Building Information Model (BIM) promoting safety in the construction site process

SafetyBIM – research project

(TurvaBIM in Finnish)
Building Information Model (BIM) promoting safety in the construction site process
SafetyBIM – research project

The main objective of the research project is to encourage and develop utilization of BIM technology in construction planning and management - from viewpoint of occupational safety

- Potential of BIM technology to promote occupational safety in construction sector?
- Possibilities of an 3D site layout plan?
- Safety related activities planning and management by means of 4D modelling?
SafetyBIM – research project

• **Time schedule:**

• **Financing:**
  - 80 000 €
  - The Finnish Work Environment Fund (TSR), VTT, Skanska

• The research work carried out by VTT

• **Steering committee:**
3D building site modelling and visualization in SafetyBIM - project

The original 2D site plan

Case building project:
As Oy Vantaan Ankkahovi (3 apartment buildings, new construction)
Skanska Talonrakennus Oy
3D building site modelling and visualization in SafetyBIM - project

The architectural model

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy

Architectural design and modelling
Arkkitehtitoimisto L-N Oy

Building site modelling VTT
3D building site modelling and visualization in SafetyBIM - project

Site and surroundings

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy

Architectural design and modelling
Arkkitehtitoimisto L-N Oy

Building site modelling VTT
3D building site modelling and visualization in SafetyBIM – project

Site and surroundings

Case building project:
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Examples of created 3D site planning objects

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy
Architectural design and modelling
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3D building site modelling and visualization in SafetyBIM - project

A general view

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy
Architectural design and modelling
Arkkitehtitoimisto L-N Oy
Building site modelling VTT

— Site and surroundings
— Buildings
— Construction machines and equipments
— Material storing
— Transportation areas
3D building site modelling and visualization in SafetyBIM - project

A general view

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy

Architectural design and modelling
Arkkitehtitoimisto L-N Oy

Building site modelling VTT
3D building site modelling and visualization in SafetyBIM - project

A closer view

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy

Architectural design and modelling
Arkkitehtitoimisto L-N Oy

Building site modelling VTT
3D building site modelling and visualization in SafetyBIM - project
Visualization of crane reach

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy
Architectural design and modelling
Arkkitehtitoimisto L-N Oy
Building site modelling VTT
3D building site modelling and visualization in SafetyBIM - project
Visualization of crane reach

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy
Architectural design and modelling
Arkkitehtitoimisto L-N Oy
Building site modelling VTT
3D building site modelling and visualization in SafetyBIM - project
Fall protection in precast unit construction

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy
Arkkitehtitoimisto L-N Oy
Structural engineering and cutting the model to precast elements
Finnmap Consulting Oy
Building site modelling VTT
3D building site modelling and visualization in SafetyBIM - project
Fall protection in precast unit construction

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy
Architectural design and modelling
Arkkitehtitoimisto L-N Oy
Structural engineering and cutting the model to precast elements
Finnmap Consulting Oy
Building site modelling VTT
3D building site modelling and visualization in SafetyBIM - project

A circuit of the construction site
3D building site modelling and visualization in SafetyBIM - project

Site visualization

Case building project:
As Oy Vantaan Ankkahovi
Skanska Talonrakennus Oy

Architectural design and modelling
Arkitehtitoimisto L-N Oy

Building site modelling VTT
For more information

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