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University leadership for advancing the steel construction industry: Regional partnerships for global impact

Robert G Driver
University of Alberta, Canada

Informal relationships between individual steel fabrication companies and local universities are commonplace and often take the form of scholarship sponsorship or the supply of free or discounted shop labour and materials for laboratory research. While these activities have advantages for both the participating firm and the institution to some degree, the benefits tend to be self-limiting due to their lack of vision beyond the present. For regions where steel industry technology clusters already exist (from the supply chain through to steel fabrication and erection expertise), collaborative industry partnerships with universities having strong engineering programs generate opportunities to create highly influential knowledge networks. These networks not only provide short-term benefits to the industry, but also can create strategic market growth in existing areas of expertise and establish ground-level shares in new and emerging construction markets. As the steel industry competes in a rapidly-changing construction climate, collective industry innovation, through direct links to university research programs and personnel, is the key to success and global competitiveness. The University of Alberta recently formed a unique partnership with Alberta-based steel fabricator/erectors and their direct collaborators and clients. Collective support raised has created foundational funding that can be leveraged through governmental research grants available only to universities, and this funding is most readily available when sustained industry backing is present through demonstrated cash and in-kind support. Major benefits are derived through a multiplicity of spin-offs from the core research programs, such as a better-educated regional work force and clientele due to an increase in engineers with graduate degrees specialising in steel construction. Other primary benefits include the direct involvement of the steel industry in guiding new developments in construction and fabrication technologies through research, the installment of student interns and summer employees into the sponsors' operations for a bi-directional flow of knowledge, the creation of professional training opportunities for industry personnel through short courses and other continuing educational initiatives, and the natural promotion of the industry arising from the regular activities of the researchers.

Biography

Robert G Driver is Professor and Associate Chair of the Dept. of Civil and Environmental Engineering at the University of Alberta in Edmonton, Canada. He has a total of 30 years of experience in the steel fabrication industry, structural engineering consulting, applied engineering research and education, having taught structural engineering undergraduate and post-graduate courses in Canada, the United States and South Africa. He has received numerous awards for both research and teaching and is extensively involved in the development of structural design codes and standards in North America. He has published nearly 200 reports and papers in refereed journals and conference proceedings.

rdriver@ualberta.ca

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