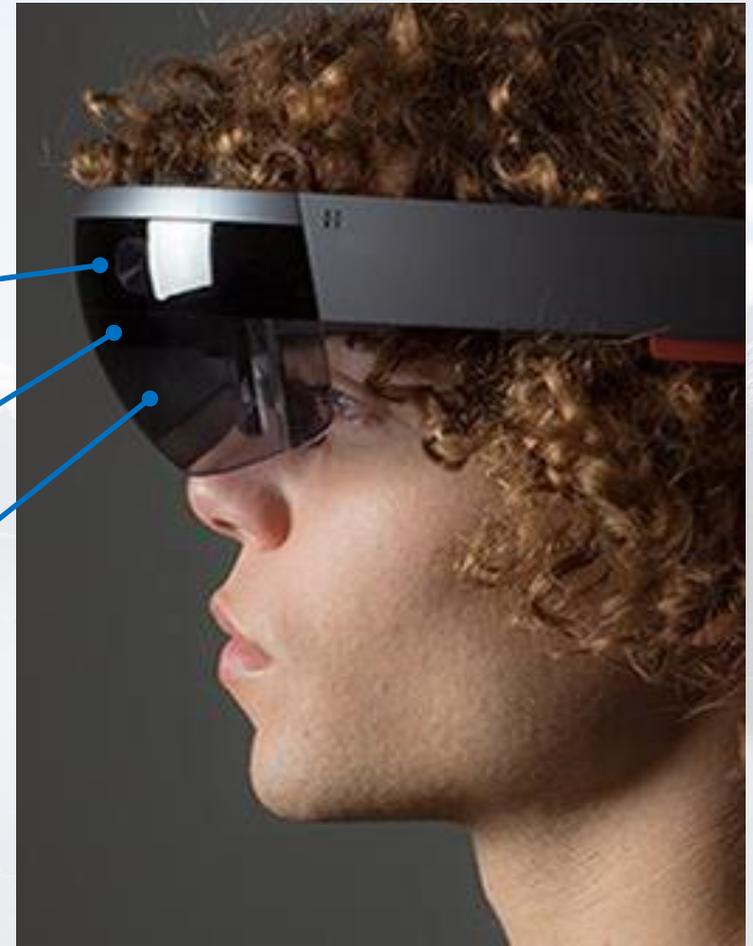
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## Microsoft HoloLens, Mixed Reality

- Wearable, self-contained Windows 10 computer
- Sensors that map the environment
- See-through holographic display
- Interaction with 3D holograms blended into the real-world





