Mixed Reality (XR) Applications

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Agenda

• Background
• What is Mixed Reality (XR)?
• Improving Stakeholder Engagement
• Rethinking Training
• Summary – How Can XR Help You?
Integrated services across full asset lifecycle

Technical skill sets matched to customer environmental and engineering needs

Lifecycle services

- Innovation & Technology Solutions
- Architecture/Engineering
- Permitting and Compliance
- Program Management
- Environmental Remediation
- Environmental Sciences
- Energy Efficiency
- Public Infrastructure
- Geotechnical and Materials
- Construction Services
- Military Fueling Systems
- Facility Operations
- Demolition and Decommissioning
Mixed Reality (XR)
What is Mixed Reality (XR)?

<table>
<thead>
<tr>
<th>Virtual Reality</th>
<th>Augmented Reality</th>
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<tbody>
<tr>
<td>Computer Generated, Interactive 3D Environment</td>
<td>Computer Generated, Interactive 3D Environment</td>
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<tr>
<td>Totally Immersive Virtual World</td>
<td>Real World Augmented by Interactive Holographic Enhancements</td>
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<tr>
<td>Visual/Aural Sensory Input Controlled by System</td>
<td>User Maintains Sense of Presence in Real World</td>
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![Image of Mixed Reality concepts]
The Road to XR

Model Based Design

XR Engine

XR Experience

Wood – Environment & Infrastructure Solutions
Improving Stakeholder Engagement
The Value of Engagement

• VR Offers Experience
  – No Technical Knowledge or Interpretation Required
  – Better Understanding of Risk
  – Better Understanding of Requirements

• Better Informed Decisions
  – Less Change
  – More Ability to Influence
  – Less Cost/Time
  – Less Risk

Wood – Environment & Infrastructure Solutions
Engagement Example – Horsley Operations

• Asset Optimised For End User Needs
• Fast Track Project Scrutiny Process
• Hand Over Starts at Concept Development Stage
• Understand Interface With Live Operational Site
Engagement Example – Heathrow Community

• Community Engagement Tool
• Experience Visual Impact
• Experience Aural Impact
• Supported Successful DCO Process
Engagement Example – Well Head AR

- Collaborative Design Review
- Multi-User Experience
- Can Be Used At 1:1 scale
Embracing Your Inner Chimp

I am Told and I Forget
I See and I Remember
I Do and I Understand

(Cognitive) (Emotional) (Memory)

Wood – Environment & Infrastructure Solutions
Safety Training - Example

- Improve Situational Awareness.
- Empower STOP WORK authority.
- ID hazards and experience consequences.
- Immersive, but safe, environment.
- Cost-effectively simulate difficult scenarios.
Operating & Maintenance - Example

- AM Information or O&M Training Use
- Supports Assurance of Critical AM Processes
- Supports Safe Working Practice
- Link to AIM
- Hands Free Via XR Headset
How XR Can Help You?

• Access Physically Difficult Places
• Do Dangerous Things Safely
• Engage
• Collaborate
• Practice, Learn & Experiment

• Experience It & Get Creative!.......