

Featuring Josh Lowe of TURIS Systems, LLC



How a leading 3D modeling company for the commercial building industry is employing the latest augmented reality technologies to increase ROI for their contractor clients.

Tell us about yourself.

Josh Lowe is a Senior Innovation Advisor at TURIS Systems LLC, where he leads his team to explore the boundaries of new technology applications. He is responsible for engaging with trade contractor and their modeling process prior to and during construction to optimize coordination and efficiency in the field. In addition to the utilization of BIM for projects, Josh is involved in the research and development of new BIM and other technology applications. In 2013, his innovation and leadership allowed him to be selected by Engineering News Record-Midwest Region as one of the "Top 20 under 40". Josh received a Bachelor of Science degree in Architectural Studies and a Certificate in Urban Planning from the University of Wisconsin-Milwaukee.

Tell us about your company.

TURIS Systems, LLC (TURIS) develops and implements "Building Innovation Systems" that improve facility implementation and management. Located in Madison, Wisconsin, TURIS Systems, LLC (TURIS) has developed a professional, service based organization with a staff of 21 that has established a strong national presence. TURIS specializes in the development of technology-based, cost saving applications designed to assist owners, designers, contractors, subcontractors, and developers by improving on the process of facility development and management projects – from concept to utilization.

What was your first experience with Augmented Reality technology?

I first experimented with AR in 2008 using open source code and square targets.

When and how did you hear about SmartReality?

I have known James Benham for seven years through his company's other product, SmartBidNet, and other industry organizations. I heard about SmartReality from James via social media.

What features of the mobile app influenced your company's decision to test the technology on client projects?

The features that were attractive were the ability to tightly tie an image to the model for use as the target. This ability along with the flexibility and opportunity in developing Beta application made it

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an attractive option. The other major thing to consider was that this is the first augmented reality application that is focused at AEC applications.

Which of your clients do you see benefitting the most from augmented reality solutions like SmartReality?

SmartReality and augmented reality will be a valuable marketing tool, with the pitch around better visualization and project understanding. Over the long term AR will change the way that we receive information and perceive our surroundings. AR has the potential to allow for x-ray like vision within buildings to see what was installed behind walls, underground and under slabs. Healthcare and plants would be a large play for x-ray like vision. The best part about AR is that there are limitless applications for the construction industry ranging from the obvious visualization opportunities to object recognition that prompts augmented instructions or training.

Tell us more about the two client projects, the concrete build out and the dorm interior design, (now available to all SmartReality Beta testers) that were first outfitted for use in SmartReality.

The concrete sample was a test to see how we could begin to push AR to the field to help impact productivity and design understanding. This project utilized concrete LIFT drawings done in Revit. These drawings break up the building based on each concrete pour. We used SmartReality to tie together the image on the LIFT drawings to the model. This gave the superintendent and foreman on the project a quickly viewable 3D model for use in the field on their iPads.

For the student housing interior, we designed the models to help the owner show the spaces and sell units. The SmartReality application will allow prospective tenants to view the different units along with furniture and color options prior to construction or occupation.

How did SmartReality help the client achieve a better return on investment in each use case?

The concrete example provided better communication when building complicated concrete pours. The improved communication reduces mistakes and increases productivity.

The student housing project will allow the building owner to meet its tenants' expectations. This is a very comfortable and intuitive way for students to view and select their new apartment. The return on investment in this case revolves around marketing and sales cycles.

What other innovative technology is your company currently using or testing?

Data flow and management, BIM development, supply chain integration solutions and many other things revolving around technology implementation for facilities.

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Over the next decade, in what ways do you hope to see augmented reality technology evolve, particularly in construction?

Moving forward I hope to see hardware improvements to allow for larger models and better render times which will allow for many of the innovative applications discussed above, including object based recognition versus image recognition. These capabilities will allow for a vast expansion of Augmented Reality.