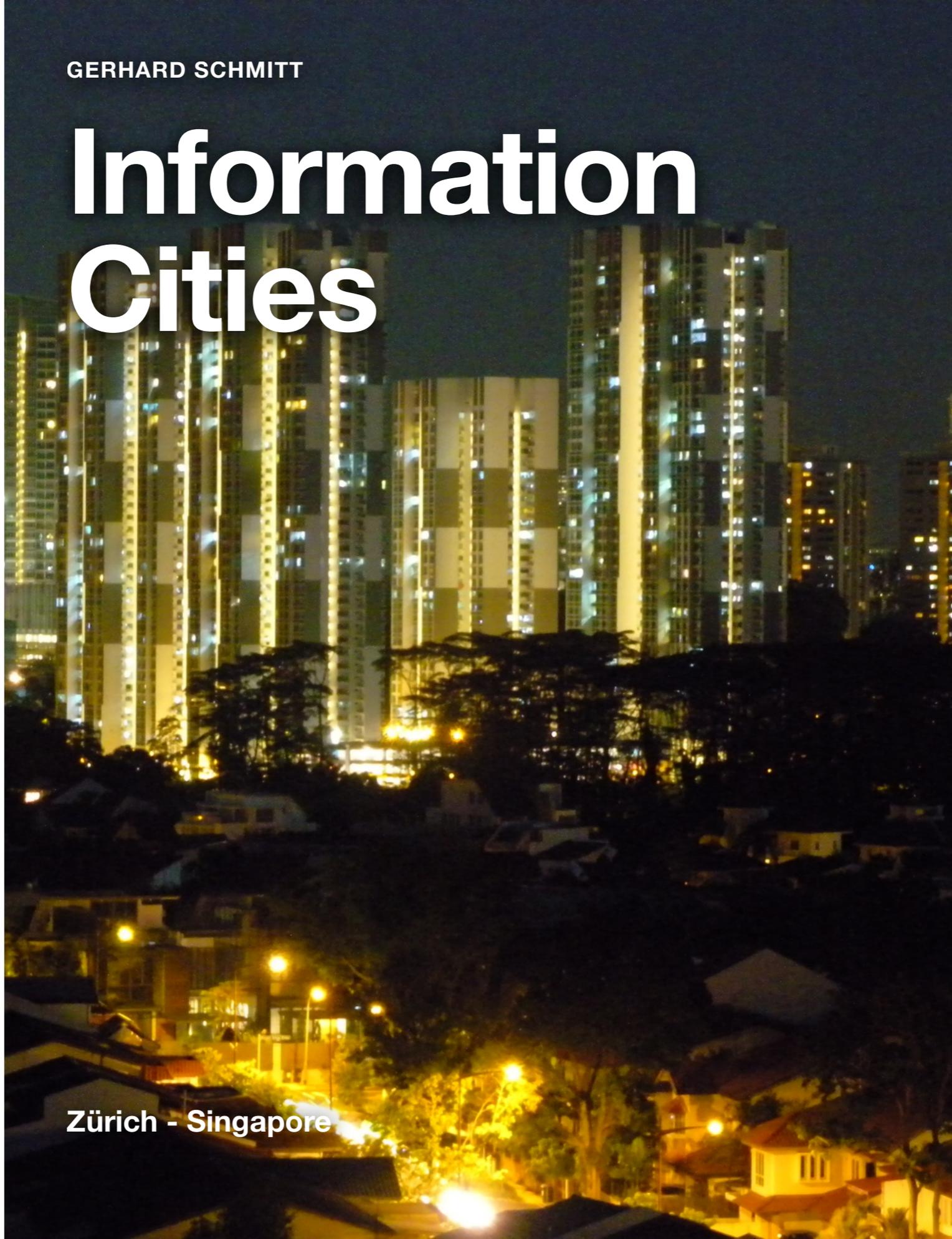


GERHARD SCHMITT

# Information Cities

Zürich - Singapore



# Exercises HS 2013

These exercises show the interconnectedness of systems on the small, the medium, and the large scale.

**BLASTING WORK  
IN PROGRESS**  
ಸ್ಫೋಟನಾ ಕಾರ್ಯ  
ಪ್ರಗತಿ ಇರುವುದು  
**BLASTING TIMINGS ಸ್ಫೋಟಕದ**



# Exercise 1

## BUILDING SCALE - MAKING THE INVISIBLE VISIBLE

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Clients increasingly ask architects and planners about the sustainability of a construction. Architects and planners must give answers on the basis of their knowledge. What do we know about a construction and its materials?

Buildings contain information we do not see, but which can be made visible. This information might be important. It could, for example tell us about the energy embodiment of the material, its toxic components, the energy needed to mine the materials, to ship them, to process them, and to assemble them into components for a building.

The exercise will reveal how much we know about the materials we are using in design and that surround us. Another effect of the exercise will be that you shall try to identify the most CO<sub>2</sub> intensive and the most sustainable material in the building you take the course in.

## Making the invisible visible - Information

In this exercise you will learn (a) to make the invisible visible in building materials (b) to define the ecologic, economic and societal sustainability of a construction, and (c) to assess the longterm impact of the building in its surrounding city quarter. Specifically,

- Part 1: Identify the two best journal articles, book sources or web sites that reliably describe CO<sub>2</sub> embodiment in construction materials.
- Part 2: Study the HIT building and the HIL Building and give an assessment on the sustainability of the respective construction and its materials. Do this by listing the main materials used and show their CO<sub>2</sub> embodiment.
- Part 3: Define which of the buildings will have a more longterm positive impact on the surrounding city quarter, and if and how the construction and material choice influences it.

Hand in until October 14 to [shin@arch.ethz.ch](mailto:shin@arch.ethz.ch)