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## AEC

- Design review
- Presentations
- Collaboration
- Quality control





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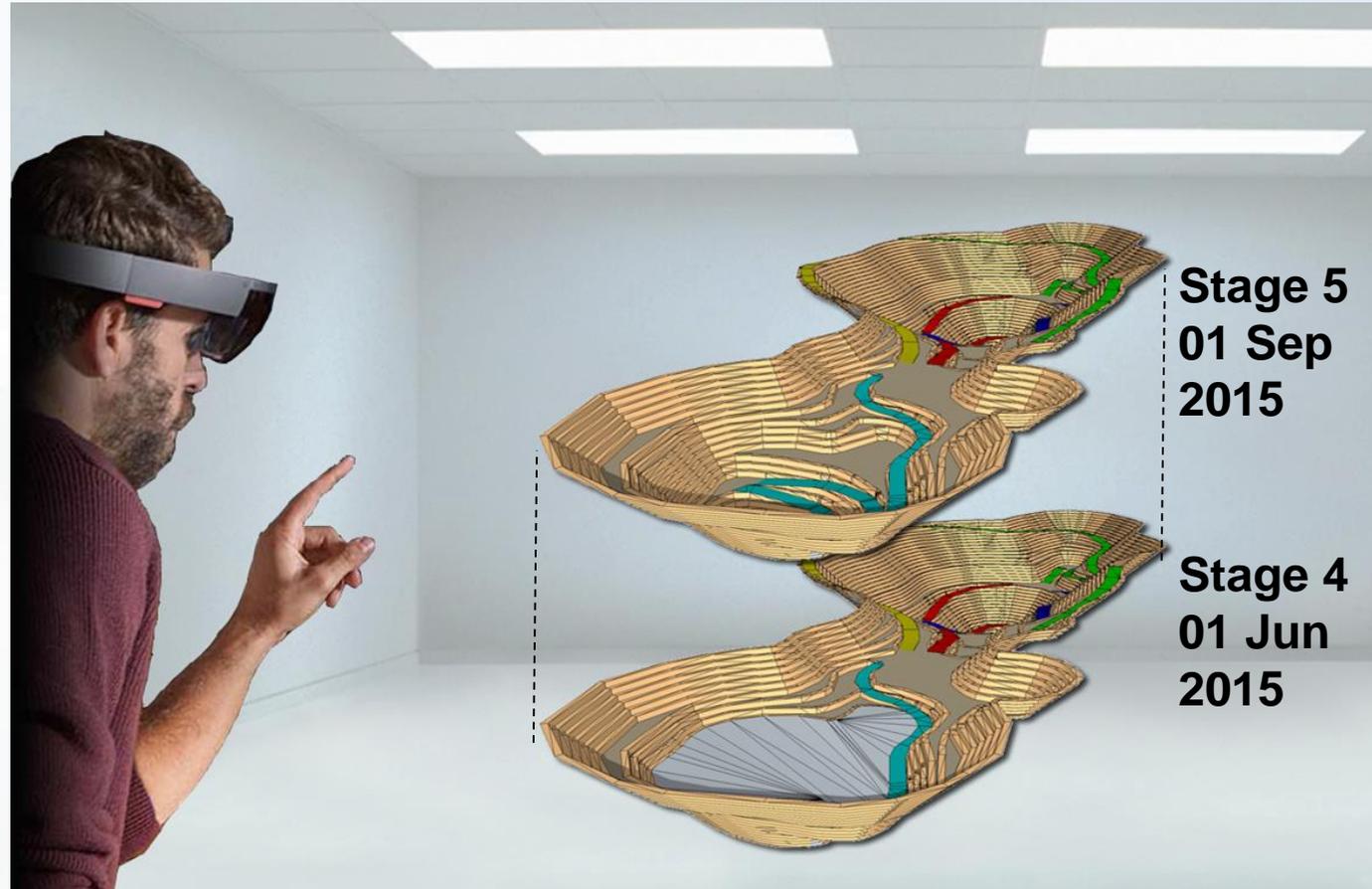
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## Mining

- Historical comparison
- Material rainbow
- Geological data
- Database query
- Remote collaboration





## Facilities Management

- Critical real-time data
- Remote expert
- Through the wall
- Maintenance history
- Context-driven data





## Geospatial

- Digital archive of the world's heritage sites
- Mapping
- 3D Scans, 3D Models
- Mixed Reality





## Recon Jet, Augmented Reality

- Wearable, self-contained Android computer
- GPS, camera, see-through heads-up display
- Visualize occasional 2D information
- Hands-free data collection, navigation





## Stake-out Navigation

- Walking in rough terrain
- Need hands free
- Find locations for geophones





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## Data Collection

- Select the top level elements, "Deck", "Substructure" ...
- Take a photo, Talk a comment
- Data collection to cloud



Bridge Inspection

Condition

Photo of Span

Submit



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## UAV Tracker

- Need to observe UAV in flight
- UAV may be obscured by trees, in clouds
- Other aircraft in air space, separation



Range: 1149      Bat: 94.0  
Elev: 250      Air Speed: 10  
Flight Lines: 0 / 16      Ground Speed: 98  
Lat: -43.5453      Lon: 172.5922  
Satellites: 1





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**Thank you!**

**Please join the Trimble ZX5 multicopter outdoor demonstration.**

**Note: Photos and videos may be captured of you and by going you are giving consent**