User driven innovation in the building process

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Abstract: During the late years there has been an ever-increasing focus on the possibilities to change the building process to raise quality on the final building products as well as the activities of actors involved in the building process. One reason for this interest is the new opportunities evolving due to introduction of advanced ICT based tools for building powerful user environments where distributed models of building products and processes can be efficiently handled and developed using more and more globally standardized services on the Internet. One important driving force for change is the opportunity for users to develop and articulate real needs concerning for example different functionalities of a building and its parts, but also on artifacts supporting the actual needs capture and requirements formulation during building design.

The paper focuses on creative changes of the building process powered by user driven innovation activities. An overview of existing user driven innovation methodologies is given as well as experiences from the ongoing Virtual Innovation in Construction (VIC) project financed by the Danish Enterprise and Construction Authority and the Program for User Driven Innovation. Project participants are the two main engineering and architecture companies in Denmark, Arkitema A/S and Rambøll A/S, and Aalborg University, Civil Engineering department.

The project goal of the Virtual Innovation in Construction (VIC) is to create an ICT supported methodology VICMET to involve building end user in a creative innovation process together with building designers, to capture and formulate end-user needs and requirements on buildings and their functionality. An open dynamic innovation space VIC-SPACE is created with access from WWW. A general methodological framework and meta ontology for Virtual Innovation in Construction is presented in the paper as well as findings from implementation of the method. It is concluded from the work that there is a need to further develop ontologies, functional building descriptions, and a formalized methodology to support a creative design in an open innovation environment.

Key words: Innovation; User Driven; Needs; Requirements; Creative Design; System Development