

MEDIA RELEASE FROM SOUTHERN AFRICAN INSTITUTE OF STEEL CONSTRUCTION

March 2015

Dealing with not knowing what you don't know in Steel Construction

U.S. Secretary for Defence, Donald Rumsfeld, famously said it in 2002: "There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don't know. But there are also unknown unknowns. There are things we don't know we don't know."

"The things that we don't know we don't know cause the greatest havoc in society in general and, of course, the steel construction industry is no exception," says Amanuel Gebremeskel, Development Engineer at the Southern African Institute of Steel Construction (SAISC). "This is not a new concept and was brought powerfully to the public's attention by Nassim Taleb in his iconic 2007 book, The Black Swan, wherein the core message is that the "unknown unknowns" are responsible for the greatest societal change. Think only of 9/11," says Gebremeskel.

He says that one of the problems with engineers today is that while they are generally great at designing according to what they know and what they know they don't know, they give up on doing anything about the "unknown unknowns". "This is a mistake of monumental proportions," says Gebremeskel. "We can and must design for these unknowable eventualities. There are ways to approach this with the minimum requirement being the study of redundancies in order to achieve ultimate resilience and robustness," he says, adding that many of the SAISC's training courses include such instruction.

But the problem doesn't end there. "Many of the large project houses, including the parastatals, are not doing enough training and even though they may be aware that organisations like the SAISC have a wide range of training programmes that could help prevent a myriad future problems in steel construction, they, for a variety of short-sighted reasons like cost, or the spurious belief that the main contractor is solely responsible for the risk, hardly do any training at all. This is creating a dire situation in South Africa.

"The structural element of big projects is always on the 'critical path' and companies should be putting more effort and resources into this aspect of the project than other aspects. This, simply put, translates into investing in more training for the people who are managing the critical processes," says Gebremeskel.

Mainly for this reason the SAISC has recently launched the Steel Academy, an umbrella body for all its training initiatives. “This is an innovative branding exercise, aimed at drawing attention to the SAISC’s top-draw training and upskilling programmes,” says SAISC CEO Paolo Trinchero.

“Training is critical to the long term success and financial performance of any company and is vital to the continued sustainability and competitiveness of not only the steel construction industry in South Africa but to all industries,” says Trinchero, who is passionate about reversing the dearth of skilled engineers in the industry through the newly-launched Steel Academy.

The Steel Academy provides short- and long-term courses, structured around the fact that the attendees also have jobs to fulfil. Its interactive training uses a hands-on approach, with personal mentoring, examples, calculations and discussions. On some courses the attendees are required to do work related to their own companies.

Among the host of SAISC programmes relevant to the steel industry are courses covering all aspects of Steel Design, Business Development and Marketing, Financial Management, Legal and Contractual matters, Economics of Steel Design, Connection Design, Steel Bridges, Materials Handling and more.

Through direct academic input, the SAISC also assures the academic quality of the Civil Engineering faculties at South Africa’s top five universities; Pretoria, Wits, Stellenbosch, Cape Town and KwaZulu-Natal. The Architectural faculties of some of these institutions also receive input from SAISC. At present the SAISC is also mentoring five interns from the Vaal University of Technology.

“Cutting back on training in times like these is false economy,” says Gebremeskel. “Sending engineers for training now will have a direct impact, translating into increased productivity in the workplace and, in the case of more complex systems, will bring about greater reliability significantly reducing overall costs for the steel construction industry in particular and the country as a whole,” concluded Gebremeskel.

For more information on the courses offered by the SAISC Steel Academy, call 011 726 6111.

Caption for pic: (Amanuel Gebremeskel.jpg)

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