Case study 13: Multifunctional building, rapid housing, Vienna

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Rapid housing

Location
Vienna, Austria

Architect
trans_city TC ZT

Client
Kallinger Projekte

Link
trans-city.at/tc/portfolio/siemensstrasse/?lang=en

Description[19]
IE/HOME 21 is a multifunctional building. It is also an ambitious social housing project. It is part of the City of Vienna's "Rapid Housing Program" (Sofortwohnbauprogramm), whose demanding requirements bring the project's diverse qualities together under one roof.

The Rapid Housing Program was a response to Vienna's housing crunch of 2015-2016. It subsidised the pro tempere erection of housing upon underutilized, commercially-zoned, real estate. This housing could be composed of temporary, mobile constructions or be permanent buildings with fixed-term, rental housing occupancy. SIE/HOME 21 fits the latter category.

19 Edited version of description provided on architect's website.

Project details

No. of dwellings:	241
Area:	Gross floor area 18.173 m Rentable residential floor area 11,928 m² Total rentable floor area 13,494 m²
Construction:	Steel frame (slim building) and cast floor slabs
Cost:	€16,193,000 – (€1,200/m² WNFL)
Year:	2018


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Multifunctional building was therefore a prerequisite for this program. The buildings will provide the city with housing for the first 10 years of their life-cycle, but they must be designed so that they can be economically converted into commercial property after this initial period of usage.

This programmatic constraint required a simple, rapid, and use-neutral construction. SLIM-BUILDING® (Patent Dr Winfried Kallinger) answers these needs. This innovative system combines slim steel columns with cast-in-situ ferro-concrete floor slabs, generating open, non-directional spaces without cross-beams or load-bearing walls. Efficient construction is a prerequisite for rapid housing; Slim-Building reduces construction time for the building shell by half. Economy of time was also essential for the rentability of the undertaking. The project must be amortized within fifteen years, and therefore construction costs could not exceed €1,200/m², which is approximately 20% less than similar housing estates using typical means of construction. These low building costs allow the rents to be set at surprisingly affordable rates: €7.50/m², including maintenance, taxes and partial furnishings.

SIE/HOME 21 optimizes the potential of the SLIM BUILDING® system. The floor plans use a strict, highly-economical grid that functions ideally for both housing units and for future commercial use. The open spaces have ceiling heights of 2.82m and can be flexibly subdivided for a large variety of uses.

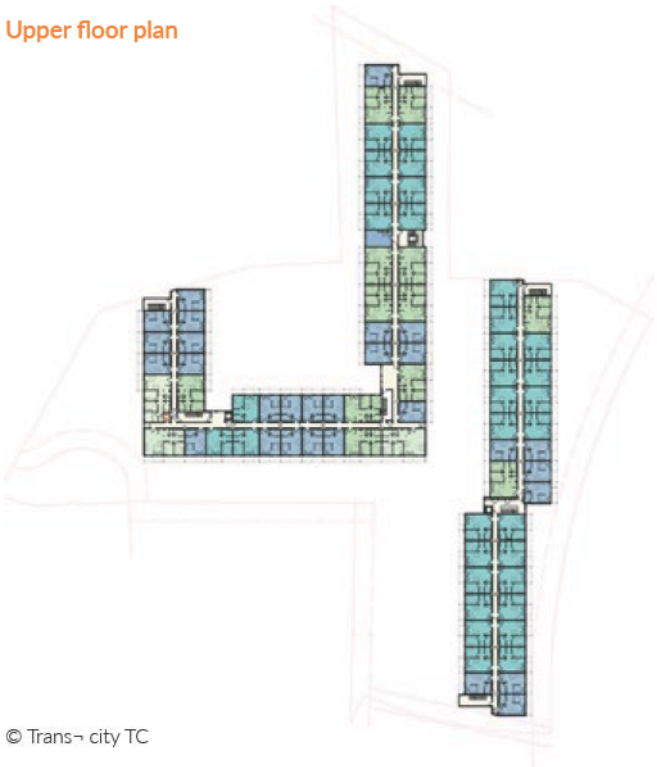
Compact yet well-organized apartments are to be rented to low-income tenants, many of whom are recent arrivals in Vienna. In the first floor of the north-west tract is a centre for single mothers; the ground floor of the southeast tract houses assisted living for the elderly. Many of the tenants are recovering from recent bouts of homelessness, and HOME 21 offers them their first apartment after years of living rough. The complex has no cellar and is not built-out below grade. At-grade parking complements the flexibly-subvisible commercial units on the ground floor.

