XR Workflow Strategies for Engineering and Construction

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Alberto Arenas  Senior Manager - AR/VR Services
AEC Customers Leading in AR/VR

<table>
<thead>
<tr>
<th>Company</th>
<th>Totals</th>
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<tbody>
<tr>
<td>SNC LAVALIN</td>
<td>Employees: 560,000</td>
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<tr>
<td>BECHTEL</td>
<td>Revenue (2017): $132B</td>
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<td>MOTT MACDONALD</td>
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<td>SKANSKA</td>
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<td>JACOBS</td>
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<td>VINCI</td>
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<td>JE DUNN CONSTRUCTION</td>
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<td>CANNONDESIGN</td>
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<td>MCCARTHY</td>
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<td>FLUOR</td>
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<td>WSP</td>
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AEC – 3 Distinct Markets

GDP: $12T / 2020
Reduce Waste
From Design through Decommission
XR is a value add throughout the construction process

10% Win Projects
90% Project Delivery
Sustainability is everyone’s problem
Problem: Decision by Translation

(Quality of Data \times \text{Quality of Translation}) = \text{Speed/Quality of Decision}
Feature Rich Immersive Experience

[FEATURES]
- Bidirectional Data Flow
- Platform Connected
- Automated Data Preparation

[PLATFORM]
- AUTODESK BIM 360
- Autodesk Forge

[GUIDE]
- Design
- Preconstruction
- Field Execution
- Handover & Operations

[COORDINATION]
- Controlled Worksharing
- Collaboration
- Deleavable Coordination
- Constructability
- Scope
- Cost / Schedule
- Quality / Safety
- Progress Tracking
- Work Coordination
- Commissioning
- Handover
- Maintenance

[EXPERIENCE]
- Unified VR Experience
"Very useful. We want to use BIM 360 model coordination and we had no idea there was something like this till now. I've never seen anything like it."

"The ability to start the admin phase in schematic or design development is huge"

"We want in! What are the next steps for us to be a part of Holodeck?"

"I can see this working for Architectural features configurators. For electrical, fabrication opportunities."

"...for construction this would be great to visualize how to fit a piece of equipment in a space."

"I think this is fabulous because you're interacting with the model and the people just like in real life. The tools and the models are exactly as you expect them to be."

"It's considerably lessening the time and effort. It will make the coordination much faster."

"To be in the space together and to be interacting together...amazing. I'll take 3 of these, please"

"It's amazing, it's awesome. I can see the benefits of it because it simplifies the coordination process. It's incredible actually."

"The ability to video record the session can serve as a legal document in some cases. Thank you very much, I love it."