Open Source Prefabricated Structure - Bolt Systems

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Prefabrication of building structures has been intertwined in our construction conversations for a long time. There are many challenges that face the construction industry and Prefabrication appears to be one of our next major hurdles. Carbon, Safety, Funding, Program and competitive advantage are all equally important. On issue with the current model is that each prefabricator has their own way to deliver the buildings. All of which are different with varying degrees of success. The systems needs to be flexible, compliant and should have architectural merit. There are lots of trust issues with the current prefabrication procurement model, not to mention their aesthetic.

I have created an open source prefabricated structure that combines structural steel, bondek and concrete. It relies on the project engineer and architect to work with the transport constraints of the system to design, document and tender the structure on the open tender market. The system is manufactured by any steel fabricator found in any part of the world. Bondek is dropped into the perimeter frame and poured with concrete. Spans are driven by the end use of the structure. For example units would have smaller spans as parti-walls can be used to encapsulate columns. Offices and hospitals would require greater spans and ultimately deeper beams.

Assembled at 500m2 per day once fabricated, this system has the potential to change the way we build.