New Urban Energy Simulation Platform based on CityGML + Energy ADE
Based on CityGML - handle different Level of Details

4 Level of Details von CityGML
Modular structure, based on Workflows and Workflowsteps

Implemented workflows:

- Heating demand calculation based on monthly energy balance
- Solar and PV potential analysis
- Global CO2 emission analysis
- Refurbishment scenarii generation and simulation
Analyse at each step of the Workflows

Screenshot - SimStadt
PV - Potentialanalyse

Screenshot - SimStadt
PV-Potentialanalyse

Screenshot - SimStadt
Heat density map

A short description of workflow step and its parameters and results.
District network – Optimal layout and sizing
Data preprocessing with Building Libraries

[Image of a software interface showing building typology and construction properties.]
Data structure

- **SimStadt interne data structure (CityDoctor library)**
- **CityGML file Geo-Database**
- **Citygml4j Object model**
• **SimStadt/CityDoctor** reads and stores the city model via the java library **citygml4j**

• **Citygml4j** parses all **ADE**-specific tags as DOM nodes

• **Java class-model** is generated from the CityGML+ADE Definition schema by means of **JAXB**