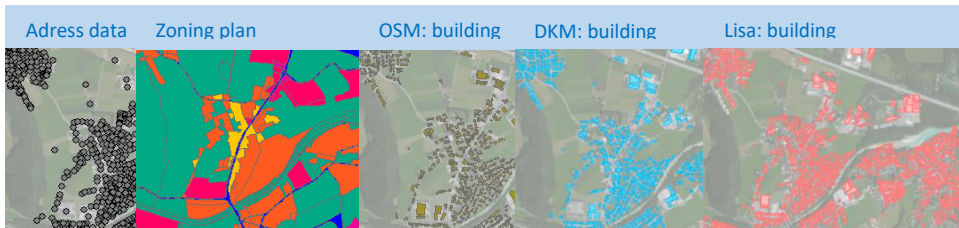


# Prototype: Model of an energetic demand density

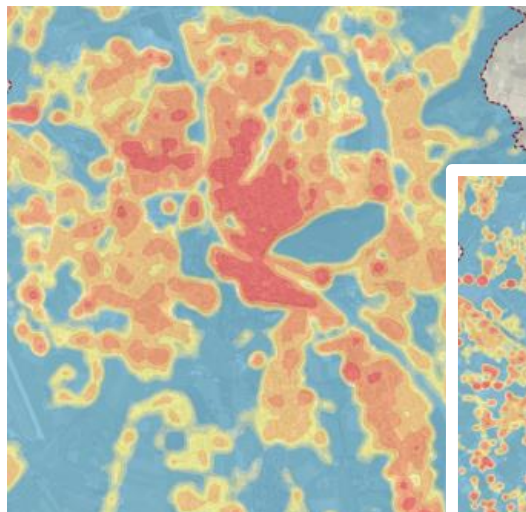
as a basis for zoning and sustainable planning for communities

Research Studios Austria  
iSPACE.SmartEnergyBalances

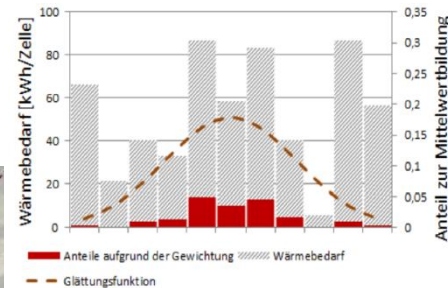


III. 1: Potential indicator data sets for a derivation of a heat demand on object level

III. 2: Smoothing function to determine average demand densities



III. 3: Demand densities determined with varying smoothing parameters for different applications.



## Background

The spatially discrete knowledge of an energetic demand situation is the basis of decision-making processes in local and regional measures for a sustainable transformation of a future heat supply.

## Method

Geographical data sets are interlaced with statistical data in order to determine an estimate of an energy demand at the building level. From this, spatial discrete demand densities are determined by means of a spatial smoothing analysis. This smoothing analysis is parameterized for different applications in order to show a high level of detail at site level, or a spatially aggregated classification for strategic decisions.

## Goal

- Support in the decision making process for spatially discrete measures
- Coupling of spatial scales from supraregional strategic decisions to local implementation decisions
- Providing a basis for zoning analyses

## Innovation

- Blending of geographical data with statistical data and specific demand values
- Cartographic provision in the context of further data and analyses for an integrative view

## Benefits

- Area-wide analysis with local as well as supra-regional focus in the area of an energetic demand situation
- Basis for any further analysis for a grid-bound supply

## Demonstration

- Prototype developed in the HEATSWAP project and made available for the central region of Salzburg
- Provision of district heating potentials for the entire federal state of Salzburg
- In-depth elaboration in the projects IDEE for the Salzburg Lake District and within the framework of ERAs for individual communities
- Establishment as Austrian standard in the SPATIAL ENERGY PLANNING project
- Available online at <https://ispacevm56.researchstudio.at/Heatswap5/>

## Publication

- Schardinger, I., Biberacher, M. und Atzl, C. (2019): Räumlich hoch aufgelöste Modellierung von potenziellen Fernwärmegebieten. 11. Internationale Energiewirtschaftstagung an der TU Wien, IEWT 2019, 13.- 15. Februar 2019. Wien.