

Work Package 2.1: *City District Information Modeling*

Goals

Work Package 2.1: City District Information Modeling

Goals:

- Definition of universal data categories
- Country specific data availability
- Development of workflows for energy related computations
- Development of enrichment methods
- Linked data
- VR applications

[...] last 6 months

[...] last 6 months

Overview

- ✓ 5 coordination meetings
- ✓ ~ 15 working meetings

James O'Donnell



UdK Berlin

David Kreulitsch
Christoph Nytsch-Geusen



Karlsruher Institut für Technologie

Joachim Benner
Karl-Heinz Häfele
Andreas Geiger



Avichal Malhotra



Thomas Schwengler
Gerald Schweiger



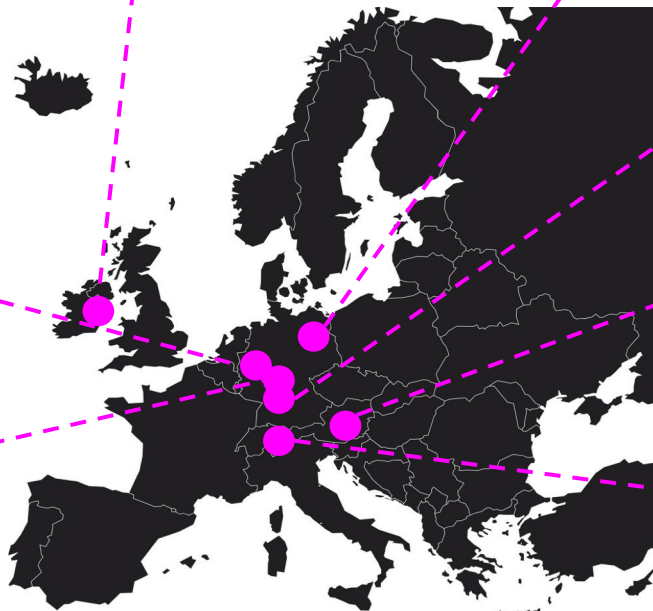
IWU Institut
Wohnen und
Umwelt

Julian Bischof
Michael Hörner



Empa

James Allan



[...] last 6 months

BauSIM Paper

**A REVIEW ON COUNTRY SPECIFIC DATA AVAILABILITY AND ACQUISITION
TECHNIQUES FOR CITY QUARTER INFORMATION MODELLING FOR
BUILDING ENERGY ANALYSIS**

Malhotra, Avichal; Bischof, Julian; Allan, James; O'Donnell, James; Schwengler, Thomas;
Benner, Joachim; Schweiger Gerald

