

HSS

# ARTICLE

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**CIDECT AND STI: TWO  
APPROACHES TO GROWING  
THE USE OF HSS FROM TWO  
SIDES OF THE POND**



There was much excitement coming out of the 2013 CIDECT Conference in Spain, including some of the ways CIDECT and STI can begin to collaborate more to continue building opportunities for structural tube both in the United States and around the world. Mark Bula, Director of HSS, attended the conference and these are some of his observations.

“Common themes throughout the conference centered on education and how education and relationships with influencers such as engineers and architects will continue to help HSS become a preferred material for many applications,” noted Bula. Both STI and CIDECT have been active in these endeavors but the approach has been quite different. STI is a very market-focused organization while CIDECT has a rich history of sponsoring academic research.

CIDECT, which stands for Comité International pour le Développement et l’Étude de la Construction Tubulaire is an international association dedicated to research. CIDECT conducts in-depth academic research to explore new ways structural tube can be used as well as how to continuously innovate the industry. STI is also focused on innovations within the industry but with an emphasis on educating end-users on the benefits of HSS including those applications where HSS is often not considered as a viable option.

Moving forward, CIDECT is adopting some of this approach by placing greater emphasis on making sure their research and development projects directly benefit designers and are easy for designers to implement.

“I believe that the main challenge is the transfer of knowledge to Designers. CIDECT has been conducting R&D projects for more than 50 years, so there is a lot of knowledge on the design of tubular structures available in hundreds of reports. But most of this information cannot be used by Designers directly as the outcome of these works are not clear rules to be applied in a structural design. CIDECT Design Guides collection tries to gather all this information and present it in a way of clear design rules,” says Gorca Iglesias, R&D Manager of CONDESA and Chairman of the CIDECT Technical Commission.

Connections continue to be a challenge for HSS adoption on both sides of the pond. CIDECT is currently researching many different aspects of beam/column connections including the behavior and design of semi-rigid beam to tubular connections as well as hollow section connections using hollow-fast expansion bolts. In total, they have 15 research projects underway exploring all different facets of this issue.

Gorca explains, “Currently, Eurocode 3 (engaged with the steel structures design) differentiates clearly between open sections joints and tubular joints. We have decided in the 2013 Annual Meeting to launch a project that will try to align our design rules with the open sections ones, much more common for Designers. This will make the design of a tubular structure much easier for them. Furthermore, it will allow professors at the university to teach how to calculate tubular joints in a very simple manner, as basically it would be similar to the open sections joints that they are already teaching currently. It is a great challenge, but we trust that we will achieve it.”

For engineers in the United States, STI is working to ease connections challenges by encouraging engineering software vendors to add HSS connections to future releases. An updated version of the Connex design aid is also being added to the STI website as another tool to address this challenge.

CIDECT continues to view research as key to long-term success in Europe and other parts of the globe. “In my opinion, research is the base for the market development. If we want to sell tubes, we need to sell tubular structures, i.e. to convince Designers to use them in their structures. And in order to do so, it is necessary to offer them design rules and tools that allow them to implement hollow sections safely and easily in their designs. And this would not be possible without the knowledge obtained through the research projects and the tools, such as Design Guides or software, created to easily apply such knowledge. Furthermore, Designers must meet the requirements of the Design Standards. And these Standards, talking about hollow sections, are mainly based on the CIDECT Design Guides. So, without our research activities, I do not know whether Designers would be able to design a tubular structure nowadays (or how they would do it). It is a very long path from the research project start to the implementation of its results in the standard, but this should be our final goal,” added Gorca.

Although STI and CIDECT approach their roles as industry associations in different ways, each is committed to growing the use of HSS throughout the world. It is the combination of in-depth research, thoughtful application of these studies in real-world applications, and educating engineers or Designers about these new innovations that will combine to meet this common goal.

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