

BIM-to-BEM

Solving the complex equation for complex buildings

PROJECT DESCRIPTION

The aim of the research project is to have a fully functional integration between Building Energy Modeling (BEM) and Building Information Modeling (BIM), to improve the cost and energy performance of complex buildings (healthcare design).

The main goal of this project is to develop a management tool supporting the efficient design process of energy-efficient healthcare buildings with high indoor climate quality compatible with a BIM environment. This tool will especially focus on the link between BIM and the tools used

for energy use and thermal comfort prediction. The proposed tool will bring clarity and efficiency to information management and workflow. A secondary goal of this project is to make an inventory of the current design process to study the key moments and flaws to identify process losses and unnecessary costs. Finally, another secondary goal is to produce at least one Swedish expert in BIM-energy modeling, which will contribute to developing highly skilled expertise in hospital design, which could also be exported.

SCHEDULE AND FINANCIAL

Task	Year 1 H19 (50%)	Year 1 V20 (50%)	Year 2 H20 (50%)	Year 2 V21 (50%)	Year 3 H21 (50%)	Year 3 V22 (50%)	Year 4 H22 (50%)	Year 4 V23 (50%)
Courses (30/30 hp)								
Literature review of tools and processes								
Literature review BIM								
Publication of article 1								
Preparation of interview protocol								
Interviews in existing architectural practice								
Publication of article 2								
Recommendations (report), publication 3								
Licentiate thesis								

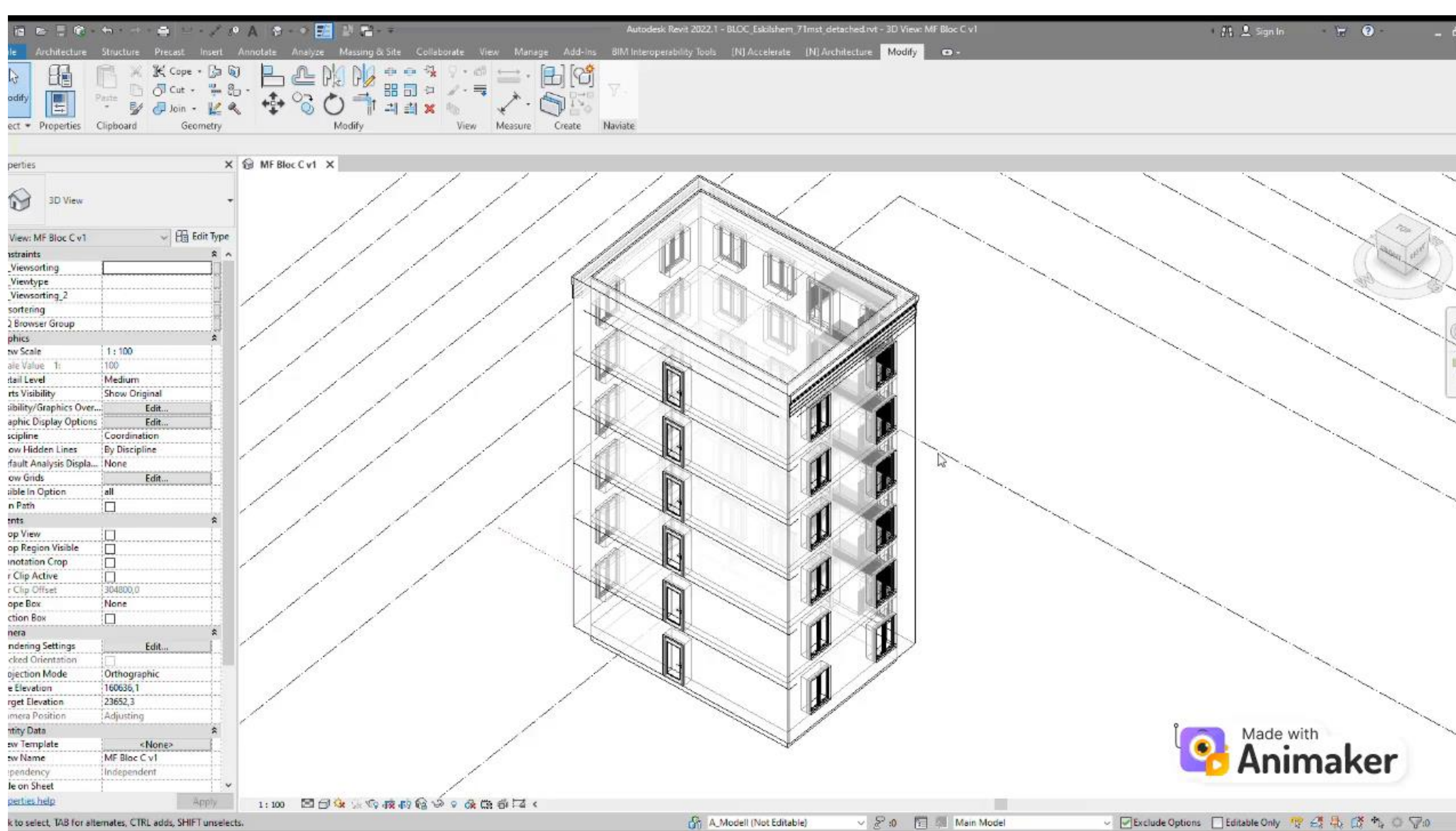
V = vårtermin (spring term); H= hösttermin (autumn term)

EXPECTED RESULT

The main result of this project is the production of a tool. The second result is the publication of a Licentiate thesis at Lund Institute of Technology. The thesis will be based on 2 peer-reviewed articles. In addition to this, the project will be disseminated via professional magazines in the Nordic countries, website of White architects, courses on sustainability at White architects, and through any event, conference or dissemination activities of the Swedish Energy Agency.

PARTICIPANT

At LTH, funded by the Swedish Energy Agency and White architects. Conducted in collaboration with ETS and NTNU in Norway.



Presentation of the vision of the tool in development at White arkitekter AB and presented at European Conference on Product and Process Modeling (ECPMP) 2022, Trondheim, 14-16 September 2022.



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