Information that can be
directly used in a
building simulation

- Building footprints
- Building height
- Thermal envelope

Primary

Classifiers

- Building age
- Building use
- Occupant Composition

Secondary

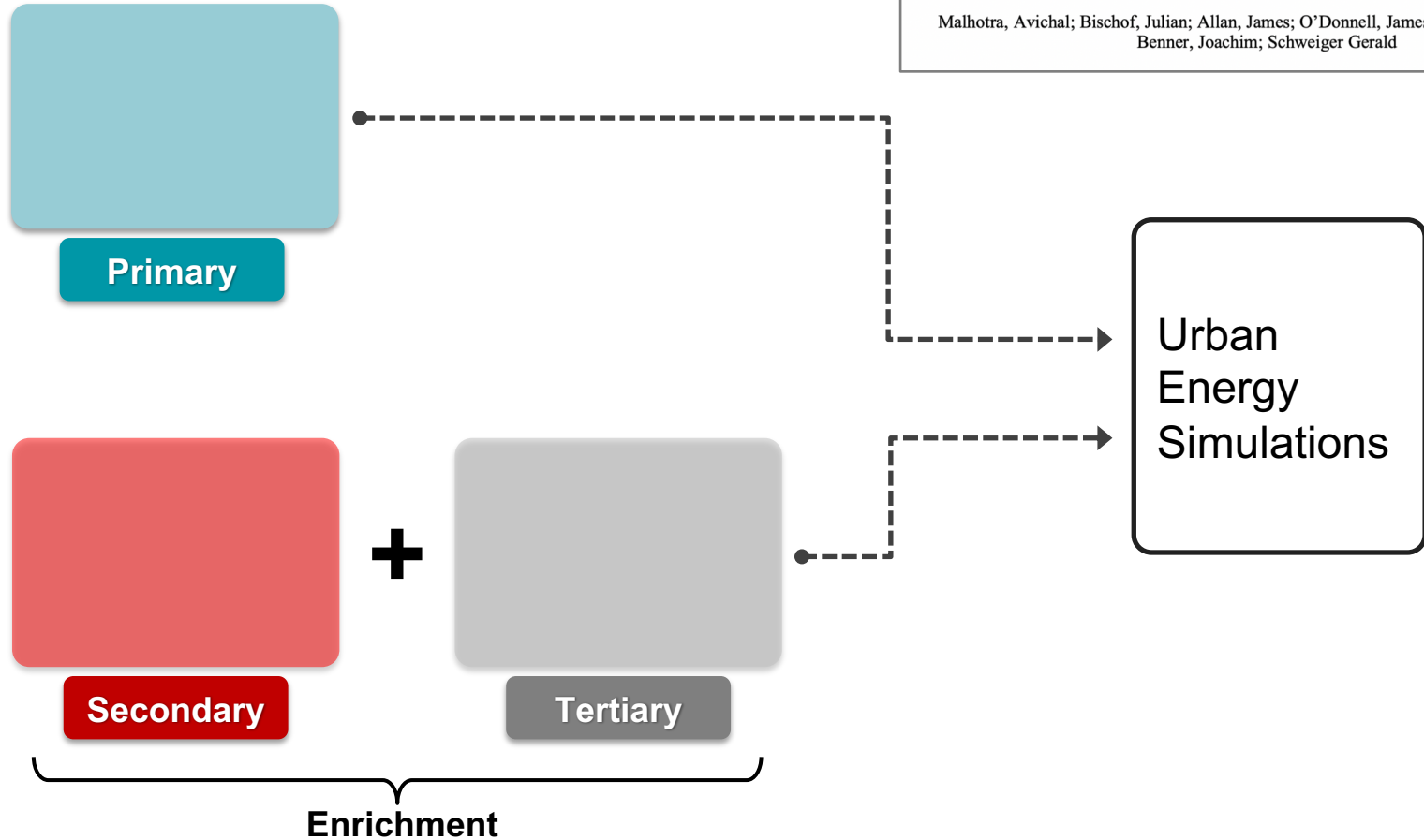
Statistical information

- Building Typology
- Stock Development

Tertiary

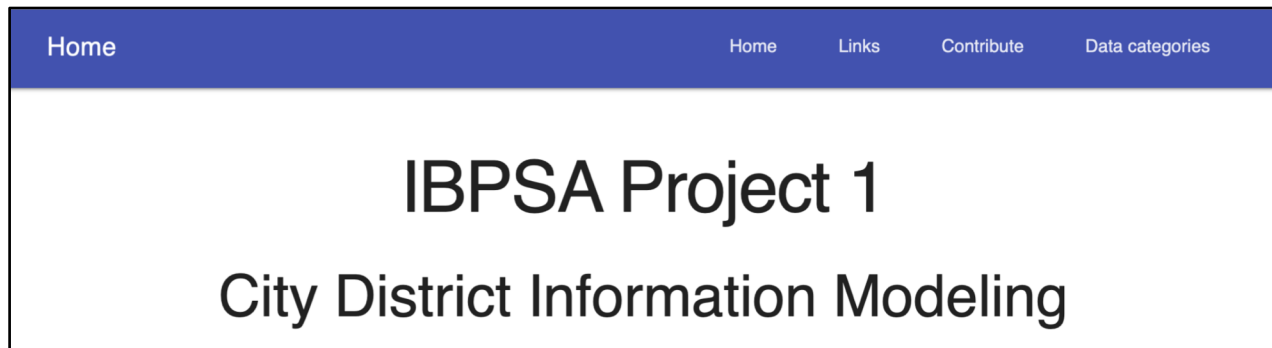
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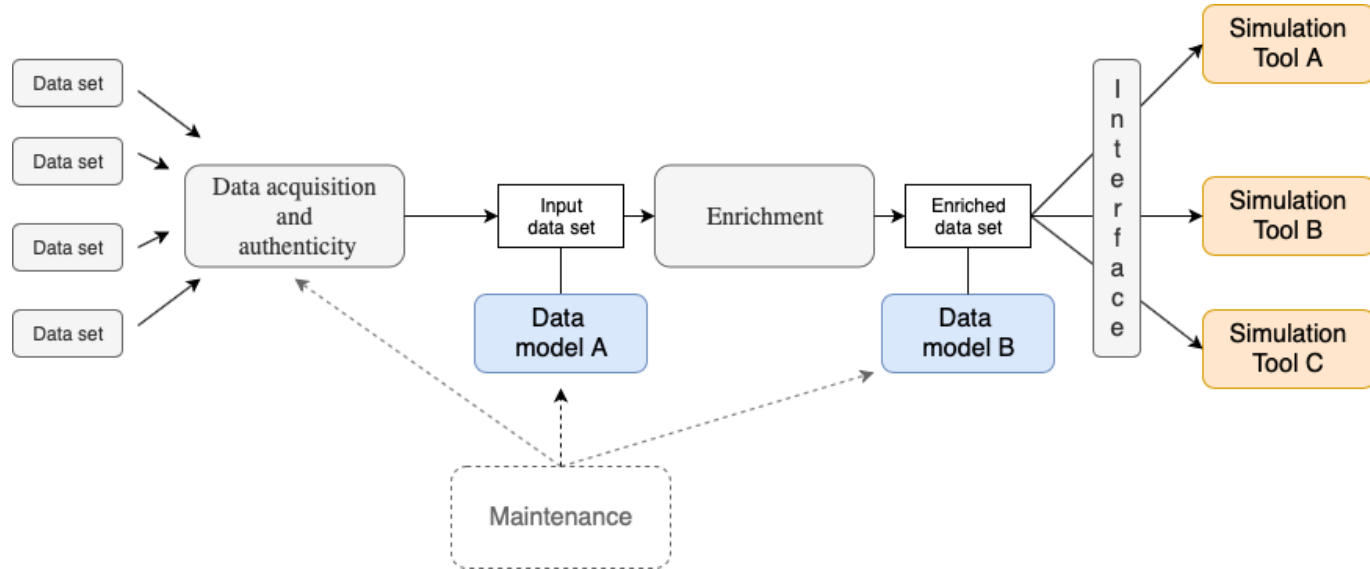
Website



<https://ibpsa.github.io/project1-wp-2-1-cim-gis/>

[...] last 6 months

Journal Paper



Next 6 months [...]
Future research areas

Next 6 months [...]

Future research areas

https://docs.google.com/spreadsheets/d/17IGFBN_IWTOYUFnuxLm7CPqjLVtMy8_KaLHyFHRAAs/edit#gid=0

Journal Paper

Enrichment 2.0 KIT/RWTH/TUG

- Can machine learning do something useful in this context?
- Transformation from LoD2 to LoD3

CityGML 2 VR KIT/RWTH/TUG

- IFCEXplorer to HTC Vive glasses
- From scratch ...

Link Data / Linked Data EMPA/KIT/TUG

- Linking objects across different domains (building = node in DHC = node in power system)
- Ontology for urban energy simulation; making data queryable