Consistent and standard model content – a way towards utilization of advanced BIM use cases

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Abstract:

All the efforts of engineers involved in a BIM project must strive towards consistency of deliverables. Consistent model file names, element names, classification and property names with consistent values are the key to successful implementation of advanced BIM use cases, like e.g. 4D-, 5D- and 6D-modelling. By respecting existing national BIM standards and guidelines we have a good input when planning the implementation, but far more detailed guidelines need to be developed in planning documents (Employer information requirements – EIR and BIM execution plan – BEP).

One of the most important BIM execution planning activities is exact definition of consistent content of the future models. The following concerns need to be addressed at the project initiation:

- Optimal segmentation of project to partial models,
- selection of appropriate classification system (on the element level),
- definition of required properties (names and values) and property sets for different types of elements and different BIM use cases,
- level of development (geometry and alpha-numerical information) for each element type,
- quality control of the content during design development.

Efficient way for defining these requirements is to establish a database that is capable of transferring the data to modeling software. In example, BIM management defines the property names and possible values for a specific element in a database and after synchronization with modelling software, same properties and list of values are assigned to this element. This is limiting the possibility of forming inconsistent content during design development.

This approach enabled us to implement advanced BIM use cases on several complex infrastructure and high rise projects.

Keywords: BIM implementation planning; Level of Information; Quality control; BIM use cases; Experiences from complex projects