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CELEBRATING 55 YEARS

Taking responsibility for the future of the AEC industry

August 20, 2015 - Connecticut

"The best way to predict the future is to create it." Pete Drucker

Many articles speculate about the future of the AEC industry. At the Construction Institute we ask a different question: How can we work together to build our future? During our recent planning sessions, the board of directors and the board of advisors were asked to identify the most important challenges we need to embrace to advance the future of the industry. The boards are representative of our membership, which includes owners and facilities managers, architects and engineers, contractors and subcontractors, project managers, consultants, manufacturers and distributors, governmental agencies, lawyers, accountants, and other support services. The confluence of issues that emerged is striking.

Improving relationships among industry stakeholders

No building, road, bridge or other construction project can be completed without collaboration among a diverse group of participants. And yet, as an industry, we are not very good at collaborative problem solving. We need to align the interests of participants with the outcome of the project. The long term success of the project over its useful lifetime should be the goal that informs the stakeholders' roles in the process. Forward thinking collaboration is not just good for a project; it's good business. Multiple case studies demonstrate that the savings to be gained from collaborative processes on large projects can be measured in millions of dollars and in months, if not years. These savings can be shared among participants. At a practical level the industry needs to embrace collaborative processes like design-build, Integrated Project Development (IDP), Public-Private partnerships (P3), and collaborative technologies like Building Information Modeling (BIM).

Recruiting and Training the next generation of leaders and employees

Here the challenge is twofold. The first is our need to develop a new generation of leaders within the professions of the AEC industry. The "boomer" generation is retiring, taking with them their depth of knowledge and experience in the industry. The "millennials" have an unparalleled training in technology, but lack the experience to take full advantage of those skills. We need to attract more young talent into the profession and we need to create meaningful opportunities for mentoring.

The second is our need to recruit and train skilled workers. In a recent business risk index report prepared by Travelers, the problem of attracting and retaining appropriately skilled workers was at the top of the list, with 67% reporting that as a principal concern. We need a new model for educating students from an early age about the range of career possibilities in the AEC industry and a way to provide the training, including hands on training, which will allow them to enter these

important and remunerative trades.

Continuous Improvement of Processes: Accessing the Power of Data

A report from the National Institute of Standards and Technology indicates that $15.8 billion is lost each year because of inefficient data exchange during the design, construction, facilities management, and operations of large commercial, institutional and industrial buildings, facilities and plants.

The emergence of Building Information Modeling technologies has not solved that problem, in large part, because of the inability of software programs with differing functionality to share data. The surveyors' and site engineers' separate software platforms are not easily integrated with the standard programs used for Building Information Modeling, which does not integrate seamlessly with the facilities management software. Creating standards, programs and protocols for the management, transfer, and integration of project data has huge upside potential for cost savings over time as well as for enhancing the longevity of structures.

Employing Powerful New Technologies at a Practical Level

An explosion of new technologies is already transforming the industry. New materials like "self-healing" concrete developed for use in roads and bridges, adaptive building envelops that are programmed to regulate light and solar gain, ventilation and airflow, privacy, and views, and flexible films that function as solar energy panels are one aspect of the explosion in technology. New construction techniques for prefabrication and 3-D printing are also changing the landscape. Finally, the rapidly increasing incorporation of digital information into virtually everything we use is transforming our very walls into smart devices that can for example monitor and adjust to ambient conditions or report deterioration that requires attention. The Internet of Things creates new frontiers for the industry. Urban designers are envisioning a world with smart buildings, homes, and systems, like smart streets, even smart sewage systems.

Over the coming year the Construction Institute will be working with its members to create opportunities to move forward on solutions, through programming, education, research, white papers, public online discussion forums and other avenues. We invite you to join us.

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