February 20, 2021

At this time Construction is starting to see an increase in efficiency and productivity due to the incorporation of new technology. The new technology has solved the major problem of getting the right information, to the right people, at the right time. It has permanently changed the operations of everyone in the Office, Trailers, and Field.

In the Field the new technology of construction is being used by every worker on a project. Anyone putting work in place can interface with their tablet to see job specific installation instructions for their particular task. Location aware tablets allow workers to see the coordinated model in the place that they are actually working so they can make informed decisions about installation. Robotic Total Stations are no longer just used for layout but have become the common tool for quality control, reporting variances between in field installation and the coordinated model. Prefabrication has become a standard practice that is used on every project although at varying levels of complexity. The link between Drawings, Specifications, and the Model has become seamless and has easily expanded to include specific product information and manufacturer installation guides. Materials arrive with just in time delivery and their lifecycle between being shipped and installed is documented through the use of RFID tags. Location awareness has just started to gain entry into the construction industry making it possible to track every piece of equipment, every worker, and every tool resulting in safer and more efficient work practices.

In the trailer life has become much easier. The endless lines of filing cabinets are gone. The giant room filled with plans and binders has been replaced with a much smaller room containing a computer and a large screen. The new software used in construction saves every bit of data entered for any reason into a database to be analyzed during the project post-mortem. As you look around at everyone's computer you see either a model or a database being used in some capacity. Coordination meetings are short and only major problems are discussed. There are no more discussions about naming conventions, file types, and file transfer protocols. Direct feedback from the field workers tablets is used to update progress and track completion. Location of workers is automatically stored in their company's daily reports. Safety zones are mapped out in the office and the workers ID Badges warn them when they enter danger areas.

In the office estimating has become a smooth hybrid of analysis of models and documents. Estimates have become much faster as a result. Accurate rough estimates are able to be pulled directly from design team models because of the tagging of model elements using CSI standards. Observation of project models has become a standard tool for upper management in their analysis of the projects they are in charge of. All reports for jobs are pulled from an integrated database of all active and inactive projects as needed.

In the background of all of these processes are the standards that make it all possible. The standards tie together the way every model and database will share information. Databases and models will all be built to this standard making information pass easily from designers to estimators to the field. But most importantly for contractors this database will house all of their data for all of their projects allowing analysis to take place in a way it was never done in the past. Contractors use this data to learn trends about safety, logistics, coordination, manpower, and every other aspect of construction. The contractors that learn from this data are able to outperform the competition in every way and the industry leaders are defined by their understanding of data collection and how to analyze it.