

Theme:

Title:

One-Dimensional CAD-drawing

- Twentyfive years en route towards integrated modelling.

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Abstract:

It all started twenty years ago with the implementation of industrial and mechanical CAD-drawing systems in the Construction Industry. Even at that time we focused on the wonderful perspectives of integrating design, production processes and FM using integrated systems, based on a “digital building model” and “object oriented modelling”.

The vision and the goals for the use of IT in the Construction Industry have been extremely stable over the years – much more stable than the development of IT.

For many practical reasons we started out by focusing on drawings and on building bridges between the “islands of automation” in the construction industry. Data exchange between CAD-systems was on the agendas for some years. But why are we still fighting the challenges of file-exchange between loosely coupled systems, and why do we still base industrial practices on the document management concept, when comparable industries have left this concept long ago?

We thought, that the concept of file-exchange between loosely coupled systems would bring us closer to realising our final goals – but how far have we progressed? Are we closer to integrated modelling today? How far have we progressed when it comes to implementation in the industry?

The author takes a close look at the development and the use of IT in practice in the Danish Construction Industry and in numerous development programmes. He summarises on the lessons learnt in different areas like: Industrial IT- strategy, IT- and CAD-solutions, conditions for integration, workflow, collaboration and business culture in the Construction Industry. He relates to the development in other industrial areas and to the development of IT-systems and tools to support the concept of integrated modelling and points at development needs.

The author elaborates on the ideas of information modelling in 1D-, 2D-, 3D-,4D-, and up to 8D (?), dealing with three dimensions, properties, relations, space, place and time, and asks the question, if we have to go through all these steps to reach our goal.

The conclusion is, that the industry is facing a shift in paradigm in order to fulfil its goals on integrated modelling, and that there is no easy way. The more we focus on file-exchange between loosely coupled systems and on the document management concept the further we must travel, and the greater the risk, that we will never reach our goal.

Keywords:

IT in Construction, IT-development programmes in Construction, Integrated Modelling, CAD, Product model.

litterature

1. Peter Hauch, IT i Byggeriets Fremtid, Erhvervsfremmestyrelsen 2001, Danmark.