The architectural language and the project's materials reflect the programme, building system and economy, and harmonizes the building's structure with the balconies, the façade and the ground floor usage. The frame of the balcony system is built out of galvanized steel tubes. Its verticals align with the axes of the SLIM BUILDING® system. The pre-cast balconies are laid upon horizontal consoles, which span between the verticals. The balconies can be placed upon the galvanized steel consoles in various positions. This generates a rhythmic counterpoint to the order of the structural grid. The play of colour between the red-rendered façade and the gold tones of the balconies lends the architecture both warmth and tension.

Note

- **A structural system that provides flexibility so that it can be economically converted into commercial property after this initial period of usage.**
- **The buildings respond to the need for a temporary, rapid-response, economic form of housing that can be converted to other uses in a set time frame.**

Upper floor plan



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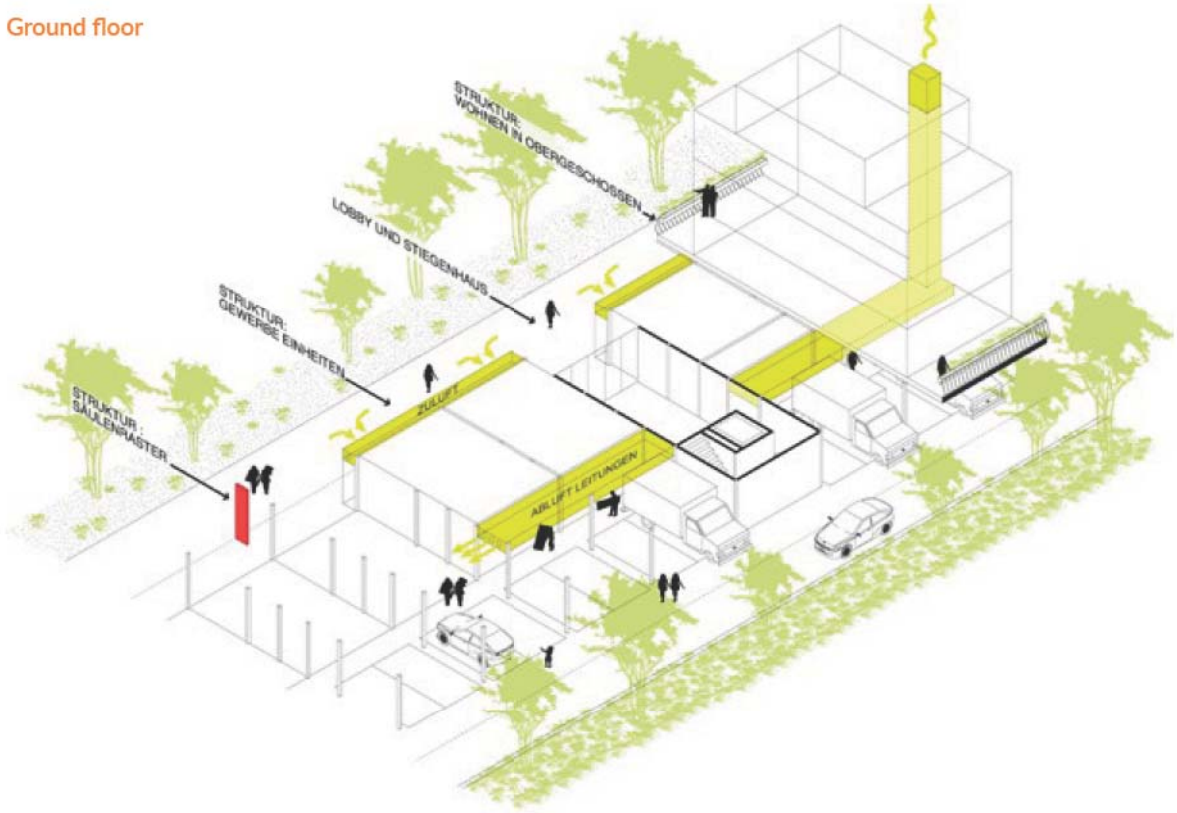
Ground floor



FLEXIBLE URBANISM THROUGH ADAPTABLE GROUND FLOOR