GENE ROE

The British Invasion

It was 50 years ago that the Beatles came to America highlighting the British Invasion of rock music. Most of my generation can tell you exactly where they were when they watched "The Fab Four" for the first time on the Ed Sullivan show. This time around the Brits are poised to launch another invasion of the U.S., and the rest of the world, but it's not with music. This time they are going to use their world leading knowledge of how to design, build and operate mega infrastructure projects.

In his keynote at the recent Be Inspired Awards Malcolm Walter, Bentley Systems COO noted that London was becoming the center of the Built Environment universe. With more than 400 sky cranes working in London it would be hard to dispute this, but much more important is the sophistication the Brits are bringing to the use of BIM and 3D lifecycle asset management, not to mention the use of 3D laser scanning which is now standard procedure and mostly taken for granted.

This is not by accident or a coincidence. The UK government is making this happen by encouraging and more importantly mandating the use of BIM while requiring that all lessons learned on mega-projects be documented and transferred to new projects that are just getting started. On the London Crossrail project all constructed facilities must be documented in 3D and submitted by the contractors to the operations units. The managers of Crossrail are now transferring their lessons learned to the next UK mega-project, HSR-2 which is high speed rail to connect London to the other major cities of the UK. If you want to see the future of lifecycle asset management and BIM it's currently being developed in the UK.

And as discussed in my previous editorial it doesn't stop there. The UK's Construction Industry Council has commissioned a young group of emerging leaders in the architecture, engineering and construction profession to come up with a vision of the future. The report entitled, *Built Environment 2050* is an important and thought provoking look into the future of our industry—it's a must read if you are interested in positioning your firm for growth and perhaps getting involved with helping to shape the future of the Built Environment.

With this being the final issue of the year I thought it would be interesting to take a quick look into my crystal ball. First of all I do think the U.S. economy is steadily improving and the drop in oil prices will, in general, act like a tax cut especially for those who are forced to live paycheck to paycheck. I see this continuing for

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at least the first half of next year. The downside to this is the fact that the energy companies are going to begin to cut back on their spending which could have a negative impact in states like North Dakota and Ohio where they have been reaping the benefits of massive drilling operations.

In the rest of the world economies things are not that clear. There are many challenges, particularly in Europe, Brazil and Japan where these governments are facing slow to no growth scenarios. Here in the states virtually all of the 3D firms that I speak to are very busy and I think this will continue especially if the new congress can "prime the pump" with infrastructure spending bills and perhaps funding for the USGS 3DEP program. The ROI of planning, designing, building and managing in 3D is beginning to be understood by the consulting and owner communities at least on the bigger projects.

At the same time in large organizations such as transportation agencies the transition to 3D is going very slowly and that is not going to change in the next couple of years. The Federal Highway Administration (FHWA) is addressing this issue with their Every Day Counts (EDC) initiatives where they are proactively reaching out to DOTs to encourage them to think about and adopt innovative strategies and technologies.

This includes providing funding for STICs–State Transportation Innovation Councils that are being established by the individual DOTs to encourage the investigation of new methods and workflows. Forty five of the 52 DOTs now have a STIC. I encourage you to seek out the STIC in your state as they will be very interested in laser scanning, LiDAR and 3D modeling. They can apply for $100,000 grants for demonstration projects.

There are two main reasons that I am not optimistic about the pace of widespread adoption of 3D and lifecycle asset management in large, institutionalized organizations. These are not a Crossrail where they can start from scratch to put a 21st century system in place. These are 75 year old organizations that in general are under a lot of pressure to do more with less and where change comes slowly by design.

> "If you want to see the future of lifecycle asset management and BIM it's currently being developed in the UK."

The first reason for concern is that we are focusing on the wrong issue. Instead of the next new bright and shiny technology, such as laser scanning or UASs we need to address the issue of organizational change. We currently have more than enough 3D technology to implement version 1.0 of 3D lifecycle asset management within transportation organizations. What we are not addressing is how to reengineer the business processes from the top down to allow the innovations to become standard operating procedure while providing the improvements in productivity that would be welcomed.

This leads to the second, albeit related issue. There is a glaring need for a clear, well articulated 21st century vision, dare I say a roadmap for large organizations with geospatially distributed assets that describes what the future is going to look like and how they are going to get there from here. Right now it's too big a leap of faith for many to see how 3D technology is really going to help them today.

For the vendor community this represents a HUGE opportunity to develop a comprehensive, integrated software environment that would support the management of the entire lifecycle of geographically dispersed assets such as highways. This would require, at a minimum support for planning, design, scheduling, estimating, construction monitoring, operations and maintenance all integrated with the financial accounting and business systems.

It's a lot to think about, but if we can land a space ship on a comet I think we should be able to do this. I hope you enjoy another great line-up of articles. Thanks for a great year and have an enjoyable holiday season with friends and family.

Regards,

Gene Roe, LS, PE, PhD
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